

# PORT OF TACOMA

## NORTH LEAD RAIL

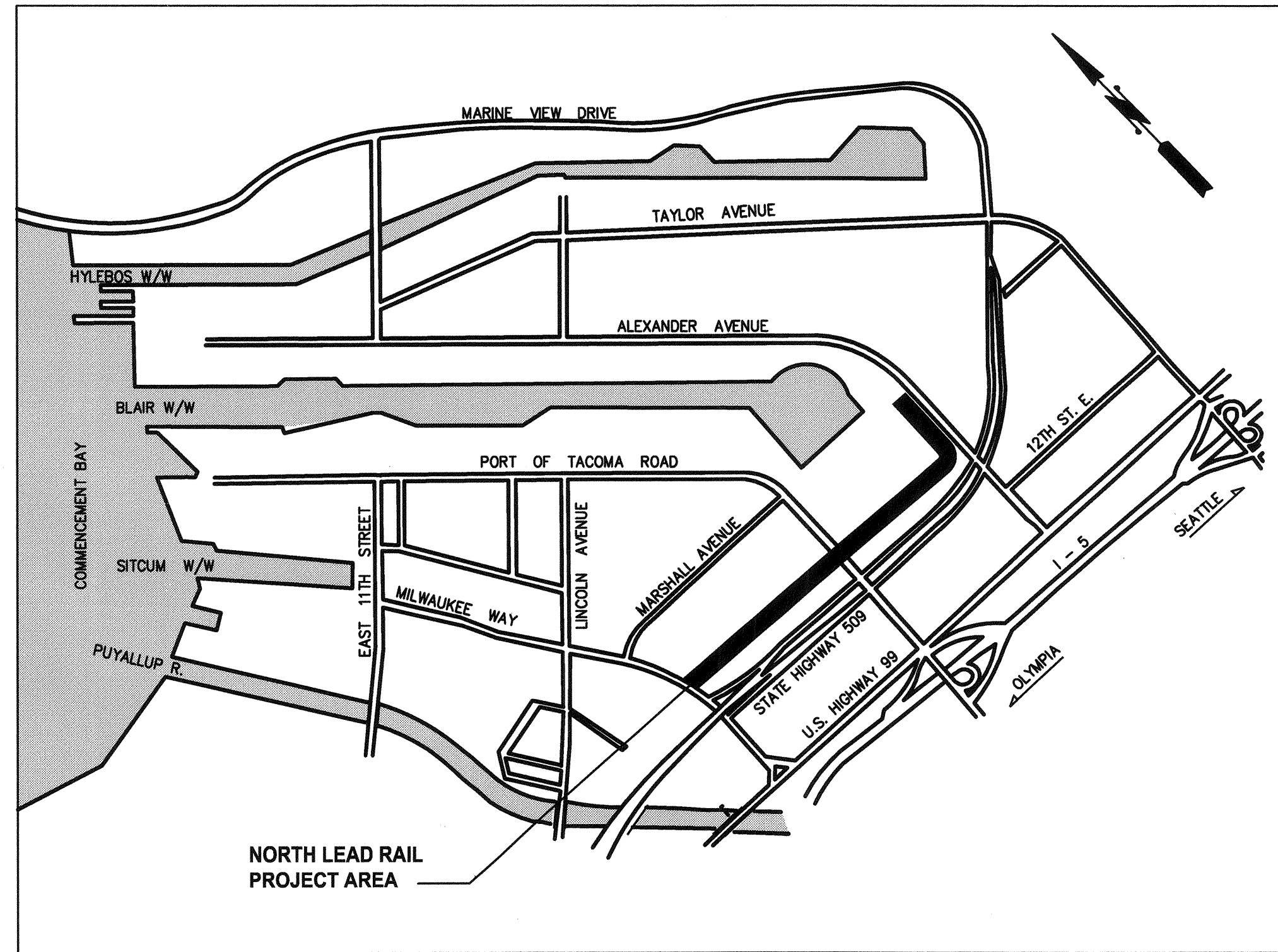
### PROJECT NO. 092938 CONTRACT NO. 070164

#### PORT COMMISSIONERS:

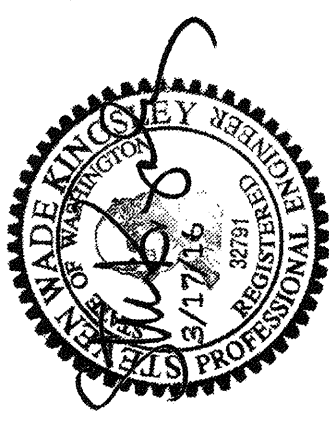
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APPROVED: *Thais Howard*  
4-12-16  
DIRECTOR ENG. DATE: bosterhaus Mar 18, 2016  
PRINTED BY: bosterhaus Mar 18, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

**NORTH LEAD**  
**COVER SHEET**  
SECTION: 1, 2, 3  
RANGE: 03E  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
PARCEL: MULTIPLE  
DRAWING SCALE: AS NOTED

6555  
**G1**  
SHEET 1 OF 134  
CONT./CONS: 070164  
M. ID: 092938  
PHASE: BID


MARK: REVISION: BY: APPR: DATE:

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SHEET #	SHEET DESIGNATION	SHEET TITLE
<b>GENERAL</b>		
1	G1	COVER SHEET
2	G2	SHEET INDEX
3	G3	KEY PLAN
4	G4	LEGEND, NOTES AND ABBREVIATIONS
5	G5	OVERALL SITE PLAN
6	G6	OVERALL SITE PLAN
7	G7	PHASING & SEQUENCING PLAN – GENERAL NOTES
8	G8	PHASING & SEQUENCING PLAN – PHASE 1 SHEET 1
9	G9	PHASING & SEQUENCING PLAN – PHASE 1 SHEET 2
10	G10	PHASING & SEQUENCING PLAN – PHASE 1 SHEET 3
11	G11	PHASING & SEQUENCING PLAN – PHASE 1 SHEET 4
12	G12	PHASING & SEQUENCING PLAN – PHASE 2A
13	G13	PHASING & SEQUENCING PLAN – PHASE 2B
14	G14	PHASING & SEQUENCING PLAN – PHASE 2C
15	G15	PHASING & SEQUENCING PLAN – PHASE 3A SHEET 1
16	G16	PHASING & SEQUENCING PLAN – PHASE 3A SHEET 2
17	G17	PHASING & SEQUENCING PLAN – PHASE 3B
18	G18	PHASING & SEQUENCING PLAN – PHASE 4
19	G19	PHASING & SEQUENCING PLAN – PHASE 5A
20	G20	PHASING & SEQUENCING PLAN – PHASE 5B SHEET 1
21	G21	PHASING & SEQUENCING PLAN – PHASE 5B SHEET 2
22	G22	PHASING & SEQUENCING PLAN – PHASE 6A
23	G23	PHASING & SEQUENCING PLAN – PHASE 6B
24	G24	SURVEY
25	G25	SURVEY
26	G26	SURVEY
27	G27	SURVEY
28	G28	SURVEY
29	G29	SURVEY
<b>DEMOLITION</b>		
30	CD1	CIVIL DEMOLITION AND EROSION CONTROL PLAN
31	CD2	CIVIL DEMOLITION AND EROSION CONTROL PLAN
32	CD3	CIVIL DEMOLITION AND EROSION CONTROL PLAN
33	CD4	CIVIL DEMOLITION AND EROSION CONTROL PLAN
34	CD5	CIVIL DEMOLITION AND EROSION CONTROL PLAN
35	CD6	CIVIL DEMOLITION AND EROSION CONTROL PLAN
36	CD7	CIVIL DEMOLITION AND TESC DETAILS
37	CD8	ERDAHL DITCH DEWATERING AND TESC DETAILS
<b>CIVIL</b>		
38	C1	WEST END AREA 1 – CIVIL/SITE PLAN
39	C2	WEST END AREA 2 – CIVIL/SITE PLAN
40	C3	EAST END AREA 3 – CIVIL/SITE PLAN
41	C4	EAST END AREA 4 – CIVIL/SITE PLAN
42	C5	EAST END AREA 5 – CIVIL/SITE PLAN
43	C6	EAST END AREA 6 – CIVIL/SITE PLAN
44	C7	CIVIL/SITE DETAILS
45	C8	ROAD CROSSING AT TRACK CIVIL/SITE DETAILS

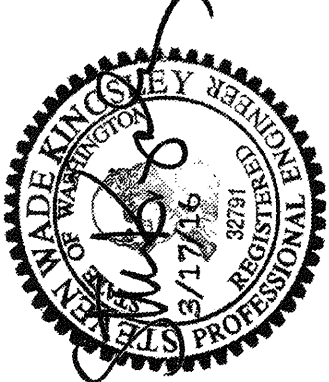
SHEET #	SHEET DESIGNATION	SHEET TITLE
46	C9	ROAD CROSSING AT CROSSOVER CIVIL/SITE DETAILS
47	C10	FENCING CIVIL/SITE DETAILS
48	C11	FENCING CIVIL/SITE DETAILS
49	C12	CIVIL/SITE DETAILS
50	C13	TRANSFORMER PAD DETAILS – UTILITY DATA TABLES
51	C14	TPU POWER POLE PLAN
52	C15	CIVIL/SITE SECTIONS
53	C16	CIVIL/SITE SECTIONS
54	C17	CIVIL/SITE SECTIONS
55	C18	CIVIL/SITE SECTIONS
<b>RAIL</b>		
56	R1	WEST END AREA 1 – RAIL PLAN
57	R2	WEST END AREA 2 – RAIL PLAN
58	R3	EAST END AREA 3 – RAIL PLAN
59	R4	EAST END AREA 4 – RAIL PLAN
60	R5	EAST END AREA 5 – RAIL PLAN
61	R6	EAST END AREA 6 – RAIL PLAN
62	R7	AREA 7 – SALVAGED RELAY RAIL PLAN
63	R8	RAILYARD TYPICAL SECTIONS
64	R9	RAILYARD TYPICAL SECTIONS
65	R10	RAIL DETAILS
66	R11	RAIL DETAILS
67	R12	NO. 9 TURNOUT PLAN
68	R13	DOUBLE DIAMOND CROSSING
69	R14	NO. 9 CROSSOVER PLAN
70	R15	NO. 9 CROSSOVER PLAN RIGHT HAND – LEFT HAND
71	R16	TURNOUT AND CROSSOVER DETAILS
72	R17	RAIL DETAILS
73	R18	TRACK DATA CHARTS
74	R19	TRACK DATA CHARTS
75	R20	TRACK DATA CHARTS
76	R21	TRACK DATA CHARTS
77	R22	TRACK DATA CHARTS
78	R23	TRACK DATA CHARTS
79	R24	TRACK DATA CHARTS
80	R25	TRACK DATA CHARTS
81	RRP1	RAILROAD PROFILES
82	RRP2	RAILROAD PROFILES
83	RRP3	RAILROAD PROFILES
84	RRP4	RAILROAD PROFILES
85	RRP5	RAILROAD PROFILES
86	RRP6	RAILROAD PROFILES
87	RRP7	RAILROAD PROFILES
88	RRP8	RAILROAD PROFILES
89	RRP9	RAILROAD PROFILES
90	RRP10	RAILROAD PROFILES
<b>DRAINAGE AND UTILITY</b>		
91	SD1	WEST END AREA 1 – DRAINAGE AND UTILITY PLAN
92	SD2	WEST END AREA 2 – DRAINAGE AND UTILITY PLAN
93	SD3	EAST END AREA 3 – DRAINAGE AND UTILITY PLAN
94	SD4	EAST END AREA 4 – DRAINAGE AND UTILITY PLAN

SHEET #	SHEET DESIGNATION	SHEET TITLE
95	SD5	EAST END AREA 5 – DRAINAGE AND UTILITY PLAN
96	SD6	EAST END AREA 6 – DRAINAGE AND UTILITY PLAN
97	SD7	ERDAHL DITCH SECTIONS
98	SD8	STORM DRAINAGE DETAILS
99	SD9	STORM DRAINAGE DETAILS
100	SD10	STORM DRAINAGE DETAILS
101	SD11	STORM DRAINAGE DETAILS
102	SD12	STORM DRAINAGE DETAILS
103	SD13	STORM DRAINAGE DETAILS
104	SD14	STORM DRAIN PROFILES
105	SD15	STORM DRAIN PROFILES
106	SD16	STORM DRAIN PROFILES
107	SD17	STORM DRAIN PROFILES
108	SD18	STORM DRAIN DATA TABLES
<b>ELECTRICAL</b>		
109	GE1	ELECTRICAL SYMBOLS AND ABBREVIATIONS
110	GE2	KEY PLAN – ELECTRICAL
111	ED1	WEST END AREA 1 – ELECTRICAL DEMOLITION SITE PLAN
112	ED2	WEST END AREA 2 – ELECTRICAL DEMOLITION SITE PLAN
113	ED3	EAST END AREA 3 – ELECTRICAL DEMOLITION SITE PLAN
114	ED4	EAST END AREA 4 – ELECTRICAL DEMOLITION SITE PLAN
115	ED5	EAST END AREA 5 – ELECTRICAL DEMOLITION SITE PLAN
116	ED6	EAST END AREA 6 – ELECTRICAL DEMOLITION SITE PLAN
117	E1	WEST END AREA 1 – ELECTRICAL SITE PLAN
118	E2	WEST END AREA 2 – ELECTRICAL SITE PLAN
119	E3	EAST END AREA 3 – ELECTRICAL SITE PLAN
120	E4	EAST END AREA 4 – ELECTRICAL SITE PLAN
121	E5	EAST END AREA 5 – ELECTRICAL SITE PLAN
122	E6	EAST END AREA 6 – ELECTRICAL SITE PLAN
	E7	NOT USED
123	E8	ELECTRICAL SITE PLAN ENLARGED
124	E9	ELECTRICAL SITE PLAN ENLARGED
	E10	NOT USED
125	E11	POWER AND LIGHTING ONE LINE DIAGRAMS
126	E12	ELECTRICAL DETAILS
127	E13	ELECTRICAL DETAILS
128	E14	ELECTRICAL SCHEDULES
129	E15	ELECTRICAL DETAILS
130	E16	ELECTRICAL DETAILS
<b>MECHANICAL</b>		
131	GM1	MECHANICAL SITE PLAN
132	M1	MECHANICAL PARTIAL SITE PLAN
133	M6	PIPING AND INSTRUMENTATION DIAGRAM
134	M7	MECHANICAL SECTIONS & DETAILS



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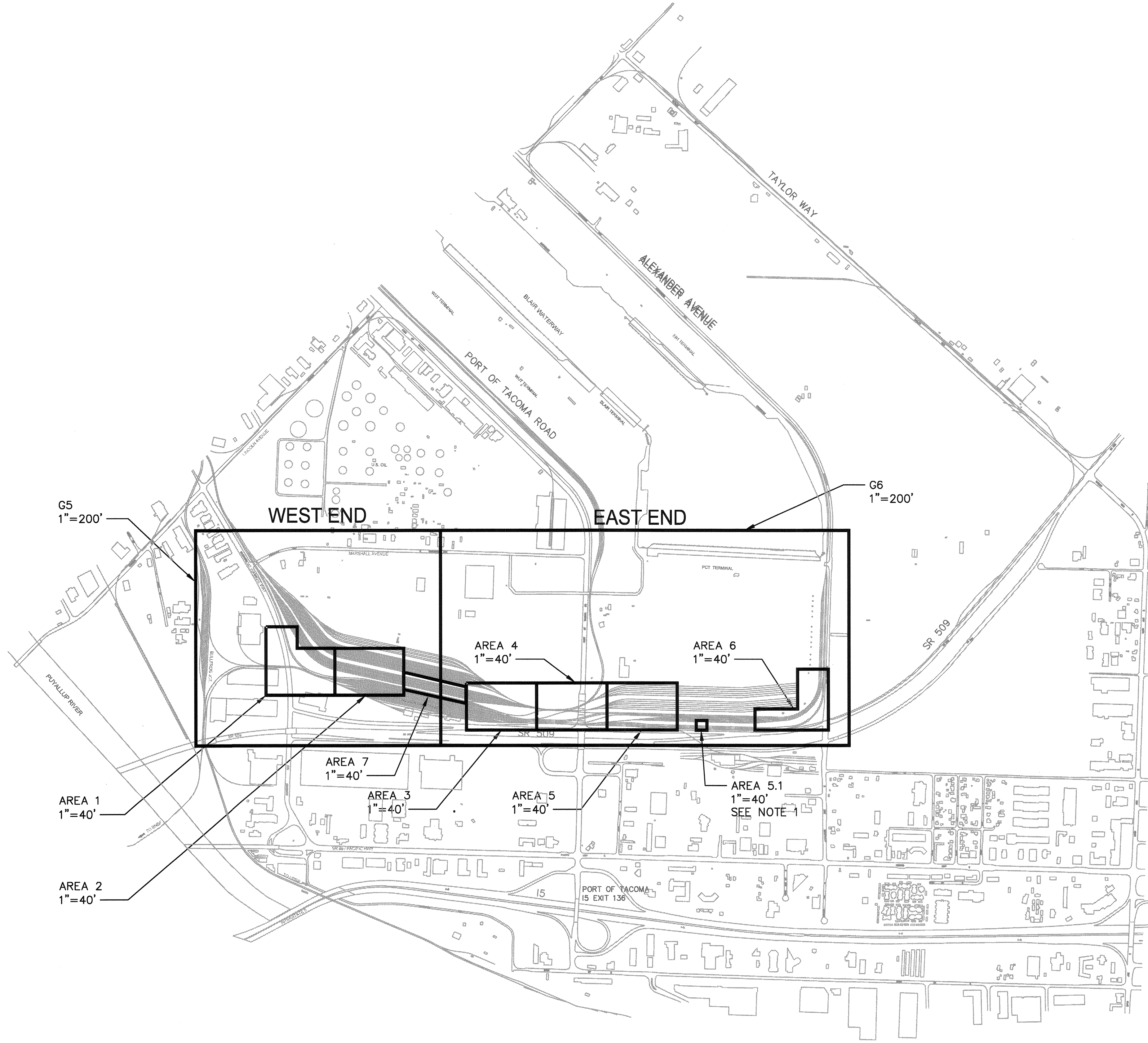
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CHECKED BY: DATE  
SWK 03/17/16  
PROJ. ENGR DATE  
03/17/16

**6555**  
**G2**  
SHEET 2 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

**NORTH LEAD**  
**SHEET INDEX**  
RANGE: 03E  
TOWNSHIP: 20N  
DAT-HRZ: W83-SF  
VERT: PORT OF TACOMA BM #846  
DRAWING SCALE: AS NOTED

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KEY PLAN  
NTS

- NOTES :**
1. AREA 5.1 VIEWABLE ON SHEETS C5 AND SD5 ONLY.
  2. AREA 7 VIEWABLE ON SHEET R7 ONLY.

<b>6555</b> <b>G3</b> SHEET 3 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>KEY PLAN</b>		APPROVED: <i>[Signature]</i> 4-12-16 DIRECTOR ENG. DATE: 4-12-16 PRINTED BY: bosterhaus Mar 18, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SWK 03/17/16 CHECKED BY DATE SWK 03/17/16 PROJ. ENGR DATE bosterhaus Mar 18, 2016 SITCUM PLAZA TACOMA, WA 98401-1837			Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 WWW.PORTOFACOMA.WA.GOV	DATE: _____ BY: _____ REVISION: _____ APPR: _____
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LEGEND

Table with 2 columns: Symbol and Description. Includes symbols for curb line, edge of asphalt, fiber optic line, electrical line, telecommunications line, storm line, sanitary sewer line, water line, gas line, overhead utility lines, ground flood light, overhead light, traffic control signal arm, traffic signal cabinet, traffic signal box, telecommunication manhole, telecommunication vault, telecommunication riser, storm manhole w/ structure, existing rail, top of rail, proposed rail, center line, proposed switch, automatic switch, manual switch, guy pole, water meter, water vault, water manhole, water valve, fire hydrant, hose bib, fire department connection, railroad crossing sign, traffic sign.

Table with 2 columns: Symbol and Description. Includes symbols for transformer, power pole/overhead light, light J-box, electrical vault, guy anchor, power pole, electrical riser, electrical cabinet, electrical manhole, power pole w/ drop, gas valve, railroad grease box, gas marker post, miscellaneous utility vault, AEI reader, train ID scanner, coniferous tree, deciduous tree, post indicator valve, bollard, electrical meter, sanitary manhole w/ structure, storm catchbasin / area drain, storm catchbasin / area drain, storm cleanout, wind stock flag, railroad crossing signal.

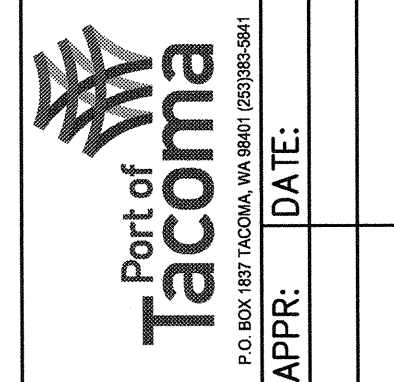
ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes # (NUMBER), @ (DIAMETER), AB (AGGREGATE BASE), AC (ASPHALT CONCRETE), ACI (AMERICAN CONCRETE INSTITUTE), ACP (ASBESTOS CONCRETE PIPE OR ASPHALTIC CONCRETE PAVEMENT), ACPA (AMERICAN CONCRETE PIPE ASSOCIATION), ADDL (ADDITIONAL), ADJ (ADJACENT), ADMIN (ADMINISTRATION), AGGR (AGGREGATE), ALT (ALTERNATE), ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE), APP or APPVD (APPROVED), APPROX (APPROXIMATE), APWA (AMERICAN PUBLIC WORKS ASSOCIATION), AREA (AMERICAN RAILWAY ENGINEERING ASSOCIATION), ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS), AVG (AVERAGE), AVR (AIR & VACUUM RELEASE VALVE), AWS (AMERICAN WELDING SOCIETY), AWWA (AMERICAN WATER WORKS ASSOCIATION), BFO (BURIED FIBER OPTIC), BLDG (BUILDING), BM (BENCH MARK or BEAM), BMP or BMP'S (BEST MANAGEMENT PRACTICES), BNSF (BURLINGTON NORTHERN SANTA FE), BOP (BOTTOM OF PIPE), BOT (BOTTOM), BRG (BEARING), BRZ (BRONZE), BTW or BTWN (BETWEEN), BV (BALL VALVE), CY (CONTAINER YARD OR CUBIC YARD), C/L (CENTERLINE), CAB (CRUSHED AGGREGATE BASE).

Table with 2 columns: Abbreviation and Full Name. Includes TRANSFORMER, POWER POLE/OVERHEAD LIGHT, LIGHT J-BOX, ELECTRICAL VAULT, GUY ANCHOR, POWER POLE, ELECTRICAL RISER, ELECTRICAL CABINET, ELECTRICAL MANHOLE, POWER POLE W/ DROP, GAS VALVE, RAILROAD GREASE BOX, GAS MARKER POST, MISCELLANEOUS UTILITY VAULT, AEI READER, TRAIN ID SCANNER, CONIFEROUS TREE, DECIDUOUS TREE, POST INDICATOR VALVE, BOLLARD, ELECTRICAL METER, SANITARY MANHOLE W/ STRUCTURE, STORM CATCHBASIN / AREA DRAIN, STORM CATCHBASIN / AREA DRAIN, STORM CLEANOUT, WIND STOCK FLAG, RAILROAD CROSSING SIGNAL, CB (CATCH BASIN), CC (CENTER TO CENTER), CFS (CUBIC FEET PER SECOND), CIP (CAST IRON PIPE), CL (CENTER LINE or CLASS), CLF (CHAIN LINK FENCE), CLR (CLEAR or CLEARANCE), CMB (CRUSHED MISCELLANEOUS BASE), CMP (CORRUGATED METAL PIPE), CO (CLEAN OUT), COMPR (COMPRESSOR), CONC (CONCRETE), CONST (CONSTRUCT), CONT (CONTINUE or CONTINUOUS), CONT'D (CONTINUED), CONTR (CONTRACTOR), COORD (COORDINATE), COUP (COUPLING), CPT (CONE PENETROMETER TEST), CRSI (CONCRETE REINFORCING STEEL INSTITUTE), CSG (CASING), CSP (CORRUGATED STEEL PIPE), CTR (CENTER), CV DET (CHECK VALVE DETAIL), Dc (DEGREE OF CURVATURE), DIA (DIAMETER), DIAG (DIAGONAL), DIM (DIMENSION), DIP (DUCTILE IRON PIPE), DWG (DRAWING), DWY (DRIVEWAY), E (EAST or EASTING), EA (EACH), EG (EXISTING GRADE), EL or ELEV (ELEVATION), ELEC or ELECT (ELECTRICAL), ENGR (ENGINEER), EP (EDGE OF PAVEMENT), EQ (EQUAL), ES (ELECTRICAL SUBSTATION or EACH SIDE), ETC (ET CETERA), EX or EXIST (EXISTING), EXP. JT (EXPANSION JOINT), EW (EACH WAY), FF (FINISH FLOOR), FG (FINISH GRADE), FH (PORT FIRE HYDRANT), FIN (FINISH), FL (FLOW LINE), FLGD (FLANGED JOINT), FM (FORCE MAIN), FS (FINISHED SURFACE), FSM (FIRE SERVICE METER), FT (FOOT, FEET), G (GAS), GIS (GEOGRAPHIC INFORMATION SYSTEM), GPS (GLOBAL POSITIONING SYSTEM), GV (GATE VALVE), H or HORIZ (HORIZONTAL), HAZMAT (HAZARDOUS MATERIALS), HCS (HOUSE CONNECTION SEWER), HDPE (HIGH DENSITY POLYETHYLENE), HMA (HOT MIX ASPHALT), HORZ (HORIZONTAL), HOWL (HIGHEST OBSERVED WATER LEVEL), HP (HIGH PRESSURE or HIGH POINT), HSSD (HIGH STRENGTH STORM DRAIN), HT (HEIGHT), ID (INSIDE DIAMETER), IE (INVERT ELEVATION), IN (INCH), INCL (INCLUDE), INFO (INFORMATION), INV (INVERT), IR (INDUSTRIAL REMEDIATION), JB (JUNCTION BOX), JS (JUNCTION STRUCTURE), JT (JOINT), KIP(S) (KILOPOUND(S)), L (LENGTH), LAT (LATERAL), LB (POUND), LCB (LANDSIDE CRANE BEAM), LF (LINEAL FOOT), LH (LEFT HAND), LIN (LINEAL or LINEAR), LOL (LAYOUT LINE), LOWL (LOWEST OBSERVED WATER LEVEL), LP (LOW POINT), LT (LEFT), LTP (LIGHT POLE).

Table with 2 columns: Abbreviation and Full Name. Includes M&R (MAINTENANCE AND REPAIR), M-ARV (MANUAL AIR RELIEF VALVE), MAT (MATERIAL), MAX (MAXIMUM), ME (MATCH EXISTING), MH (MANHOLE), MHHW (MEAN HIGHER HIGH WATER), MHW (MEAN HIGH WATER), MIL (MILLIMETER), MIN (MINIMUM), MISC (MISCELLANEOUS), MJ (MECHANICAL JOINT), MLLW (MEAN LOWER LOW WATER), MLW (MEAN LOW WATER), MNSB (MINIMUM SET BACK), MSL (MEAN SEA LEVEL), MSP (MANUAL OF STANDARD PRACTICE), MUTCD (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES), MWS (MODULAR WETLAND SYSTEM), MY (MAIN YARD), N (NORTH or NORTHING), NE (NORTH-EAST), NF (NEAR FACE), NIC (NOT IN CONTRACT), No. (NUMBER), NS (NEAR SIDE), NTS (NOT TO SCALE), NW (NORTH-WEST), OC (ON CENTER), OD (OUTSIDE DIAMETER), OVH (OVERHEAD), OHWL (ORDINARY HIGH WATER LINE), P/L or PL (PROPERTY LINE), PB (PULL BOX), PC (POINT OF CURVATURE), PCC (PORTLAND CEMENT CONCRETE), PE (PUSH-ON PLAIN END), PERF (PERFORATED), PERP (PERPENDICULAR), PG (PERFORMANCE GRADE), PI (POINT OF INTERSECTION), PJ (PUSH-ON JOINT), POT (PORT OF TACOMA), PP (POWER POLE), PR (PRESSURE RATING), PRESS (PRESSURE), PRESS RED (PRESSURE REDUCER), PROP (PROPOSED), PRV (PRESSURE REDUCING VALVE), PRVS (PRESSURE RELIEF VALVE), PSF (POUNDS PER SQUARE FOOT), PS (POINT OF SWITCH), PSI (POUNDS PER SQUARE INCH), PT (POINT or POINT OF TANGENCY), PVC (POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVE), PVI (POINT OF VERTICAL INTERSECTION), PVMT (PAVEMENT), R (RIDGE OR RADIUS), R/W OR ROW (RIGHT OF WAY), RCP (REINFORCED CONCRETE PIPE), RD (ROAD), RE (AMERICAN RAILWAY ENGINEERING MAINTENANCE OF WAY ASSOCIATION), RED (REDUCER), REF (REFERENCE), REINF (REINFORCE OR REINFORCING), REQ'D (REQUIRED), RH (RIGHT HAND), RP (RADIUS POINT), RR (RAILROAD), RT (RIGHT), S (SLOPE), S (SOUTH), SAHS (SALTCHUK AQUATIC HABITAT SITE), SCH or SCHED (SCHEDULE), SD (STORM DRAIN), SDR (STANDARD DIMENSION RATIO), SDMH (STORM DRAIN MANHOLE), SE (SOUTH-EAST), SECT (SECTION), SERV (SERVICE), SHT (SHEET), SIM (SIMILAR), SJ (SLIP JOINT), SPECS (SPECIFICATIONS), SQ (SQUARE), SQFT (SQUARE FEET), SL (SOUTH LEAD), SS (SANITARY SEWER).

Table with 2 columns: Abbreviation and Full Name. Includes SSMH (SANITARY SEWER MANHOLE), STA (STATION), STD (STANDARD), STL (STEEL), SW (SOUTH-WEST), SY (SUPPORT YARD), SYL (SUPPORT YARD LOW SIDE LEAD), SYM (SYMMETRIC or SYMBOL), T/R or TOR (TOP OF RAIL), TB (THRUST BLOCK), TBM (TEMPORARY BENCH MARK), TESC (TEMPORARY EROSION AND SEDIMENTATION CONTROL), TF (TRACK FEET), T&B (TOP AND BOTTOM), TG (TOP OF GRADE), TO (TURNOUT), TOB (TOP OF BANK), TOS (TOE OF SLOPE), TOP (TOP OF PIPE or TOP OF SLOPE), TOR (TOP OF RAIL), TPU (TACOMA PUBLIC UTILITIES TRACK), TR (TRACK), TS (TRANSITION STRUCTURE), TW (TOP OF WALL), TYP (TYPICAL), UB (UPLAND BORING), UNO (UNLESS NOTED OTHERWISE), UP (UNION PACIFIC), UV (ULTRA-VIOLET), V (VERTICAL), VAC (VACUUM), VAR (VARIABLE or VARIES), VC (VERTICAL CURVE), VCP (VITRIFIED CLAY PIPE), VERT (VERTICAL), W (WATER, WEST, WIDTH), W/ (WITH), W/O (WITHOUT), WABO (WASHINGTON ASSOCIATION OF BUILDING ASSOCIATES), WCB (WATERSIDE CRANE BEAM), WELD (WELDING), WHS (WELDED HEADED STUD), WM (WATER METER), WOB (WHARF OFFSHORE BORING), WP (PORT WATER CAP/PLUG), WT (PORT WATER TEE), WWAY (WALKWAY), WWR (WELD WIRE REINFORCEMENT), XO (CROSSOVER), XS (EXTRA STRONG).



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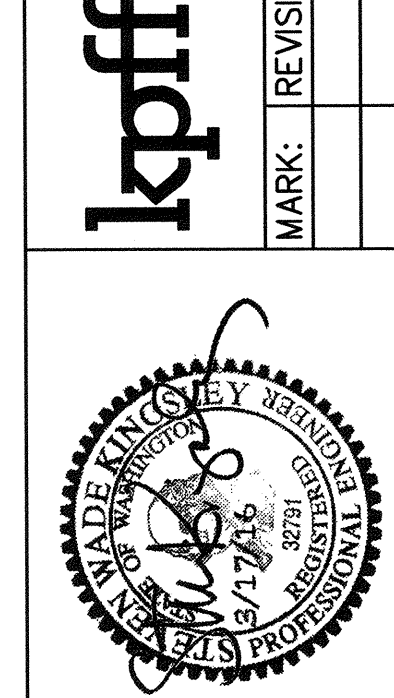
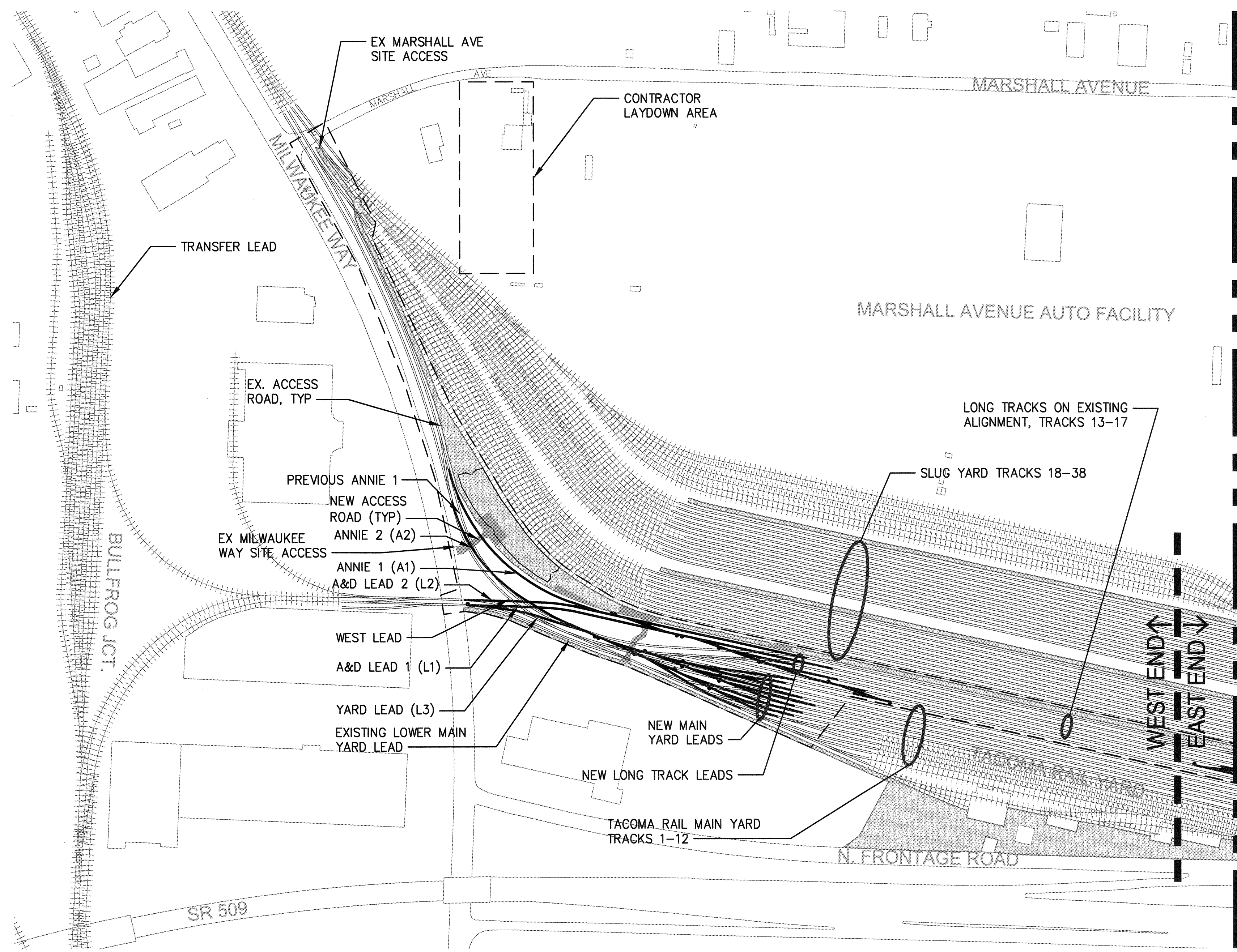


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Table with 2 columns: NORTH LEAD, LEGEND, NOTES AND ABBREVIATIONS, SHEET 4 OF 134, G4, CONT/CONS: 070164, M. ID: 092938, PHASE: BID, TOWNSHIP: 20N, RANGE: 03E, SECTION: 1, 2, 3, DAT-HRZ: W83-SF, VERT: PORT OF TACOMA, BM #846, DRAWING SCALE: AS NOTED



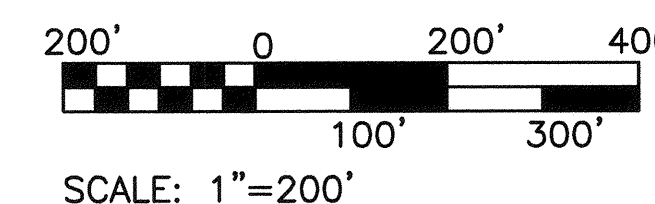
**LEGEND:**

- EXISTING RAIL, CENTER LINE (PORT GIS)
- EXISTING RAIL (KPFF SURVEY, 2014)
- PROPOSED RAIL, CENTERLINE
- PROJECT REFERENCE, SEE NOTE 5.
- PROJECT LIMITS

**NOTES :**

1. REFER TO SHEETS CD1 THRU CD6 FOR TRACK AND SITE DEMOLITION.
2. REFER TO C1 THRU C6 FOR CIVIL SITE IMPROVEMENT.
3. REFER TO SHEETS R1 THRU R7 FOR RAILWAY IMPROVEMENTS.
4. REFER TO SHEETS SD1 THRU SD6 FOR STORM DRAINAGE AND UTILITY IMPROVEMENTS.
5. PROJECT REFERENCE LINE. ALL PROPOSED IMPROVEMENTS WEST OF REFERENCE LINE ARE NOTED AS SUCH AND SIMILARLY FOR EAST END. WEST END INCLUDES MAIN YARD AND LONG TRACK LEAD CONFIGURATION, EAST END INCLUDES INTERMODAL LONG TRACK WORK.

6. ACCESS TO SITE SHALL BE THROUGH EXISTING SITE ACCESS AT MARSHALL AVE., ALEXANDER AVE., AND MILWAUKEE WAY.
7. THE CONTRACTOR SHALL ENSURE COMPLIANCE WITH CHAPTER 33 OF THE 2012 IFC FOR ALL CONSTRUCTION ACTIVITIES. ADEQUATE FIRE APPARATUS ACCESS SHALL BE PROVIDED TO THE SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THE ACCESS IS KEPT CLEAR AT ALL TIMES.



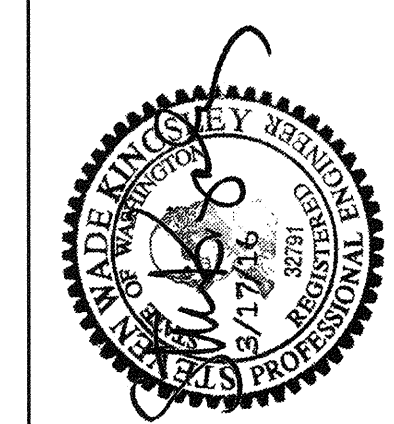
**6555**  
**G5**

SHEET 5 OF 134  
 CONT/CONS: 070164  
 M. ID: 092938  
 PHASE: BID

**NORTH LEAD**  
**WEST END**  
**OVERALL SITE PLAN**

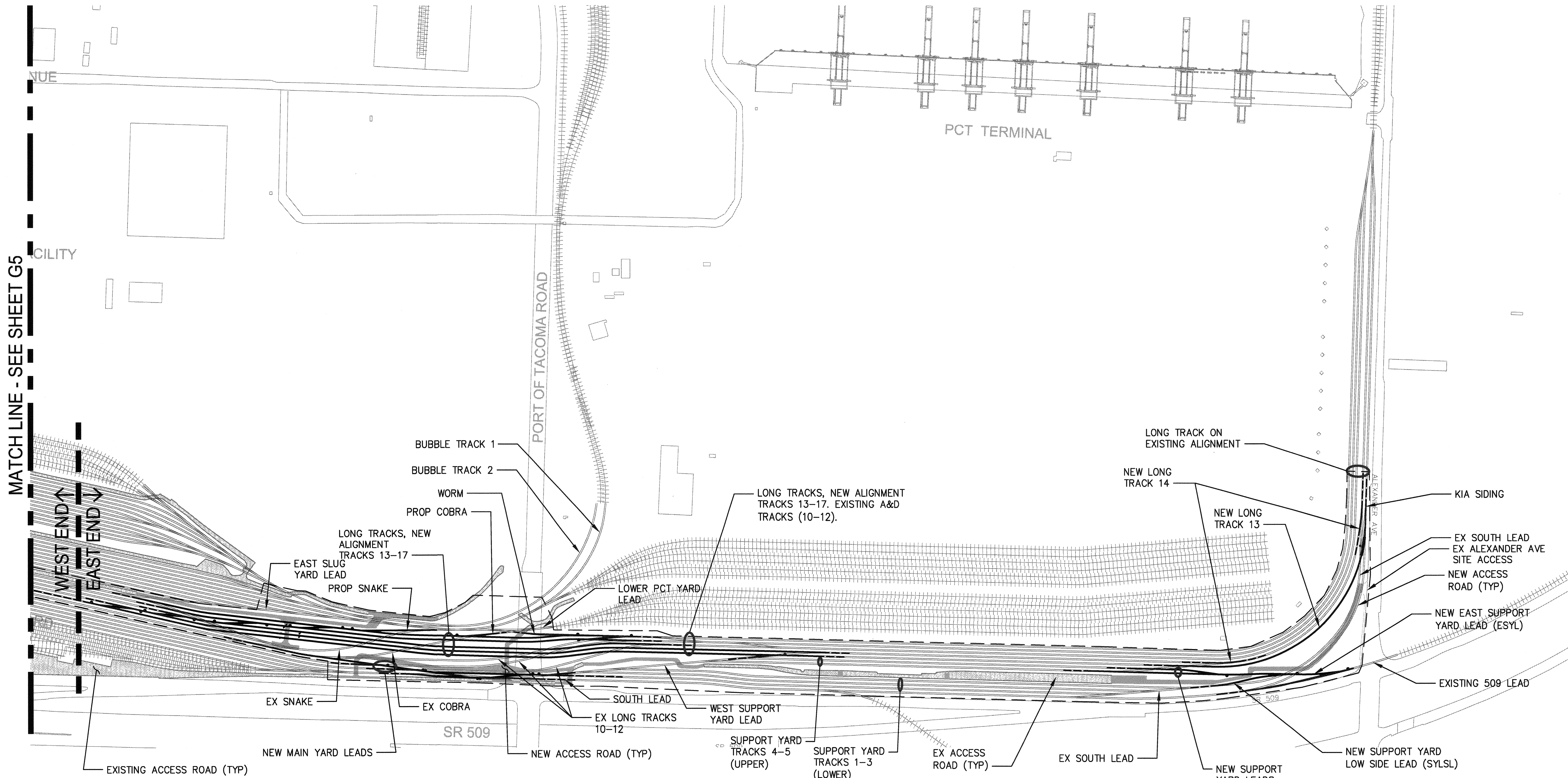
RANGE: 03E SECTION: 1, 2, 3  
 TOWNSHIP: 20N  
 DAT-HRZ: W83-SF  
 VERT: PORT OF TACOMA BM #846  
 DRAWING SCALE: AS NOTED

APPROVED: *[Signature]* SWK 03/17/16  
 CHECKED BY: DATE  
 DIRECTOR ENG. DATE: 4/12/16 SWK 03/17/16  
 PRINTED BY: boosterhaus Mar 18, 2016  
 PORT ADDRESS: ONE SITCUM PLAZA  
 TACOMA, WA 98401-1837



**kpff**  
 2407 North 31st Street, Suite 100  
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 P.O. BOX 187 TACOMA, WASHINGTON 98401-0187

**Port of Tacoma**  
 APPR: DATE:  
 BY:  
 REVISION:

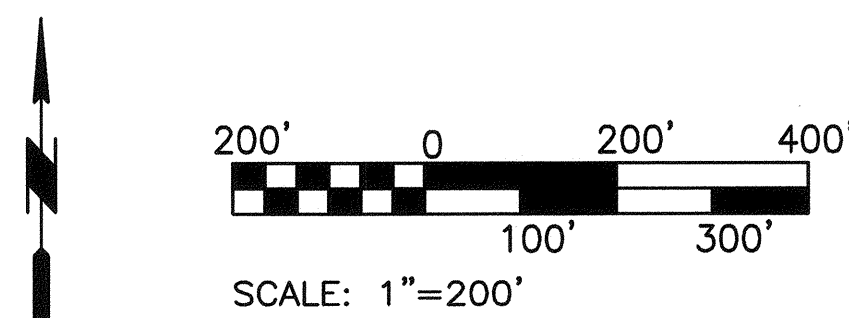


**NOTES :**

- REFER TO SHEETS CD1 THRU CD6 FOR TRACK AND SITE DEMOLITION.
- REFER TO C1 THRU C6 FOR CIVIL SITE IMPROVEMENT.
- REFER TO SHEETS R1 THRU R7 FOR RAILWAY IMPROVEMENTS.
- REFER TO SHEETS SD1 THRU SD6 FOR STORM DRAINAGE AND UTILITY IMPROVEMENTS.
- PROJECT REFERENCE LINE. ALL PROPOSED IMPROVEMENTS WEST OF REFERENCE LINE ARE NOTED AS SUCH AND SIMILARLY FOR EAST END. WEST END INCLUDES MAIN YARD AND LONG TRACK LEAD CONFIGURATION, EAST END INCLUDES INTERMODAL LONG TRACK WORK.
- ACCESS TO SITE SHALL BE THROUGH EXISTING SITE ACCESS AT MARSHALL AVE., ALEXANDER AVE., AND MILWAUKEE WAY.
- THE CONTRACTOR SHALL ENSURE COMPLIANCE WITH CHAPTER 33 OF THE 2012 IFC FOR ALL CONSTRUCTION ACTIVITIES. ADEQUATE FIRE APPARATUS ACCESS SHALL BE PROVIDED TO THE SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THE ACCESS IS KEPT CLEAR AT ALL TIMES.

**LEGEND:**

- EXISTING RAIL, CENTER LINE (PORT GIS)
- EXISTING RAIL (KPFF SURVEY, 2014)
- PROPOSED RAIL, CENTERLINE
- PROJECT REFERENCE, SEE NOTE 5.
- - - - - PROJECT LIMITS

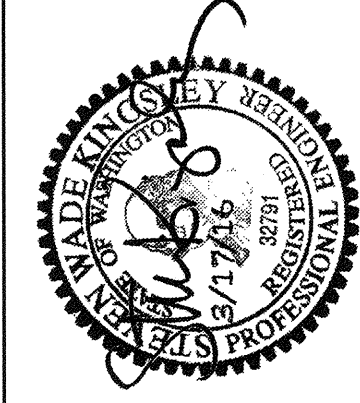


MATCH LINE - SEE SHEET G5

CILITY

PORT OF TACOMA ROAD

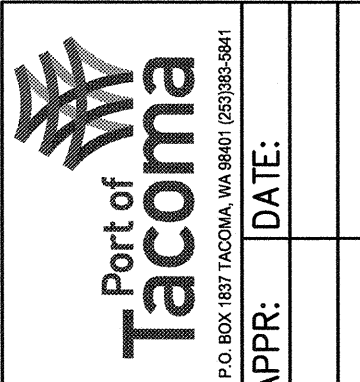
PCT TERMINAL



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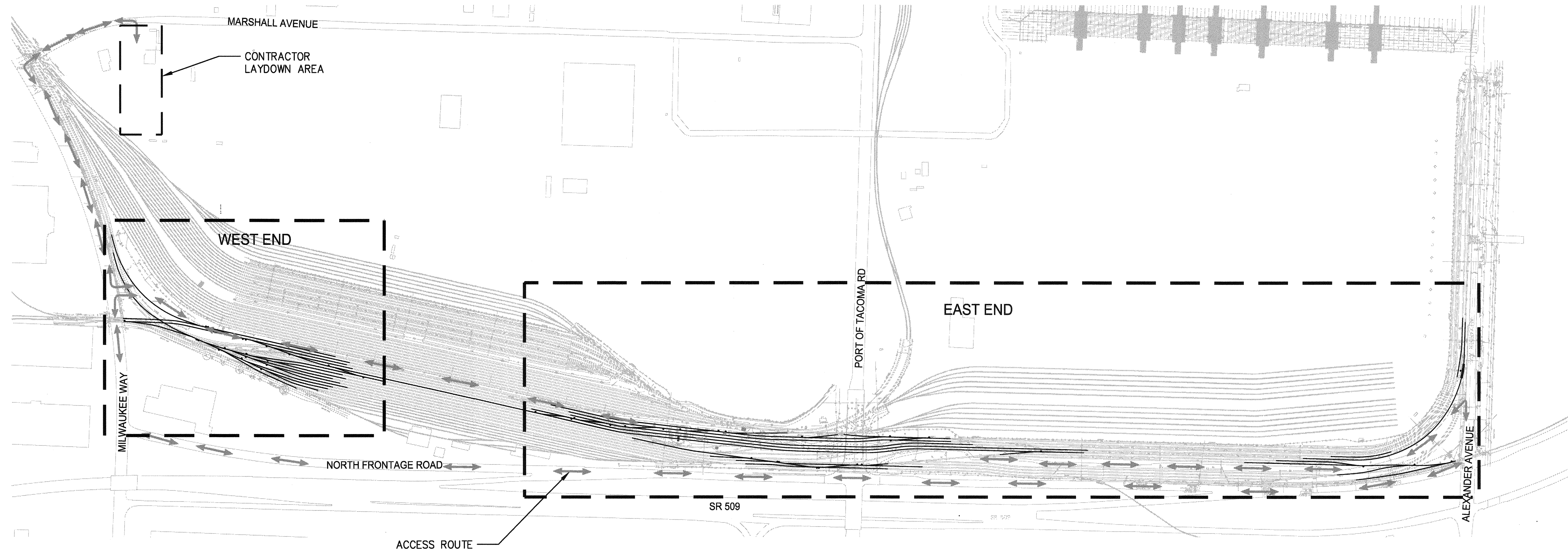
NORTH LEAD EAST END OVERALL SITE PLAN	RANGE: 03E	SECTION: 1, 2, 3
	TOWNSHIP: 20N	VERT: PORT OF TACOMA BM #846
	DAT-HRZ: W83-SF	PARCEL: MULTIPLE
		DRAWING SCALE: AS NOTED

6555	G6
SHEET 6 OF 134	
CONT/CONS: 070164	
M. ID: 092938	
PHASE: BID	

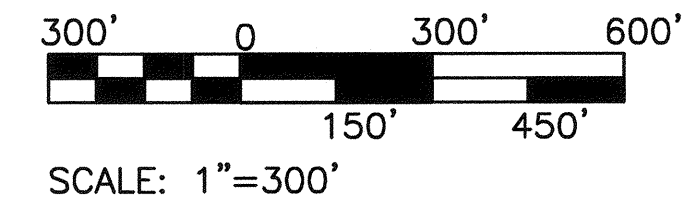


2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	DATE:
<b>kpff</b>	APPR:
MARK:	BY:
REVISION:	

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PHASING AND SEQUENCING OVERVIEW



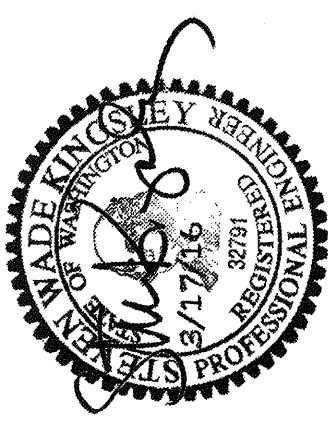
PHASING AND SEQUENCING GENERAL NOTES

1. THE PROJECT PRIORITY SHALL BE TO COMPLETE WORK WITHIN THE EAST END PRIOR TO WORK IN THE WEST END.
2. CONTRACTOR SHALL SUBMIT AND OBTAIN APPROVAL OF A DETAILED SEQUENCE PLAN AND PROJECT SCHEDULE FOR CONSTRUCTION. SEE SPECIFICATION SECTIONS 01 14 00 AND 34 05 17 FOR ADDITIONAL REQUIREMENTS.
3. PHASING AND SEQUENCING DEPICTED ON SHEETS G8-G23 IS A SUGGESTED SEQUENCE WITH TRACK OUTAGE LOCATIONS AND DURATIONS GENERALLY ACCEPTABLE TO THE PORT AND TACOMA RAIL. REFER TO SPECIFICATIONS SECTION 01 14 00 FOR TRACK OUTAGE COORDINATION REQUIREMENTS. REFER TO SPECIFICATION SECTION 34 05 17 FOR REQUIREMENTS OF RAIL CONSTRUCTION SEQUENCING PLAN.
4. REFER TO SPECIFICATION SECTION 01 14 00 FOR WORK RESTRICTIONS ASSOCIATED WITH DEMOLITION, SITEWORK, STORM DRAINAGE, ELECTRICAL AND MECHANICAL CONSTRUCTION. COORDINATE ALL WORK RESTRICTIONS WITH RAILROAD PHASING AND SEQUENCING.
5. ALL PHASE BOUNDARIES ARE APPROXIMATE AND INTENDED TO ILLUSTRATE ACCEPTABLE WORK LIMITS IN ORDER TO MAINTAIN AN ACTIVE RAILYARD. PHASE BOUNDARIES ARE IN NO WAY INTENDED TO PROHIBIT OR MODIFY WORK OTHERWISE INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL WORK IN THE CONTRACT DOCUMENTS IS COMPLETED UNDER AN APPROVED SEQUENCING PLAN AND SCHEDULE.
6. DEFINITIONS:
  - 6.1. FULL OUTAGE – TRACKS DESIGNATED FOR A FULL OUTAGE MAY EXPERIENCE AN INTERRUPTION TO RAIL OPERATIONS, WITHIN THE EXTENTS OF THE HATCH INDICATED ON THE PLAN, FOR THE COMPLETE DURATION OF THE CURRENT PHASE, IF REQUIRED. INTERRUPTIONS SHALL ONLY BE TO THE PHYSICAL AND SCHEDULE EXTENT NECESSARY TO PERFORM THE WORK WITHIN THE PHASE. NOT ALL TRACKS MAY EXPERIENCE A FULL OUTAGE. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING SAFETY MEASURES REQUIRED BY LAW TO PROTECT ALL STUBBED TRACKS, ADJACENT ACTIVE TRACKS, AND PEOPLE IMPACTED BY FULL OUTAGES.
  - 6.2. LIMITED OUTAGE – TRACKS DESIGNATED FOR A LIMITED OUTAGE WILL ALLOW THE CONTRACTOR TO WORK WITHIN 25 FEET OF AN ACTIVE TRACK PROVIDED THE WORK DOES NOT DIRECTLY IMPACT ACTIVE TRACK. THE CONTRACTOR SHALL YIELD TO RAILYARD TRAFFIC AND COMPLY WITH ALL NOTICE AND RAILROAD SAFETY REQUIREMENTS.
  - 6.3. 12 HOUR OUTAGE – OPERATIONS TO TRACKS DESIGNATED FOR A 12 HOURS OUTAGE MAY BE INTERRUPTED FOR A MAXIMUM 12 HOURS FROM 7AM TO 7PM. REFER TO SPECIFICATION SECTION 01 14 00 FOR TRACK OUTAGE COORDINATION REQUIREMENTS. CONTRACTOR SHALL PROVIDE LIGHTING NECESSARY IF WORK EXTENDS PAST DAYLIGHT HOURS.
  - 6.4. 24 HOUR OUTAGE – OPERATIONS TO TRACKS DESIGNATED FOR A 24 HOURS OUTAGE MAY BE INTERRUPTED FOR A MAXIMUM 24 HOUR CONTINUOUS DURATION. CONTRACTOR SHALL PROVIDE LIGHTING AND OVERTIME MANPOWER NECESSARY TO COMPLETE THE WORK. THE CONTRACTOR SHALL ANTICIPATE 24 HOUR OUTAGE WORK MAY REQUIRE OVERTIME AND WEEKEND MANPOWER TO ACCOMMODATE RAILYARD ACTIVITY. REFER TO SPECIFICATION SECTION 01 14 00 FOR TRACK OUTAGE COORDINATION REQUIREMENTS.
  - 6.5. CRITICAL PHASE – THE CONTRACTOR SHALL SEQUENCE WORK WITHIN A CRITICAL PHASE SUCH THAT AT LEAST ONE CRITICAL TRACK IS OPERATIONAL WITHIN 12 HOURS OF BEGINNING PHASE RELATED INTERRUPTIONS.



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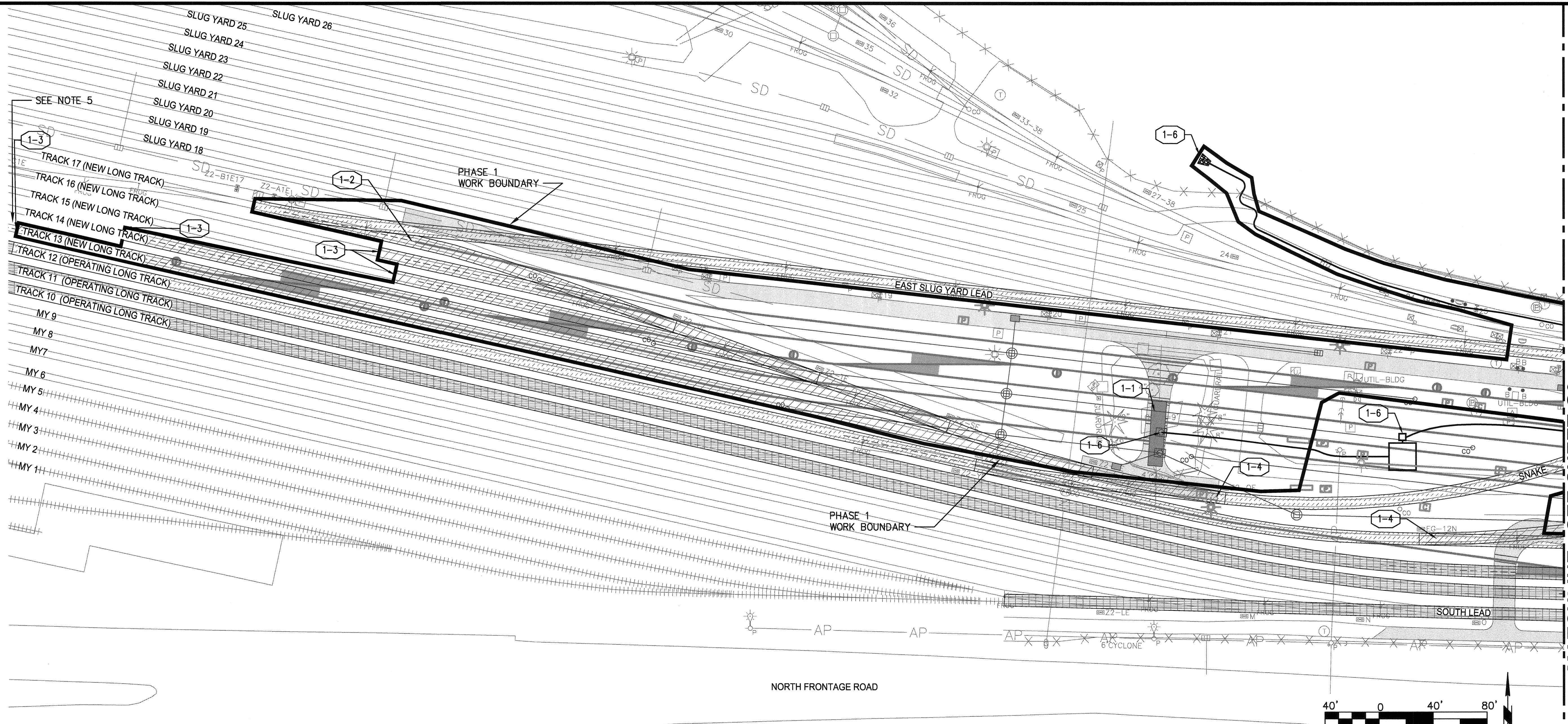
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<i>[Signature]</i>	CHECKED BY	DATE
4-16-16	SWK	03/17/16
DIRECTOR	ENG. DATE	DATE
PRINTED BY: bosterhaus	Mar 18, 2016	
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TACOMA, WA 98401-1837		

6555 <b>G7</b>	NORTH LEAD	
	PHASING & SEQUENCING PLAN	
SHEET 7 OF 134	GENERAL NOTES	
CONT/CONS: 070164	TOWNSHIP: 20N	RANGE: 03E
M. ID: 092938	SECTION: 1, 2, 3	VERT: PORT OF TACOMA BM #846
PHASE: BID	PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED

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MATCHLINE - SEE SHEET G9

KEYNOTES AND ANTICIPATED OUTAGES - PHASE 1			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
1-1	N/A	NONE	COMPLETE ERDAHL DITCH WORK WITHOUT INTERRUPTION TO RAILYARD OPERATIONS, SEE NOTE 1.
1-2	LIMITED	EAST SLUG YARD LEAD, TRACK 17	STUB TRACK 17 EAST OF EAST SLUG LEAD TURNOUT. TURNOUT SHALL REMAIN IN OPERATION IN ACCORDANCE WITH OTHER RESTRICTIONS ON THIS SHEET. STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-3	FULL	LONG TRACKS 13, 14, 15, & 16	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-4	LIMITED	LONG TRACK 12, SNAKE	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG-TERM INTERRUPTIONS.
1-5	LIMITED	LOWER PCT YARD LEAD, WEST SUPPORT YARD LEAD, SY 5	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG-TERM INTERRUPTIONS.
1-6	N/A	N/A	SCHEMATIC REPRESENTATION OF DEWATERING SYSTEM. CONTRACTOR TO DESIGN AND IMPLEMENT PER SPECIFICATIONS.
1-7	12 HOURS	KIA SIDING	INSTALL TEMPORARY TURNOUT FROM KIA SIDING TO NEW LONG TRACK 13.
1-8	12 HOURS	KIA SIDING, SOUTH LEAD	CONSTRUCT SHOOFLY TRACK.

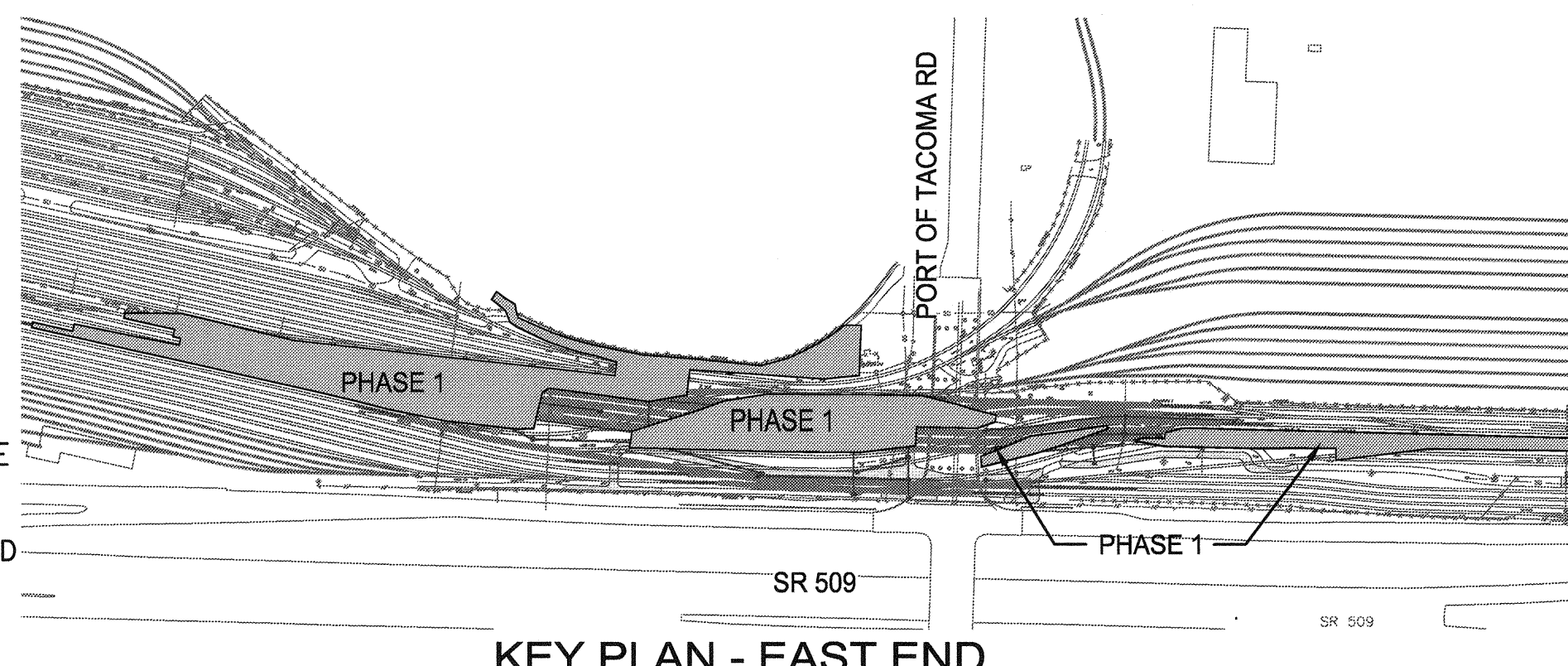
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 1			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
1-9	FULL	SY 6 & SY 7	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-10	FULL	KIA SIDING, SY 7, 6, 5, & 4	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-11	12 HOURS (x2)	NEW LONG TRACK 14	REMOVE TURNOUT AND INSTALL NEW RAIL (2 LOCATIONS)

- PHASING AND SEQUENCING NOTES**
- PHASE 1 PRIORITIES:
    - ERDAHL DITCH WORK
    - ALL WORK ADJACENT TO ACTIVE TRACKS SHALL BE COMPLETED PRIOR TO WORK THAT IMPACTS ACTIVE TRACKS TO RAIL OPERATIONS.
    - AT THE FAR EAST END:
      - INSTALL TEMPORARY TURNOUT AND SHOOFLY TO OPEN UP TEMPORARY SOUTH LEAD OPERATIONS VIA THE KIA SIDING PRIOR TO ALL OTHER WORK IN PHASE 1 THAT IMPACTS ACTIVE TRACKS.
  - ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PRIOR PORT AND TACOMA RAIL APPROVAL.
  - THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
  - SEE SPECIFICATIONS FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.
  - RAIL REPLACEMENT OF NEW LONG TRACK 13 OUTSIDE OF WORK BOUNDARIES SHOWN SHALL BE COMPLETED DURING PHASE 5B SUBJECT TO SPECIFICATION SECTION 01 14 00.
  - HARBOR RAIL SERVICES TRAILER AND BOXES TO BE RELOCATED ADJACENT TO ALEXANDER AVENUE BY OTHERS PRIOR TO START OF PROJECT. CONTRACTOR SHALL NOT IMPEDE HARBOR RAIL OPERATIONS.

**LEGEND:**

- [Hatched Box] ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
- [Dotted Box] MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
- [Diagonal Lines Box] LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH.
- [Solid Line] PHASE BOUNDARY

SCALE: 1"=40'



KEY PLAN - EAST END

**6555**

**G8**

SHEET 8 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**6555**

**G8**

SHEET 8 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**PHASING & SEQUENCING PLAN**

PHASE 1 - SHEET 1

RANGE: 03E SECTION: 1, 2, 3

VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

APPROVED: *[Signature]*

DIRECTOR ENG. DATE: 4-12-16

PRINTED BY: bosterhaus Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

SWK 03/17/16

CHECKED BY: [Name]

DATE: 03/17/16

PROJ. ENGR: [Name]

DATE: 03/17/16

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Part of Tacoma

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DATE: [ ]

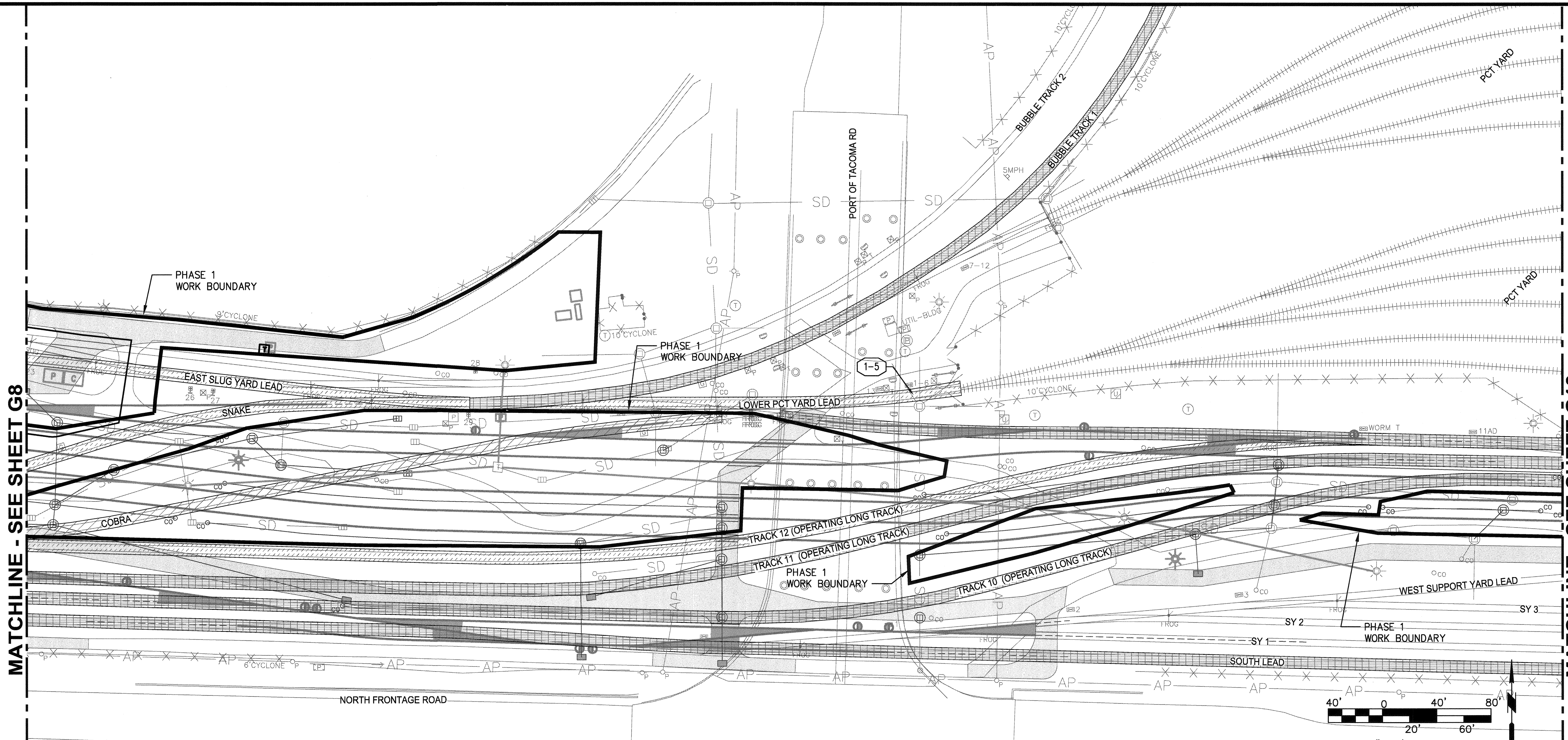
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BY: [ ]

REVISION: [ ]

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MATCHLINE - SEE SHEET G8

MATCHLINE - SEE SHEET G10

KEYNOTES AND ANTICIPATED OUTAGES - PHASE 1			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
1-1	N/A	NONE	COMPLETE ERDAHL DITCH WORK WITHOUT INTERRUPTION TO RAILYARD OPERATIONS, SEE NOTE 1.
1-2	LIMITED	EAST SLUG YARD LEAD, TRACK 17	STUB TRACK 17 EAST OF EAST SLUG LEAD TURNOUT. TURNOUT SHALL REMAIN IN OPERATION IN ACCORDANCE WITH OTHER RESTRICTIONS ON THIS SHEET. STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-3	FULL	LONG TRACKS 13, 14, 15, & 16	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
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1-6	N/A	N/A	SCHEMATIC REPRESENTATION OF DEWATERING SYSTEM. CONTRACTOR TO DESIGN AND IMPLEMENT PER SPECIFICATIONS.
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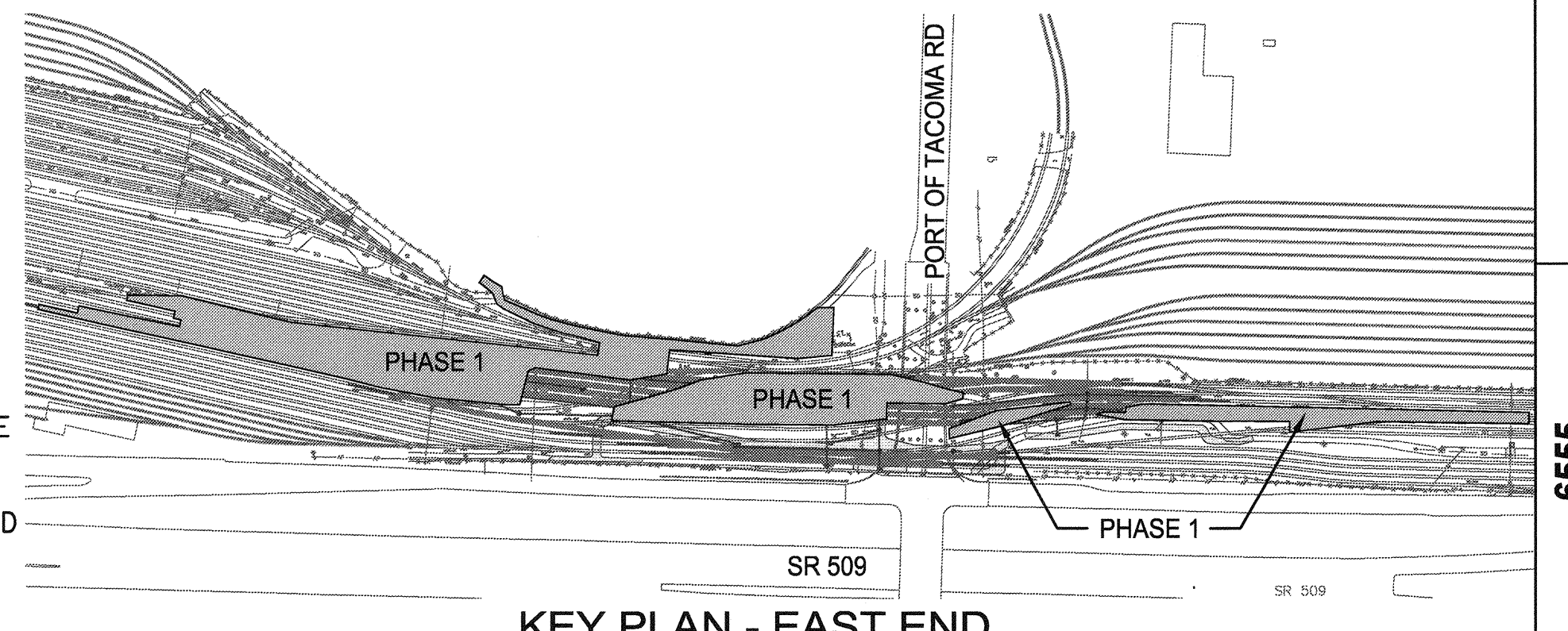
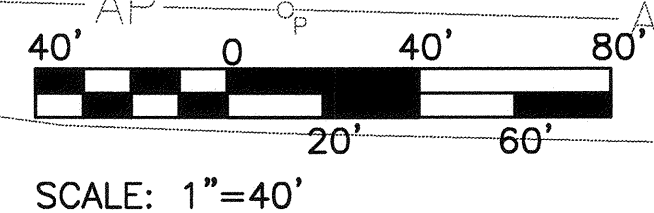
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 1			
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1-11	12 HOURS (x2)	NEW LONG TRACK 14	REMOVE TURNOUT AND INSTALL NEW RAIL (2 LOCATIONS)

PHASING AND SEQUENCING NOTES

- PHASE 1 PRIORITIES:
  - ERDAHL DITCH WORK
  - ALL WORK ADJACENT TO ACTIVE TRACKS SHALL BE COMPLETED PRIOR TO WORK THAT IMPACTS ACTIVE TRACKS TO RAIL OPERATIONS.
  - AT THE FAR EAST END:
    - INSTALL TEMPORARY TURNOUT AND SHOOFLY TO OPEN UP TEMPORARY SOUTH LEAD OPERATIONS VIA THE KIA SIDING PRIOR TO ALL OTHER WORK IN PHASE 1 THAT IMPACTS ACTIVE TRACKS.
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LEGEND:

- ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
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- PHASE BOUNDARY

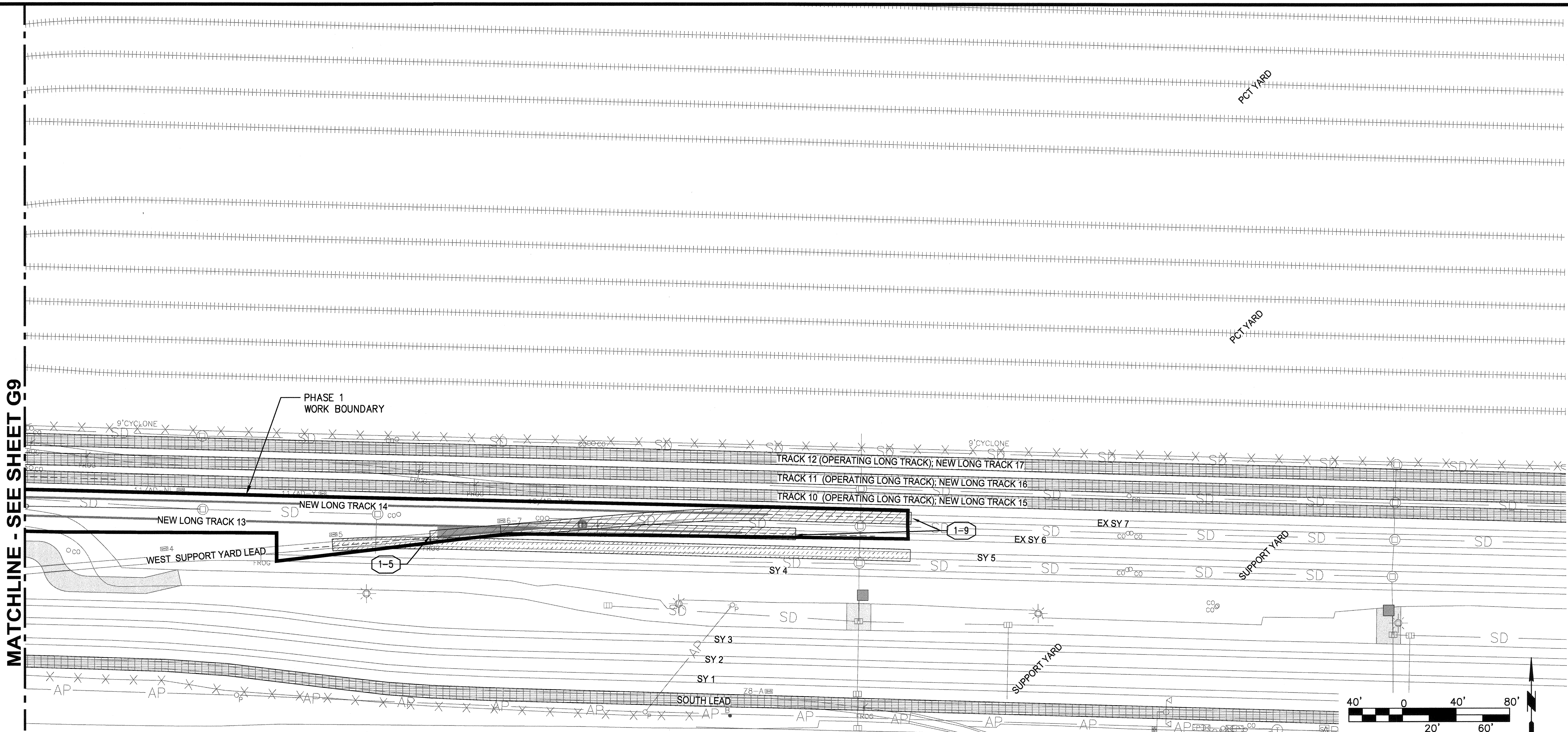


KEY PLAN - EAST END

			SWK 03/17/16 CHECKED BY DATE
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APPROVED: <i>James H. Bostert</i> 4-12-16	DIRECTOR ENG. DATE PRINTED BY: bostert@port.tacoma.gov PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SWK 03/17/16 PROJ. ENGR DATE bostert@port.tacoma.gov Mar 18, 2016	SECTION: 1, 2, 3 RANGE: 0:3E TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 DRAWING SCALE: AS NOTED
6555 <b>G9</b> SHEET 9 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID	NORTH LEAD EAST END PHASING & SEQUENCING PLAN PHASE 1 - SHEET 2	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION	

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MATCHLINE - SEE SHEET G9



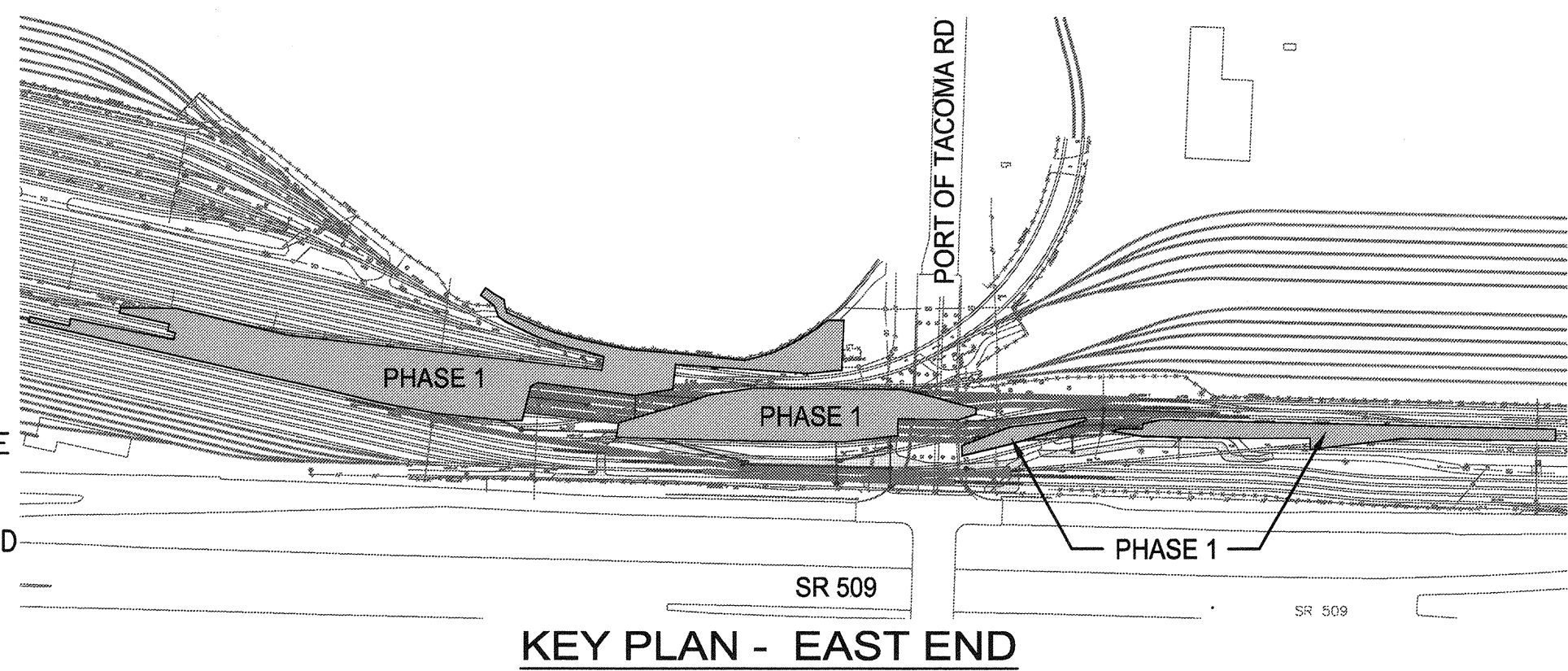
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- MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
- LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH.
- PHASE BOUNDARY



Port of Tacoma  
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WA STATE PROFESSIONAL ENGINEER  
No. 17175  
Exp. 12/31/16

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4-2-16 SWK 03/17/16  
DIRECTOR ENG. DATE PROJ. ENGR DATE  
bosterhaus Mar 18, 2016  
PORT ADDRESS ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

6555 G10 SHEET 10 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

NORTH LEAD  
EAST END  
PHASING & SEQUENCING PLAN  
PHASE 1 - SHEET 3  
SECTION: 1, 2, 3  
RANGE: 03E  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
VERT: PORT OF TACOMA, BM #846  
DRAWING SCALE: AS NOTED

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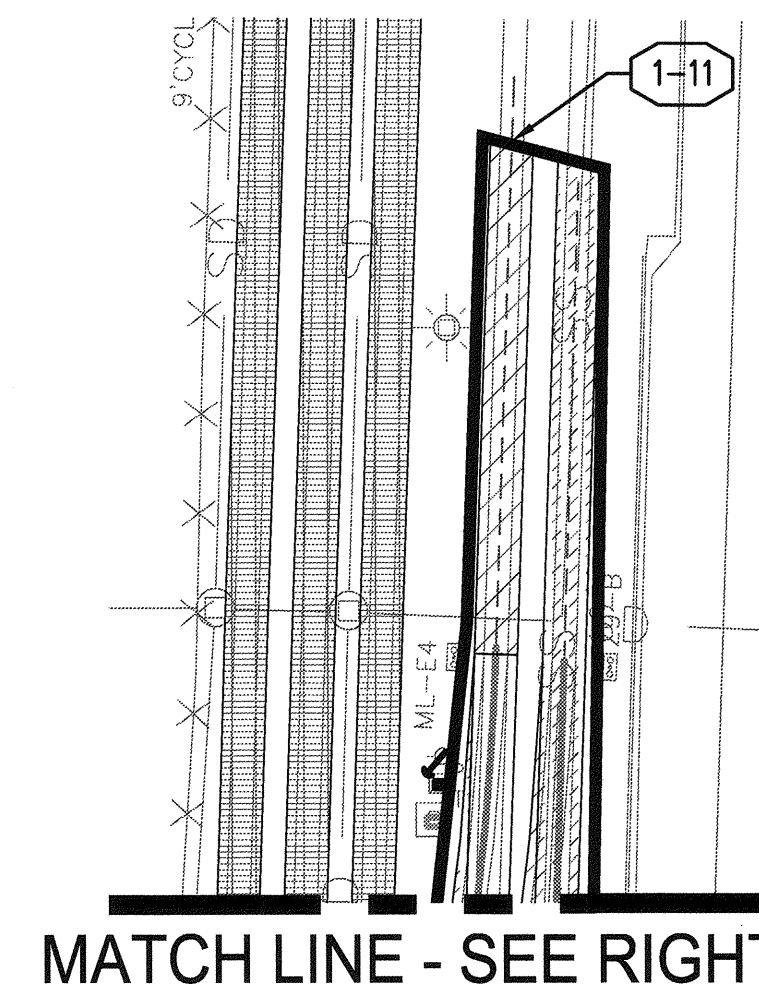
BINDING EDGE

KEYNOTES AND ANTICIPATED OUTAGES - PHASE 1			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
1-1	N/A	NONE	COMPLETE ERDAHL DITCH WORK WITHOUT INTERRUPTION IN RAILYARD OPERATIONS, SEE NOTE 1.
1-2	LIMITED FULL	EAST SLUG YARD LEAD, TRACK 17	STUB TRACK 17 EAST OF EAST SLUG LEAD TURNOUT. TURNOUT SHALL REMAIN IN OPERATION IN ACCORDANCE WITH OTHER RESTRICTIONS ON THIS SHEET. STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-3	FULL	LONG TRACKS 13, 14, 15, & 16	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-4	LIMITED	LONG TRACK 12, SNAKE	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG-TERM INTERRUPTIONS.
1-5	LIMITED	LOWER PCT YARD LEAD, WEST SUPPORT YARD LEAD, SY 5	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG-TERM INTERRUPTIONS.
1-6	N/A	N/A	SCHEMATIC REPRESENTATION OF DEWATERING SYSTEM. CONTRACTOR TO DESIGN AND IMPLEMENT PER SPECIFICATIONS.
1-7	12 HOURS	KIA SIDING	INSTALL TEMPORARY TURNOUT FROM KIA SIDING TO NEW LONG TRACK 13.
1-8	12 HOURS	KIA SIDING, SOUTH LEAD	CONSTRUCT SHOOFLY TRACK.

KEYNOTES AND ANTICIPATED OUTAGES - PHASE 1			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
1-9	FULL	SY 6 & SY 7	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-10	FULL	KIA SIDING, SY 7, 6, 5, & 4	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
1-11	12 HOURS (x2)	NEW LONG TRACK 14	REMOVE TURNOUT AND INSTALL NEW RAIL (2 LOCATIONS)

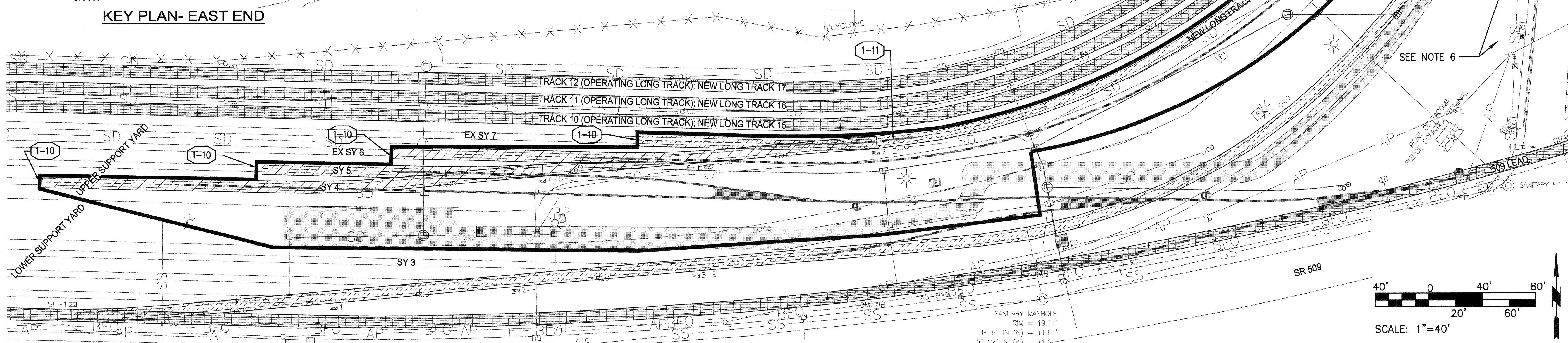
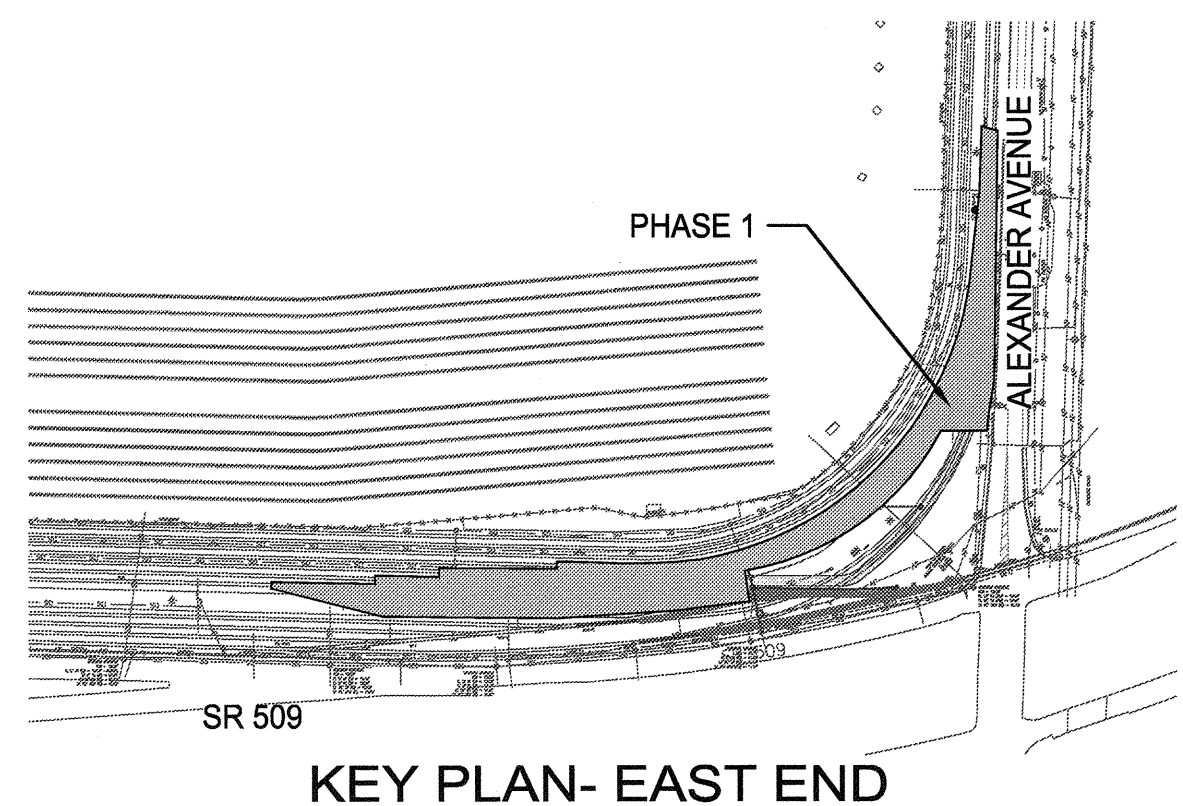
PHASING AND SEQUENCING NOTES

- PHASE 1 PRIORITIES:
  - ERDAHL DITCH WORK
  - ALL WORK ADJACENT TO ACTIVE TRACKS SHALL BE COMPLETED PRIOR TO WORK THAT IMPACTS ACTIVE TRACKS TO RAIL OPERATIONS.
  - AT THE FAR EAST END:
    - INSTALL TEMPORARY TURNOUT AND SHOOFLY TO OPEN UP TEMPORARY SOUTH LEAD OPERATION VIA THE KIA SIDING PRIOR TO ALL OTHER WORK IN PHASE 1 THAT IMPACTS ACTIVE TRACKS.
- ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PRIOR PORT AND TACOMA RAIL APPROVAL.
- THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
- SEE SPECIFICATIONS FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.
- RAIL REPLACEMENT OF NEW LONG TRACK 13 OUTSIDE OF WORK BOUNDARIES SHOWN SHALL BE COMPLETE DURING PHASE 5B SUBJECT TO SPECIFICATION SECTION 01 14 00.
- HARBOR RAIL SERVICES TRAILER AND BOXES TO BE RELOCATED ADJACENT TO ALEXANDER AVENUE BY OTHERS PRIOR TO START OF PROJECT. CONTRACTOR SHALL NOT IMPEDE HARBOR RAIL OPERATIONS.



LEGEND:

- ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
- MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
- LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH.
- PHASE BOUNDARY



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253 PROFESSIONAL SEAL

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DIRECTOR: 4-12-16 SWK 03/17/16 DATE

PRINTED BY: bosterhaus Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837

NORTH LEAD EAST END PHASING & SEQUENCING PLAN

PHASE 1 - SHEET 4

RANGE: 03E SECTION: 1, 2, 3

VERT: PORT OF TACOMA BM #B46

TOWNSHIP: 20N DAT-HRZ: W83-SF

PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

6555 SHEET 11 OF 134

CONT/CONS: 070164

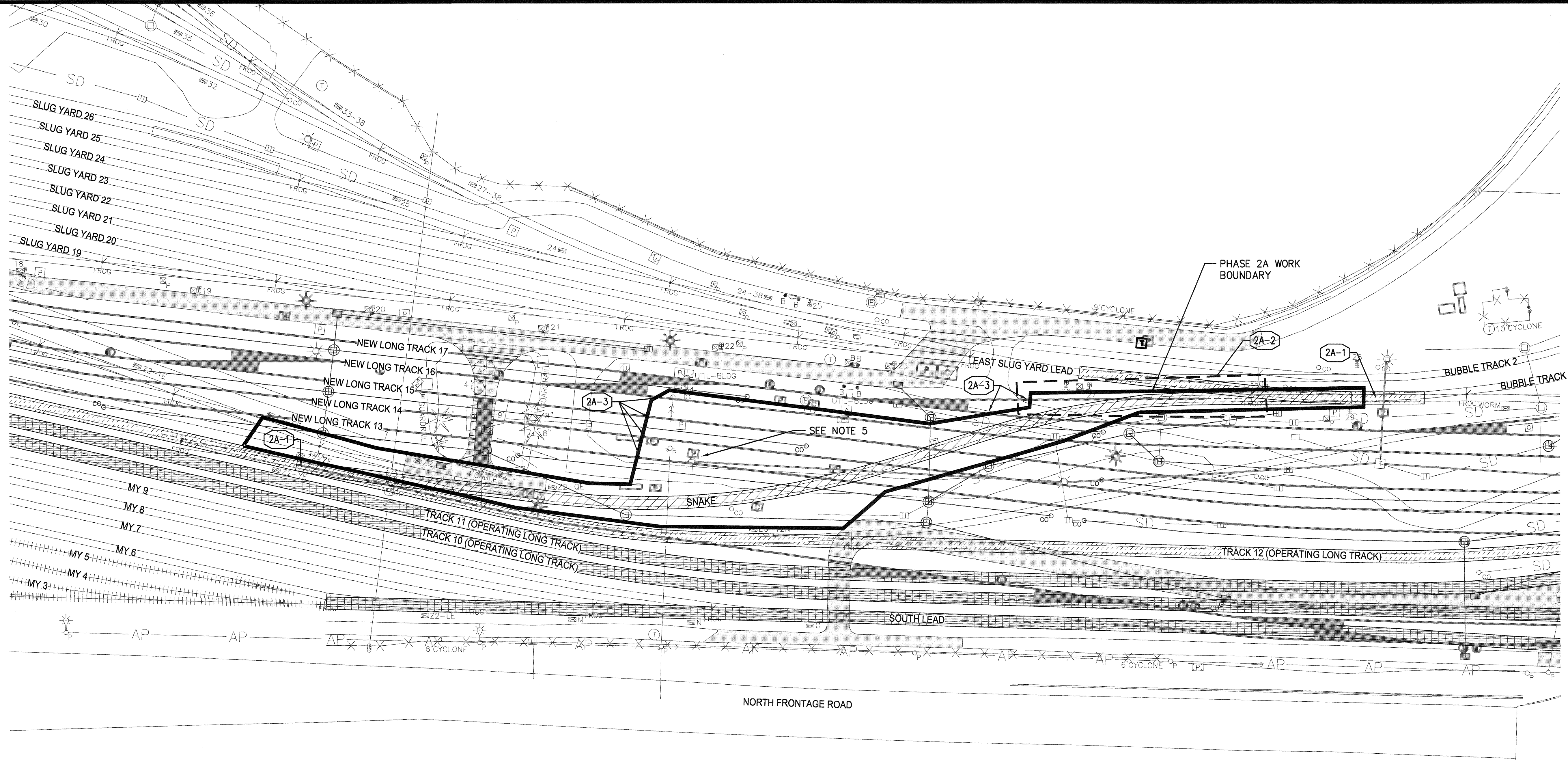
M. ID: 092938

PHASE: BID

SCALE: 1"=40'

PORT OF TACOMA FILE: C:\Users\rebekah\appdata\local\temp\AcPublish\_28960\092938-C07-C23

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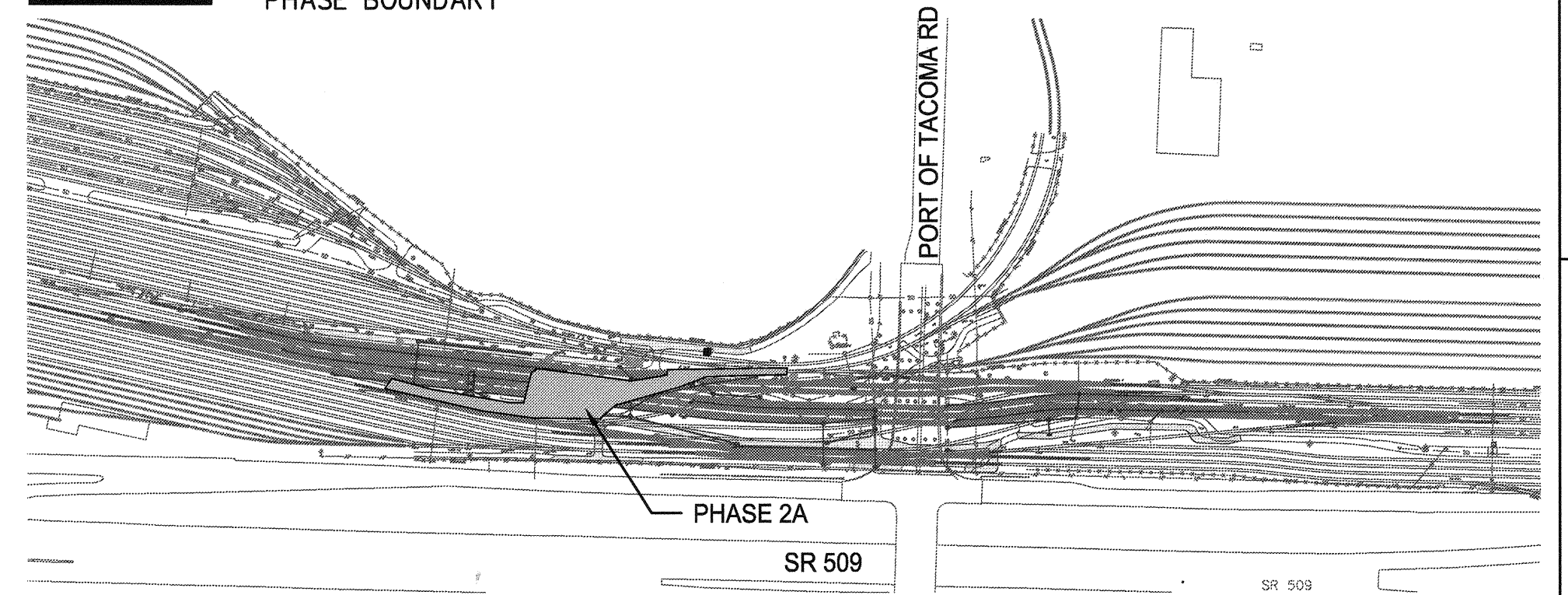
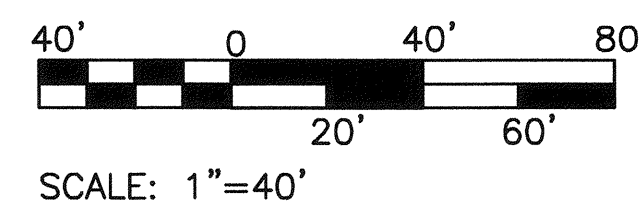
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 2A			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
2A-1	LIMITED	EAST SLUG YARD LEAD, TRACK 12, BUBBLE TRACK 1	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG-TERM INTERRUPTIONS.
2A-2	12 HOURS	EAST SLUG YARD LEAD	CONNECT NEW SNAKE ROUTE TO ALLOW ACCESS FROM TRACKS 13, 14, 15, 16, & 17 TO BUBBLE TRACK 1
2A-3	N/A	LONG TRACKS 13, 14, 15, 16, 17, SNAKE	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.

**PHASING AND SEQUENCING NOTES**

- PHASE 2A PRIORITIES:
  - RECONNECT SNAKE ROUTE TO ALLOW CONNECTION FROM TRACKS 13, 14, 15, 16, & 17 TO BUBBLE TRACK 1.
  - ALL WORK ADJACENT TO ACTIVE TRACKS SHALL TAKE PRIORITY TO LIMIT DURATION AND NUMBER OF IMPACTS TO ACTIVE TRACKS.
- ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
- THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
- SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.
- ELECTRICAL WORK WITHIN PHASE 2A REQUIRES COORDINATION WITH TACOMA PUBLIC UTILITIES. SEE ELECTRICAL PLANS AND PROJECT SPECIFICATION SECTION 01 14 00.

**LEGEND:**

- ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
- MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
- LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH.
- PHASE BOUNDARY

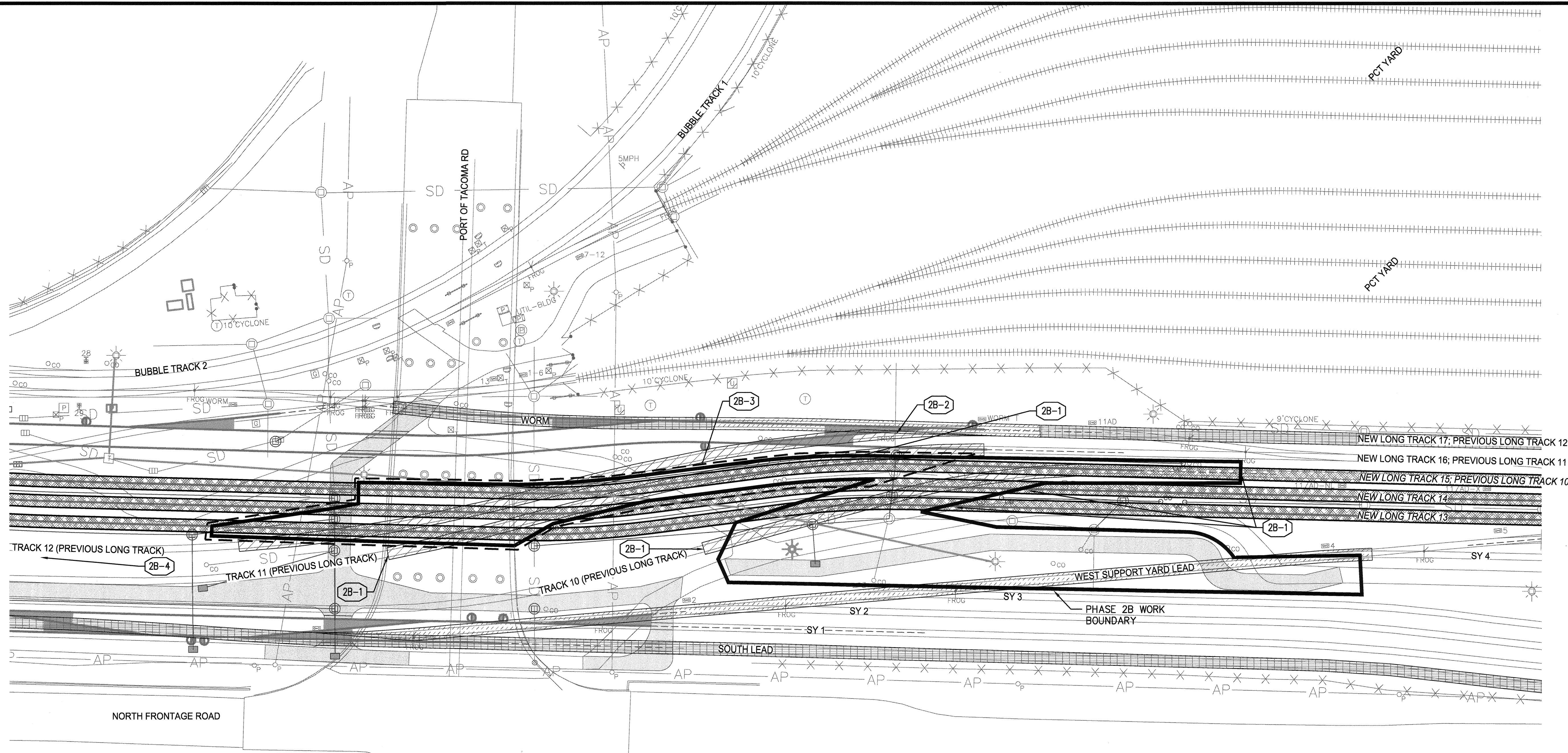


KEY PLAN- EAST END

 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162		SWK 03/17/16 CHECKED BY DATE	SWK 03/17/16 PROJ. ENGR DATE
	APPROVED: <i>[Signature]</i> 4-2-16 DIRECTOR ENG. DATE PRINTED BY: bosterhaus Mar 18, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	MARK: REVISION: BY: APPR: DATE:	NORTH LEAD EAST END PHASING & SEQUENCING PLAN PHASE 2A RANGE: 03E SECTION: 1, 2, 3 TOWNSHIP: 20N DAT-HRZ: W63-SF PARCEL: MULTIPLE DRAWING SCALE: AS NOTED
6555 <b>G12</b> SHEET 12 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION		

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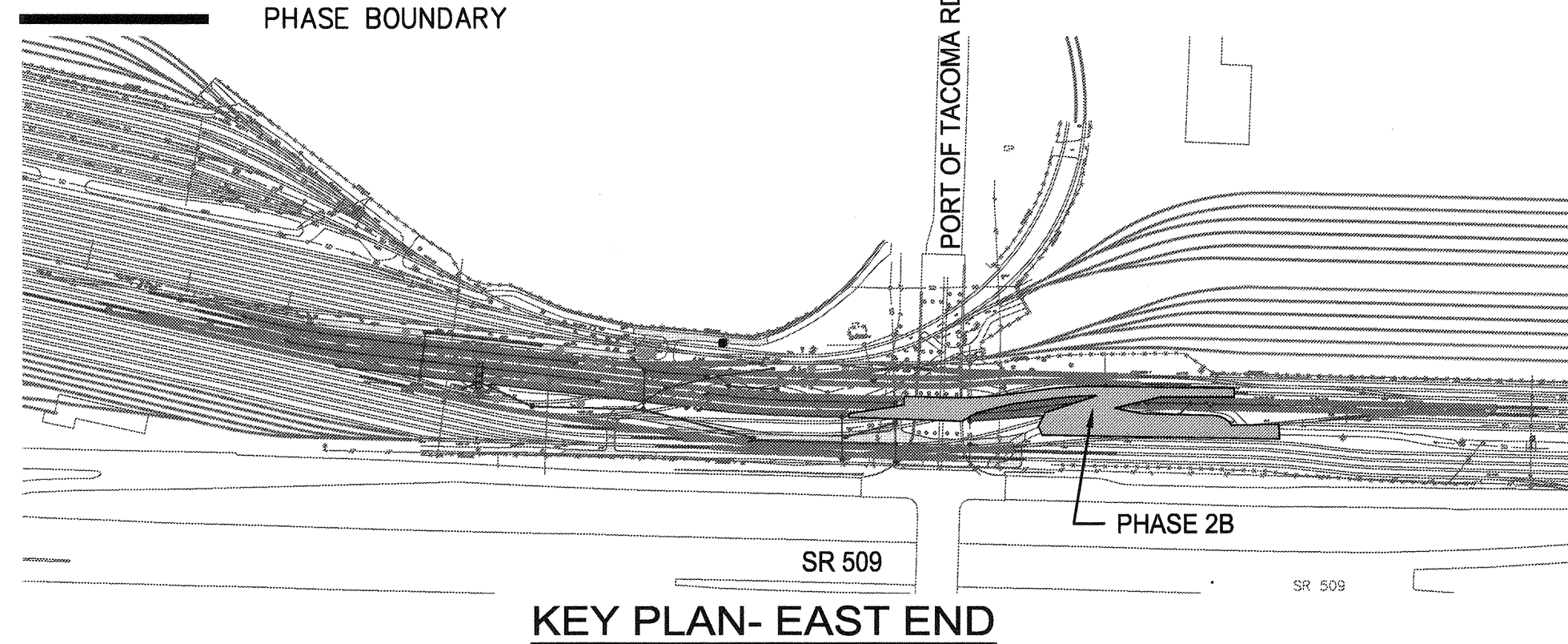
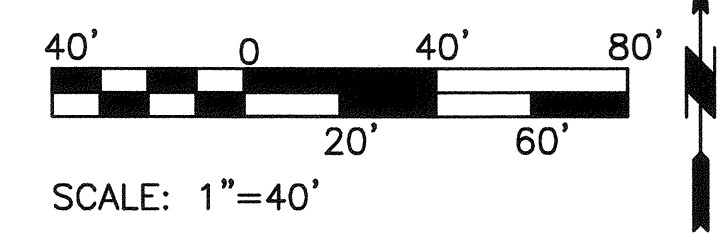
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KEYNOTES AND ANTICIPATED OUTAGES - PHASE 2B			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
2B-1	FULL	PREVIOUS LONG TRACK 10, 11, NEW LONG TRACKS 13, 14, & 15	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
2B-2	LIMITED	WORM	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG-TERM INTERRUPTIONS.
2B-3	4 DAYS	PREVIOUS LONG TRACKS 11 & 12	CONSTRUCT IMPROVEMENTS TO DESIGNATED CRITICAL LONG TRACKS WITHOUT IMPACT TO PREVIOUS LONG TRACK 10.
2B-4	FULL	PREVIOUS LONG TRACK 12	STUB TRACK WEST OF SALVAGED TURNOUT M4 (NOT SHOWN). INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.

- ### PHASING AND SEQUENCING NOTES
- CRITICAL PHASE 2B PRIORITIES:
    - CONSTRUCT IMPROVEMENTS TO NEW LONG TRACKS 13, 14, & 15 SUCH THAT PREVIOUS LONG TRACK 10 REMAINS OPERATIONAL.
    - SEQUENCE WORK SUCH THAT AT LEAST ONE CRITICAL TRACK IS OPERATIONAL WITHIN 12 HOURS OF INTERRUPTION TO PREVIOUS LONG TRACK 10. ALL THREE CRITICAL TRACKS SHALL BE OPERATIONAL WITHIN 60 HOURS OF FIRST INTERRUPTION TO PREVIOUS LONG TRACK 10.
  - ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
  - THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
  - SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.
  - CONTRACTOR SHALL PROVIDE TEMPORARY AIR CONNECTIONS AT NEW LONG TRACKS IN ORDER FOR TRACK TO BE CONSIDERED OPERATIONAL. EXACT LOCATION OF AIR SUPPLY AND CONNECTION DETAILS SHALL BE COORDINATED WITH TACOMA RAIL.

- ### LEGEND:
- ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
  - MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
  - LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH.
  - CRITICAL TRACKS. SEE NOTE 1.
  - PHASE BOUNDARY



**6555**

**G13**

SHEET 13 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**EAST END**

**PHASING & SEQUENCING PLAN**

PHASE 2B

TOWNSHIP: ZON

RANGE: 03E

SECTION: 1, 2, 3

DATE-HRZ: W83-SF

VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE

DRAWING SCALE: AS NOTED

APPROVED: *[Signature]*

4-12-16

DIRECTOR ENG. DATE: bosterhaus Mar 18, 2016

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TACOMA, WA 98401-1837

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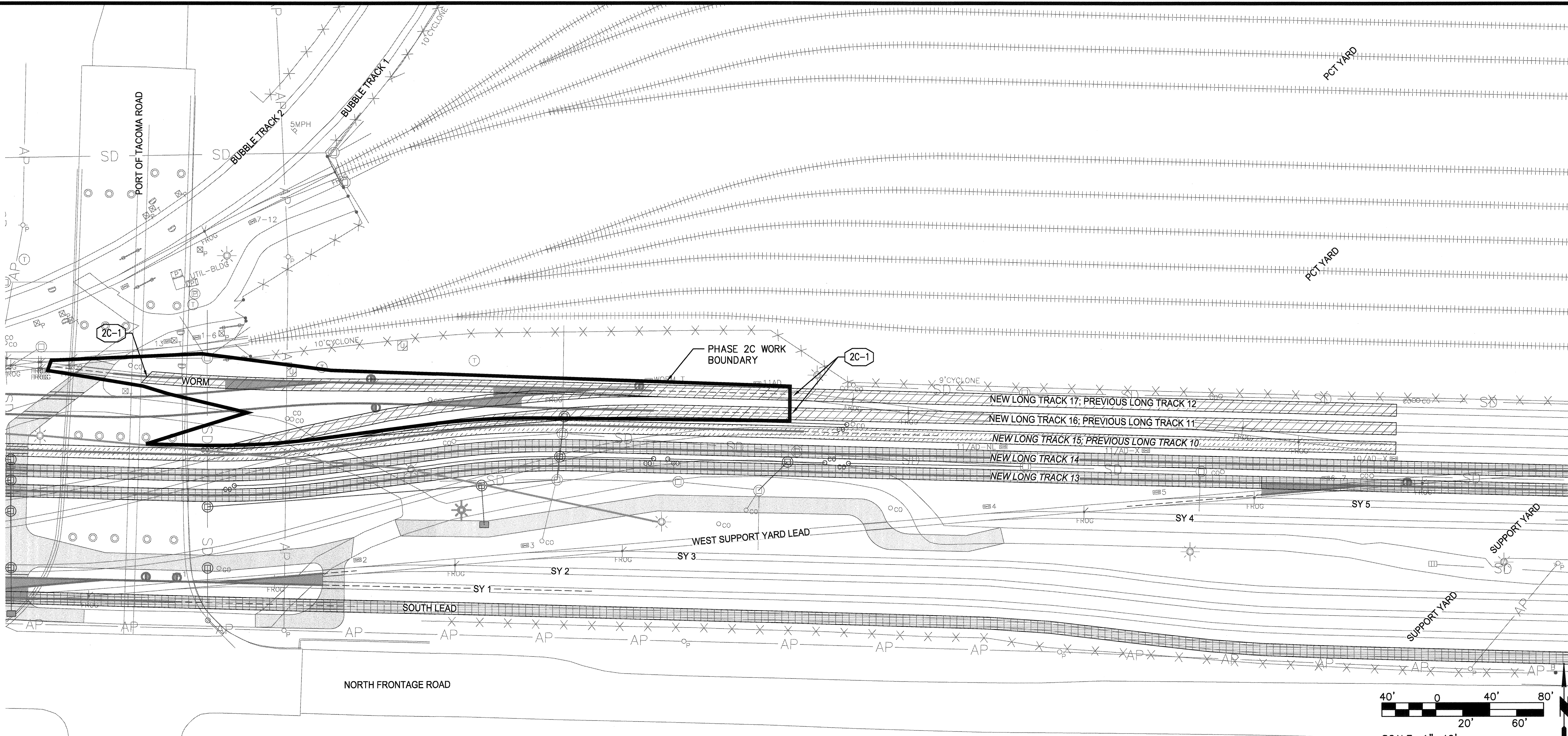
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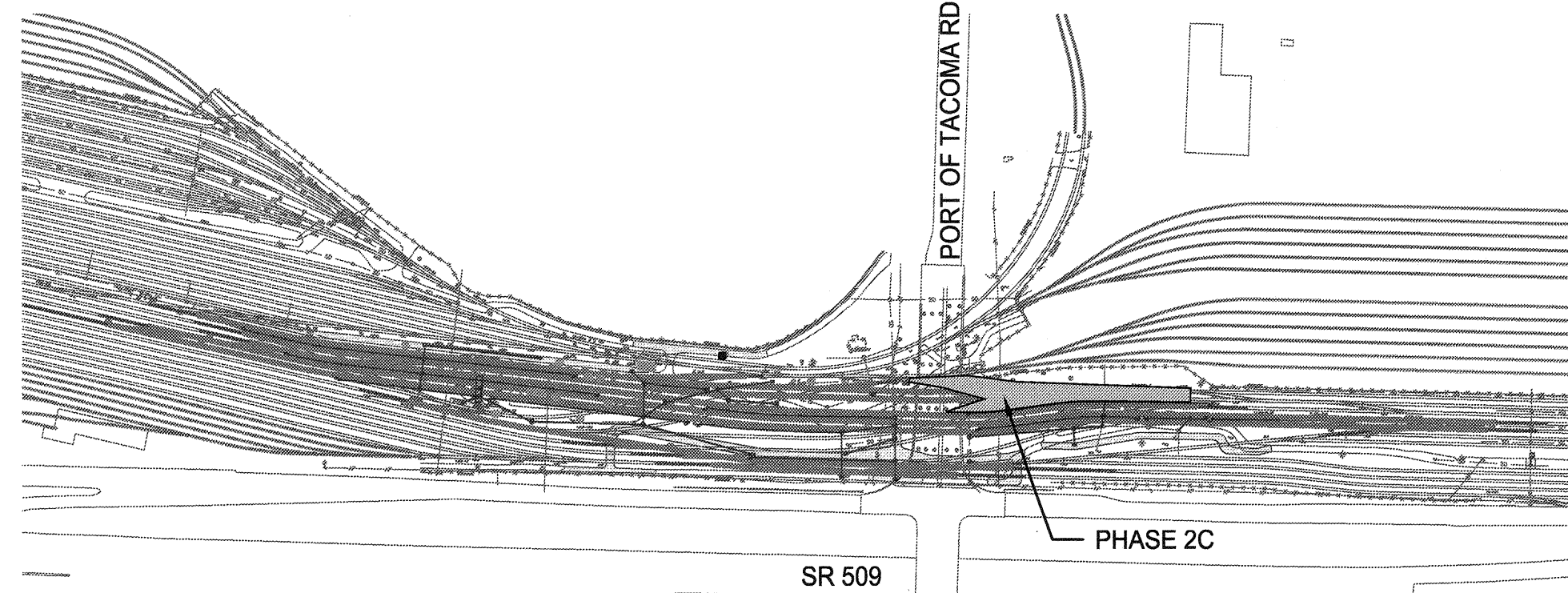
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 2C			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
2C-1	FULL	PREVIOUS LONG TRACKS 11 & 12, WORM	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.

**PHASING AND SEQUENCING NOTES**

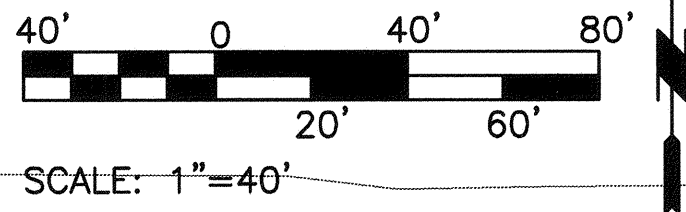
- PHASE 2C PRIORITIES:
  - COMPLETE NEW LONG TRACK 17 AND WORM.
- ALL WORK ADJACENT TO ACTIVE TRACKS SHALL TAKE PRIORITY TO LIMIT DURATION AND NUMBER OF IMPACTS TO ACTIVE TRACKS.
- ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
- THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
- SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.

**LEGEND:**

- ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
- MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
- LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH.
- PHASE BOUNDARY



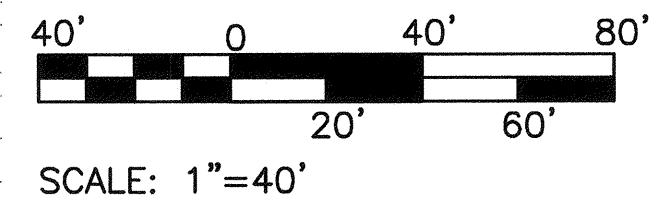
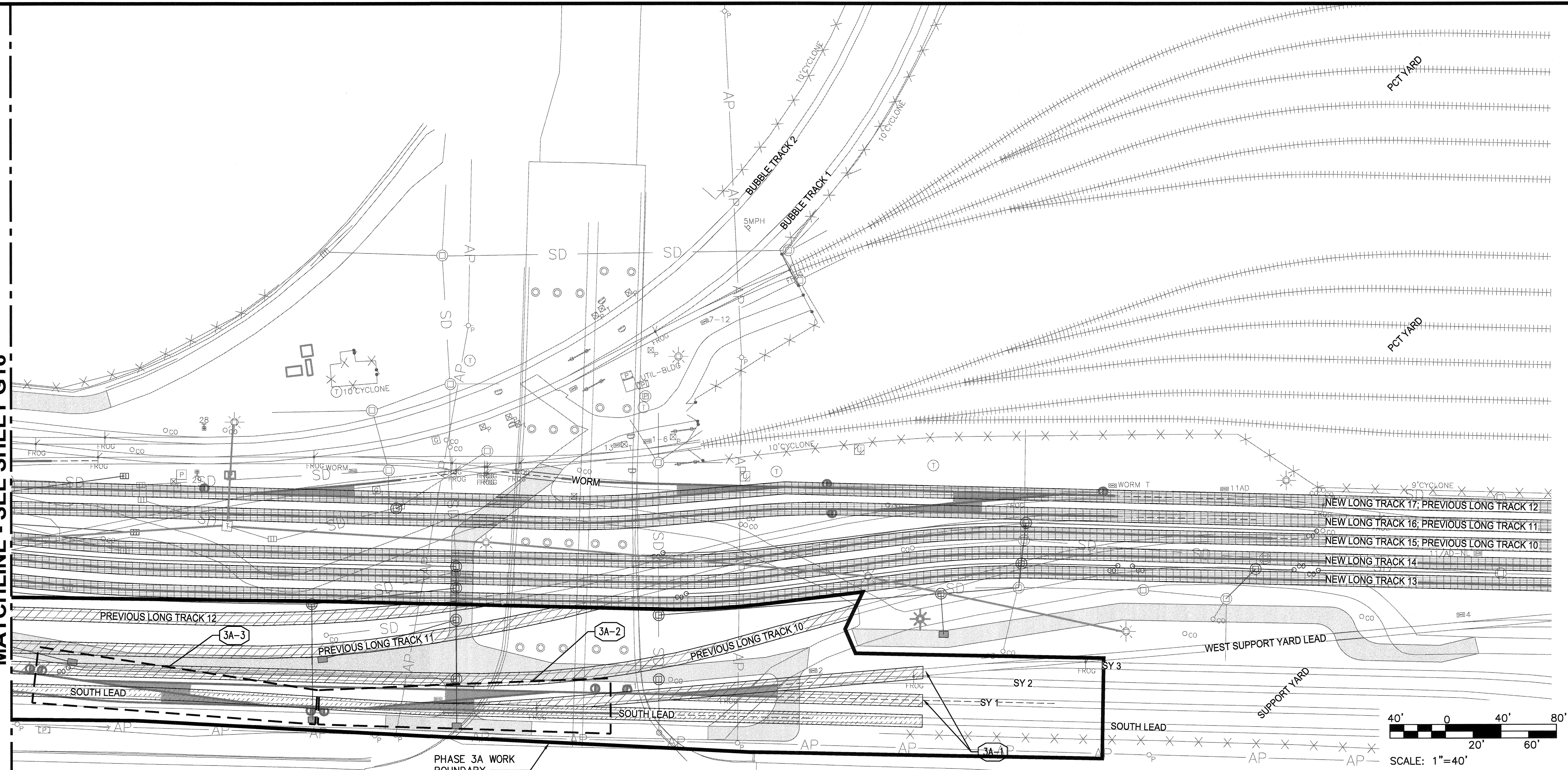
KEY PLAN- EAST END



 Part of Tacoma <small>P.O. BOX 887 TACOMA, WA 98401 (253) 396-0162</small>	MARK: REVISION: BY: APPR: DATE:
APPROVED: <i>[Signature]</i> SWK 03/17/16 CHECKED BY: DATE:	DIRECTOR ENG. DATE: 4-12-16 SWK 03/17/16 PROJ. ENGR DATE:
PRINTED BY: bosterman Mar 18, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SECTION: 1, 2, 3 RANGE: 03E TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 DRAWING SCALE: AS NOTED PARCEL: MUL TIPLE
<b>6555</b> <b>G14</b> SHEET 14 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>EAST END</b> PHASING & SEQUENCING PLAN PHASE 2C

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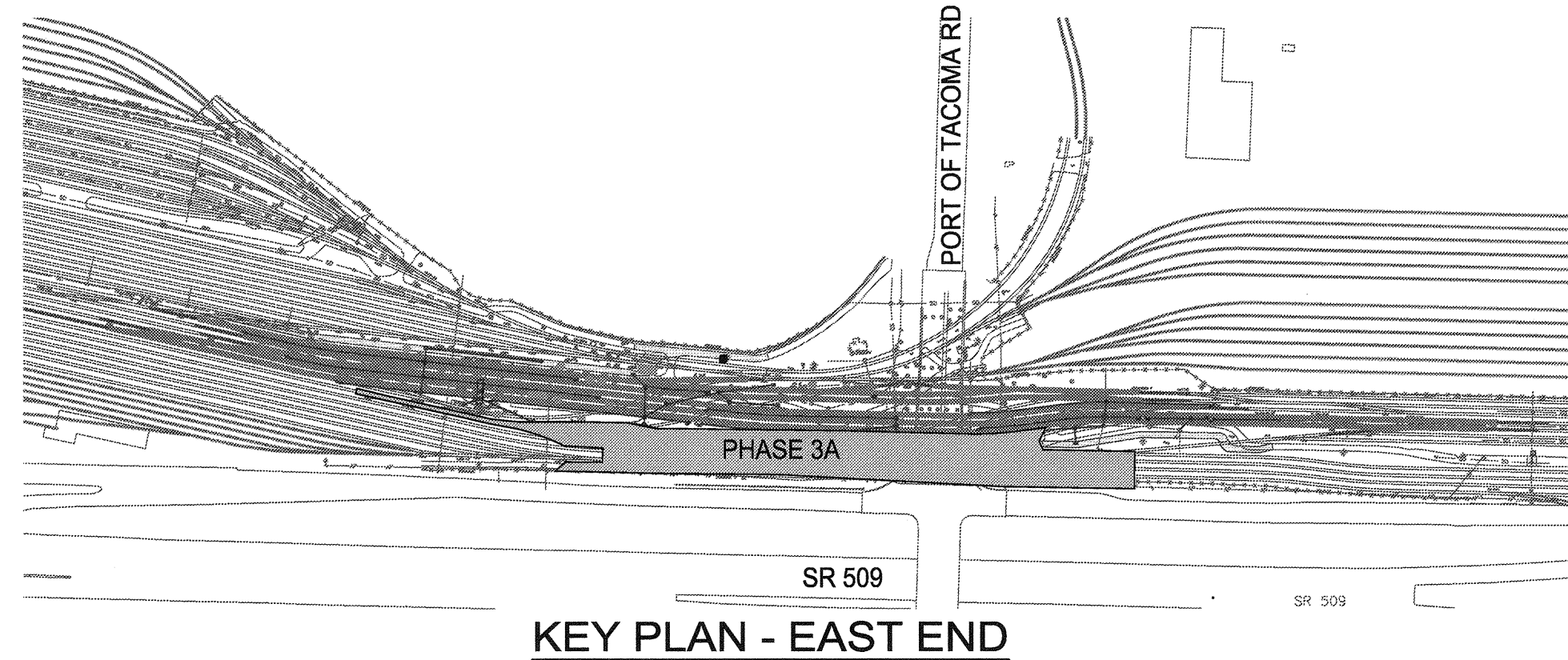
MATCHLINE - SEE SHEET G16



KEYNOTES AND ANTICIPATED OUTAGES - PHASE 3A			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
3A-1	FULL	PREVIOUS LONG TRACKS 10, 11, 12, SY 1 & 2, WEST SUPPORT YARD LEAD	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
3A-2	36 HOURS	SOUTH LEAD	CONSTRUCT COMPLETE CROSSOVER. REOPEN SOUTH LEAD TO TRACK OPERATIONS WITH TEMPORARY ALIGNMENT AS NECESSARY.
3A-3	36 HOURS	SOUTH LEAD	CONSTRUCT COMPLETE CROSSOVER. REOPEN SOUTH LEAD TO TRACK OPERATIONS WITH FINAL ALIGNMENT.

- PHASING AND SEQUENCING NOTES**
1. PHASE 3A PRIORITIES:
    - 1.1. CONSTRUCT CROSSOVERS ALONG SOUTH LEAD TRACK, ALLOWING TRACK OPERATIONS TO RESUME BETWEEN OUTAGES. FINAL SURFACING AND DRESSING OF THE SOUTH LEAD TRACK MAY OCCUR OUTSIDE OF SPECIFIED OUTAGE UNDER THE DEFINITION OF A LIMITED OUTAGE.
    - 1.2. CONSTRUCT ALL OTHER IMPROVEMENTS.
  2. ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
  3. THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
  4. SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.

- LEGEND:**
- [Hatched Box] ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
  - [Diagonal Hatched Box] MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
  - [Horizontal Hatched Box] LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH
  - [Solid Line] PHASE BOUNDARY



KEY PLAN - EAST END

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Port of Tacoma  
P.O. BOX 1887 TACOMA, WA 98401-1887

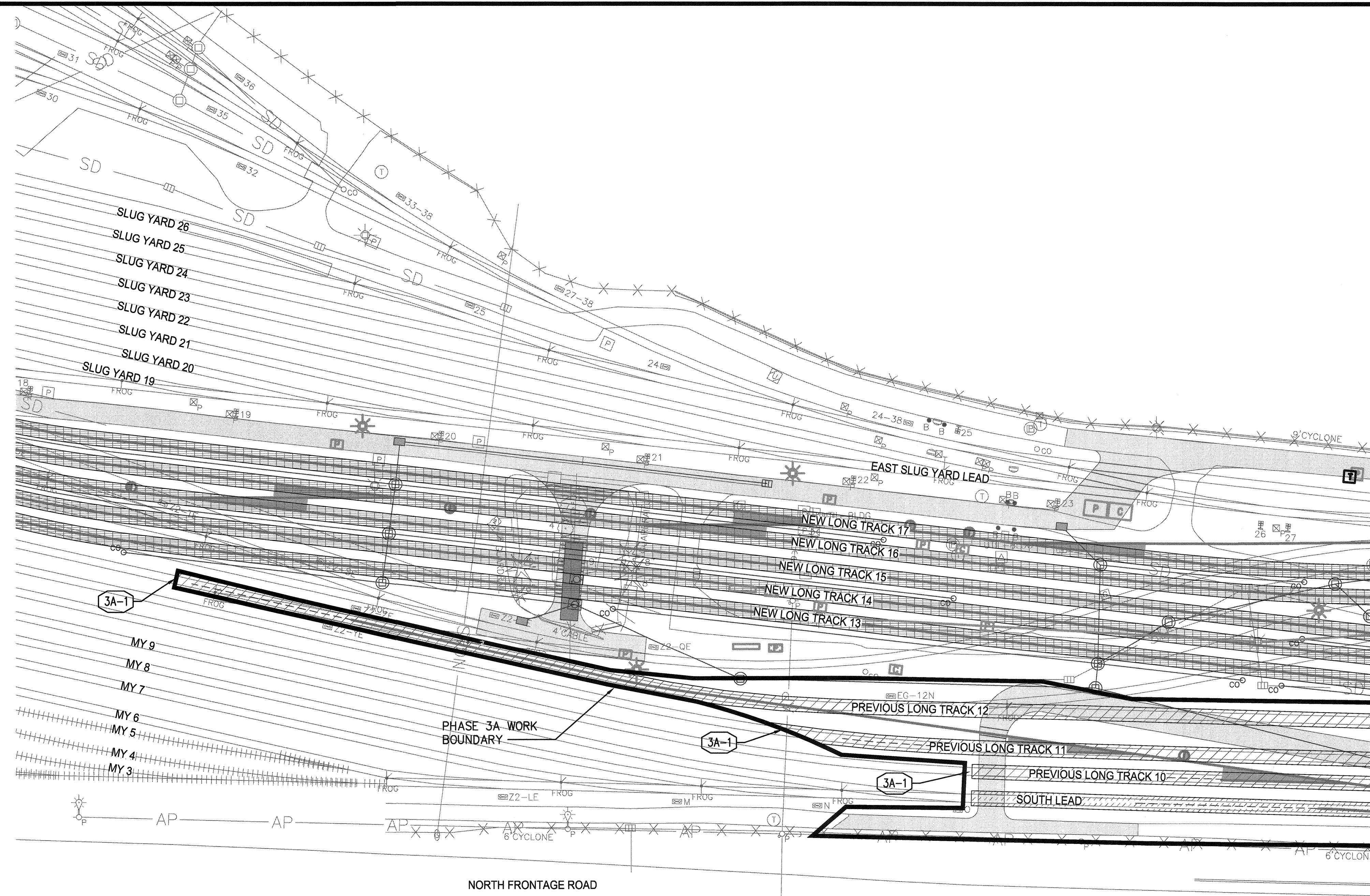
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DIRECTOR ENG. DATE 4-2-2016

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PRINTED BY: bosterhaus Mar 18, 2016  
PORT ADDRESS: ONE S TICUM PLAZA  
TACOMA, WA 98401-1837

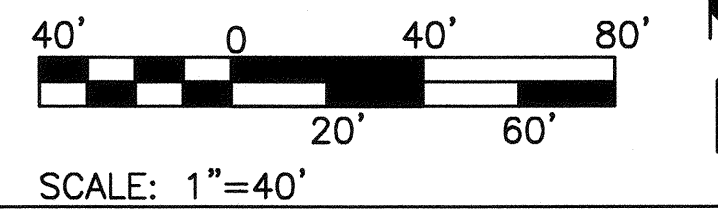
6555  
**G15**  
SHEET 15 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

**NORTH LEAD**  
**EAST END**  
PHASING & SEQUENCING PLAN  
PHASE 3A - SHEET 1  
RANGE: 03E  
SECTION: 1, 2, 3  
TOWNSHIP: 20N  
DAT-HRZ: W83-SF  
PARCEL: MULTIPLE  
DRAWING SCALE: AS NOTED

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MATCHLINE - SEE SHEET G15



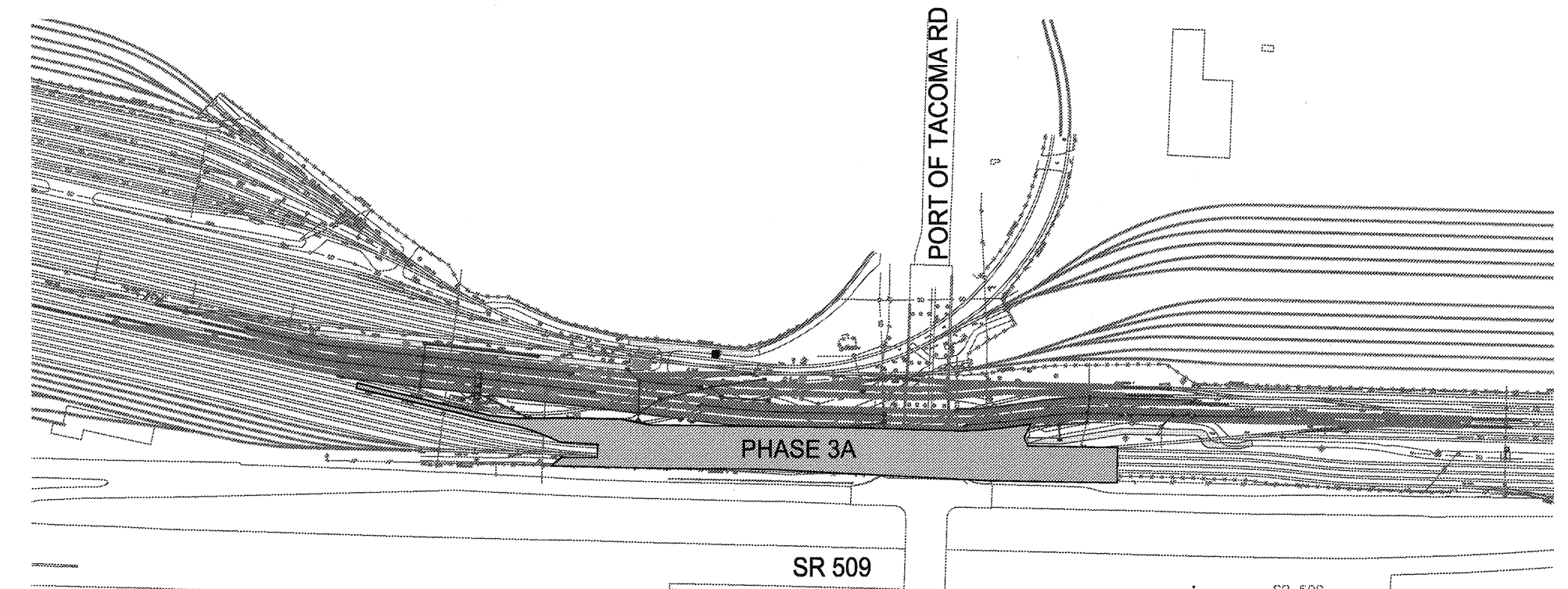
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 3A			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
3A-1	FULL	PREVIOUS LONG TRACKS 10, 11, 12, SY 1 & 2, WEST SUPPORT YARD LEAD	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
3A-2	36 HOURS	SOUTH LEAD	CONSTRUCT COMPLETE CROSSOVER. REOPEN SOUTH LEAD TO TRACK OPERATIONS WITH TEMPORARY ALIGNMENT AS NECESSARY.
3A-3	36 HOURS	SOUTH LEAD	CONSTRUCT COMPLETE CROSSOVER. REOPEN SOUTH LEAD TO TRACK OPERATIONS WITH FINAL ALIGNMENT.

**PHASING AND SEQUENCING NOTES**

1. PHASE 3A PRIORITIES:
  - 1.1. CONSTRUCT CROSSOVERS ALONG SOUTH LEAD TRACK, ALLOWING TRACK OPERATIONS TO RESUME BETWEEN OUTAGES. FINAL SURFACING AND DRESSING OF THE SOUTH LEAD TRACK MAY OCCUR OUTSIDE OF SPECIFIED OUTAGE UNDER THE DEFINITION OF A LIMITED OUTAGE.
  - 1.2. CONSTRUCT ALL OTHER IMPROVEMENTS.
2. ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
3. THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
4. SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.

**LEGEND:**

- ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
- MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
- LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH
- PHASE BOUNDARY



KEY PLAN - EAST END

 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0350 Fax (253) 396-0162	Port of Tacoma <small>P.O. BOX 687 TACOMA, WA 98401</small>	DATE: _____ APPR: _____ BY: _____ REVISION: _____ MARK: _____
		SWK 03/17/16 CHECKED BY DATE SWK 03/17/16 PROJ. ENGR DATE DIRECTOR ENG. DATE: bosterhaus Mar 18, 2016 PRINTED BY: bosterhaus Mar 18, 2016 PORT ADDRESS: ONE SITCLIM PLAZA TACOMA, WA 98401-1837
6555 <b>G16</b> SHEET 16 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	NORTH LEAD EAST END PHASING & SEQUENCING PLAN PHASE 3A - SHEET 2 RANGE: 03E SECTION: 1, 2, 3 TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 DRAWING SCALE: AS NOTED PARCEL: MULTIPLE	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION

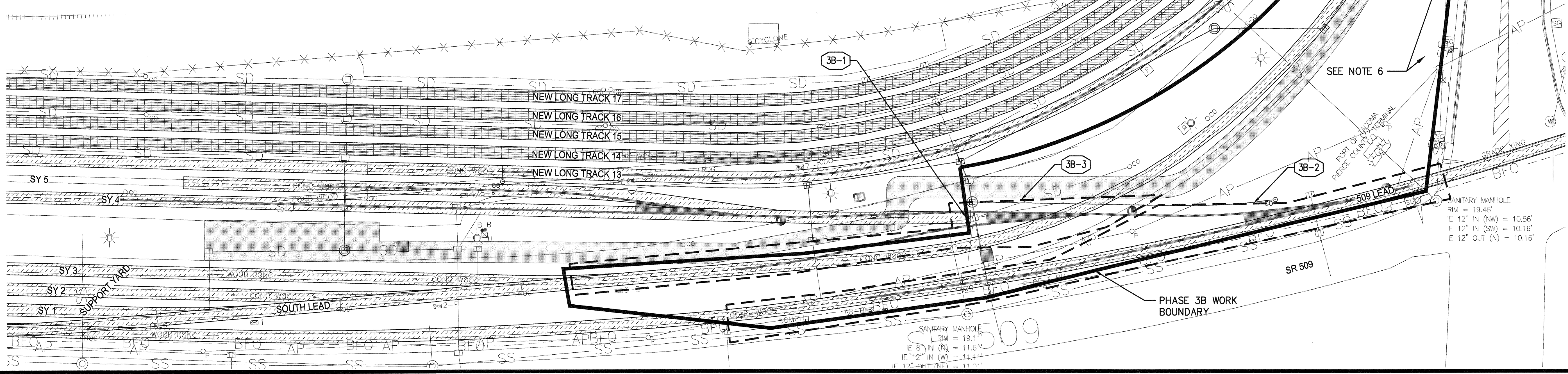
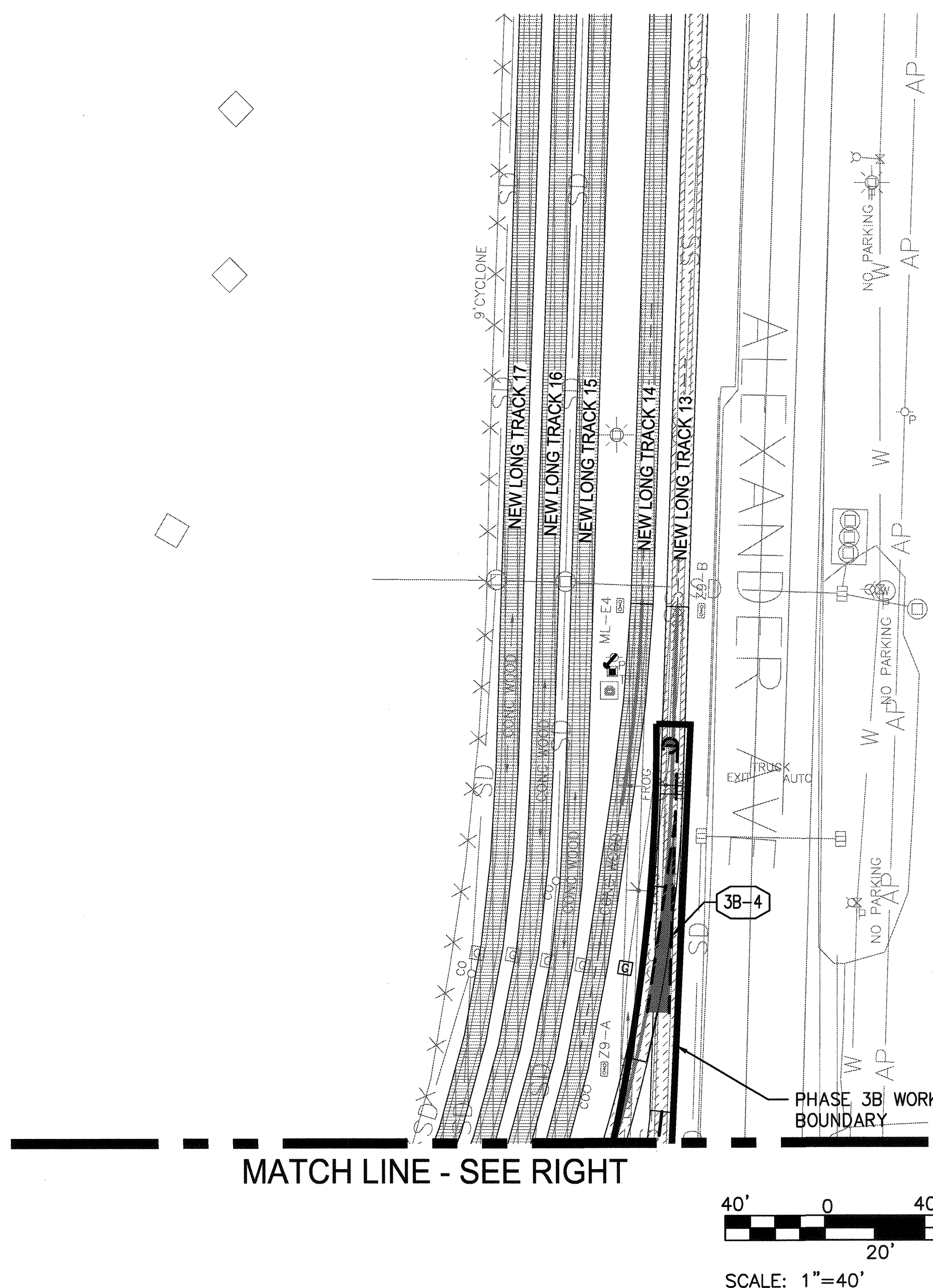
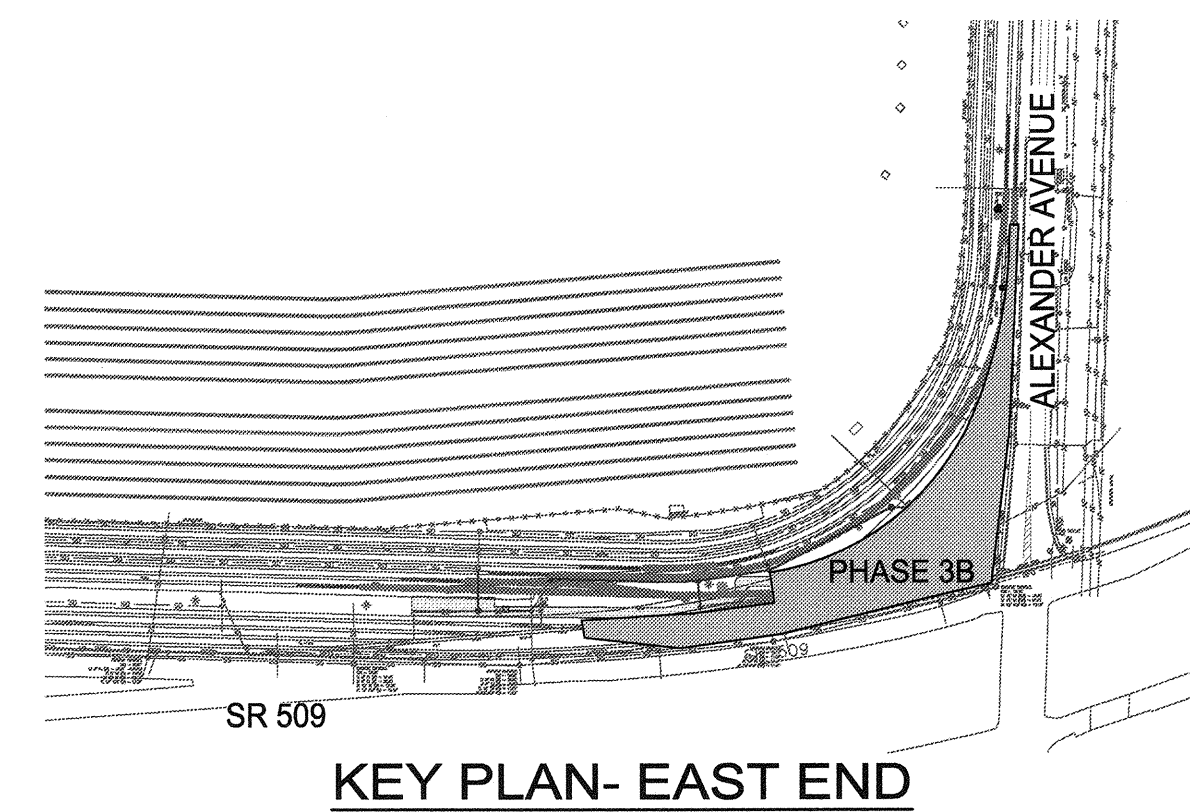
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 3B			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
3B-1	12 HOURS	SYLSL	MAINTAIN STUB TRACKS FROM PREVIOUS PHASE WITH APPLICABLE SAFETY MEASURES.
3B-2	36 HOURS FULL	509 LEAD KIA SIDING	INSTALL TURNOUT ESYL AND LAY NEW TRACK TO TIE INTO EXISTING, REMOVE KIA SIDING CONNECTION TO 509 LEAD. REOPEN 509 LEAD TO TRAFFIC WITHIN 36 HOURS OF START OF INTERRUPTION.
3B-3	36 HOURS	SOUTH LEAD, SUPPORT YARD TRACKS	INSTALL TURNOUT ESYLSL AND LAY TRACK TO CONNECT TO SUPPORT YARD LOW SIDE LEAD. REOPEN OPERATIONS BETWEEN THE 509 AND THE SUPPORT YARD WITHIN 36 HOURS OF START OF INTERRUPTION.
3B-4	12 HOURS	NEW LONG TRACK 13	REMOVE TEMPORARY TURNOUT
3B-5	N/A	N/A	REMOVE SHOOFLY TRACK

PHASING AND SEQUENCING NOTES

- PHASE 3B PRIORITIES:
  - INSTALL IMPROVEMENTS ON 509 LEAD AND REOPEN TO TRACK OPERATIONS. ONCE OPENED, 509 SHALL BE CONSIDERED ACTIVE TRACK. REMAINING PHASE WORK SHALL NOT IMPACT THE 509 LEAD.
  - INSTALL IMPROVEMENTS TO SUPPORT YARD LEAD AND REOPEN TO TRACK OPERATIONS. ONCE OPENED, THE SUPPORT YARD TRACKS SHALL BE CONSIDERED ACTIVE TRACK. REMAINING PHASE WORK SHALL NOT IMPACT THE SUPPORT YARD.
  - CONNECT NEW LONG TRACKS 13 AND 14 TO EXISTING TRACK.
- ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
- THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
- SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.
- HARBOR RAIL SERVICES TRAILER AND BOXES TO BE RELOCATED ADJACENT TO ALEXANDER AVENUE BY OTHERS PRIOR TO START OF PROJECT. CONTRACTOR SHALL NOT IMPEDE HARBOR RAIL OPERATIONS.

LEGEND:

- ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
- MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
- LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH
- PHASE BOUNDARY



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APPROVED: *[Signature]* DATE: 03/17/16  
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**6555 G17**

SHEET 17 OF 134

CONT./CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD EAST END PHASING & SEQUENCING PLAN**

PHASE 3B

RANGE: 03E SECTION: 1, 2, 3

TOWNSHIP: 20N DAT-HRZ: W83-SF

VERT: PORT OF TACOMA BM #846

DRAWING SCALE: AS NOTED

APPROVED: *[Signature]* DATE: 03/17/16

DIRECTOR ENG. DATE: 4-12-16

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PORT ADDRESS: ONE SITCUM PLAZA  
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APPR: [ ] BY: [ ]

REVISION: [ ]

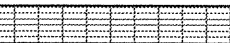
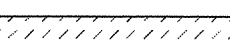
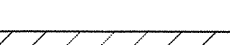

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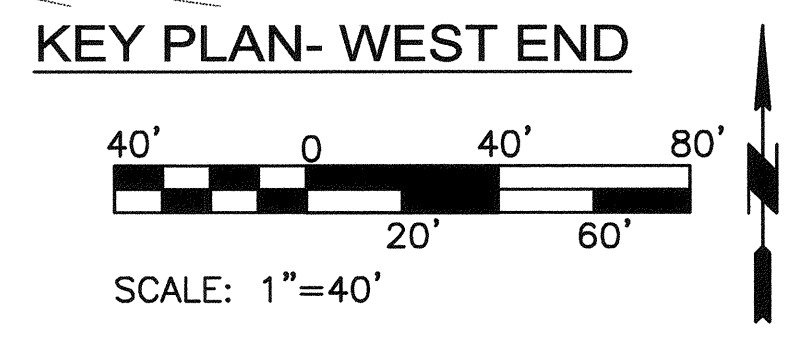
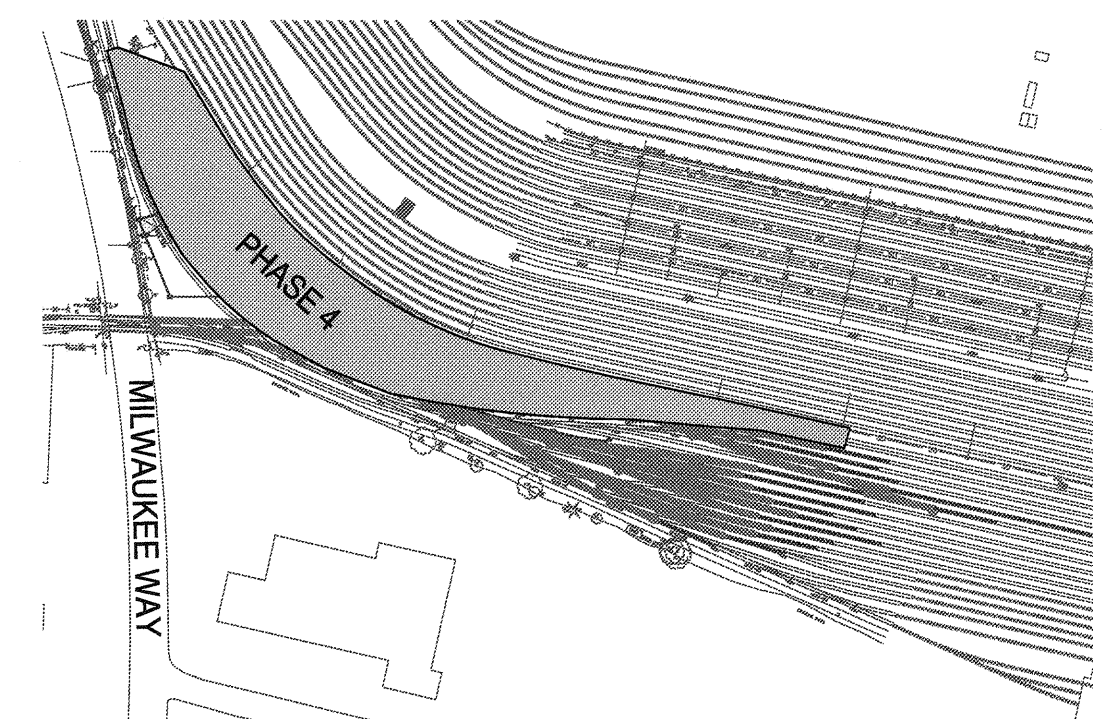
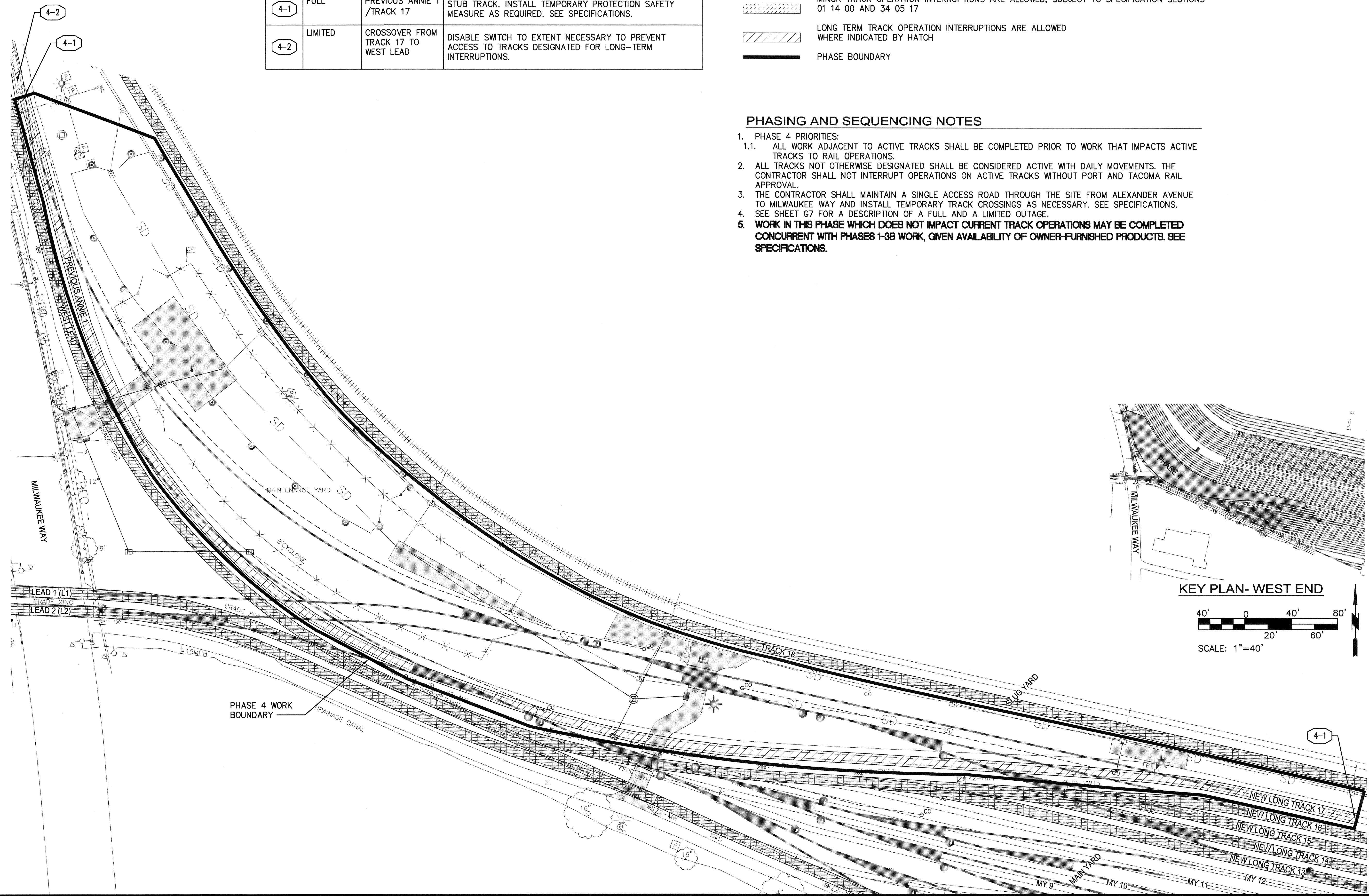
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 4			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
4-1	FULL	PREVIOUS ANNIE 1 / TRACK 17	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
4-2	LIMITED	CROSSOVER FROM TRACK 17 TO WEST LEAD	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG-TERM INTERRUPTIONS.

**LEGEND:**

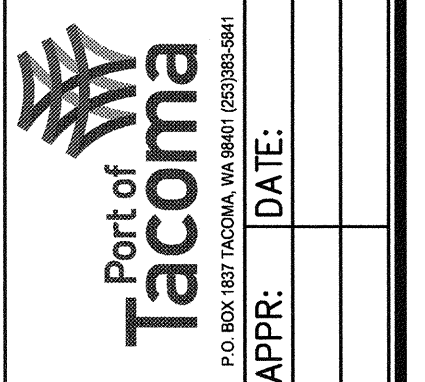
-  ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
-  MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
-  LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH
-  PHASE BOUNDARY

**PHASING AND SEQUENCING NOTES**

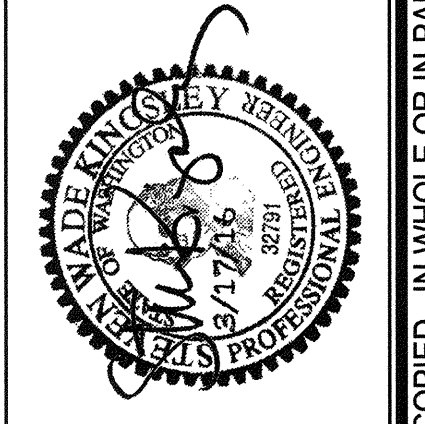
1. PHASE 4 PRIORITIES:
  - 1.1. ALL WORK ADJACENT TO ACTIVE TRACKS SHALL BE COMPLETED PRIOR TO WORK THAT IMPACTS ACTIVE TRACKS TO RAIL OPERATIONS.
2. ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
3. THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
4. SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.
5. **WORK IN THIS PHASE WHICH DOES NOT IMPACT CURRENT TRACK OPERATIONS MAY BE COMPLETED CONCURRENT WITH PHASES 1-3B WORK, GIVEN AVAILABILITY OF OWNER-FURNISHED PRODUCTS. SEE SPECIFICATIONS.**



<b>6555</b> <b>G18</b>	NORTH LEAD WEST END PHASING & SEQUENCING PLAN PHASE 4		APPROVED: <i>[Signature]</i>	SWK CHECKED BY DATE	03/17/16
	TOWNSHIP: 20N DATE: 070164 M. ID.: 092938 PHASE: BID		DIRECTOR ENG. DATE 4-12-16	SWK PROJ. ENGR DATE	03/17/16
RANGE: 03E VERT: PORT OF TACOMA BM #846		PRINTED BY: bosterhaus Mar 18, 2016		PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	
PARCEL: MULTIPLE		DRAWING SCALE: AS NOTED		DATE:	
				BY:	
				REVISION:	
				MARK:	
				APPR:	



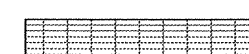
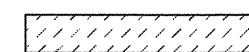
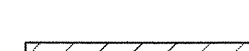


**kpff**  
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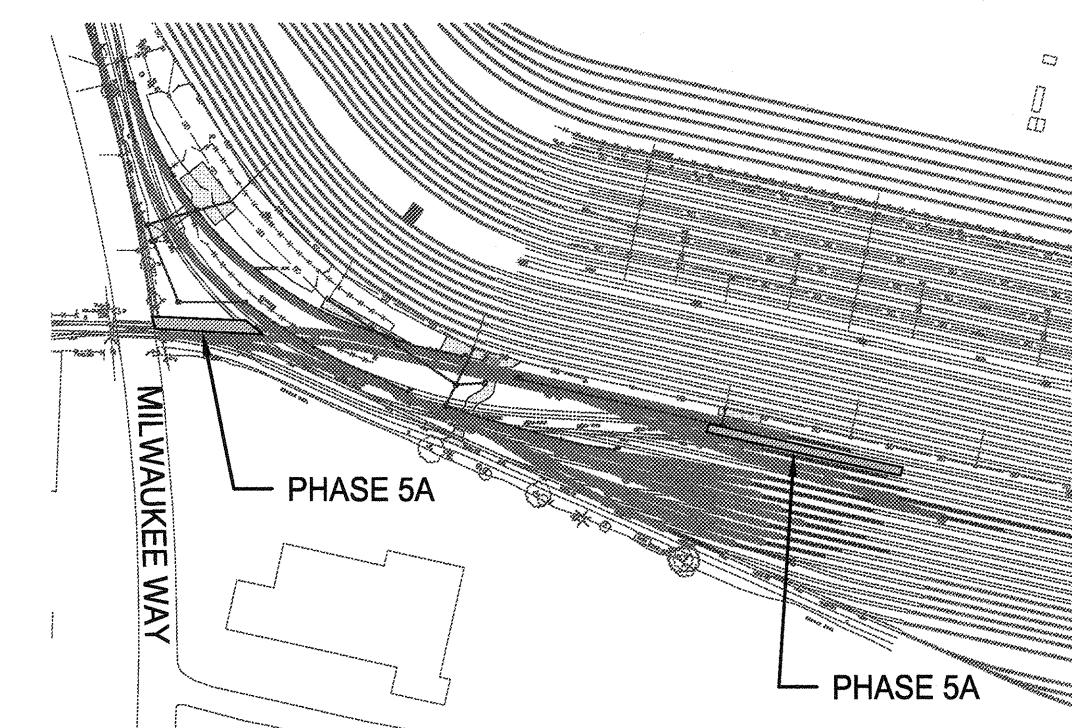
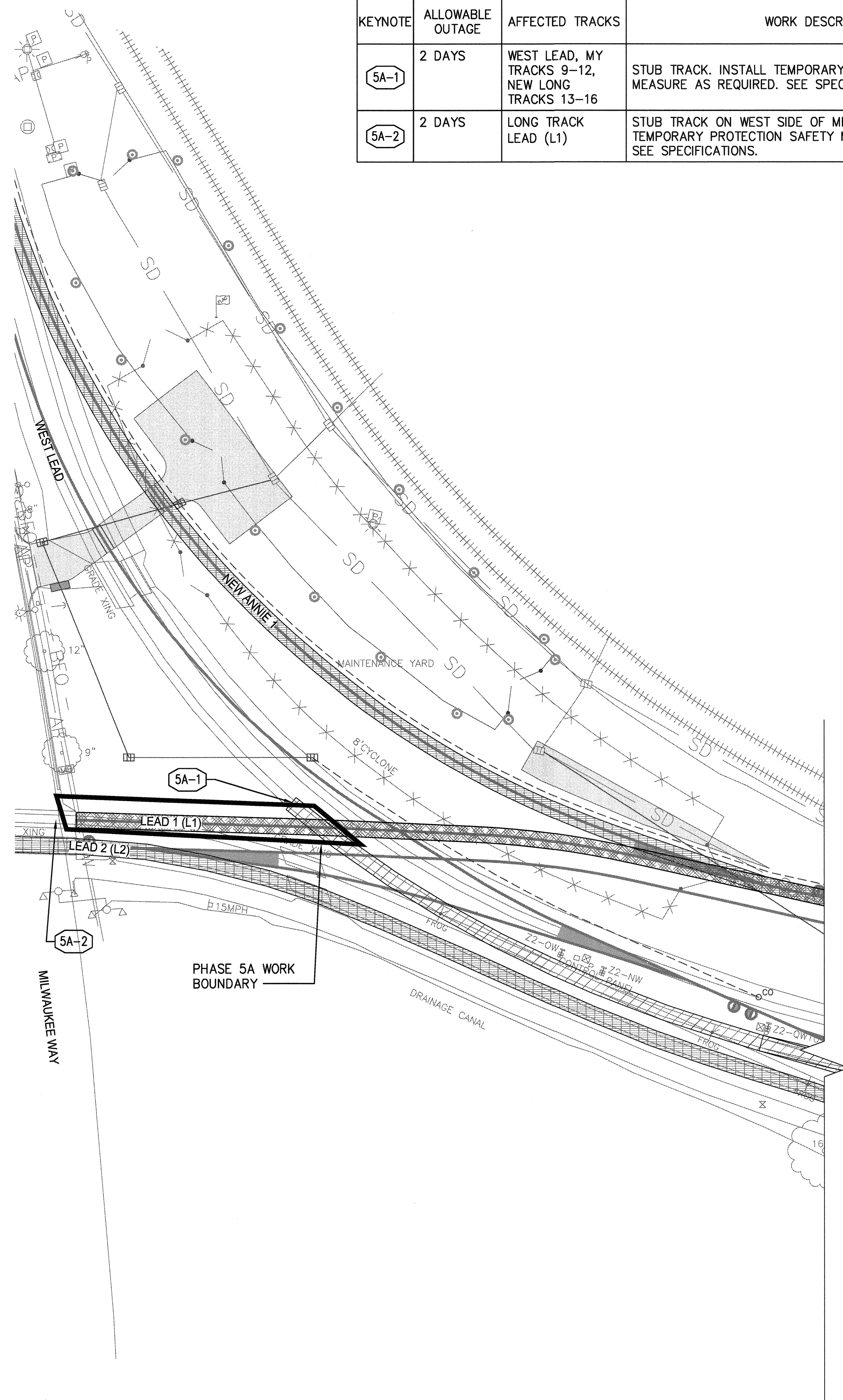
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 5A			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
5A-1	2 DAYS	WEST LEAD, MY TRACKS 9-12, NEW LONG TRACKS 13-16	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
5A-2	2 DAYS	LONG TRACK LEAD (L1)	STUB TRACK ON WEST SIDE OF MILWAUKEE WAY. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.

LEGEND:

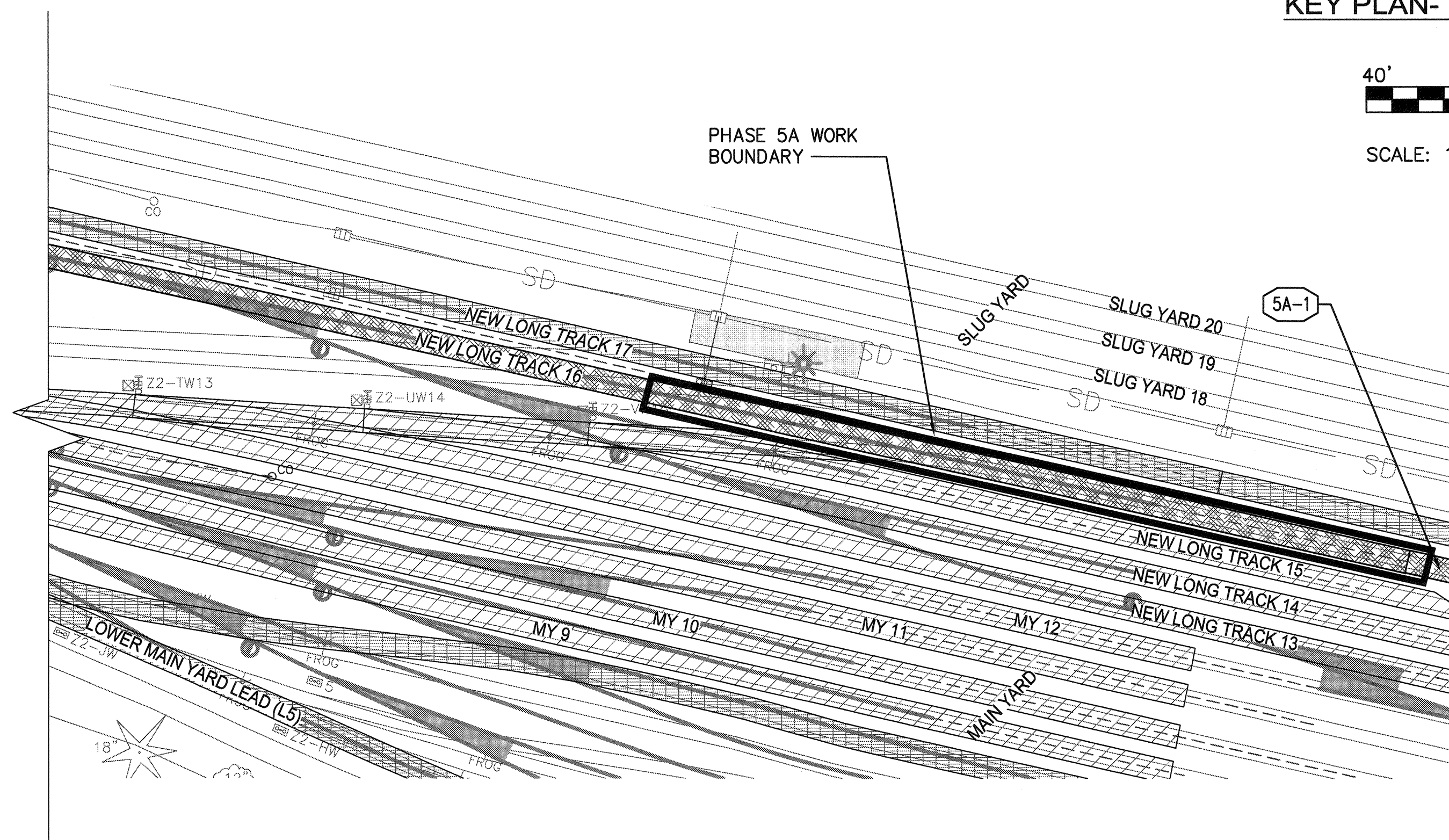
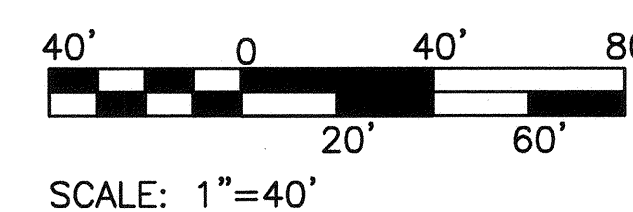
-  ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
-  MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
-  LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH
-  CRITICAL TRACK. SEE NOTE 1
-  PHASE BOUNDARY

PHASING AND SEQUENCING NOTES

1. CRITICAL PHASE - CONTRACTOR TO SEQUENCE WORK SUCH CRITICAL TRACK IS OPERATIONAL WITHIN 12 HOURS OF BEGINNING PHASE AND INTERRUPTING WEST LEAD.
2. ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
3. THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
4. SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.



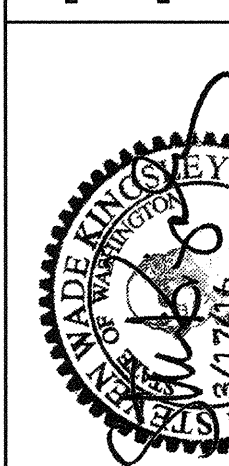
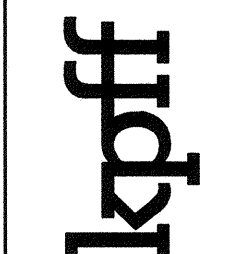
KEY PLAN- WEST END



6555	<b>G19</b>	SHEET 19 OF 134	CONT/CONS: 070164	M. ID: 092938	PHASE: BID	NORTH LEAD WEST END PHASING & SEQUENCING PLAN PHASE 5A	APPROVED: <i>John Howard</i>	SWK CHECKED BY: DATE
							4/2/16	SWK 03/17/16
							DIRECTOR ENG. DATE	PROJ. ENGR DATE
							bosterhaus	Mar 18, 2016
							PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837
							DRAWING SCALE: AS NOTED	



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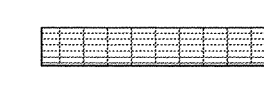
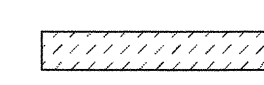
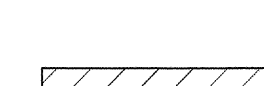
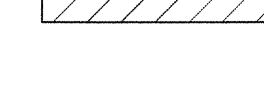
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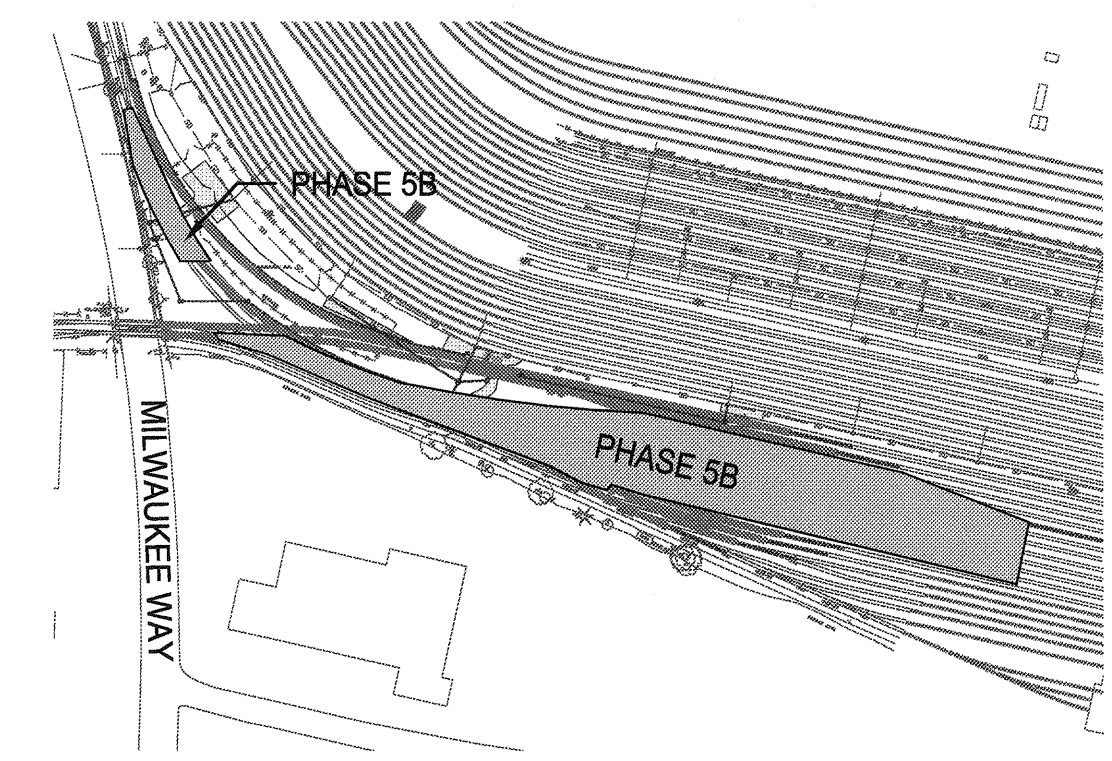
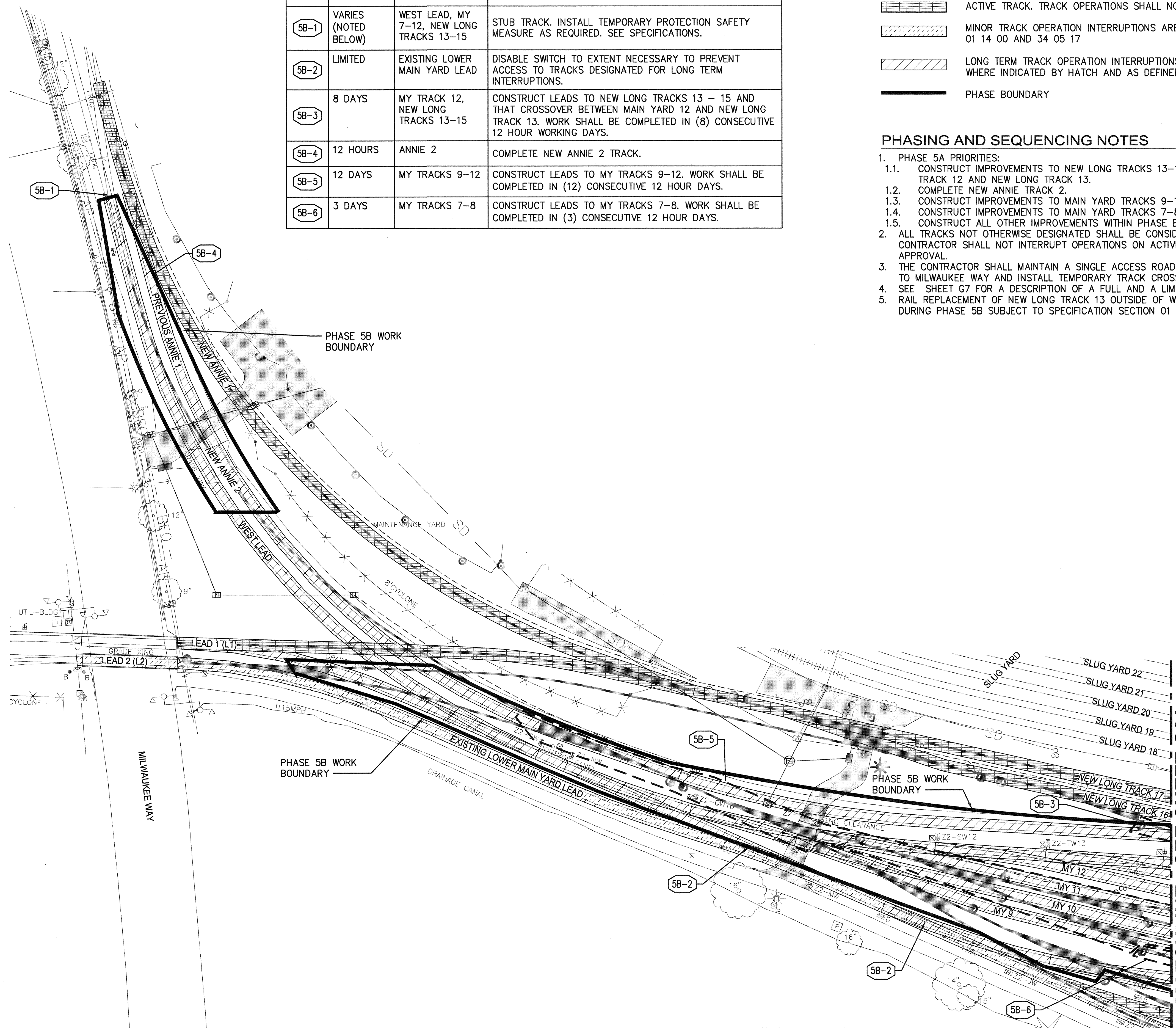
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 5B			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
5B-1	VARIABLES (NOTED BELOW)	WEST LEAD, MY 7-12, NEW LONG TRACKS 13-15	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
5B-2	LIMITED	EXISTING LOWER MAIN YARD LEAD	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG TERM INTERRUPTIONS.
5B-3	8 DAYS	MY TRACK 12, NEW LONG TRACKS 13-15	CONSTRUCT LEADS TO NEW LONG TRACKS 13 - 15 AND THAT CROSSOVER BETWEEN MAIN YARD 12 AND NEW LONG TRACK 13. WORK SHALL BE COMPLETED IN (8) CONSECUTIVE 12 HOUR WORKING DAYS.
5B-4	12 HOURS	ANNIE 2	COMPLETE NEW ANNIE 2 TRACK.
5B-5	12 DAYS	MY TRACKS 9-12	CONSTRUCT LEADS TO MY TRACKS 9-12. WORK SHALL BE COMPLETED IN (12) CONSECUTIVE 12 HOUR DAYS.
5B-6	3 DAYS	MY TRACKS 7-8	CONSTRUCT LEADS TO MY TRACKS 7-8. WORK SHALL BE COMPLETED IN (3) CONSECUTIVE 12 HOUR DAYS.

**LEGEND:**

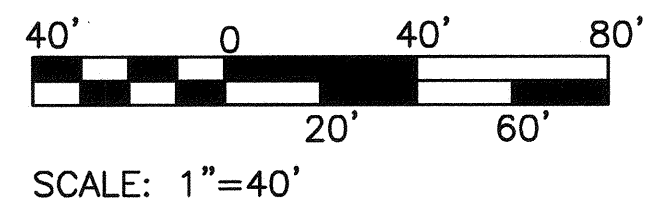
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-  LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH AND AS DEFINED IN KEYNOTES
-  PHASE BOUNDARY

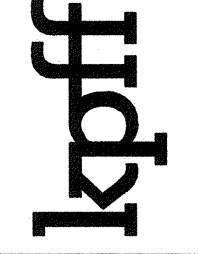
**PHASING AND SEQUENCING NOTES**

1. PHASE 5A PRIORITIES:
  - 1.1. CONSTRUCT IMPROVEMENTS TO NEW LONG TRACKS 13-15, INCLUDING THE CROSSOVER BETWEEN MY TRACK 12 AND NEW LONG TRACK 13.
  - 1.2. COMPLETE NEW ANNIE TRACK 2.
  - 1.3. CONSTRUCT IMPROVEMENTS TO MAIN YARD TRACKS 9-12.
  - 1.4. CONSTRUCT IMPROVEMENTS TO MAIN YARD TRACKS 7-8.
  - 1.5. CONSTRUCT ALL OTHER IMPROVEMENTS WITHIN PHASE BOUNDARY.
2. ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
3. THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
4. SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.
5. RAIL REPLACEMENT OF NEW LONG TRACK 13 OUTSIDE OF WORK BOUNDARIES SHOWN SHALL BE COMPLETED DURING PHASE 5B SUBJECT TO SPECIFICATION SECTION 01 14 00.



KEY PLAN - WEST END





**Part of Tacoma**

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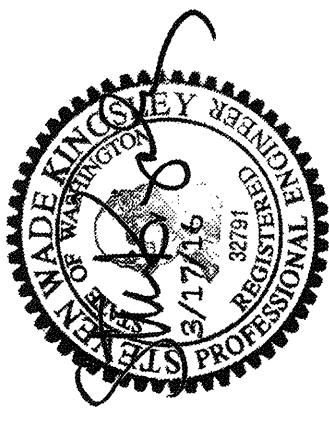
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APPR: \_\_\_\_\_

BY: \_\_\_\_\_

REVISION: \_\_\_\_\_

MARK: \_\_\_\_\_



SWK 03/17/16

CHECKED BY DATE

SWK 03/17/16

PROJ. ENGR DATE

PRINTED BY: bostershaus Mar 18, 2016

PORT ADDRESS: ONE SITCLIM PLAZA

TACOMA, WA 98401-1837

**6555**

**G20**

SHEET 20 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**WEST END**

**PHASING & SEQUENCING PLAN**

PHASE 5B - SHEET 1

RANGE: 03E SECTION: 1, 2, 3

TOWNSHIP: 20N

DAT-HRZ: W83-SF

PARCEL: MUL TIPLE

VERT: PORT OF TACOMA BM #846

DRAWING SCALE: AS NOTED

APPROVED: *John Ford*

4-12-16

DIRECTOR ENG. DATE

SWK 03/17/16

PROJ. ENGR DATE

PRINTED BY: bostershaus Mar 18, 2016

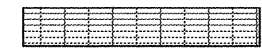
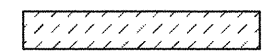
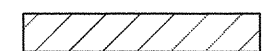

PORT ADDRESS: ONE SITCLIM PLAZA

TACOMA, WA 98401-1837

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KEYNOTES AND ANTICIPATED OUTAGES - PHASE 5B			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
5B-1	VARIABLE (NOTED BELOW)	WEST LEAD, MY 7-12, NEW LONG TRACKS 13-15	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
5B-2	LIMITED	EXISTING LOWER MAIN YARD LEAD	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG TERM INTERRUPTIONS.
5B-3	8 DAYS	MY TRACK 12, NEW LONG TRACKS 13-15	CONSTRUCT LEADS TO NEW LONG TRACKS 13 - 15 AND THAT CROSSOVER BETWEEN MAIN YARD 12 AND NEW LONG TRACK 13. WORK SHALL BE COMPLETED IN (8) CONSECUTIVE 12 HOUR WORKING DAYS.
5B-4	12 HOURS	ANNIE 2	COMPLETE NEW ANNIE 2 TRACK.
5B-5	12 DAYS	MY TRACKS 9-12	CONSTRUCT LEADS TO MY TRACKS 9-12. WORK SHALL BE COMPLETED IN (12) CONSECUTIVE 12 HOUR DAYS.
5B-6	3 DAYS	MY TRACKS 7-8	CONSTRUCT LEADS TO MY TRACKS 7-8. WORK SHALL BE COMPLETED IN (3) CONSECUTIVE 12 HOUR DAYS.

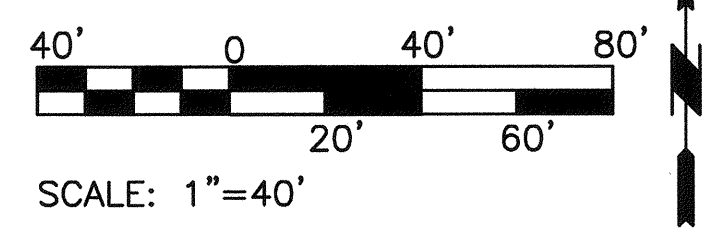
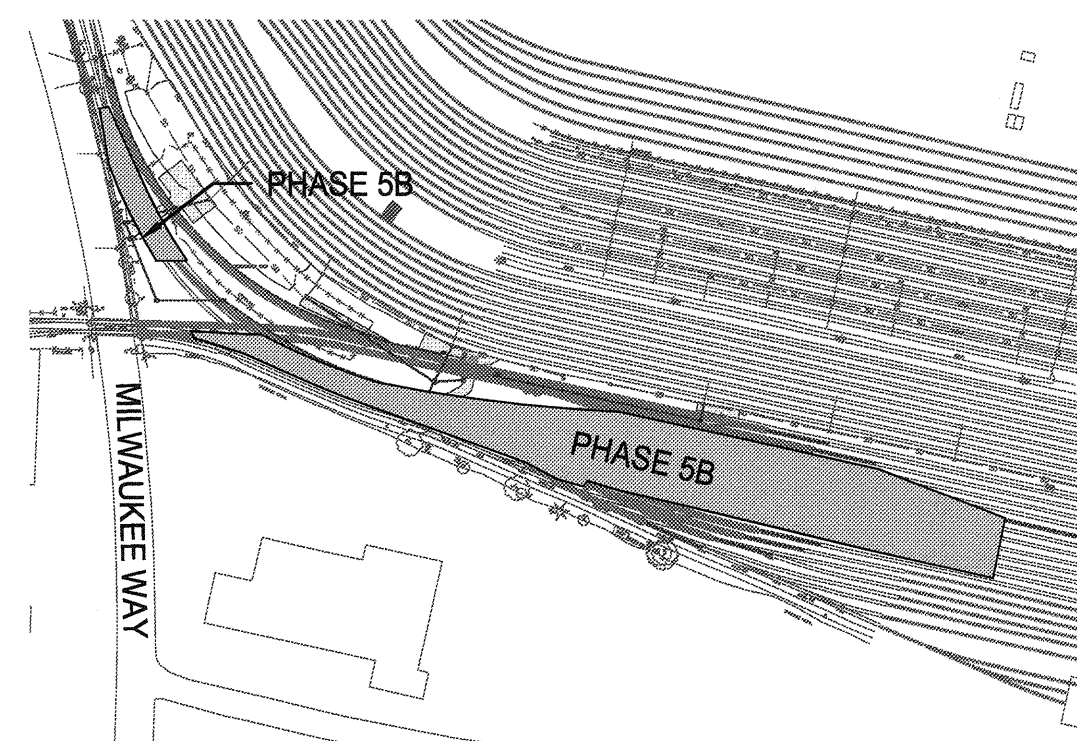
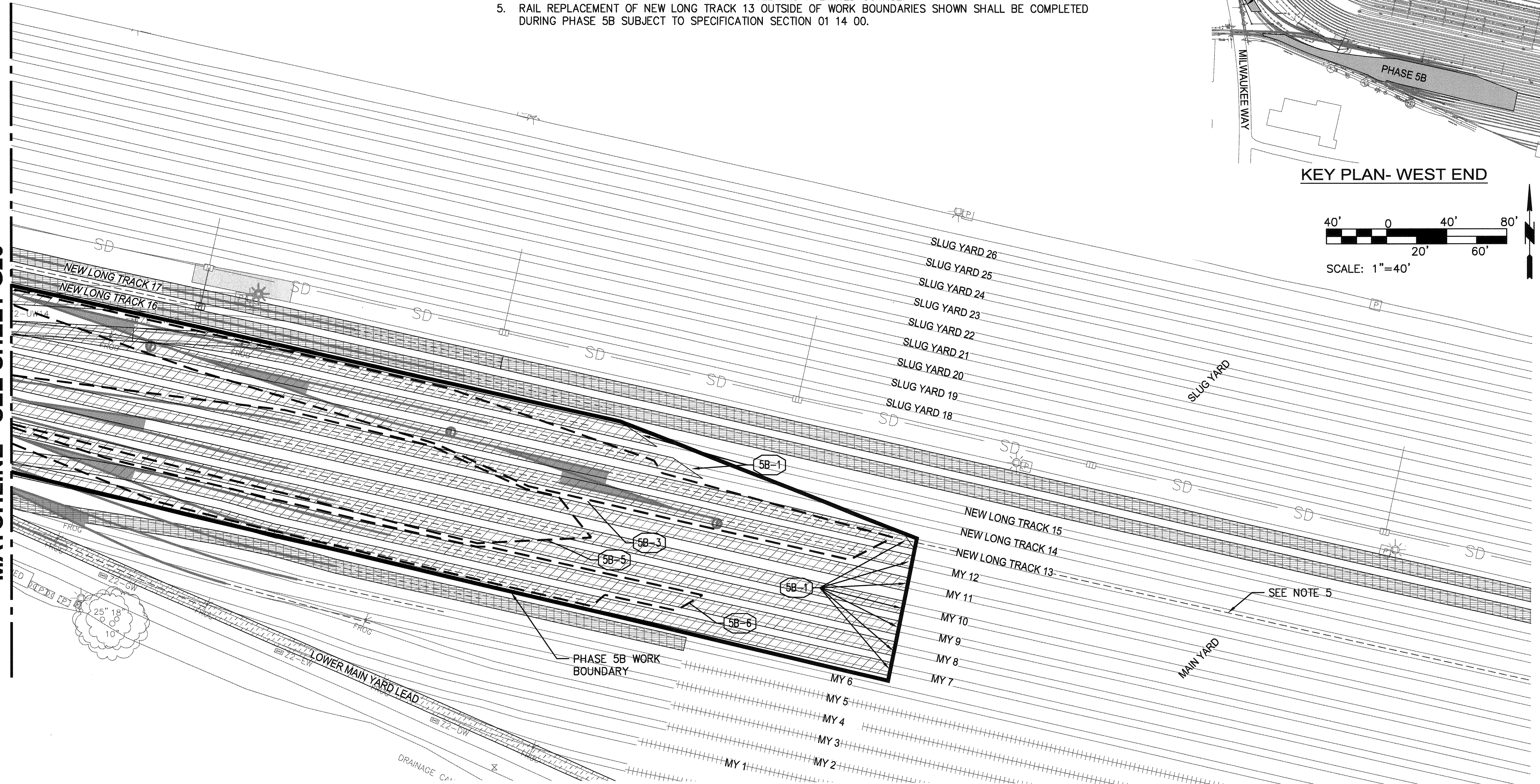
**LEGEND:**

-  ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
-  MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
-  LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH AND AS DEFINED IN KEYNOTES
-  PHASE BOUNDARY

**PHASING AND SEQUENCING NOTES**

1. PHASE 5A PRIORITIES:
  - 1.1. CONSTRUCT IMPROVEMENTS TO NEW LONG TRACKS 13-15, INCLUDING THE CROSSOVER BETWEEN MY TRACK 12 AND NEW LONG TRACK 13.
  - 1.2. COMPLETE NEW ANNIE TRACK 2.
  - 1.3. CONSTRUCT IMPROVEMENTS TO MAIN YARD TRACKS 9-12.
  - 1.4. CONSTRUCT IMPROVEMENTS TO MAIN YARD TRACKS 7-8.
  - 1.5. CONSTRUCT ALL OTHER IMPROVEMENTS WITHIN PHASE BOUNDARY.
2. ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
3. THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
4. SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.
5. RAIL REPLACEMENT OF NEW LONG TRACK 13 OUTSIDE OF WORK BOUNDARIES SHOWN SHALL BE COMPLETED DURING PHASE 5B SUBJECT TO SPECIFICATION SECTION 01 14 00.

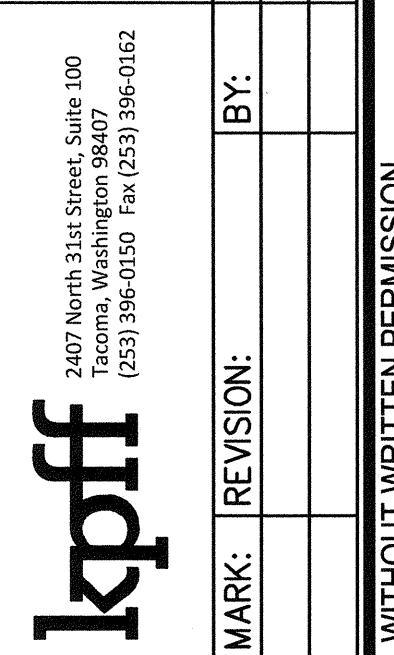
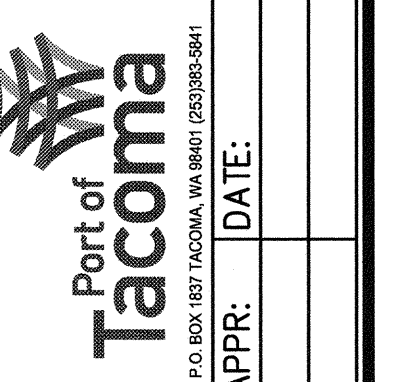
MATCHLINE - SEE SHEET G20



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	DIRECTOR	DATE
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	PORT ADDRESS: ONE SITCUM PLAZA	
	TACOMA, WA 98401-1837	

NORTH LEAD	WEST END
PHASING & SEQUENCING PLAN	
PHASE 5B - SHEET 2	SECTION: 1, 2, 3
RANGE: 03E	TACOMA BM #846
VERT: PORT OF TACOMA	DRAWING SCALE: AS NOTED
PARCEL: MULTIPLE	

6555	G21
SHEET 21 OF 134	
CONT/CONS: 070164	
M. ID: 092938	
PHASE: BID	



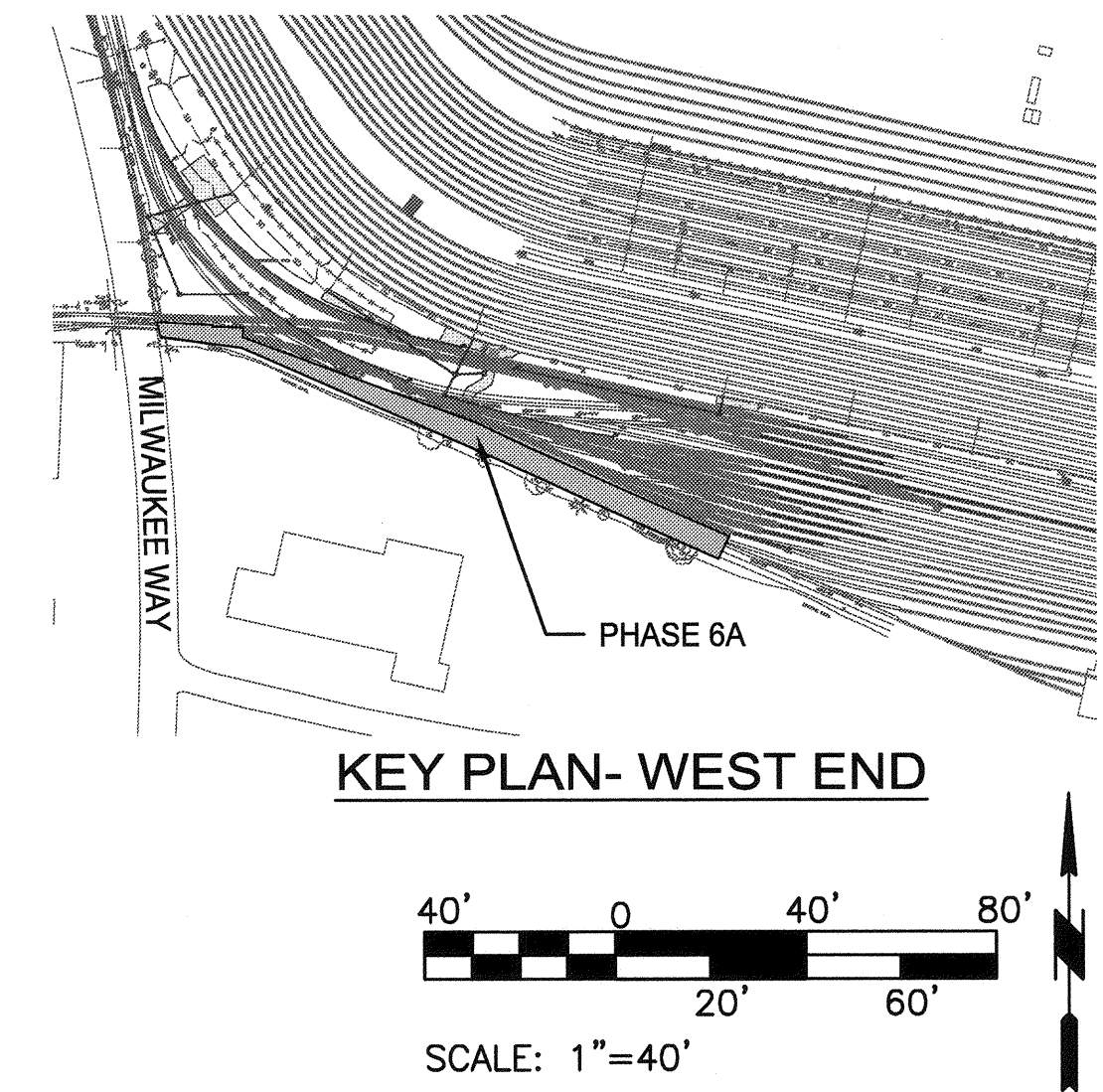
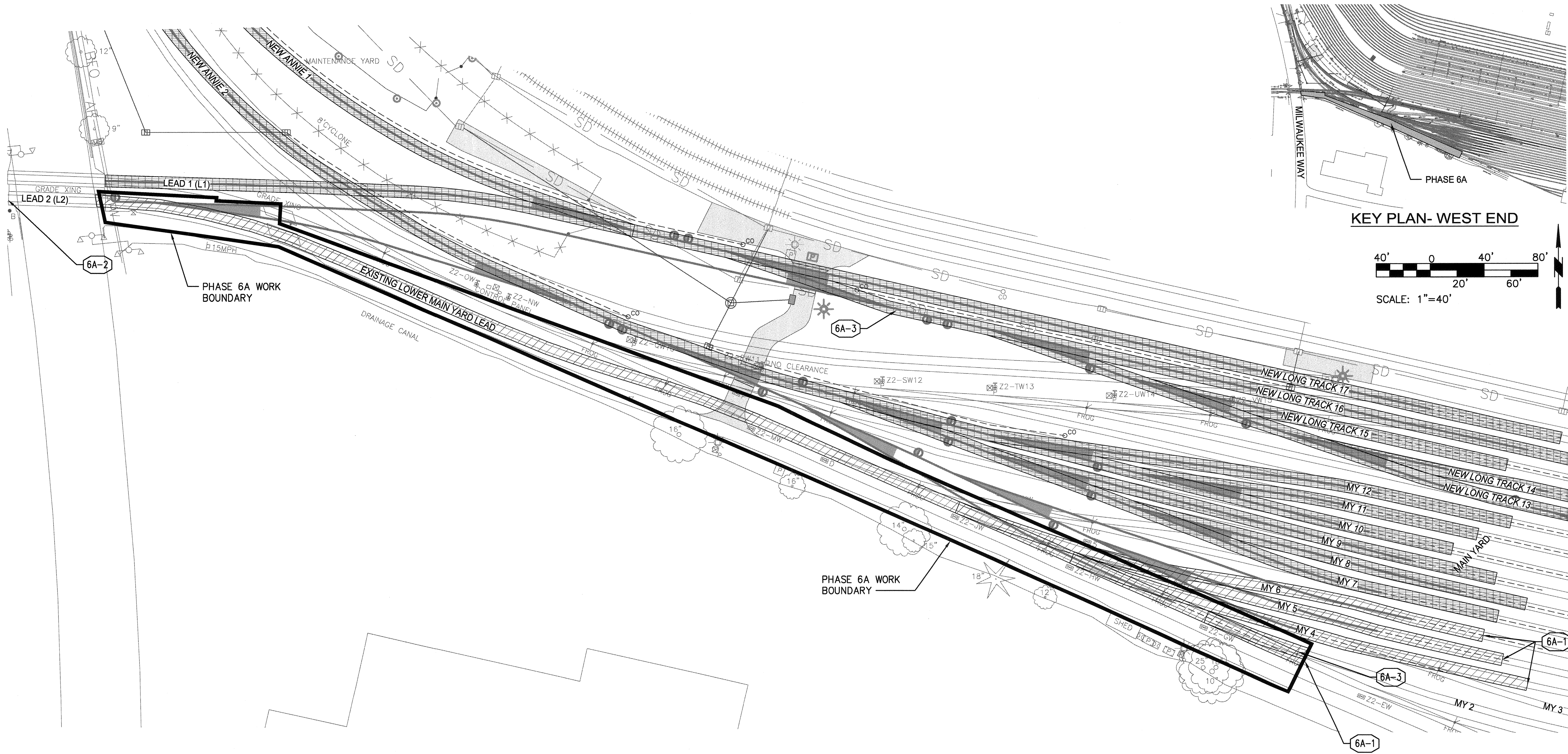
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KEYNOTES AND ANTICIPATED OUTAGES - PHASE 6A			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
6A-1	FULL	EXISTING LOWER MAIN YARD LEAD, MY TRACKS 3-6	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
6A-2	FULL	LONG TRACK LEAD 2 (L2)	STUB TRACK ON WEST SIDE OF MILWAUKEE WAY. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.
6A-3	LIMITED	MY TRACK 2, LONG TRACK 16	DISABLE SWITCH TO EXTENT NECESSARY TO PREVENT ACCESS TO TRACKS DESIGNATED FOR LONG-TERM INTERRUPTIONS.

**LEGEND:**

	ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
	MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
	LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH
	PHASE BOUNDARY

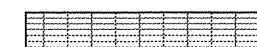
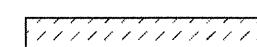
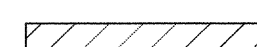

- PHASING AND SEQUENCING NOTES**
- PHASE 6A PRIORITIES:
    - CONSTRUCT IMPROVEMENTS LEAD 2 (L2). ALLOWABLE OUTAGE TIME IS 2 WORKING DAYS.
    - ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
    - THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
    - SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.



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	SWK 03/17/16 CHECKED BY: _____ DATE: _____	SWK 03/17/16 PROJ. ENGR: _____ DATE: _____
APPROVED: <i>[Signature]</i> 4-2-16	<b>NORTH LEAD WEST END PHASING &amp; SEQUENCING PLAN</b> PHASE 6A	SECTION: 1, 2, 3 RANGE: 03E TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 DRAWING SCALE: AS NOTED
6555 <b>G22</b> SHEET 22 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION	

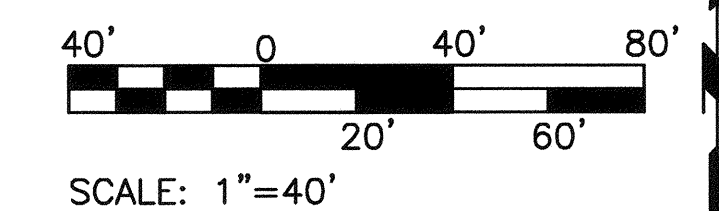
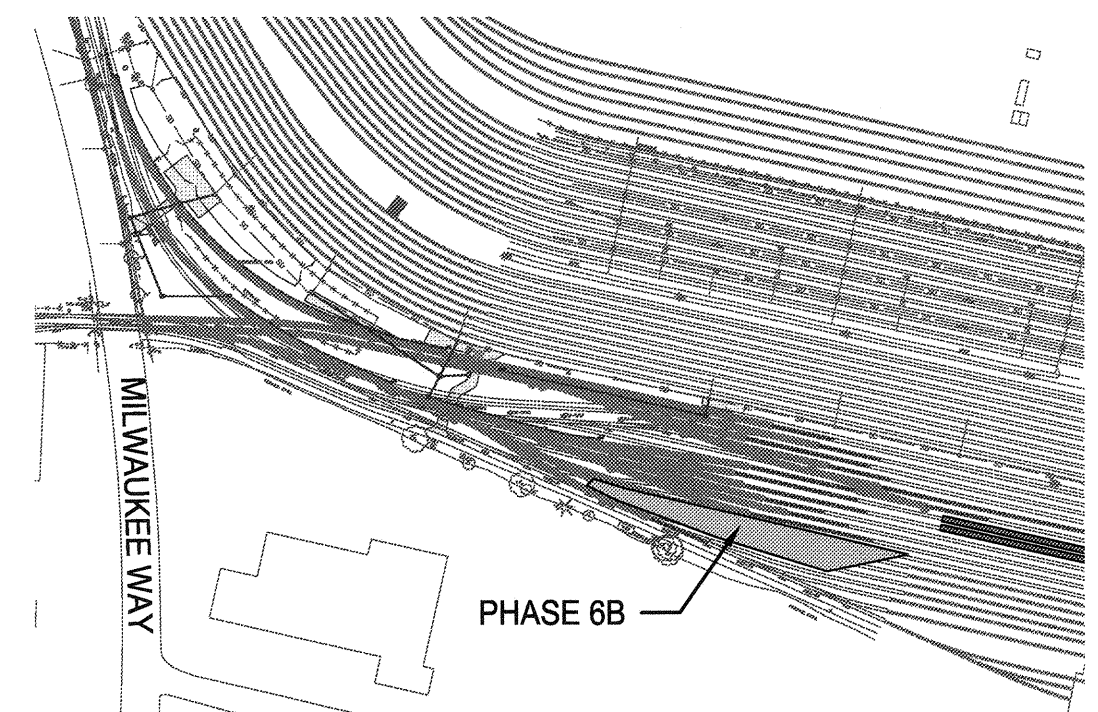
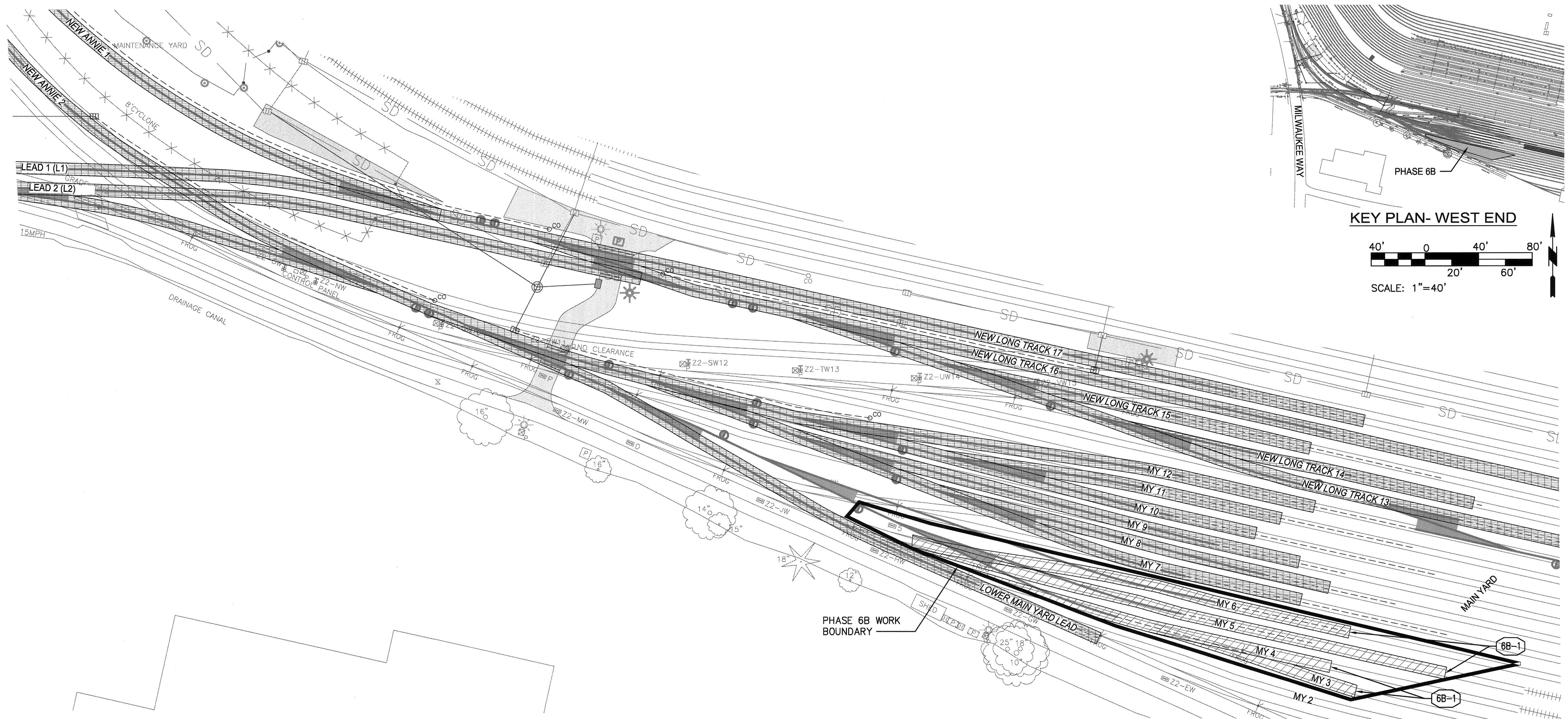
KEYNOTES AND ANTICIPATED OUTAGES - PHASE 6B			
KEYNOTE	ALLOWABLE OUTAGE	AFFECTED TRACKS	WORK DESCRIPTION
6B-1	5 DAYS	MY TRACKS 3-6	STUB TRACK. INSTALL TEMPORARY PROTECTION SAFETY MEASURE AS REQUIRED. SEE SPECIFICATIONS.


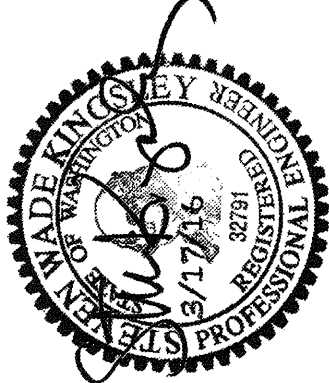

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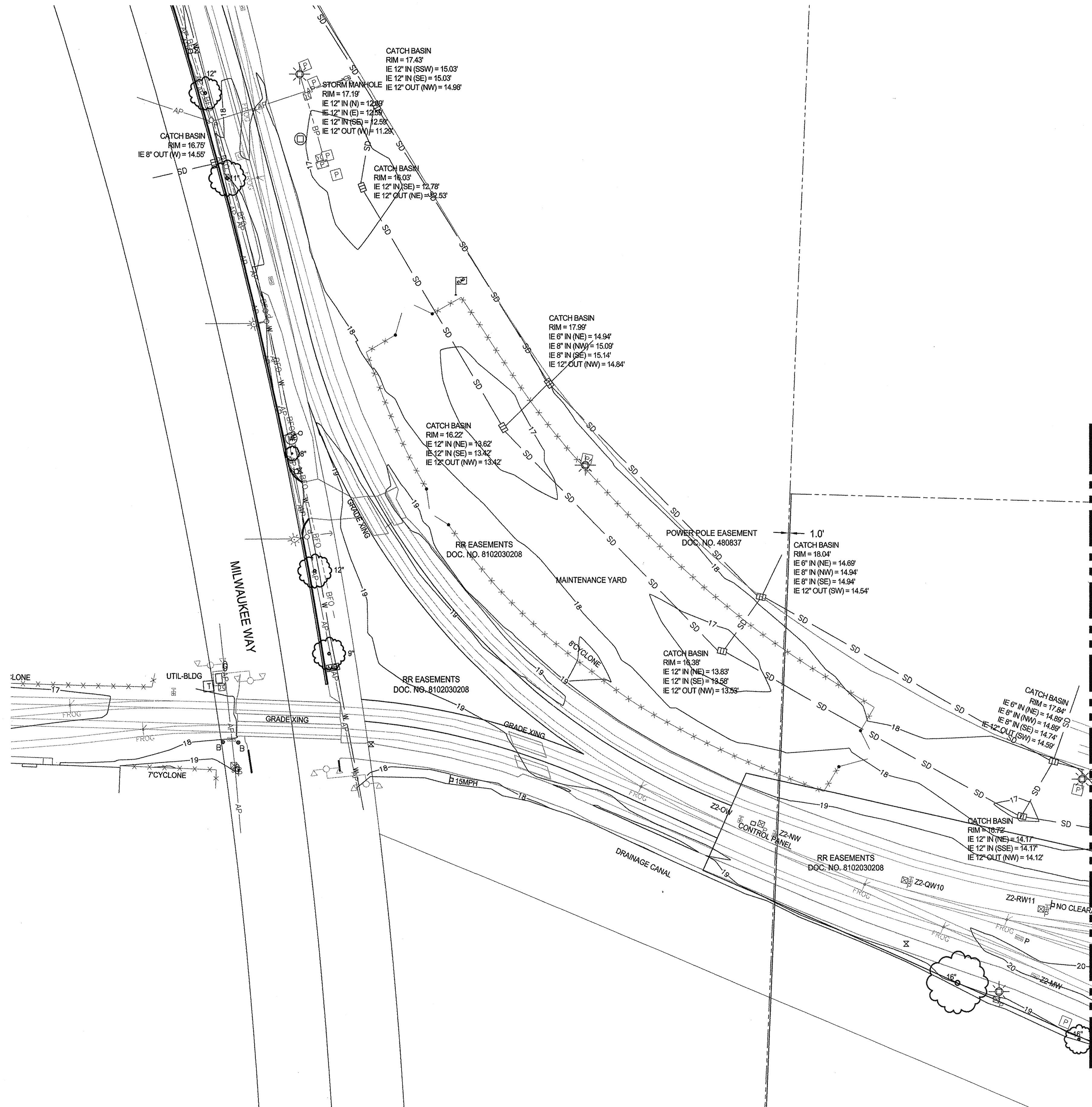
-  ACTIVE TRACK. TRACK OPERATIONS SHALL NOT BE IMPACTED BY WORK WITHIN CURRENT PHASE
-  MINOR TRACK OPERATION INTERRUPTIONS ARE ALLOWED, SUBJECT TO SPECIFICATION SECTIONS 01 14 00 AND 34 05 17
-  LONG TERM TRACK OPERATION INTERRUPTIONS ARE ALLOWED WHERE INDICATED BY HATCH
-  PHASE BOUNDARY

**PHASING AND SEQUENCING NOTES**

1. PHASE 6B PRIORITIES:
  - 1.1. ALL WORK ADJACENT TO ACTIVE TRACKS SHALL TAKE PRIORITY TO LIMIT DURATION AND NUMBER OF IMPACTS TO ACTIVE TRACKS.
2. ALL TRACKS NOT OTHERWISE DESIGNATED SHALL BE CONSIDERED ACTIVE WITH DAILY MOVEMENTS. THE CONTRACTOR SHALL NOT INTERRUPT OPERATIONS ON ACTIVE TRACKS WITHOUT PORT AND TACOMA RAIL APPROVAL.
3. THE CONTRACTOR SHALL MAINTAIN A SINGLE ACCESS ROAD THROUGH THE SITE FROM ALEXANDER AVENUE TO MILWAUKEE WAY AND INSTALL TEMPORARY TRACK CROSSINGS AS NECESSARY. SEE SPECIFICATIONS.
4. SEE SHEET G7 FOR A DESCRIPTION OF A FULL AND A LIMITED OUTAGE.



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6555 <b>G23</b> SHEET 23 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK; DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION	



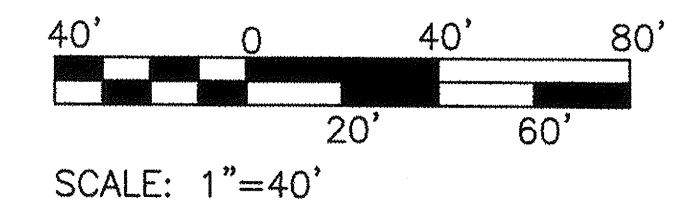
MATCH LINE - SEE SHEET G25

**NOTES:**

- 1.) VERTICAL DATUM: PORT OF TACOMA  
BENCHMARK: 2-1/2 INCH BRASS DISK ON THE SOUTHEAST CORNER OF MILWAUKEE WAY AND N FRONTAGE RD.  
BENCHMARK NO. 846  
ELEVATION = 15.26'
- 2.) BASIS OF BEARINGS FOR THIS SURVEY IS THE PORT OF TACOMA BLAIR-HYLEBOS PENINSULA SURVEY CONTROL MAP.
- 3.) UTILITY LOCATIONS SHOWN ARE PER FIELD LOCATED UTILITY PAINT MARKS & REFERENCE MAPS MADE AVAILABLE BY THE VARIOUS UTILITY PROVIDERS. UNLESS INDICATED, DEPTHS OF UTILITY LINES ARE NOT AVAILABLE. ALL UTILITY LOCATIONS SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
- 4.) BOUNDARY AND EASEMENTS SHOWN HEREON ARE BASED ON TITLE REPORT NUMBER 0048493-TC BY CHICAGO TITLE INSURANCE COMPANY, EFFECTIVE DATE OF 15 SEPTEMBER 2015.

**LEGEND:**

- CURB LINE
- EDGE OF ASPHALT
- - - - BFO - FIBER OPTIC LINE
- - - - BP - ELECTRICAL LINE
- - - - BT - TELECOMMUNICATIONS LINE
- SD - STORM LINE
- SS - SANITARY SEWER LINE
- W - WATER LINE
- GAS LINE
- X - CYCLONE FENCE LINE
- AP - OVERHEAD UTILITY LINES
- - SIGN
- - BOLLARD
- - MAILBOX
- - ELECTRICAL MANHOLE
- - ELECTRICAL METER
- - ELECTRICAL RISER
- - ELECTRICAL CABINET
- - ELECTRICAL VAULT
- - TRANSFORMER
- - GUY ANCHOR
- - GUY POLE
- - GROUND FLOOD LIGHT
- - LIGHT J-BOX
- - OVERHEAD LIGHT
- - POWER POLE/OVERHEAD LIGHT
- - POWER POLE W/DROP
- - POWER POLE
- - GAS MARKER POST
- - GAS VAULT
- - GAS VALVE
- - SANITARY MANHOLE WITH STRUCTURE
- - STORM MANHOLE WITH STRUCTURE
- - CATCH BASIN/AREA DRAIN
- - STORM CLEAN OUT
- - TELECOMMUNICATIONS MANHOLE
- - TELECOMMUNICATIONS VAULT
- - TELECOMMUNICATIONS RISER
- - TRAFFIC SIGNAL BOX
- - TRAFFIC SIGNAL CABINET
- - TRAFFIC CONTROL SIGNAL ARM
- - WATER METER
- - FIRE HYDRANT
- - WATER VAULT
- - WATER VALVE
- - WATER MANHOLE
- - HOSE BIB
- - FIRE DEPARTMENT CONNECT
- - POST INDICATOR VALVE
- - TRAIN ID SCANNER
- - AEI READER
- - UNKNOWN UTILITY VAULT
- - DECIDUOUS TREE
- - PERIMETER REPRESENTS DRIPLINE
- - CONIFEROUS TREE
- - PERIMETER REPRESENTS DRIPLINE
- - WIND STOCK FLAG
- - RAILROAD GREASEBOX
- - RAILROAD AUTO SWITCH/NUMBER
- - RAILROAD MANUAL SWITCH/NUMBER
- - RAILROAD FROG
- - RAILROAD SIGN
- - RAILROAD CROSSING SIGNAL



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**kpff**

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DIRECTOR ENG. DATE: 4-7-16  
PRINTED BY: nlopez Mar 15, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

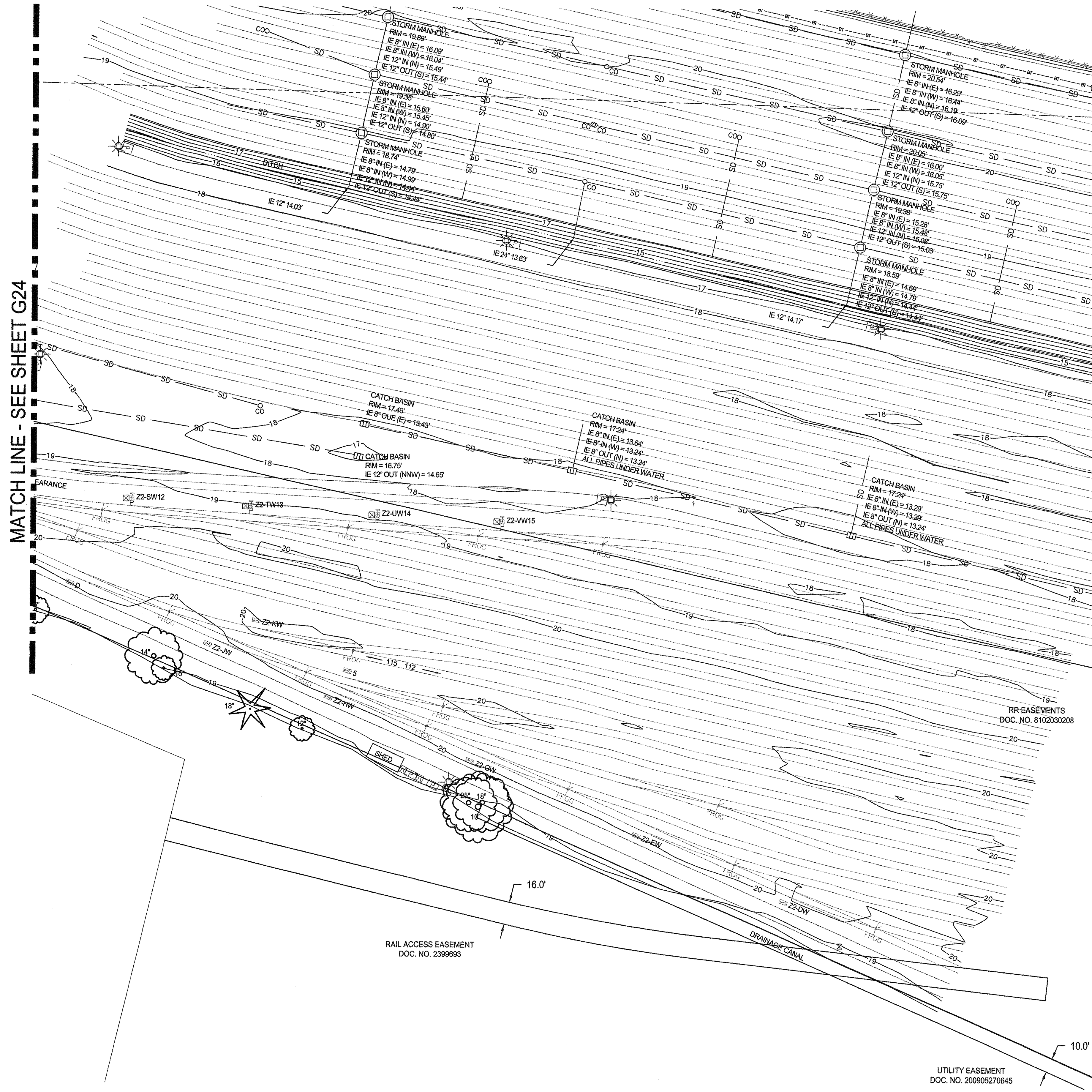
**NORTH LEAD WEST END - AREA 1 EXISTING SURVEY**

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3  
 DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846  
 PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

6555  
**G24**  
SHEET 24 OF 134

CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

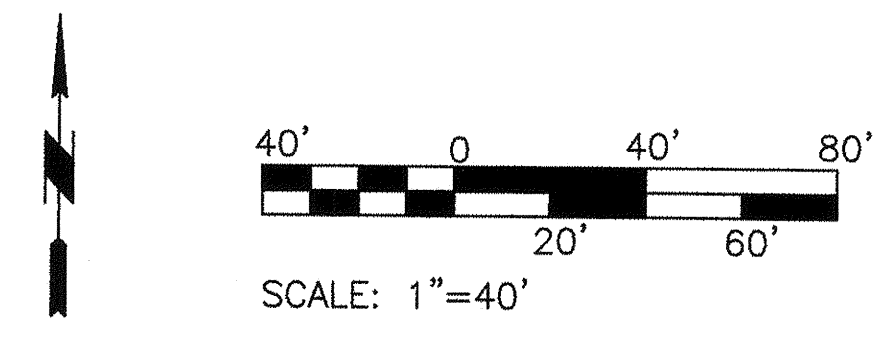
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MATCH LINE - SEE SHEET G24

**LEGEND:**

- CURB LINE
- EDGE OF ASPHALT
- - - BFO - FIBER OPTIC LINE
- - - BP - ELECTRICAL LINE
- - - BT - TELECOMMUNICATIONS LINE
- SD - STORM LINE
- SS - SANITARY SEWER LINE
- W - WATER LINE
- GAS LINE
- × × - CYCLONE FENCE LINE
- — — AP - OVERHEAD UTILITY LINES
- B - BOLLARD
- ⊠ - MAILBOX
- ⊞ - ELECTRICAL MANHOLE
- ⊞ - ELECTRICAL METER
- ⊞ - ELECTRICAL RISER
- ⊞ - ELECTRICAL CABINET
- ⊞ - ELECTRICAL VAULT
- ⊞ - TRANSFORMER
- ⊞ - GUY ANCHOR
- ⊞ - GUY POLE
- ⊞ - GROUND FLOOD LIGHT
- ⊞ - LIGHT J-BOX
- ⊞ - OVERHEAD LIGHT
- ⊞ - POWER POLE/OVERHEAD LIGHT
- ⊞ - POWER POLE W/DROP
- ⊞ - POWER POLE
- ⊞ - GAS MARKER POST
- ⊞ - GAS VAULT
- ⊞ - GAS VALVE
- ⊞ - SANITARY MANHOLE WITH STRUCTURE
- ⊞ - STORM MANHOLE WITH STRUCTURE
- ⊞ - CATCH BASIN/AREA DRAIN
- ⊞ - STORM CLEAN OUT
- ⊞ - TELECOMMUNICATIONS MANHOLE
- ⊞ - TELECOMMUNICATIONS VAULT
- ⊞ - TELECOMMUNICATIONS RISER
- ⊞ - TRAFFIC SIGNAL BOX
- ⊞ - TRAFFIC SIGNAL CABINET
- ⊞ - TRAFFIC CONTROL SIGNAL ARM
- ⊞ - WATER METER
- ⊞ - FIRE HYDRANT
- ⊞ - WATER VAULT
- ⊞ - WATER VALVE
- ⊞ - WATER MANHOLE
- ⊞ - HOSE BIB
- ⊞ - FIRE DEPARTMENT CONNECT
- ⊞ - POST INDICATOR VALVE
- ⊞ - TRAIN ID SCANNER
- ⊞ - AEI READER
- ⊞ - UNKNOWN UTILITY VAULT
- ⊞ - DECIDUOUS TREE
- ⊞ - CONIFEROUS TREE
- ⊞ - WIND STOCK FLAG
- ⊞ - RAILROAD GREASEBOX
- ⊞ - RAILROAD AUTO SWITCH/NUMBER
- ⊞ - RAILROAD MANUAL SWITCH/NUMBER
- ⊞ - RAILROAD FROG
- ⊞ - RAILROAD SIGN
- ⊞ - RAILROAD CROSSING SIGNAL



**6555**  
**G25**  
SHEET 25 OF 134

CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

**NORTH LEAD**  
**WEST END - AREA 2**  
**EXISTING SURVEY**

RANGE: 03E SECTION: 1, 2, 3  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
PARCEL: MULTIPLE

APPROVED: *[Signature]*  
DIRECTOR ENG. DATE: 4-12-16  
PRINTED BY: nlopez  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

SWK CHECKED BY DATE: 03/17/16  
SWK PROJ. ENGR DATE: 03/17/16

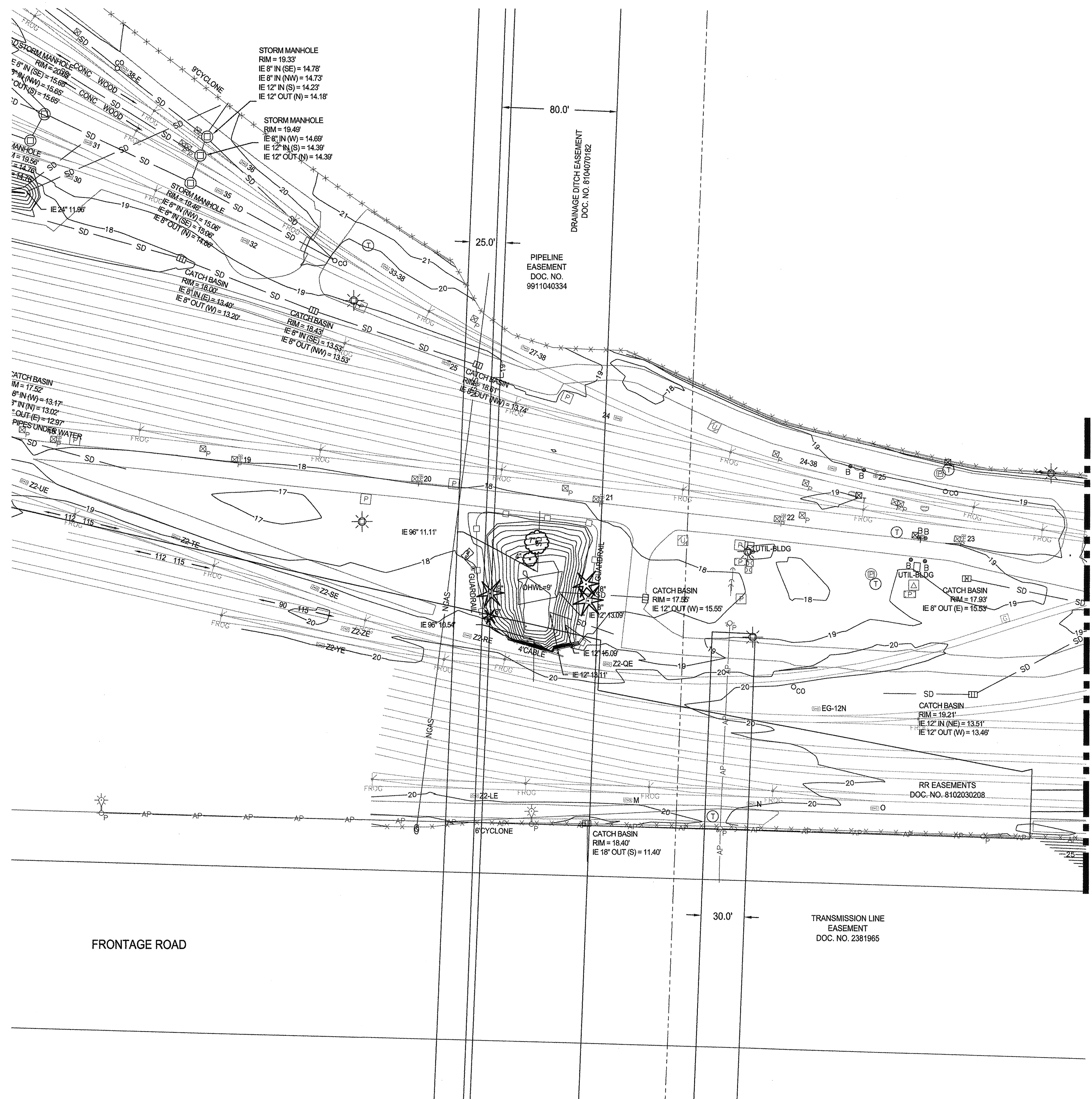
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P.O. BOX 1887 TACOMA, WA 98401-0188

**kpff**  
K. P. F. F. ENGINEERS & ARCHITECTS  
1500 12th Street, Tacoma, WA 98402  
Phone: (253) 396-0150 Fax: (253) 396-0162

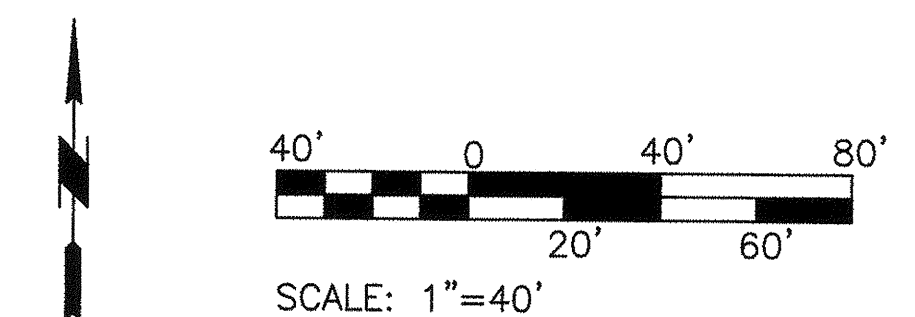
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LEGEND:

- CURB LINE
- EDGE OF ASPHALT
- - - - BFO - FIBER OPTIC LINE
- - - - BP - ELECTRICAL LINE
- - - - BT - TELECOMMUNICATIONS LINE
- SD - STORM LINE
- SS - SANITARY SEWER LINE
- W - WATER LINE
- G - GAS LINE
- X - CYCLONE FENCE LINE
- X - OVERHEAD UTILITY LINES
- AP - SIGN
- B - BOLLARD
- M - MAILBOX
- E - ELECTRICAL MANHOLE
- R - ELECTRICAL RISER
- C - ELECTRICAL CABINET
- V - ELECTRICAL VAULT
- T - TRANSFORMER
- A - GUY ANCHOR
- P - GUY POLE
- G - GROUND FLOOD LIGHT
- J - LIGHT J-BOX
- O - OVERHEAD LIGHT
- P - POWER POLE/OVERHEAD LIGHT
- W - POWER POLE W/DROP
- P - POWER POLE
- G - GAS MARKER POST
- G - GAS VAULT
- G - GAS VALVE
- S - SANITARY MANHOLE WITH STRUCTURE
- S - STORM MANHOLE WITH STRUCTURE
- D - CATCH BASIN/AREA DRAIN
- C - STORM CLEAN OUT
- T - TELECOMMUNICATIONS MANHOLE
- V - TELECOMMUNICATIONS VAULT
- R - TELECOMMUNICATIONS RISER
- B - TRAFFIC SIGNAL BOX
- C - TRAFFIC SIGNAL CABINET
- A - TRAFFIC CONTROL SIGNAL ARM
- M - WATER METER
- H - FIRE HYDRANT
- V - WATER VAULT
- V - WATER VALVE
- M - WATER MANHOLE
- B - HOSE BIB
- C - FIRE DEPARTMENT CONNECT
- V - POST INDICATOR VALVE
- S - TRAIN ID SCANNER
- R - AEI READER
- V - UNKNOWN UTILITY VAULT
- T - DECIDUOUS TREE
- P - PERIMETER REPRESENTS DRIPLINE
- T - CONIFEROUS TREE
- P - PERIMETER REPRESENTS DRIPLINE
- F - WIND STOCK FLAG
- B - RAILROAD GREASEBOX
- S - RAILROAD AUTO SWITCH/NUMBER
- S - RAILROAD MANUAL SWITCH/NUMBER
- F - RAILROAD FROG
- S - RAILROAD SIGN
- S - RAILROAD CROSSING SIGNAL



**6555**  
**G26**  
SHEET 26 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

**North Lead**  
**East End - Area 3**  
**Existing Survey**

APPROVED: *[Signature]*  
DIRECTOR ENG. DATE: 4/2/16  
PRINTED BY: nlopez Mar 15, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

SWK 03/17/16  
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PROJ. ENGR DATE

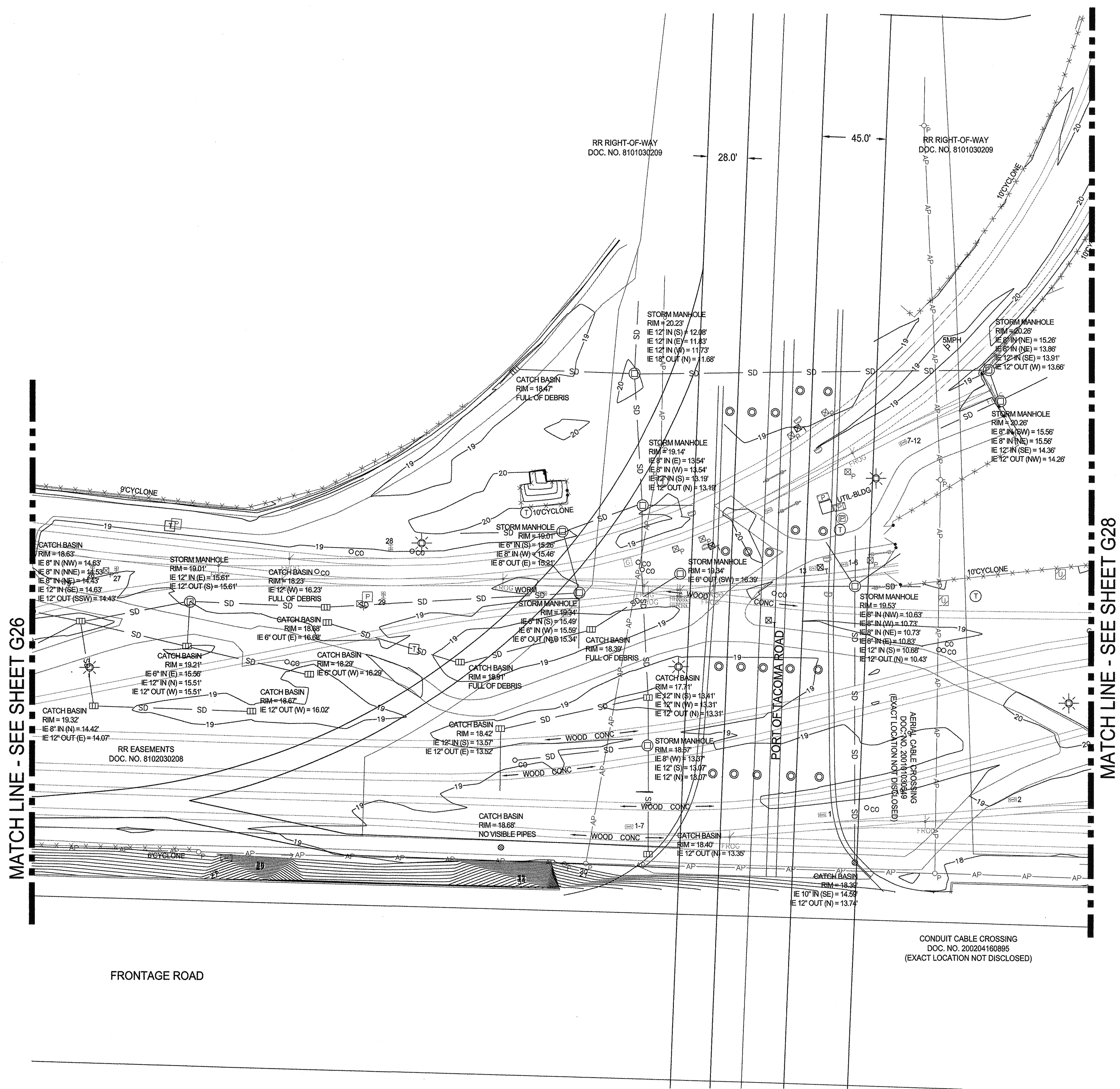
TOWNSHIP: 20N  
RANGE: 03E  
SECTION: 1, 2, 3  
DATE-HRZ: W83-SF  
VERT: PORT OF TACOMA BM #846  
DRAWING SCALE: AS NOTED  
PARCEL: MULTIPLE

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(253) 936-0120 Fax: (253) 936-0162

**kpff**  
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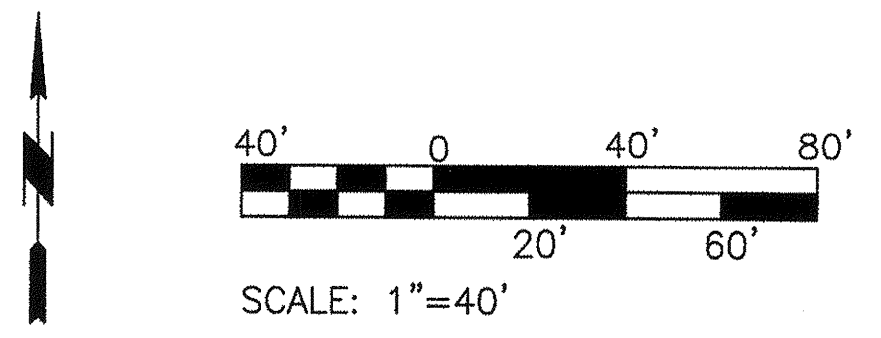


MATCH LINE - SEE SHEET G26

MATCH LINE - SEE SHEET G28

**LEGEND:**

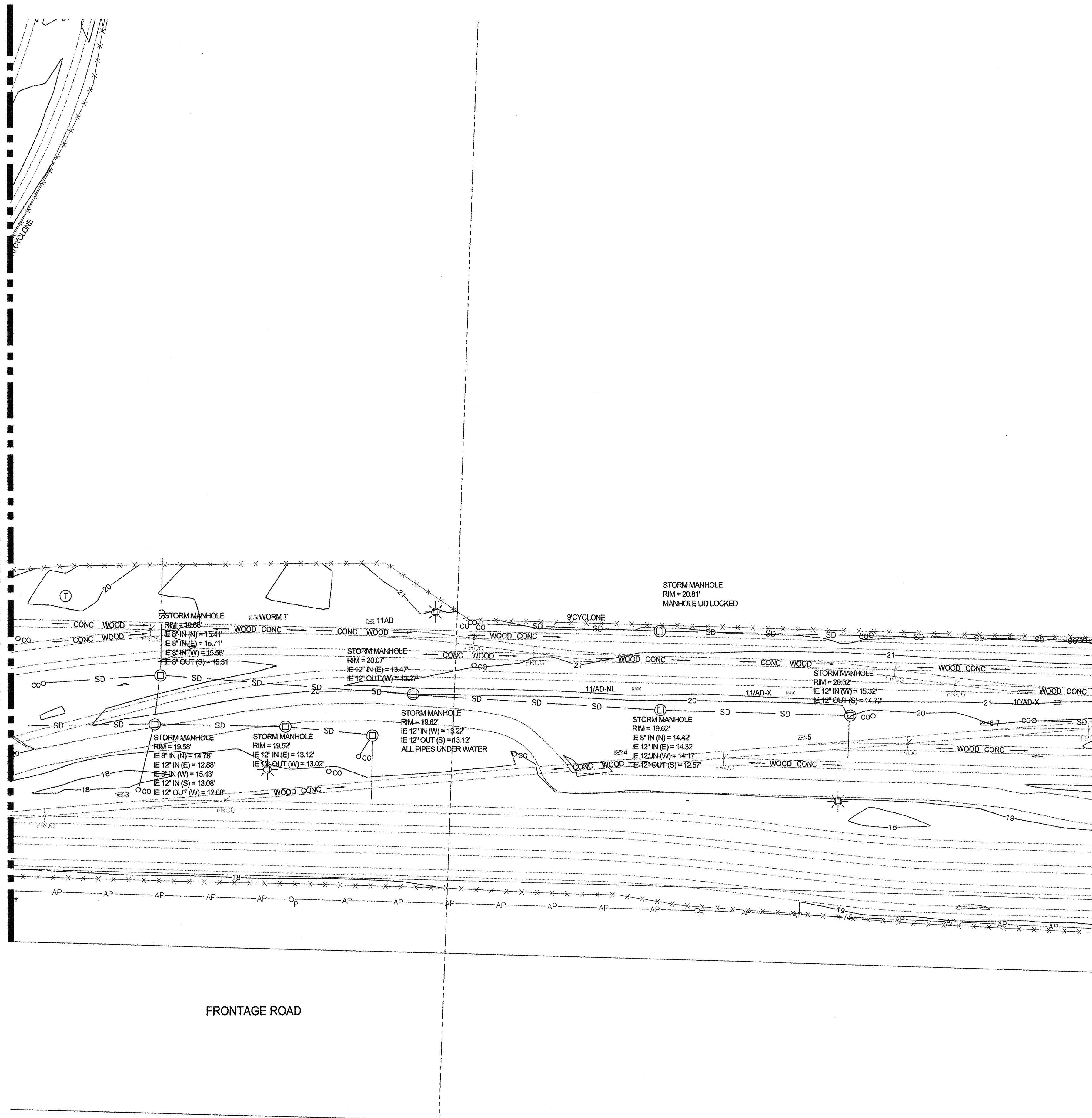
- CURB LINE
- EDGE OF ASPHALT
- FIBER OPTIC LINE
- ELECTRICAL LINE
- TELECOMMUNICATIONS LINE
- STORM LINE
- SANITARY SEWER LINE
- WATER LINE
- GAS LINE
- CYCLONE FENCE LINE
- OVERHEAD UTILITY LINES
- SIGN
- BOLLARD
- MAILBOX
- ELECTRICAL MANHOLE
- ELECTRICAL METER
- ELECTRICAL RISER
- ELECTRICAL CABINET
- ELECTRICAL VAULT
- TRANSFORMER
- GUY ANCHOR
- GUY POLE
- GROUND FLOOD LIGHT
- LIGHT J-BOX
- OVERHEAD LIGHT
- POWER POLE/OVERHEAD LIGHT
- POWER POLE W/DROP
- POWER POLE
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- GAS VAULT
- GAS VALVE
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- STORM MANHOLE WITH STRUCTURE
- CATCH BASIN/AREA DRAIN
- STORM CLEAN OUT
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- TELECOMMUNICATIONS RISER
- TRAFFIC SIGNAL BOX
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- DECIDUOUS TREE
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- WIND STOCK FLAG
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- RAILROAD AUTO SWITCH/NUMBER
- RAILROAD MANUAL SWITCH/NUMBER
- RAILROAD FROG
- RAILROAD SIGN
- RAILROAD CROSSING SIGNAL



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	MARK: _____ REVISION: _____
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APPROVED: <i>J. J. Suka</i> 4-12-16	SWK 03/17/16 CHECKED BY: _____ DATE: _____ SWK 03/17/16 PROJ. ENGR. DATE: _____ DIRECTOR ENG. DATE: mlopez Mar 15, 2016 PRINTED BY: mlopez PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837
<b>NORTH LEAD EAST END - AREA 4 EXISTING SURVEY</b>	
6555 <b>G27</b> SHEET 27 OF 134	
TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3 DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 PARCEL: MULTIPLE DRAWING SCALE: AS NOTED	
M. ID: 092938 PHASE: BID	

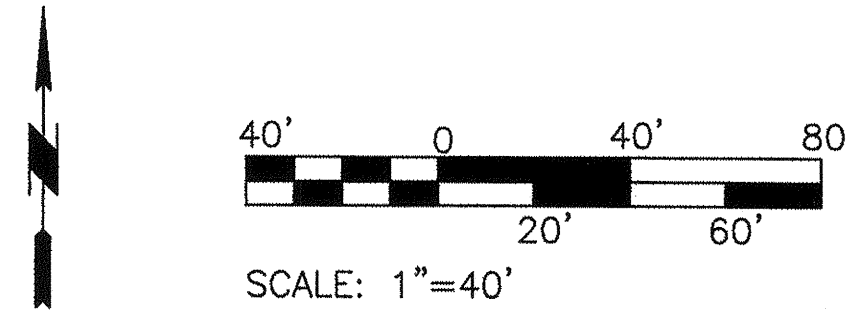
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MATCH LINE - SEE SHEET G27



LEGEND:

- CURB LINE
- EDGE OF ASPHALT
- BFO --- FIBER OPTIC LINE
- BP --- ELECTRICAL LINE
- BT --- TELECOMMUNICATIONS LINE
- SD --- STORM LINE
- SS --- SANITARY SEWER LINE
- W --- WATER LINE
- GAS --- GAS LINE
- X --- CYCLONE FENCE LINE
- AP --- OVERHEAD UTILITY LINES
- BOLLARD
- MAILBOX
- ELECTRICAL MANHOLE
- ELECTRICAL METER
- ELECTRICAL RISER
- ELECTRICAL CABINET
- ELECTRICAL VAULT
- TRANSFORMER
- GUY ANCHOR
- GUY POLE
- GROUND FLOOD LIGHT
- LIGHT J-BOX
- OVERHEAD LIGHT
- POWER POLE/OVERHEAD LIGHT
- POWER POLE W/DROP
- POWER POLE
- GAS MARKER POST
- GAS VAULT
- GAS VALVE
- SANITARY MANHOLE WITH STRUCTURE
- STORM MANHOLE WITH STRUCTURE
- CATCH BASIN/AREA DRAIN
- STORM CLEAN OUT
- TELECOMMUNICATIONS MANHOLE
- TELECOMMUNICATIONS VAULT
- TELECOMMUNICATIONS RISER
- TRAFFIC SIGNAL BOX
- TRAFFIC SIGNAL CABINET
- TRAFFIC CONTROL SIGNAL ARM
- WATER METER
- FIRE HYDRANT
- WATER VAULT
- WATER VALVE
- WATER MANHOLE
- HOSE BIB
- FIRE DEPARTMENT CONNECT
- POST INDICATOR VALVE
- TRAIN ID SCANNER
- AEI READER
- UNKNOWN UTILITY VAULT
- DECIDUOUS TREE
- -PERIMETER REPRESENTS DRIPLINE
- CONIFEROUS TREE
- -PERIMETER REPRESENTS DRIPLINE
- WIND STOCK FLAG
- RAILROAD GREASEBOX
- RAILROAD AUTO SWITCH/NUMBER
- RAILROAD MANUAL SWITCH/NUMBER
- RAILROAD FROG
- RAILROAD SIGN
- RAILROAD CROSSING SIGNAL



**6555 G28**  
SHEET 28 OF 134

CONT./CONS: 07/0164  
M. ID: 092938  
PHASE: BID

**Port of Tacoma**  
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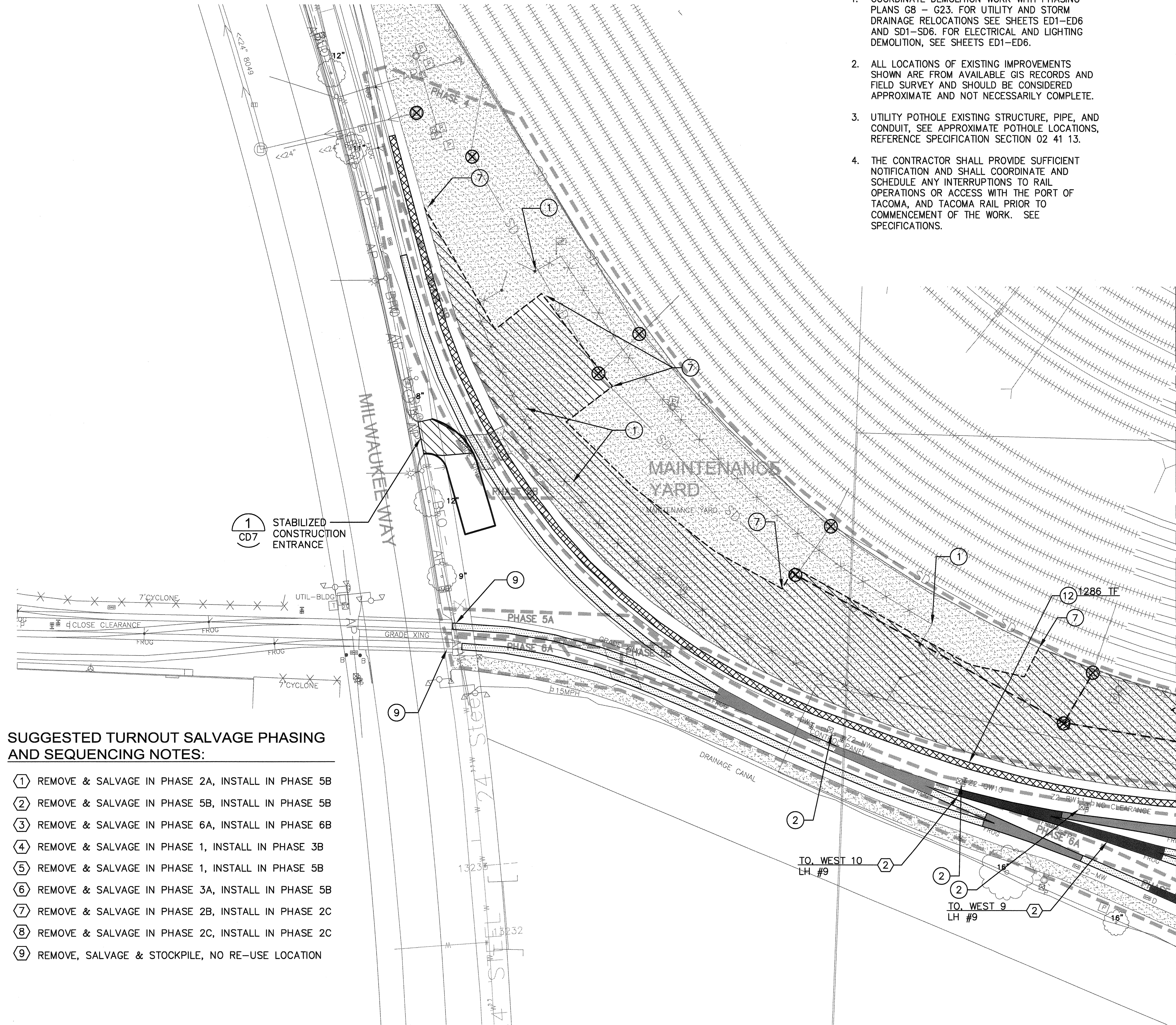
**kpff**

APPROVED: *[Signature]* 4/2-16  
DIRECTOR ENGR. DATE: nlopez Mar 15, 2016  
PRINTED BY: nlopez Mar 15, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

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**SUGGESTED TURNOUT SALVAGE PHASING AND SEQUENCING NOTES:**

- ① REMOVE & SALVAGE IN PHASE 2A, INSTALL IN PHASE 5B
- ② REMOVE & SALVAGE IN PHASE 5B, INSTALL IN PHASE 5B
- ③ REMOVE & SALVAGE IN PHASE 6A, INSTALL IN PHASE 6B
- ④ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 3B
- ⑤ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 5B
- ⑥ REMOVE & SALVAGE IN PHASE 3A, INSTALL IN PHASE 5B
- ⑦ REMOVE & SALVAGE IN PHASE 2B, INSTALL IN PHASE 2C
- ⑧ REMOVE & SALVAGE IN PHASE 2C, INSTALL IN PHASE 2C
- ⑨ REMOVE, SALVAGE & STOCKPILE, NO RE-USE LOCATION

**DEMOLITION NOTES:**

1. COORDINATE DEMOLITION WORK WITH PHASING PLANS G8 - G23. FOR UTILITY AND STORM DRAINAGE RELOCATIONS SEE SHEETS ED1-ED6 AND SD1-SD6. FOR ELECTRICAL AND LIGHTING DEMOLITION, SEE SHEETS ED1-ED6.
2. ALL LOCATIONS OF EXISTING IMPROVEMENTS SHOWN ARE FROM AVAILABLE GIS RECORDS AND FIELD SURVEY AND SHOULD BE CONSIDERED APPROXIMATE AND NOT NECESSARILY COMPLETE.
3. UTILITY POTHOLE EXISTING STRUCTURE, PIPE, AND CONDUIT, SEE APPROXIMATE POTHOLE LOCATIONS, REFERENCE SPECIFICATION SECTION 02 41 13.
4. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTIFICATION AND SHALL COORDINATE AND SCHEDULE ANY INTERRUPTIONS TO RAIL OPERATIONS OR ACCESS WITH THE PORT OF TACOMA, AND TACOMA RAIL PRIOR TO COMMENCEMENT OF THE WORK. SEE SPECIFICATIONS.

**DEMOLITION NOTES: CONT**

5. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL SITE IMPROVEMENTS NOT OTHERWISE NOTED FOR DEMOLITION. CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
6. ALL PAVEMENT NOTED FOR DEMOLITION SHALL BE SAWCUT.
7. ALL QUANTITIES IDENTIFIED ARE APPROXIMATE.
8. TRACK REMOVAL LIMITS ARE APPROXIMATE, REFER TO SHEETS R1-R7 FOR EXACT LIMITS OF NEW TRACK CONSTRUCTION.
9. SEE SURVEY SHEETS G24-G29 FOR EX TRACK RAIL SIZE AND TIE TYPE.
10. REPLACE POWER SWITCH MACHINE WITH NEW, PORT PROVIDED, HAND THROW SWITCH MACHINE WITHIN 2 DAYS OF DISCONNECTING POWER SUPPLY TO POWER SWITCH MACHINE. RELOCATE AND REINSTALL HAND THROW SWITCH MACHINE TO PERMANENT LOCATION FOLLOWING TURNOUT REMOVAL.

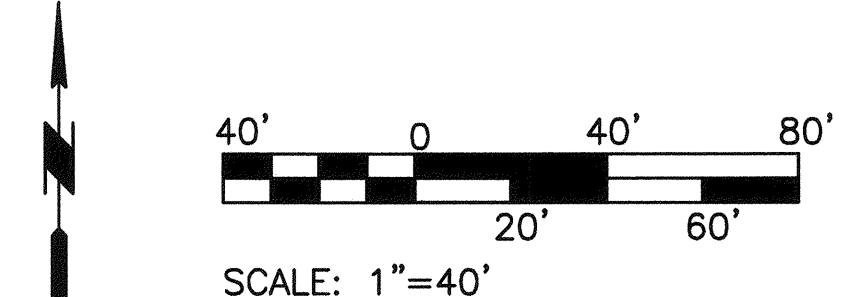
**DEMOLITION ITEMS:**

- ① DEMOLISH FENCE & GATES
- ② TEMPORARILY REPLACE POWER SWITCH MACHINE WITH HAND THROW SWITCH MACHINE, SEE NOTE 10
- ③ DEMOLISH GUARD RAIL
- ④ DEMOLISH TIMBER RETAINING WALL
- ⑤ REMOVE WIND SOCK AND POLE
- ⑥ DEMOLISH ECOLOGY BLOCK RETAINING WALL
- ⑦ EXTENT OF HMA SAWCUT
- ⑧ REMOVE AND SALVAGE GRADE CROSSING MATERIAL
- ⑨ PROTECT GRADE CROSSING MATERIAL
- ⑩ REMOVE BOLLARDS/SHELTER
- ⑪ CUT AND CAP PIPE, ABANDON IN PLACE
- ⑫ REMOVE TRACK, SALVAGE RAIL FOR RELAY
- ⑬ REMOVE TRACK LUBRICATOR

**DEMOLITION AND TESC LEGEND:**

- REMOVE ASPHALT
- REMOVE TRACK, SALVAGE RAIL FOR RELAY, SEE SHEETS R1-R6.1.
- REMOVE TRACK
- REMOVE TURNOUT SALVAGE FOR REINSTALLATION, SEE SHEET R14
- REMOVE TURNOUT
- SAWCUT HMA PAVEMENT
- REMOVE TREE/SHRUB
- DEMOLITION STORM DRAIN PIPE AND/OR STRUCTURE
- UTILITY POTHOLE LOCATION
- STRAW WATTLES
- INLET PROTECTION

MATCH LINE - SEE SHEET CD7



Part of Tacoma  
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(253) 396-0330 Fax (253) 396-0162

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BY: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
MARK: \_\_\_\_\_

APPROVED:		SWK	03/17/16	CHECKED BY	DATE
DIRECTOR	4/12/16	SWK	03/17/16	PROJ. ENGR	DATE
PRINTED BY:	bosterhaus	DATE	Mar 18, 2016	PORT ADDRESS: ONE	SITCLUM PLAZA
TACOMA, WA 98401-1837					

**6555**

CD1

SHEET 30 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**WEST END - AREA 1**

CIVIL DEMOLITION AND EROSION CONTROL PLAN

RANGE: 0.3E SECTION: 1, 2, 3

TOWNSHIP: 20N

DAT-HRZ: W83-SF

PARCEL: MULTIPLE

DRAWING SCALE: AS NOTED

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SUGGESTED TURNOUT SALVAGE PHASING AND SEQUENCING NOTES:

- ① REMOVE & SALVAGE IN PHASE 2A, INSTALL IN PHASE 5B
- ② REMOVE & SALVAGE IN PHASE 5B, INSTALL IN PHASE 5B
- ③ REMOVE & SALVAGE IN PHASE 6A, INSTALL IN PHASE 6B
- ④ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 3B
- ⑤ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 5B
- ⑥ REMOVE & SALVAGE IN PHASE 3A, INSTALL IN PHASE 5B
- ⑦ REMOVE & SALVAGE IN PHASE 2B, INSTALL IN PHASE 2C
- ⑧ REMOVE & SALVAGE IN PHASE 2C, INSTALL IN PHASE 2C
- ⑨ REMOVE, SALVAGE & STOCKPILE, NO RE-USE LOCATION

DEMOLITION NOTES:

- 1. COORDINATE DEMOLITION WORK WITH PHASING PLANS G8 - G23. FOR UTILITY AND STORM DRAINAGE RELOCATIONS SEE SHEETS ED1-ED6 AND SD1-SD6. FOR ELECTRICAL AND LIGHTING DEMOLITION, SEE SHEETS ED1-ED6.
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DEMOLITION NOTES: CONT.

- 5. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL SITE IMPROVEMENTS NOT OTHERWISE NOTED FOR DEMOLITION. CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
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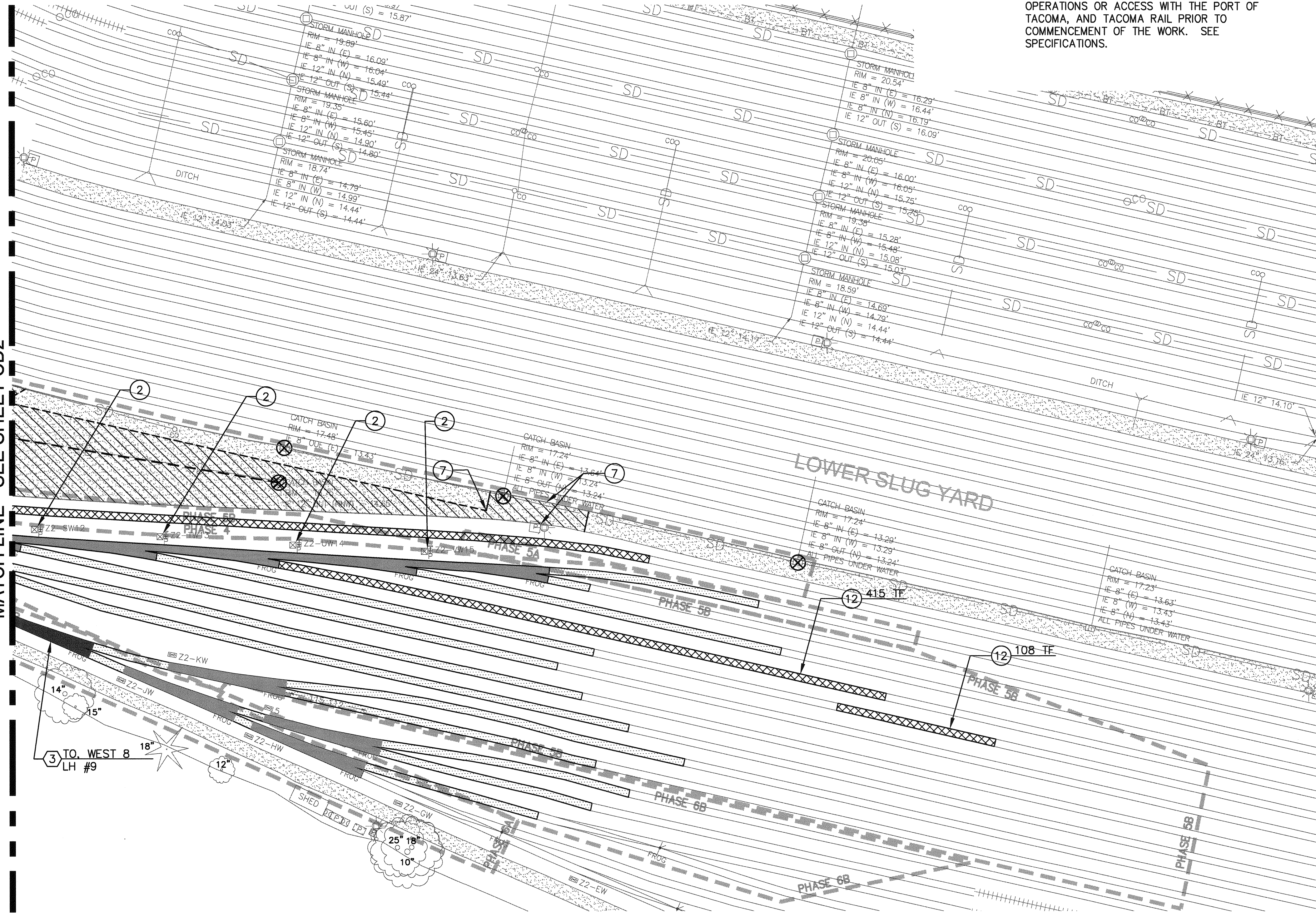
DEMOLITION ITEMS:

- ① DEMOLISH FENCE & GATES
- ② TEMPORARILY REPLACE POWER SWITCH MACHINE WITH HAND THROW SWITCH MACHINE, SEE NOTE 10
- ③ DEMOLISH GUARD RAIL
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- ⑤ REMOVE WIND SOCK AND POLE
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- ⑨ PROTECT GRADE CROSSING MATERIAL
- ⑩ REMOVE BOLLARDS/SHELTER
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DEMOLITION AND TESC LEGEND:

- REMOVE ASPHALT
- REMOVE TRACK, SALVAGE RAIL FOR RELAY, SEE SHEETS R1-R6.1.
- REMOVE TRACK
- REMOVE TURNOUT SALVAGE FOR REINSTALLATION, SEE SHEET R14
- REMOVE TURNOUT
- SAWCUT HMA PAVEMENT
- REMOVE TREE/SHRUB
- DEMOLITION STORM DRAIN PIPE AND/OR STRUCTURE
- UTILITY POTHOLE LOCATION
- STRAW WATTLES
- INLET PROTECTION

MATCH LINE - SEE SHEET CD2



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PROFESSIONAL ENGINEER  
NO. 17178  
ISSUED 1/17/16

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DIRECTOR: *[Signature]* DATE: 4/2/16

CHECKED BY: DATE: 03/17/16

PROJ. ENGR: DATE: 03/17/16

PRINTED BY: bosterhaus Mar 18, 2016

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**6555**

**CD2**

SHEET 31 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**WEST END - AREA 2**

CIVIL DEMOLITION AND EROSION CONTROL PLAN

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3

DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

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APPROXIMATE POTHOLE LOCATIONS			
POINT	NORTHING	EASTING	DESCRIPTION
(A)	703836.10	1171430.22	STORM DRAIN PIPE TO SOUTHEAST OF EXISTING CATCH BASIN
(B)	703869.50	1171405.12	ELECTRICAL CONDUIT, SEE ED3 AND E8

NOTE: LOCATIONS CORRESPOND TO CENTER OF SYMBOL ON PLAN.

**SUGGESTED TURNOUT SALVAGE PHASING AND SEQUENCING NOTES:**

- ① REMOVE & SALVAGE IN PHASE 2A, INSTALL IN PHASE 5B
- ② REMOVE & SALVAGE IN PHASE 5B, INSTALL IN PHASE 5B
- ③ REMOVE & SALVAGE IN PHASE 6A, INSTALL IN PHASE 6B
- ④ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 3B
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- ⑥ REMOVE & SALVAGE IN PHASE 3A, INSTALL IN PHASE 5B
- ⑦ REMOVE & SALVAGE IN PHASE 2B, INSTALL IN PHASE 2C
- ⑧ REMOVE & SALVAGE IN PHASE 2C, INSTALL IN PHASE 2C
- ⑨ REMOVE, SALVAGE & STOCKPILE, NO RE-USE LOCATION

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**DEMOLITION NOTES: CONT.**

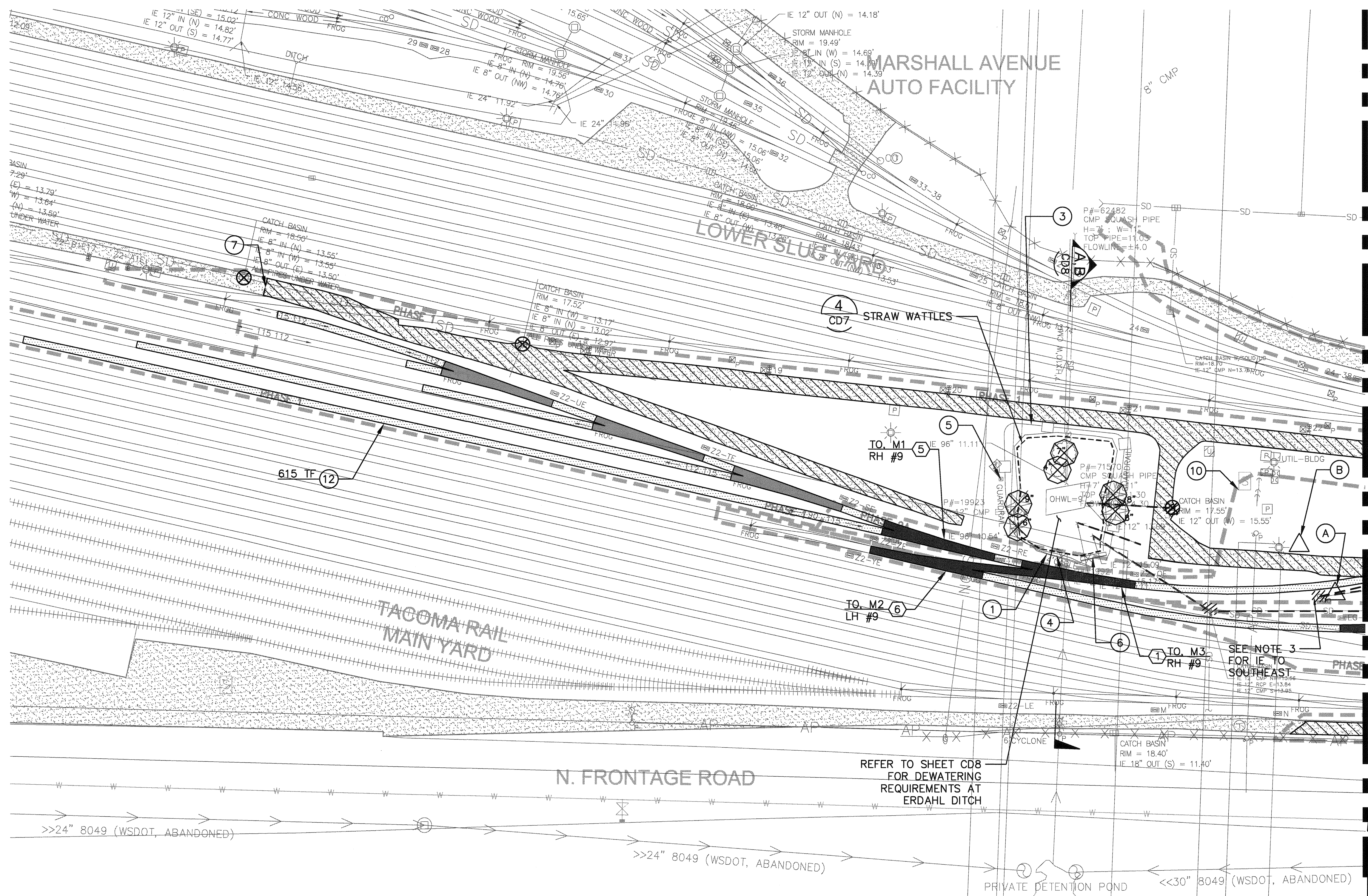
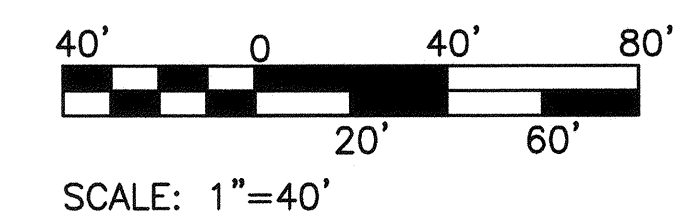
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**DEMOLITION ITEMS:**

- ① DEMOLISH FENCE & GATES
- ② TEMPORARILY REPLACE POWER SWITCH MACHINE WITH HAND THROW SWITCH MACHINE, SEE NOTE 10
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- ④ DEMOLISH TIMBER RETAINING WALL
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- ⑦ EXTENT OF HMA SAWCUT
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**DEMOLITION AND TESC LEGEND:**

- REMOVE ASPHALT
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- DEMOLITION STORM DRAIN PIPE AND/OR STRUCTURE
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- STRAW WATTLES
- INLET PROTECTION



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4-2-16

DIRECTOR ENG. DATE

03/17/16

SWK: 03/17/16

PROJ. ENGR DATE

4-2-16

PRINTED BY: bosterhaus Mar 18, 2016

092938

PORT ADDRESS: ONE SITCUM PLAZA

6555

**CD3**

SHEET 32 OF 134

070164

CONTRACTOR: 070164

092938

DATE-HRZ: W83-SF

AS NOTED

PARCEL: MULTIPLE

NORTH LEAD

EAST END - AREA 3

CIVIL DEMOLITION AND EROSION CONTROL PLAN

RANGE: 03E

TOWNSHIP: 20N

SECTION: 1, 2, 3

VERT: PORT OF TACOMA, BM #846

DRAWING SCALE: AS NOTED

PHASE: BID

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BINDING EDGE

PORT OF TACOMA FILE: N:\Civ\114114148 Pot North Lead RailPart 3 - KPFF Design\3.13 Drawings\Current\092938-CD04

APPROXIMATE POTHOLE LOCATIONS			
POINT	NORTHING	EASTING	DESCRIPTION
(C)	703911.45	1171656.19	DUCTILE IRON 8"Ø PIPE TO NORTH AND 8"Ø TO NORTH NORTHWEST
(D)	703899.94	1171895.19	6"Ø STORM PIPE AND ELECTRICAL CONDUIT, SEE ED3 AND E3
(E)	703866.03	1171888.20	6"Ø STORM PIPE AND UTILITY VAULT
(F)	703828.41	1172197.22	MANHOLE
(G)	703826.10	1172287.63	CATCH BASIN
(H)	703933.86	1171544.77	CLEANOUT

\*NOTE: LOCATIONS CORRESPOND TO CENTER OF SYMBOL ON PLAN.

**SUGGESTED TURNOUT SALVAGE PHASING AND SEQUENCING NOTES:**

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**DEMOLITION NOTES: CONT.**

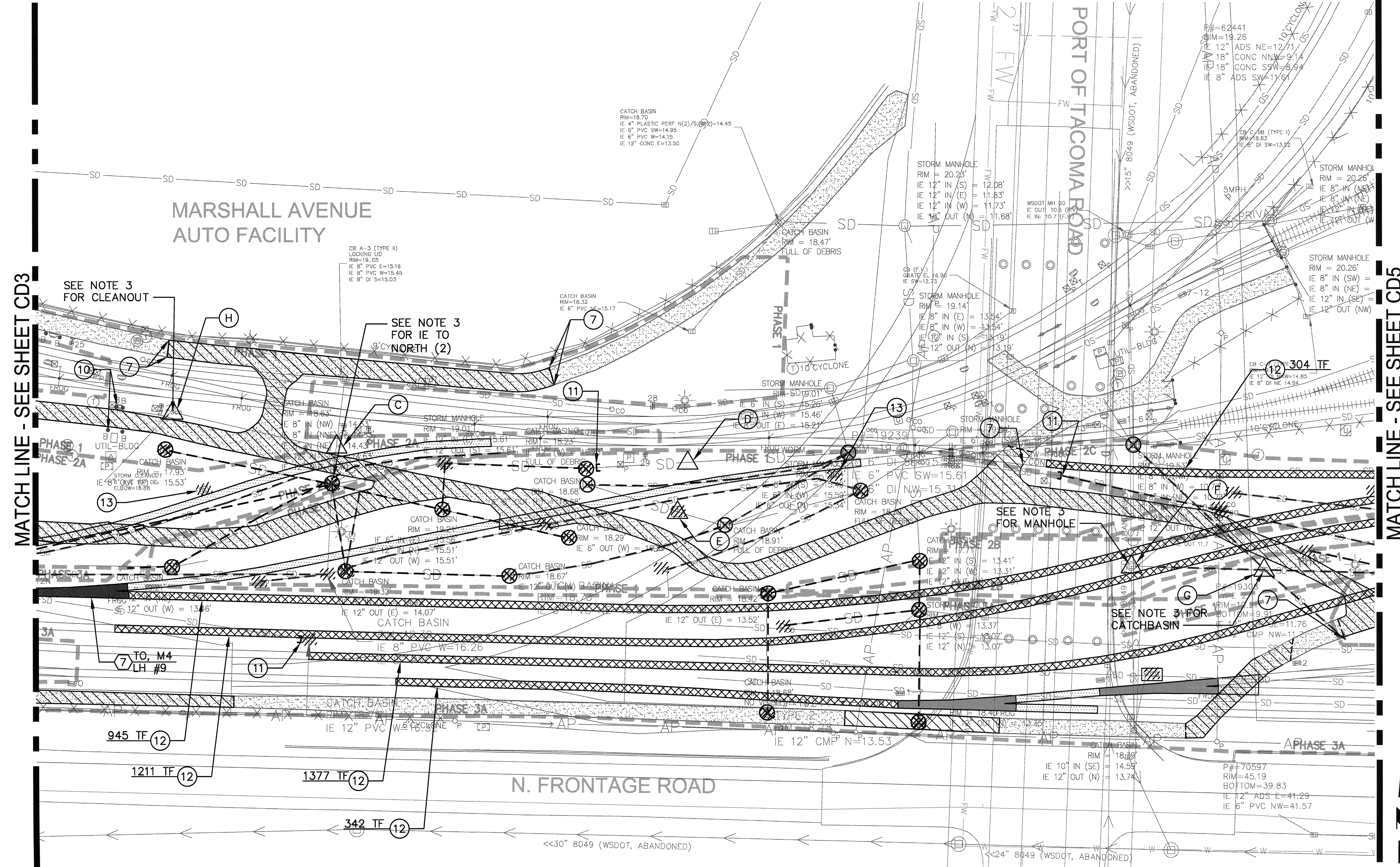
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Michael J. Bosternhaus  
Professional Engineer  
No. 17175  
State of Washington  
Civil Engineering

APPROVED: *[Signature]*

DIRECTOR ENGR. DATE: 4/2/16

SWK 03/17/16

CHECKED BY: DATE

SWK 03/17/16

PROJ. ENGR. DATE

PRINTED BY: bosternhaus Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA

6555

**CD4**

SHEET 33 OF 134

TOWNSHIP: 20N

RANGE: 03E

SECTION: 1, 2, 3

DATE-HRZ: WB3-SF

VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE

DRAWING SCALE: AS NOTED

**CIVIL DEMOLITION AND EROSION CONTROL PLAN**

NORTH LEAD EAST END - AREA 4

SCALE: 1"=40'

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APPROXIMATE POTHOLE LOCATIONS			
POINT	NORTHING	EASTING	DESCRIPTION
①	703800.84	1172589.52	6"Ø PVC STORM PIPE
④	703825.25	1172380.88	STORM PIPE TO NORTHWEST TO EXISTING CLEANOUT ON CD4

NOTE: LOCATIONS CORRESPOND TO CENTER OF SYMBOL ON PLAN.

**SUGGESTED TURNOUT SALVAGE PHASING AND SEQUENCING NOTES:**

- ① REMOVE & SALVAGE IN PHASE 2A, INSTALL IN PHASE 5B
- ② REMOVE & SALVAGE IN PHASE 5B, INSTALL IN PHASE 5B
- ③ REMOVE & SALVAGE IN PHASE 6A, INSTALL IN PHASE 5B
- ④ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 3B
- ⑤ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 5B
- ⑥ REMOVE & SALVAGE IN PHASE 3A, INSTALL IN PHASE 5B
- ⑦ REMOVE & SALVAGE IN PHASE 2B, INSTALL IN PHASE 2C
- ⑧ REMOVE & SALVAGE IN PHASE 2C, INSTALL IN PHASE 2C
- ⑨ REMOVE, SALVAGE & STOCKPILE, NO RE-USE LOCATION

**DEMOLITION NOTES:**

- 1. COORDINATE DEMOLITION WORK WITH PHASING PLANS G8 - G23. FOR UTILITY AND STORM DRAINAGE RELOCATIONS SEE SHEETS ED1-ED6 AND SD1-SD6. FOR ELECTRICAL AND LIGHTING DEMOLITION, SEE SHEETS ED1-ED6.
- 2. ALL LOCATIONS OF EXISTING IMPROVEMENTS SHOWN ARE FROM AVAILABLE GIS RECORDS AND FIELD SURVEY AND SHOULD BE CONSIDERED APPROXIMATE AND NOT NECESSARILY COMPLETE.
- 3. UTILITY POTHOLE EXISTING STRUCTURE, PIPE, AND CONDUIT, SEE APPROXIMATE POTHOLE LOCATIONS, REFERENCE SPECIFICATION SECTION 02 41 13.
- 4. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTIFICATION AND SHALL COORDINATE AND SCHEDULE ANY INTERRUPTIONS TO RAIL OPERATIONS OR ACCESS WITH THE PORT OF TACOMA, AND TACOMA RAIL PRIOR TO COMMENCEMENT OF THE WORK. SEE SPECIFICATIONS.

**DEMOLITION NOTES: CONT.**

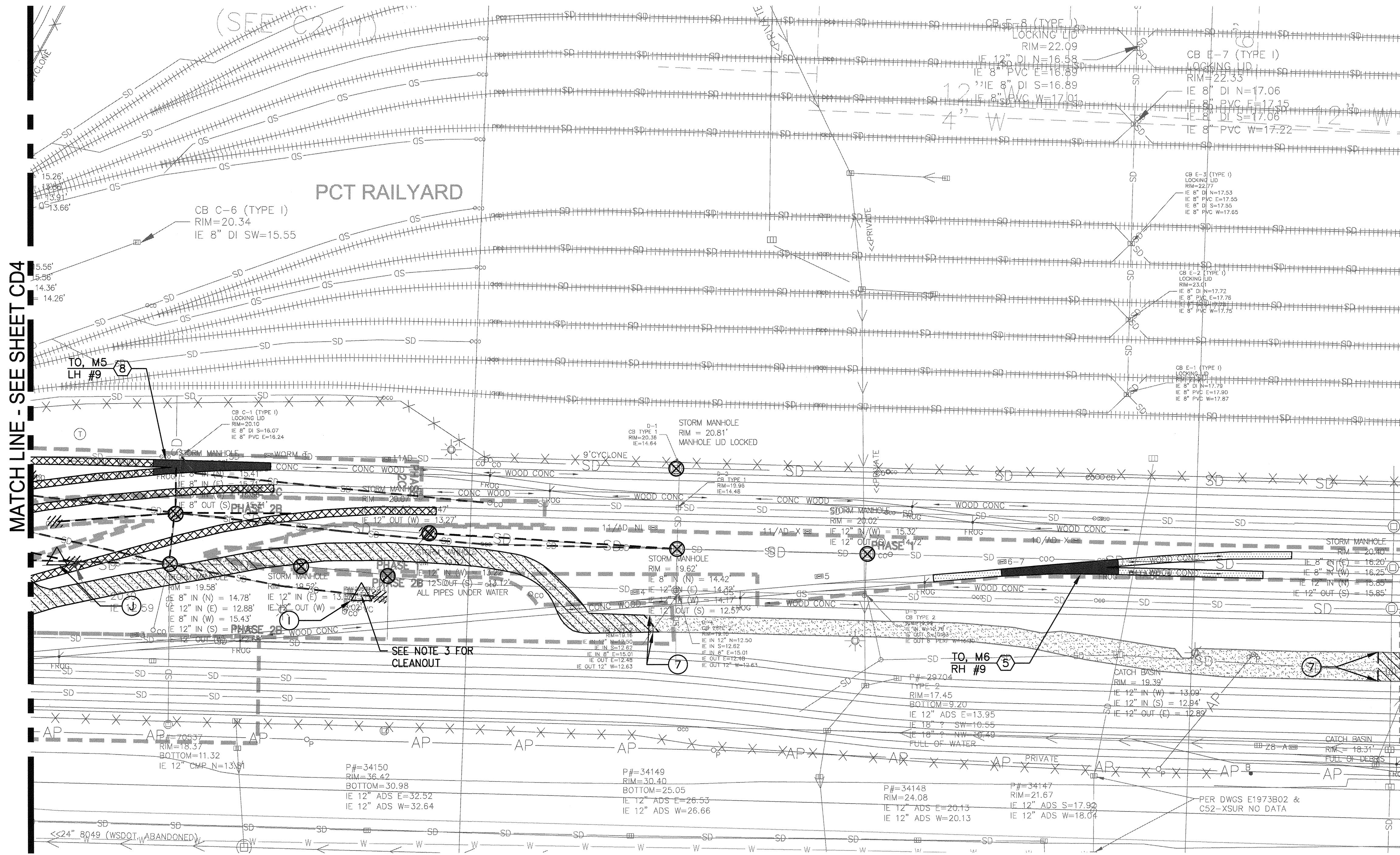
- 5. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL SITE IMPROVEMENTS NOT OTHERWISE NOTED FOR DEMOLITION. CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- 6. ALL PAVEMENT NOTED FOR DEMOLITION SHALL BE SAWCUT.
- 7. ALL QUANTITIES IDENTIFIED ARE APPROXIMATE.
- 8. TRACK REMOVAL LIMITS ARE APPROXIMATE, REFER TO SHEETS R1-R7 FOR EXACT LIMITS OF NEW TRACK CONSTRUCTION.
- 9. SEE SURVEY SHEETS G24-G29 FOR EX TRACK RAIL SIZE AND TIE TYPE.
- 10. REPLACE POWER SWITCH MACHINE WITH NEW, PORT PROVIDED, HAND THROW SWITCH MACHINE WITHIN 2 DAYS OF DISCONNECTING POWER SUPPLY TO POWER SWITCH MACHINE. RELOCATE AND REINSTALL HAND THROW SWITCH MACHINE TO PERMANENT LOCATION FOLLOWING TURNOUT REMOVAL.

**DEMOLITION ITEMS:**

- ① DEMOLISH FENCE & GATES
- ② TEMPORARILY REPLACE POWER SWITCH MACHINE WITH HAND THROW SWITCH MACHINE, SEE NOTE 10
- ③ DEMOLISH GUARD RAIL
- ④ DEMOLISH TIMBER RETAINING WALL
- ⑤ REMOVE WIND SOCK AND POLE
- ⑥ DEMOLISH ECOLOGY BLOCK RETAINING WALL
- ⑦ EXTENT OF HMA SAWCUT
- ⑧ REMOVE AND SALVAGE GRADE CROSSING MATERIAL
- ⑨ PROTECT GRADE CROSSING MATERIAL
- ⑩ REMOVE BOLLARDS/SHELTER
- ⑪ CUT AND CAP PIPE, ABANDON IN PLACE
- ⑫ REMOVE TRACK, SALVAGE RAIL FOR RELAY
- ⑬ REMOVE TRACK LUBRICATOR

**DEMOLITION AND TESC LEGEND:**

- REMOVE ASPHALT
- REMOVE TRACK, SALVAGE RAIL FOR RELAY, SEE SHEETS R1-R6.1.
- REMOVE TRACK
- REMOVE TURNOUT SALVAGE FOR REINSTALLATION, SEE SHEET R14
- REMOVE TURNOUT
- SAWCUT HMA PAVEMENT
- REMOVE TREE/SHRUB
- DEMOLITION STORM DRAIN PIPE AND/OR STRUCTURE
- UTILITY POTHOLE LOCATION
- STRAW WATTLES
- INLET PROTECTION



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Tacoma, Washington 98407  
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Port of Tacoma  
P.O. BOX 107 TACOMA, WASHINGTON 98402

APPROVED:

DATE: 4-12-16

SWK 03/17/16

CHECKED BY: [Name]

DATE: 03/17/16

DATE: 03/17/16

DATE: 03/17/16

DATE: 03/17/16

DIR: [Name]

DATE: 4-12-16

SWK 03/17/16

PROJ. ENGR. DATE: 03/17/16

DATE: 03/17/16

DATE: 03/17/16

DATE: 03/17/16

DATE: 03/17/16

PRINTED BY: bosterhaus Mar 18, 2016

PORT ADDRESS: ONE SITCOM PLAZA

TACOMA, WA 98401-1837

SECTION: 1, 2, 3

SECTION: 1, 2, 3

SECTION: 1, 2, 3

TOWNSHIP: 20N

RANGE: 03E

SECTION: 1, 2, 3

VERT: PORT OF TACOMA

BM #846

DATE: 09/23/08

PARCEL: W83-SF

DRAWING SCALE: AS NOTED

PHASE: BID

6555

NORTH LEAD

EAST END - AREA 5

CD5

CIVIL DEMOLITION AND EROSION CONTROL PLAN

SHEET 34 OF 134

CONTRACT: 070164

DATE: 09/23/08

PHASE: BID

DATE: 09/23/08

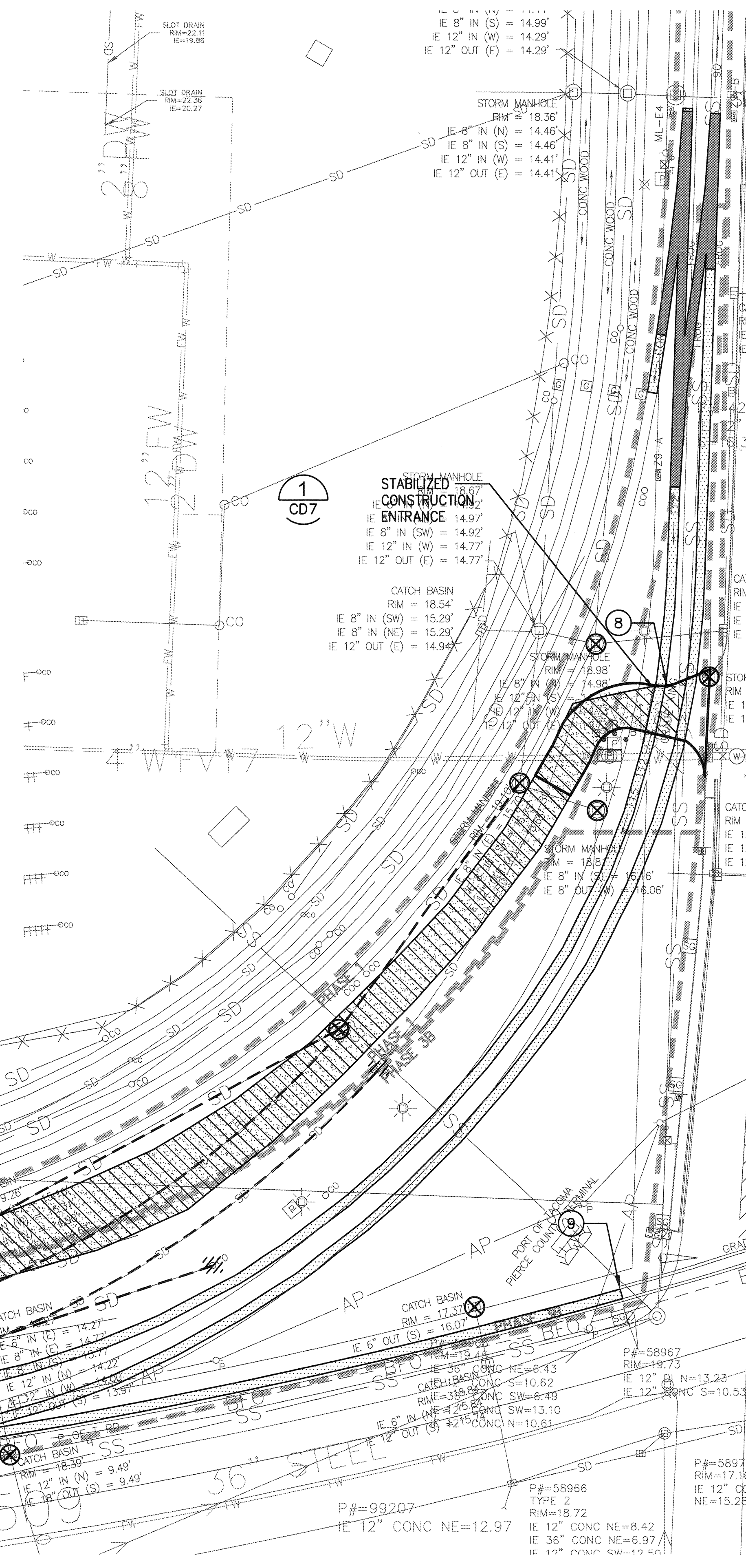
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### SUGGESTED TURNOUT SALVAGE PHASING AND SEQUENCING NOTES:

- ① REMOVE & SALVAGE IN PHASE 2A, INSTALL IN PHASE 5B
- ② REMOVE & SALVAGE IN PHASE 5B, INSTALL IN PHASE 5B
- ③ REMOVE & SALVAGE IN PHASE 6A, INSTALL IN PHASE 6B
- ④ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 3B
- ⑤ REMOVE & SALVAGE IN PHASE 1, INSTALL IN PHASE 5B
- ⑥ REMOVE & SALVAGE IN PHASE 3A, INSTALL IN PHASE 5B
- ⑦ REMOVE & SALVAGE IN PHASE 2B, INSTALL IN PHASE 2C
- ⑧ REMOVE & SALVAGE IN PHASE 2C, INSTALL IN PHASE 2C
- ⑨ REMOVE, SALVAGE & STOCKPILE, NO RE-USE LOCATION

### DEMOLITION NOTES:

1. COORDINATE DEMOLITION WORK WITH PHASING PLANS G8 - G23. FOR UTILITY AND STORM DRAINAGE RELOCATIONS SEE SHEETS ED1-ED6 AND SD1-SD6. FOR ELECTRICAL AND LIGHTING DEMOLITION, SEE SHEETS ED1-ED6.
2. ALL LOCATIONS OF EXISTING IMPROVEMENTS SHOWN ARE FROM AVAILABLE GIS RECORDS AND FIELD SURVEY AND SHOULD BE CONSIDERED APPROXIMATE AND NOT NECESSARILY COMPLETE.
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5. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL SITE IMPROVEMENTS NOT OTHERWISE NOTED FOR DEMOLITION. CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
6. ALL PAVEMENT NOTED FOR DEMOLITION SHALL BE SAWCUT.
7. ALL QUANTITIES IDENTIFIED ARE APPROXIMATE.
8. TRACK REMOVAL LIMITS ARE APPROXIMATE, REFER TO SHEETS R1-R7 FOR EXACT LIMITS OF NEW TRACK CONSTRUCTION.
9. SEE SURVEY SHEETS G24-G29 FOR EX TRACK RAIL SIZE AND TIE TYPE.
10. REPLACE POWER SWITCH MACHINE WITH NEW, PORT PROVIDED, HAND THROW SWITCH MACHINE WITHIN 2 DAYS OF DISCONNECTING POWER SUPPLY TO POWER SWITCH MACHINE. RELOCATE AND REINSTALL HAND THROW SWITCH MACHINE TO PERMANENT LOCATION FOLLOWING TURNOUT REMOVAL



### DEMOLITION ITEMS:

- ① DEMOLISH FENCE & GATES
- ② TEMPORARILY REPLACE POWER SWITCH MACHINE WITH HAND THROW SWITCH MACHINE, SEE NOTE 10
- ③ DEMOLISH GUARD RAIL
- ④ DEMOLISH TIMBER RETAINING WALL
- ⑤ REMOVE WIND SOCK AND POLE
- ⑥ DEMOLISH ECOLOGY BLOCK RETAINING WALL
- ⑦ EXTENT OF HMA SAWCUT
- ⑧ REMOVE AND SALVAGE GRADE CROSSING MATERIAL
- ⑨ PROTECT GRADE CROSSING MATERIAL
- ⑩ REMOVE BOLLARDS/SHELTER
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- ⑫ REMOVE TRACK, SALVAGE RAIL FOR RELAY
- ⑬ REMOVE TRACK LUBRICATOR

### DEMOLITION AND TESC LEGEND:

- REMOVE ASPHALT
- REMOVE TRACK, SALVAGE RAIL FOR RELAY, SEE SHEETS R1-R6.1.
- REMOVE TRACK
- REMOVE TURNOUT SALVAGE FOR REINSTALLATION, SEE SHEET R14
- REMOVE TURNOUT
- SAWCUT HMA PAVEMENT
- REMOVE TREE/SHRUB
- DEMOLITION STORM DRAIN PIPE AND/OR STRUCTURE
- UTILITY POTHOLE LOCATION
- STRAW WATTLES
- INLET PROTECTION

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REGISTERED PROFESSIONAL ENGINEER  
No. 32791  
EXPIRES 12/31/2016

APPROVED:	<i>Mike S. Bosterhaus</i>	SWK	03/17/16	CHECKED BY:	DATE
DIRECTOR ENG. DATE	4/2-16	SWK	03/17/16	PROJ. ENGR	DATE
PRINTED BY:	bosterhaus	Mar 18, 2016			
PORT ADDRESS: ONE SITCOM PLAZA					
TACOMA, WA 98401-1837					

**6555**

**CD6**

SHEET 35 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**EAST END - AREA 6**

CIVIL DEMOLITION AND EROSION CONTROL PLAN

TOWNSHIP: 20N

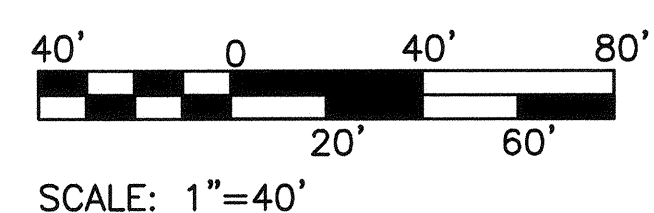
DAT-HRZ: WB3-SF

PARCEL: MULTIPLE

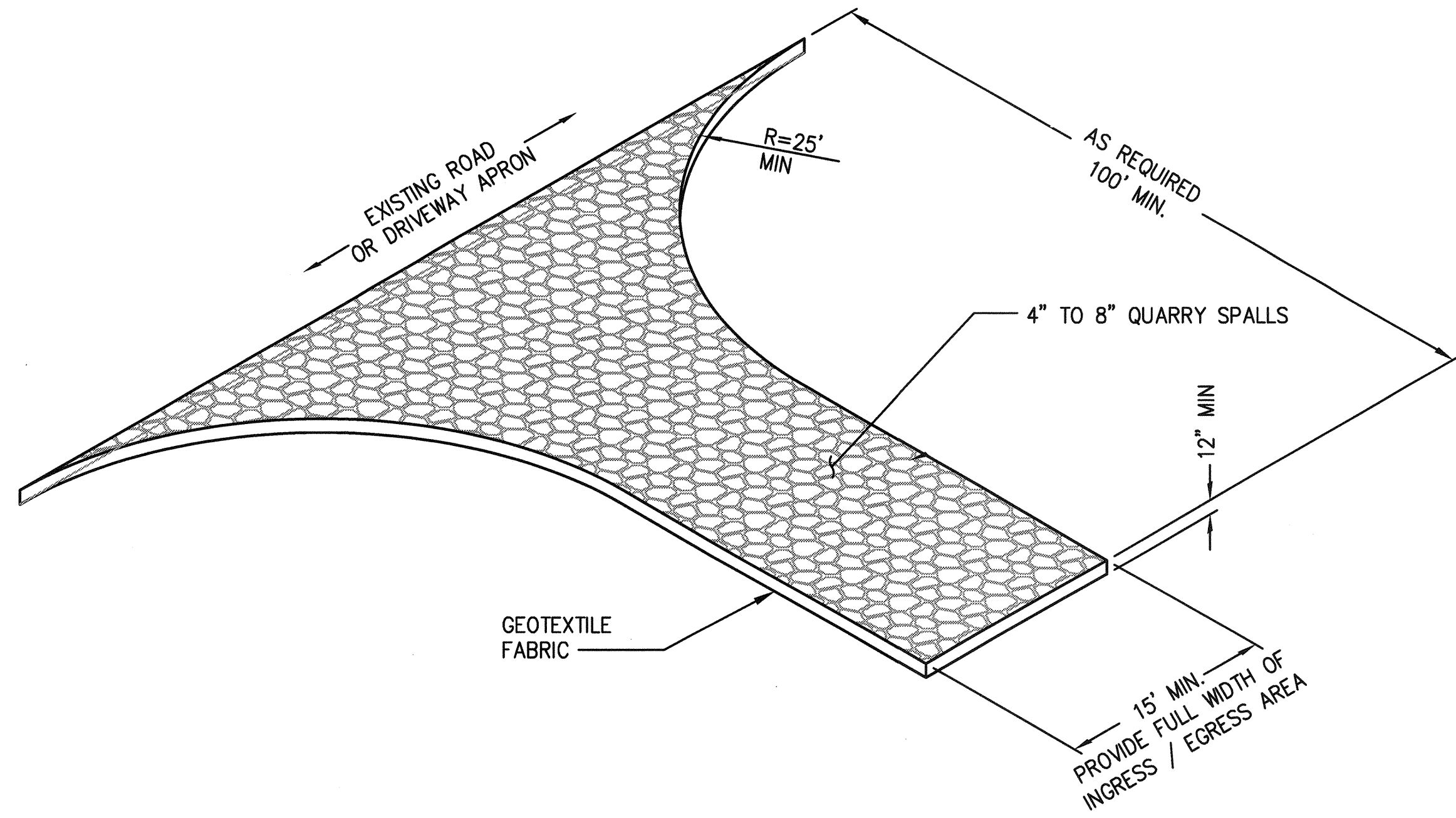
SECTION: 1, 2, 3

VERT: PORT OF TACOMA BM #846

DRAWING SCALE: AS NOTED



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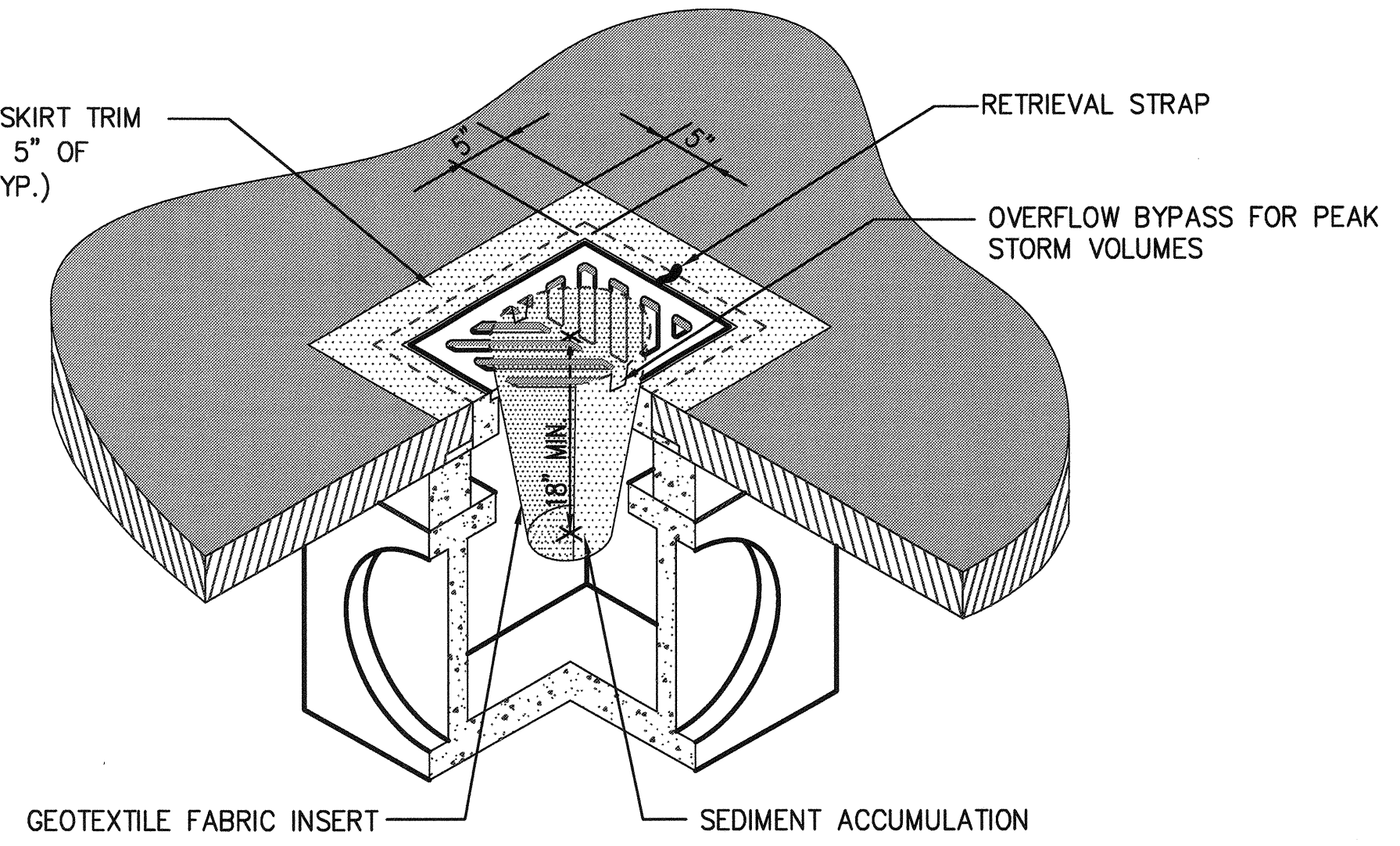
1  
CD1,6

STABILIZED CONSTRUCTION ENTRANCE DETAIL

NTS

NOTES:

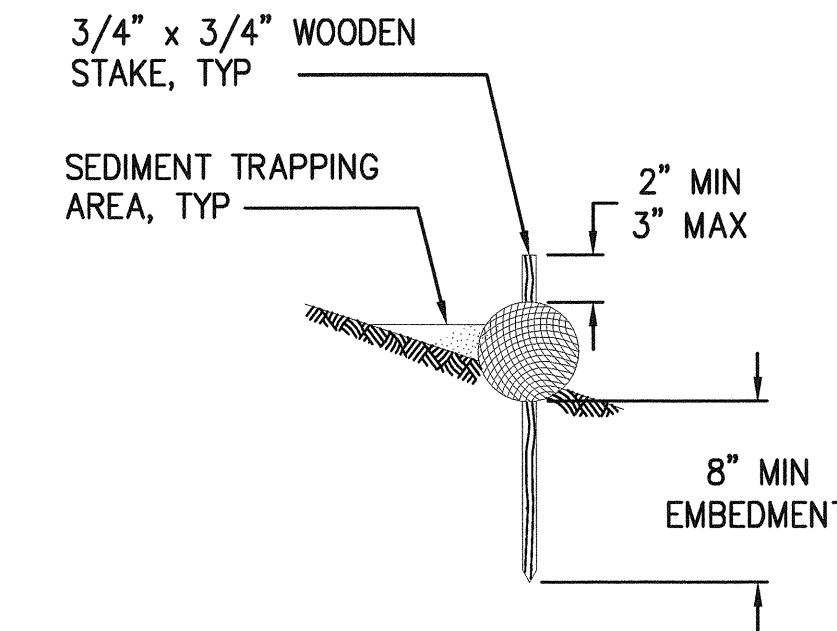
1. INSERT SHALL BE INSTALLED IN ALL OPERATIONAL CATCH BASINS PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
2. FILTERS SHALL BE INSPECTED AFTER EACH STORM EVENT AND CLEANED OR REPLACED WHEN IT IS 1/3 FULL.
3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING INTO APPROPRIATE DISPOSAL LOCATION, AND REINSERTING IT INTO THE CATCH BASIN.



2  
CD1-6

INLET PROTECTION DETAIL

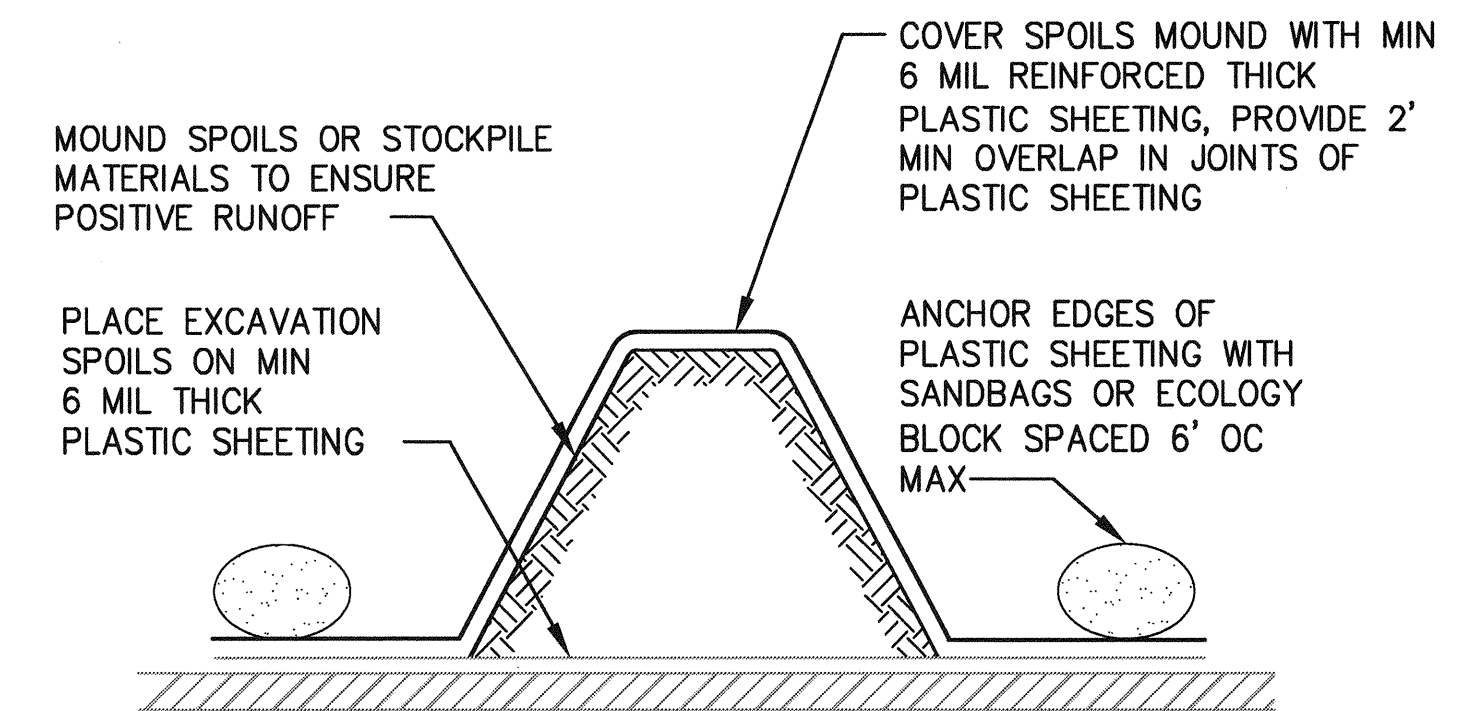
NTS



4  
CD3

STRAW WATTLE DETAIL

NTS



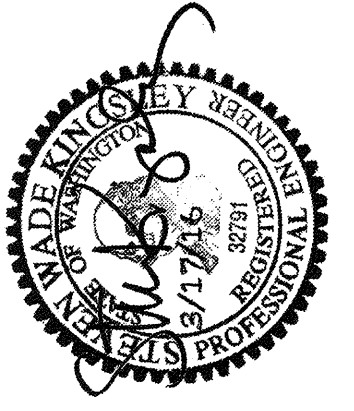
5

STOCK PILE PROTECTION DETAIL

NTS



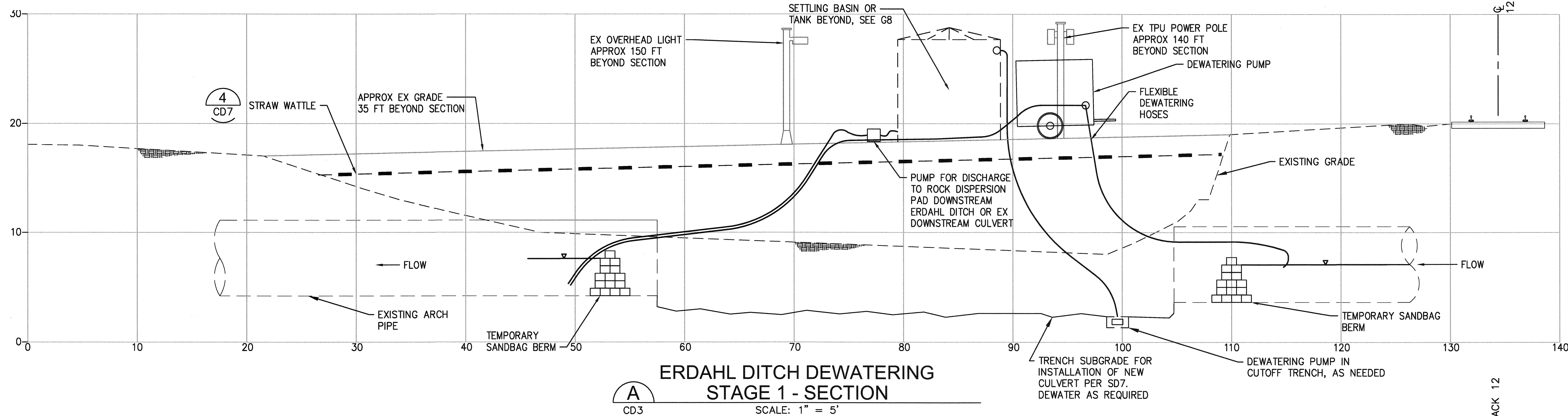
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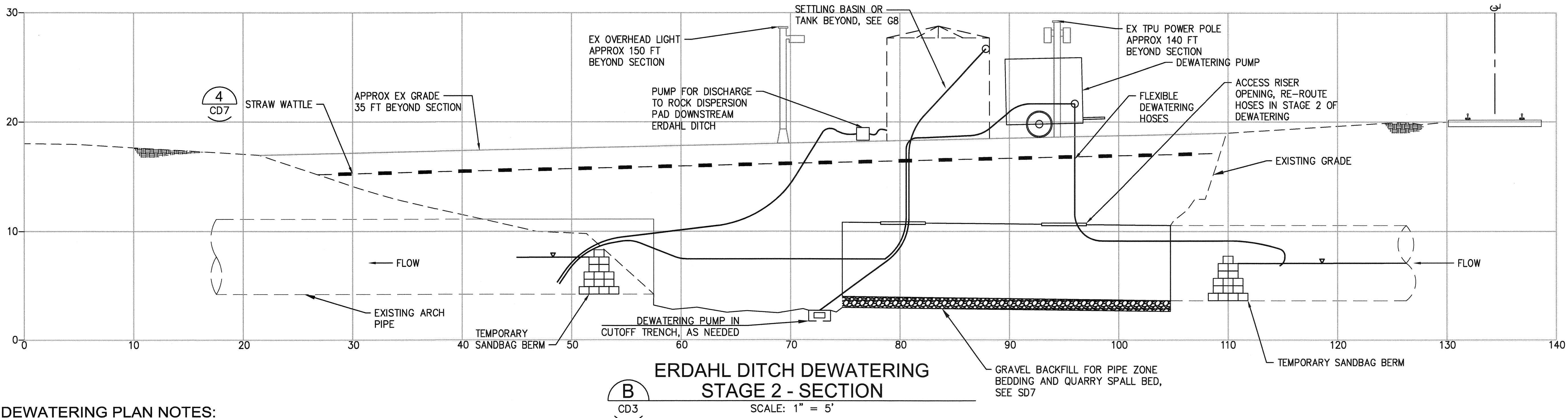
APPROVED:	SWK	03/17/16
<i>[Signature]</i>	CHECKED BY	DATE
	SWK	03/17/16
	PROJ. ENGR	DATE
	4-12-16	bosterhaus Mar 18, 2016
DIRECTOR	ENG. DATE	PRINTED BY:
		PORT ADDRESS: ONE SITCUM PLAZA
		TACOMA, WA 98401-1837

NORTH LEAD	CIVIL DEMOLITION AND TESC DETAILS		
	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
	DAT-HRZ: W83-SF	VERT: PORT OF TACOMA	BM #846
	PARCEL: MULTIPLE	DRAWING SCALE:	AS NOTED

6555	CD7
SHEET 36 OF 134	
CONT/CONS: 070164	
M. ID: 092938	
PHASE: BID	



**ERDAHL DITCH DEWATERING STAGE 1 - SECTION**  
SCALE: 1" = 5'



**ERDAHL DITCH DEWATERING STAGE 2 - SECTION**  
SCALE: 1" = 5'

**DEWATERING PLAN NOTES:**

THE DEWATERING SEQUENCE SHOWN REPRESENTS A POSSIBLE CONSTRUCTION SEQUENCE, THE INFORMATION PROVIDED IS SCHEMATIC IN NATURE. THE SEQUENCE SHOWN IS FOR GENERAL INFORMATION ONLY AND IS NOT INTENDED TO DICTATE TO THE CONTRACTOR THE SEQUENCE. CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL A DETAILED DEWATERING PLAN AS DESCRIBED IN THE SPECIFICATIONS.

1. CONSTRUCT SANDBAG BERMS WITHIN EXISTING UPSTREAM AND DOWNSTREAM CULVERT SEGMENTS, SPANNING ACROSS THE WIDTH OF THE 128" WIDE CULVERT.

2. INSTALL TEMPORARY DEWATERING PUMP. ROUTE PUMP HOSES ACROSS SANDBAG BERM, OUT OF DITCH, AND TO SETTLING BASIN. PLACE DEWATERING PUMPS IN CUTOFF TRENCHES OR SUMPS WITH CAPACITY AS NEEDED TO ADEQUATELY DEWATER WORKING AREA. ROUTE HOSE(S) FROM SETTLING BASIN TO ROCK DISPERSION PAD TO BE PLACED ALONG EAST BANK OF THE ERDAHL DITCH JUST DOWNSTREAM OF EXISTING CULVERT OR DOWNSTREAM OF TEMPORARY SANDBAG BERM. PUMP AS NEEDED, ROUTE HOSES THROUGH TIE CRIBS AS NEEDED. TRACK OPERATION CANNOT BE INTERRUPTED DUE TO HOSE ROUTING. MODIFY AS NEEDED TO MEET DOWNSTREAM TURBIDITY REQUIREMENTS.

3. EXCAVATE DITCH AND PREPARE SUBGRADE.

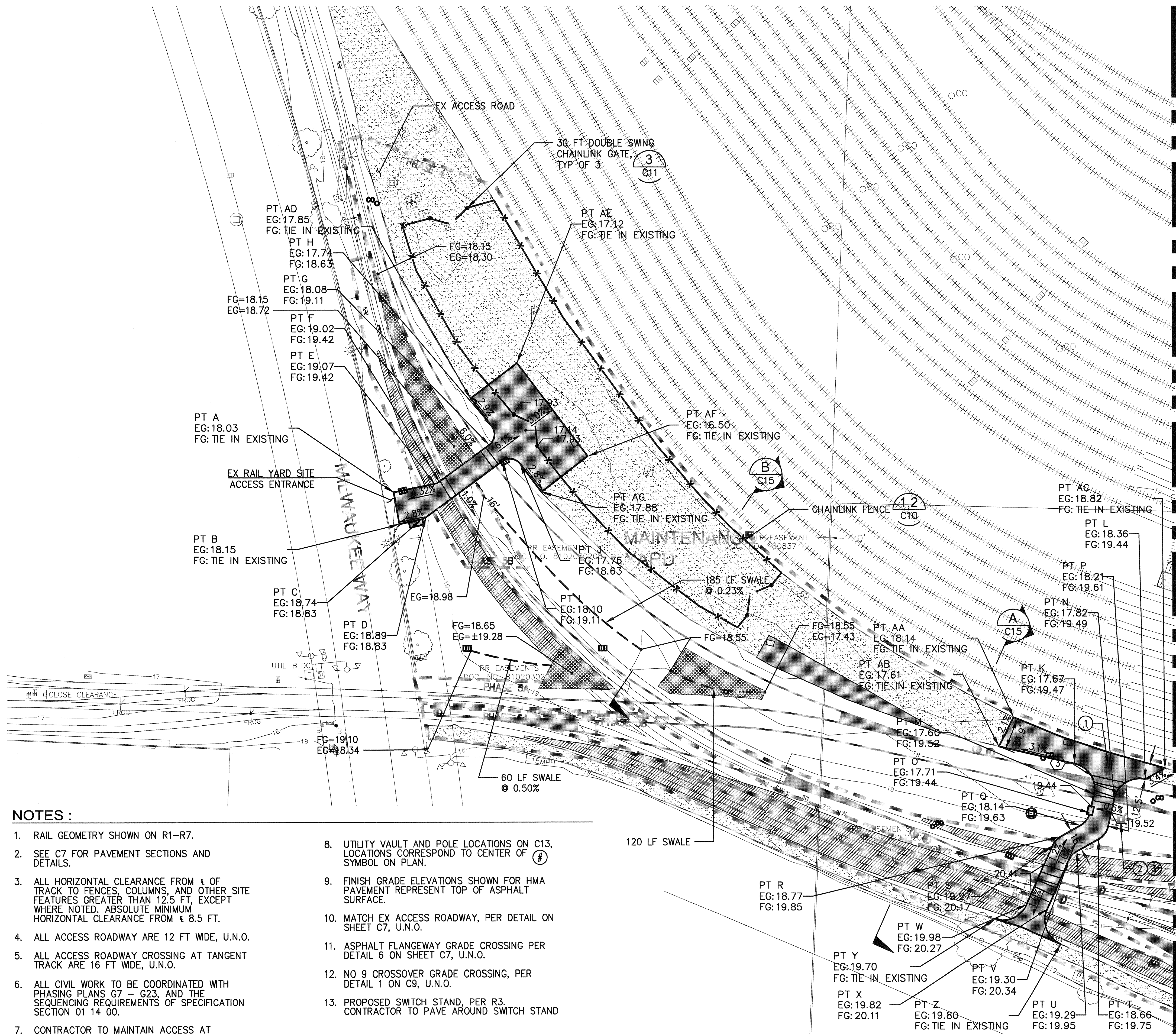
4. INSTALL BEDDING MATERIAL AND PLACE CULVERT AND BAND CONNECTIONS.

5. UPON PARTIAL COMPLETION OF CULVERT INSTALLATION, RE-ROUTE DEWATERING HOSE THROUGH ACCESS RISER OPENING.

6. PLACE REMAINING CULVERT SEGMENTS AND BAND CONNECTIONS. REMOVE DEWATERING EQUIPMENT AND SANDBAG BERM, ALLOWING FLOW THROUGH NEW CULVERT. BACKFILL DITCH AS REQUIRED.

7. REMOVE ROCK DISPERSION PAD AND DEMOBILIZE ALL DEWATERING EQUIPMENT.

 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	Part of <b>Tacoma</b> <small>PO BOX 887 TACOMA, WA 98401 (253)984581</small>
	MARK: _____ REVISION: _____ BY: _____ APPR: _____ DATE: _____
	SWK 03/17/16 CHECKED BY DATE SWK 03/17/16 PROJ. ENGR DATE DIRECTOR ENG. DATE 4-12-16 PRINTED BY: bosterhaus Mar 18, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837
NORTH LEAD ERDAHL DITCH DEWATERING AND TESC DETAILS	TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3 DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 PARCEL: MULTIPLE DRAWING SCALE: AS NOTED
6555 <b>CD8</b> SHEET 37 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION



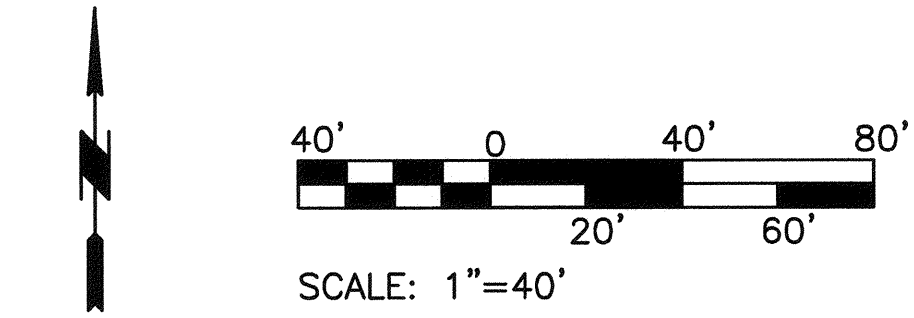
NOTES :

- RAIL GEOMETRY SHOWN ON R1-R7.
- SEE C7 FOR PAVEMENT SECTIONS AND DETAILS.
- ALL HORIZONTAL CLEARANCE FROM  $\epsilon$  OF TRACK TO FENCES, COLUMNS, AND OTHER SITE FEATURES GREATER THAN 12.5 FT, EXCEPT WHERE NOTED. ABSOLUTE MINIMUM HORIZONTAL CLEARANCE FROM  $\epsilon$  8.5 FT.
- ALL ACCESS ROADWAY ARE 12 FT WIDE, U.N.O.
- ALL ACCESS ROADWAY CROSSING AT TANGENT TRACK ARE 16 FT WIDE, U.N.O.
- ALL CIVIL WORK TO BE COORDINATED WITH PHASING PLANS G7 - G23, AND THE SEQUENCING REQUIREMENTS OF SPECIFICATION SECTION 01 14 00.
- CONTRACTOR TO MAINTAIN ACCESS AT EXISTING TRACK CROSSING WITH RECYCLED BALLAST
- UTILITY VAULT AND POLE LOCATIONS ON C13, LOCATIONS CORRESPOND TO CENTER OF SYMBOL ON PLAN.
- FINISH GRADE ELEVATIONS SHOWN FOR HMA PAVEMENT REPRESENT TOP OF ASPHALT SURFACE.
- MATCH EX ACCESS ROADWAY, PER DETAIL ON SHEET C7, U.N.O.
- ASPHALT FLANGEWAY GRADE CROSSING PER DETAIL 6 ON SHEET C7, U.N.O.
- NO 9 CROSSOVER GRADE CROSSING, PER DETAIL 1 ON C9, U.N.O.
- PROPOSED SWITCH STAND, PER R3. CONTRACTOR TO PAVE AROUND SWITCH STAND

POINT	NORTHING	EASTING
A	704648.45	1168388.76
B	704623.98	1168393.14
C	704627.55	1168409.78
D	704629.23	1168413.49
E	704654.96	1168420.20
F	704656.63	1168423.87
G	704684.69	1168462.27
H	704698.82	1168464.33
I	704672.18	1168472.27
J	704670.15	1168486.13
K	704439.52	1168912.26
L	704427.21	1168966.80
M	704415.66	1168927.29
N	704412.06	1168942.88
O	704400.97	1168924.00
P	704390.51	1168938.06
Q	704391.16	1168916.71
R	704382.69	1168901.63
S	704375.70	1168895.27
T	704380.71	1168930.77
U	704371.34	1168914.10
V	704364.35	1168907.73
W	704330.24	1168875.08
X	704326.76	1168891.04
Y	704319.20	1168851.06
Z	704300.26	1168901.46
AA	704475.23	1168865.33
AB	704452.91	1168854.07
AC	704435.93	1168981.93
AD	704720.30	1168447.99
AE	704747.46	1168483.69
AF	704676.05	1168538.00
AG	704648.67	1168502.47

LEGEND:

- PHASING & SEQUENCING BOUNDARIES
- EX FENCE
- FENCE
- BOLLARD
- HMA PAVEMENT AND HMA CROSSING PAVEMENT, FOR TYPICAL SECTIONS AND LIMITS, SEE (1), (6), (B)
- EX ACCESS ROADWAY
- BACKFILL EXISTING TRACKBED TO MATCH SURROUNDING GRADE
- RAISED PAVEMENT EDGE (3)
- FILL, GRADE TO DRAIN
- SWALE



MATCH LINE - SEE SHEET C2

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(253) 396-0150 Fax (253) 396-0162

APPROVED: *[Signature]*

DIRECTOR ENG. DATE: 4/12/16

PRINTED BY: nmedley Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

SWK 03/17/16 CHECKED BY DATE

SWK 03/17/16 PROJ. ENGR DATE

SECTION: 1, 2, 3

RANGE: 03E

TOWNSHIP: 20N

DAT-HRZ: W83-SF

PARCEL: MULTIPLE

**6555**

**C1**

SHEET 38 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**WEST END - AREA 1**

CIVIL SITE PLAN

6555

SHEET 38 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**WEST END - AREA 1**

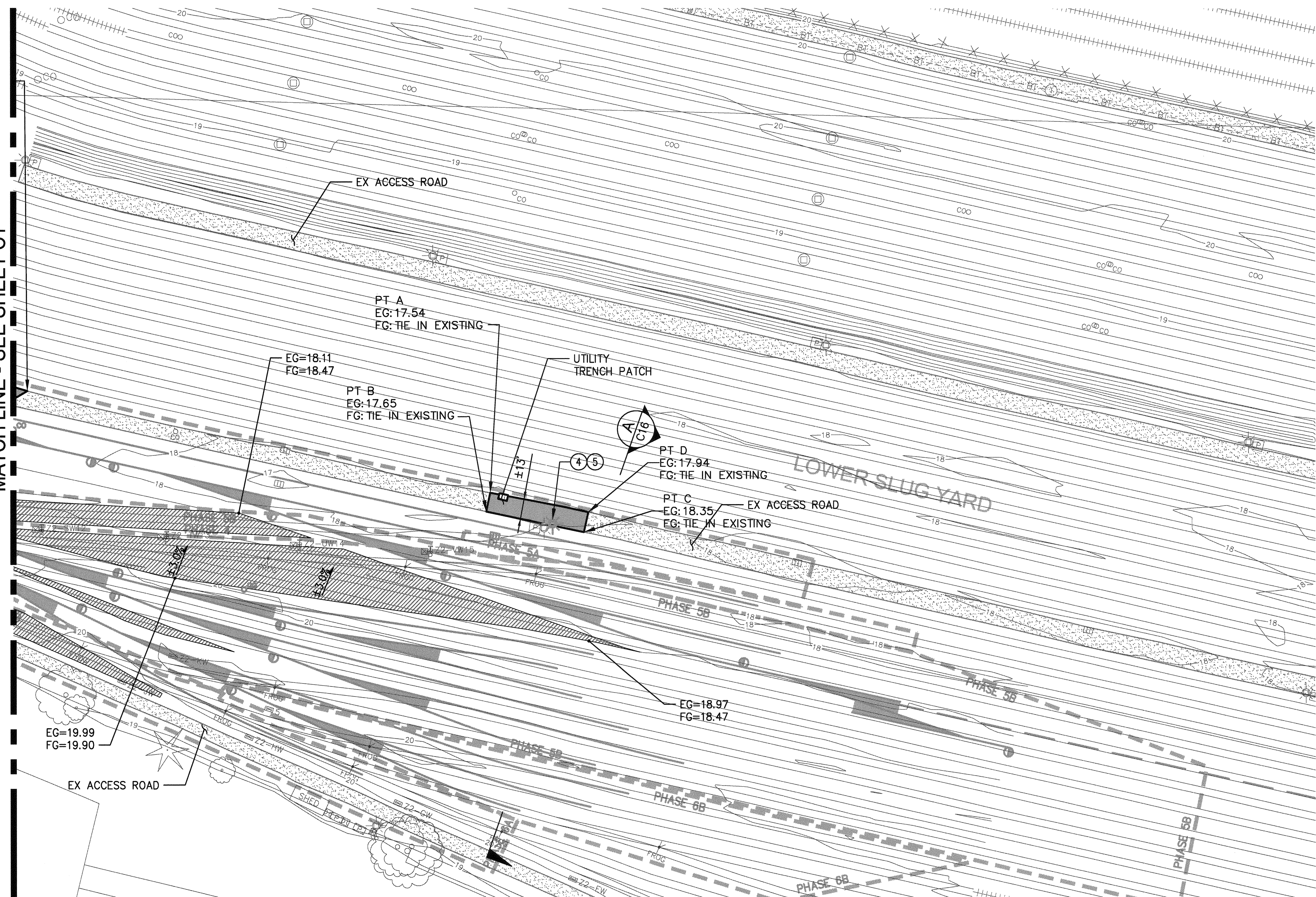
CIVIL SITE PLAN

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BINDING EDGE

PORT OF TACOMA FILE: N:\CIVIL\141114148 Pot North Lead Rail\Part 3 - KPFF Design\3.13 Drawings\Current\092938-C02

MATCH LINE - SEE SHEET C1



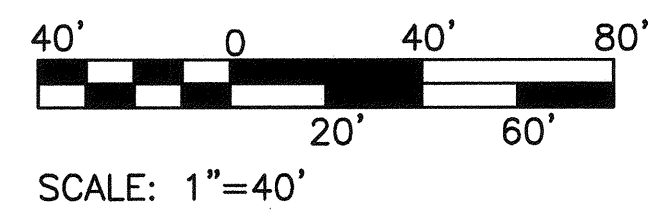
NOTES :

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- ALL CIVIL WORK TO BE COORDINATED WITH PHASING PLANS G7 - G23, AND THE SEQUENCING REQUIREMENTS OF SPECIFICATION SECTION 01 14 00.
- CONTRACTOR TO MAINTAIN ACCESS AT EXISTING TRACK CROSSING WITH RECYCLED BALLAST
- UTILITY VAULT AND POLE LOCATIONS ON C13, LOCATIONS CORRESPOND TO CENTER OF  $\#$
- FINISH GRADE ELEVATIONS SHOWN FOR HMA PAVEMENT REPRESENT TOP OF ASPHALT SURFACE.
- MATCH EX ACCESS ROADWAY, PER DETAIL ON SHEET C7, U.N.O.
- ASPHALT FLANGEWAY GRADE CROSSING PER DETAIL 6 ON SHEET C7, U.N.O.
- NO. 9 CROSSOVER GRADE CROSSING, PER DETAIL 1 ON C9, U.N.O.
- PROPOSED SWITCH STAND, PER R3. CONTRACTOR TO PAVE AROUND SWITCH STAND

LEGEND:

- PHASING & SEQUENCING BOUNDARIES
- EX FENCE
- FENCE
- BOLLARD
- HMA PAVEMENT AND HMA CROSSING PAVEMENT, FOR TYPICAL SECTIONS AND LIMITS, SEE  $\frac{1}{C7}$   $\frac{6}{C7}$   $\frac{B}{C8}$
- EX ACCESS ROADWAY
- BACKFILL EXISTING TRACKBED TO MATCH SURROUNDING GRADE
- RAISED PAVEMENT EDGE  $\frac{3}{C7}$
- FILL, GRADE TO DRAIN
- SWALE

POINT	NORTHING	EASTING
A	704367.12	1169291.61
B	704354.48	1169288.90
C	704340.62	1169354.26
D	704354.11	1169357.20



Port of Tacoma  
2407 North 31st Street, Suite 100  
Tacoma, Washington 98407  
(253) 396-0330 Fax (253) 396-0162

MARK: REVISION: BY: APPR: DATE:

MADE IN WASHINGTON  
JAMES HOWARD  
P.E. 32781  
PROFESSIONAL ENGINEER

APPROVED: *James Howard* SWK 03/17/16  
CHECKED BY: DATE

DIRECTOR ENG. DATE: 4-12-16 SWK 03/17/16  
PRINTED BY: nmedley Mar 18, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

**6555**

**C2**

SHEET 39 OF 134

CONT./CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**WEST END - AREA 2**

CIVIL/SITE PLAN

RANGE: 03E SECTION: 1, 2, 3

TOWNSHIP: 20N

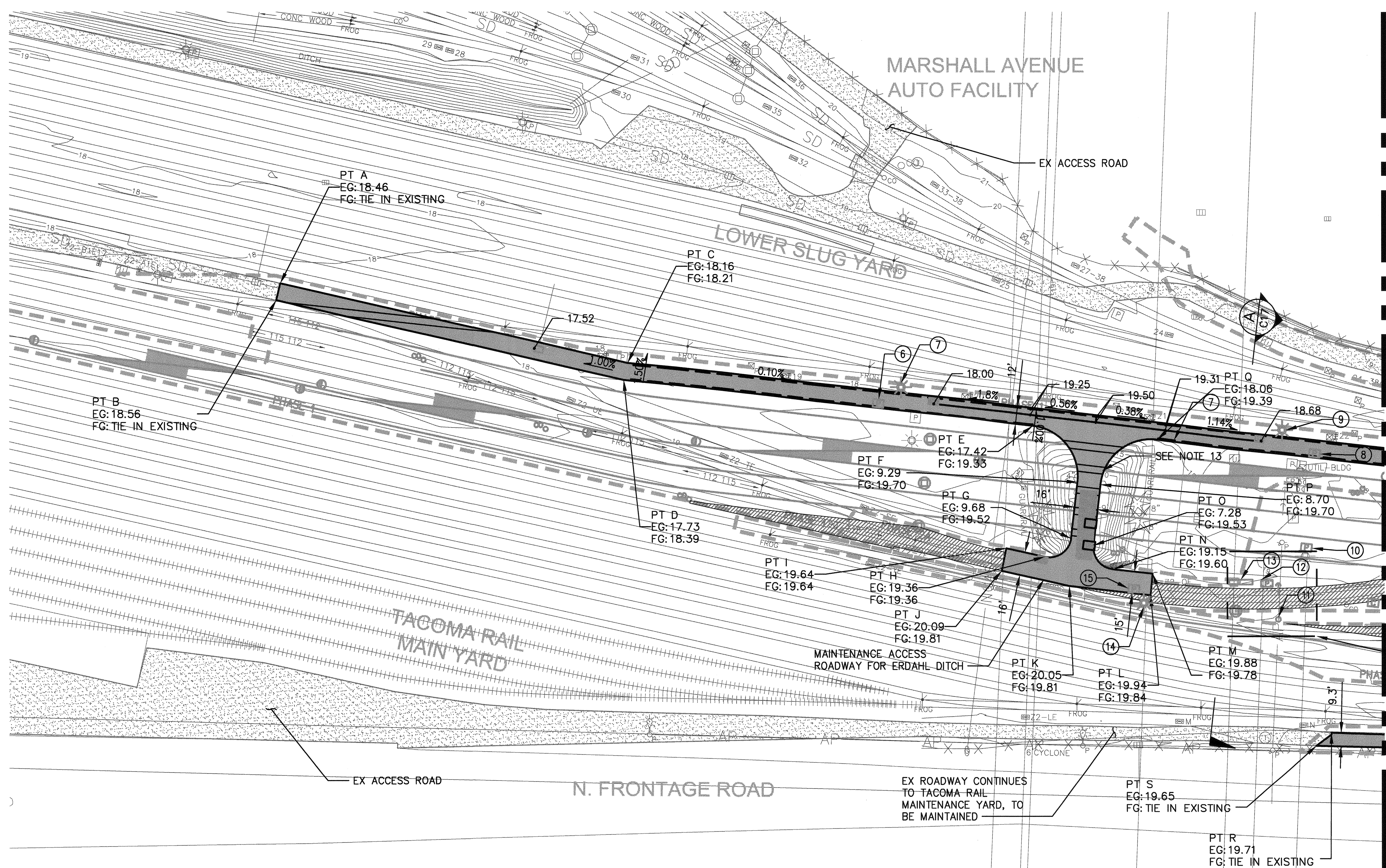
DATE-HRZ: W83-SF

VERT: PORT OF TACOMA BM #846

DRAWING SCALE: AS NOTED

PARCEL: MULTIPLE

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POINT	NORTHING	EASTING
A	704056.12	1170684.50
B	704044.43	1170681.81
C	704000.92	1170923.91
D	703989.23	1170921.21
E	703958.01	1171203.23
F	703919.31	1171233.97
G	703880.00	1171229.52
H	703867.06	1171211.30
I	703873.05	1171184.91
J	703857.38	1171181.67
K	703846.78	1171228.38
L	703840.49	1171284.46
M	703855.44	1171285.75
N	703858.52	1171258.30
O	703875.11	1171245.07
P	703917.63	1171249.88
Q	703948.43	1171288.98
R	703746.33	1171409.13
S	703737.24	1171398.71

NOTES :

- RAIL GEOMETRY SHOWN ON R1-R7.
- SEE C7 FOR PAVEMENT SECTIONS AND DETAILS.
- ALL HORIZONTAL CLEARANCE FROM  $\epsilon$  OF TRACK TO FENCES, COLUMNS, AND OTHER SITE FEATURES GREATER THAN 12.5 FT, EXCEPT WHERE NOTED. ABSOLUTE MINIMUM HORIZONTAL CLEARANCE FROM  $\epsilon$  8.5 FT.
- ALL ACCESS ROADWAY ARE 12 FT WIDE, U.N.O.
- ALL ACCESS ROADWAY CROSSING AT TANGENT TRACK ARE 16 FT WIDE, U.N.O.
- ALL CIVIL WORK TO BE COORDINATED WITH PHASING PLANS G7 - G23, AND THE SEQUENCING REQUIREMENTS OF SPECIFICATION SECTION 01 14 00.
- CONTRACTOR TO MAINTAIN ACCESS AT EXISTING TRACK CROSSING WITH RECYCLED BALLAST
- UTILITY VAULT AND POLE LOCATIONS ON C13, LOCATIONS CORRESPOND TO CENTER OF  $\text{f}$
- FINISH GRADE ELEVATIONS SHOWN FOR HMA PAVEMENT REPRESENT TOP OF ASPHALT SURFACE.
- MATCH EX ACCESS ROADWAY, PER DETAIL ON SHEET C7, U.N.O.
- ASPHALT FLANGEWAY GRADE CROSSING PER DETAIL 6 ON SHEET C7, U.N.O.
- NO 9 CROSSOVER GRADE CROSSING, PER DETAIL 1 ON C9, U.N.O.
- PROPOSED SWITCH STAND, PER R3. CONTRACTOR TO PAVE AROUND SWITCH STAND

LEGEND:

- PHASING & SEQUENCING BOUNDARIES
- EX FENCE
- FENCE
- BOLLARD
- HMA PAVEMENT AND HMA CROSSING PAVEMENT, FOR TYPICAL SECTIONS AND LIMITS, SEE (1) (6) (B) (C7) (C7) (C8)
- EX ACCESS ROADWAY
- BACKFILL EXISTING TRACKBED TO MATCH SURROUNDING GRADE
- RAISED PAVEMENT EDGE (3) (C7)
- FILL, GRADE TO DRAIN
- SWALE

MATCH LINE - SEE SHEET C4

SEE SHEET C14 FOR SITE PLAN OF TPU SERVICE AREA

**6555** **C3** **SHEET 40 OF 134**

**NORTH LEAD EAST END - AREA 3 CIVIL/SITE PLAN**

APPROVED: *[Signature]* 4-12-16

SWK 03/17/16 CHECKED BY DATE

SWK 03/17/16 PROJ. ENGR DATE

DIRECTOR ENG. DATE PROJECTED BY: nmedley Mar 18, 2016

PRINTED BY: nmedley Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3

DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

CONTR/CONS: 070164

M. ID: 092938

PHASE: BID

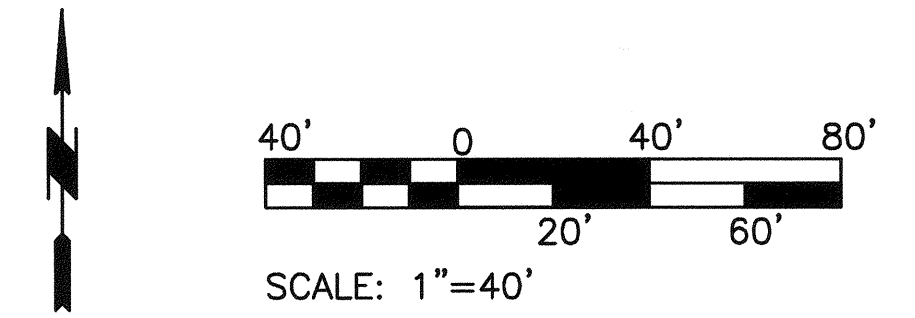
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kpff

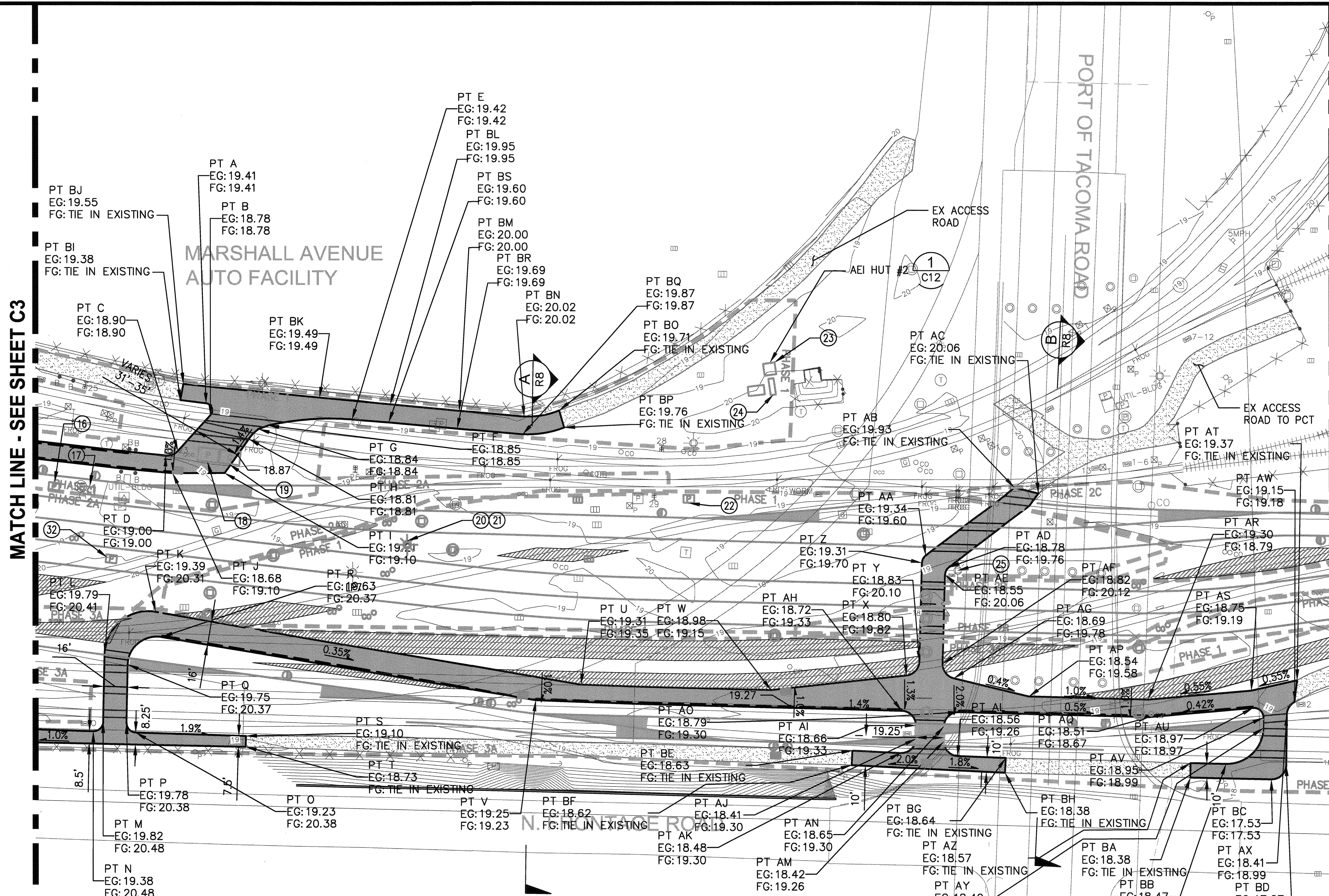
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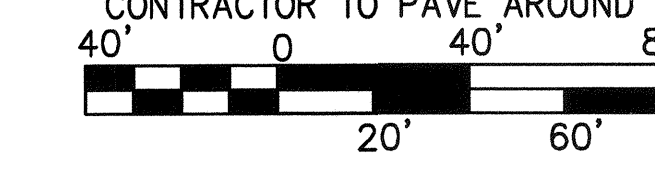
MATCH LINE - SEE SHEET C3

MATCH LINE - SEE SHEET C5



NOTES :

- RAIL GEOMETRY SHOWN ON R1-R7.
- SEE C7 FOR PAVEMENT SECTIONS AND DETAILS.
- ALL HORIZONTAL CLEARANCE FROM  $\epsilon$  OF TRACK TO FENCES, COLUMNS, AND OTHER SITE FEATURES GREATER THAN 12.5 FT, EXCEPT WHERE NOTED. ABSOLUTE MINIMUM HORIZONTAL CLEARANCE FROM  $\epsilon$  8.5 FT.
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- ALL CIVIL WORK TO BE COORDINATED WITH PHASING PLANS G7 - G23, AND THE SEQUENCING REQUIREMENTS OF SPECIFICATION SECTION 01 14 00.
- CONTRACTOR TO MAINTAIN ACCESS AT EXISTING TRACK CROSSING WITH RECYCLED BALLAST
- UTILITY VAULT AND POLE LOCATIONS ON C13, LOCATIONS CORRESPOND TO CENTER OF SYMBOL ON PLAN.
- FINISH GRADE ELEVATIONS SHOWN FOR HMA PAVEMENT REPRESENT TOP OF ASPHALT SURFACE.
- MATCH EX ACCESS ROADWAY, PER DETAIL ON SHEET 1 ON C9, U.N.O.
- ASPHALT FLANGEWAY GRADE CROSSING PER DETAIL 6 ON SHEET C7, U.N.O.
- NO 9 CROSSOVER GRADE CROSSING, PER DETAIL 1 ON C9, U.N.O.
- PROPOSED SWTCH STAND, PER R3. CONTRACTOR TO PAVE AROUND SWITCH STAND



LEGEND:

- PHASING & SEQUENCING BOUNDARIES
- x- EX FENCE
- x- FENCE
- B BOLLARD
- [Hatched Box] HMA PAVEMENT AND HMA CROSSING PAVEMENT, FOR TYPICAL SECTIONS AND LIMITS, SEE (1) (6) (B) (C7) (C7) (C8)
- [Dotted Box] EX ACCESS ROADWAY
- [Diagonal Lines] BACKFILL EXISTING TRACKBED TO MATCH SURROUNDING GRADE
- RAISED PAVEMENT EDGE (3) (C7)
- [Cross-hatched Box] FILL, GRADE TO DRAIN
- SWALE

POINT	NORTHING	EASTING
BM	703963.94	1171732.80
BN	703959.90	1171777.19
BO	703964.11	1171801.21
BP	703952.22	1171804.63
BQ	703947.55	1171776.16
BR	703951.61	1171731.20
BS	703956.02	1171684.21

POINT	NORTHING	EASTING
A	703969.23	1171559.04
B	703960.93	1171561.94
C	703936.51	1171539.75
D	703933.28	1171531.40
E	703958.02	1171659.13
F	703953.79	1171601.55
G	703951.39	1171595.07
H	703944.60	1171588.37
I	703921.09	1171571.69
J	703921.01	1171536.07
K	703826.08	1171524.38
L	703796.37	1171489.28
M	703750.25	1171488.26
N	703743.89	1171481.54
O	703743.05	1171510.54
P	703749.69	1171504.25
Q	703789.85	1171505.13
R	703809.13	1171528.48
S	703740.61	1171586.17
T	703733.12	1171585.99
U	703775.73	1171816.04
V	703764.85	1171785.04
W	703771.87	1171946.40
X	703781.98	1172039.22
Y	703791.65	1172048.13
Z	703859.21	1172049.97
AA	703864.21	1172052.54
AB	703911.07	1172113.37
AC	703906.92	1172129.90
AD	703856.10	1172068.32
AE	703851.10	1172065.75
AF	703790.04	1172064.10
AG	703780.05	1172071.71
AH	703757.53	1172035.94
AI	703747.43	1172045.68
AJ	703738.30	1172045.58
AK	703728.42	1172035.10
AL	703726.36	1172074.29
AM	703736.45	1172064.81
AN	703746.78	1172064.92
AO	703756.67	1172075.17
AP	703767.46	1172123.22
AQ	703765.33	1172205.43
AR	703753.31	1172205.80
AS	703771.59	1172276.00
AT	703778.84	1172307.39
AU	703759.64	1172277.06
AV	703753.11	1172284.28
AW	703763.64	1172305.55
AX	703754.94	1172300.30
AY	703745.78	1172284.20
AZ	703721.59	1172234.18
BA	703711.58	1172234.15
BB	703721.06	1172258.66
BC	703710.39	1172289.51
BD	703720.27	1172299.92
BE	703730.02	1172002.16
BF	703719.94	1172001.63
BG	703725.12	1172107.36
BH	703714.87	1172106.82
BI	703971.50	1171541.36
BJ	703982.81	1171543.45
BK	703973.31	1171636.81
BL	703968.53	1171685.28

**6555**

**C4**

SHEET 41 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**EAST END - AREA 4**

CIVIL/SITE PLAN

RANGE: 03E SECTION: 1, 2, 3

TOWNSHIP: 20N

DATE-HRZ: WB3-SF

DATE: 092938

PARCEL: MULTIPLE

DRAWING SCALE: AS NOTED

APPROVED: *[Signature]* SWK 03/17/16

CHECKED BY: DATE

DIRECTOR ENG. DATE: 4-12-16 SWK 03/17/16

PRINTED BY: nmedley Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

**kpff**

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(253) 396-0150 Fax (253) 396-0162

DATE: \_\_\_\_\_

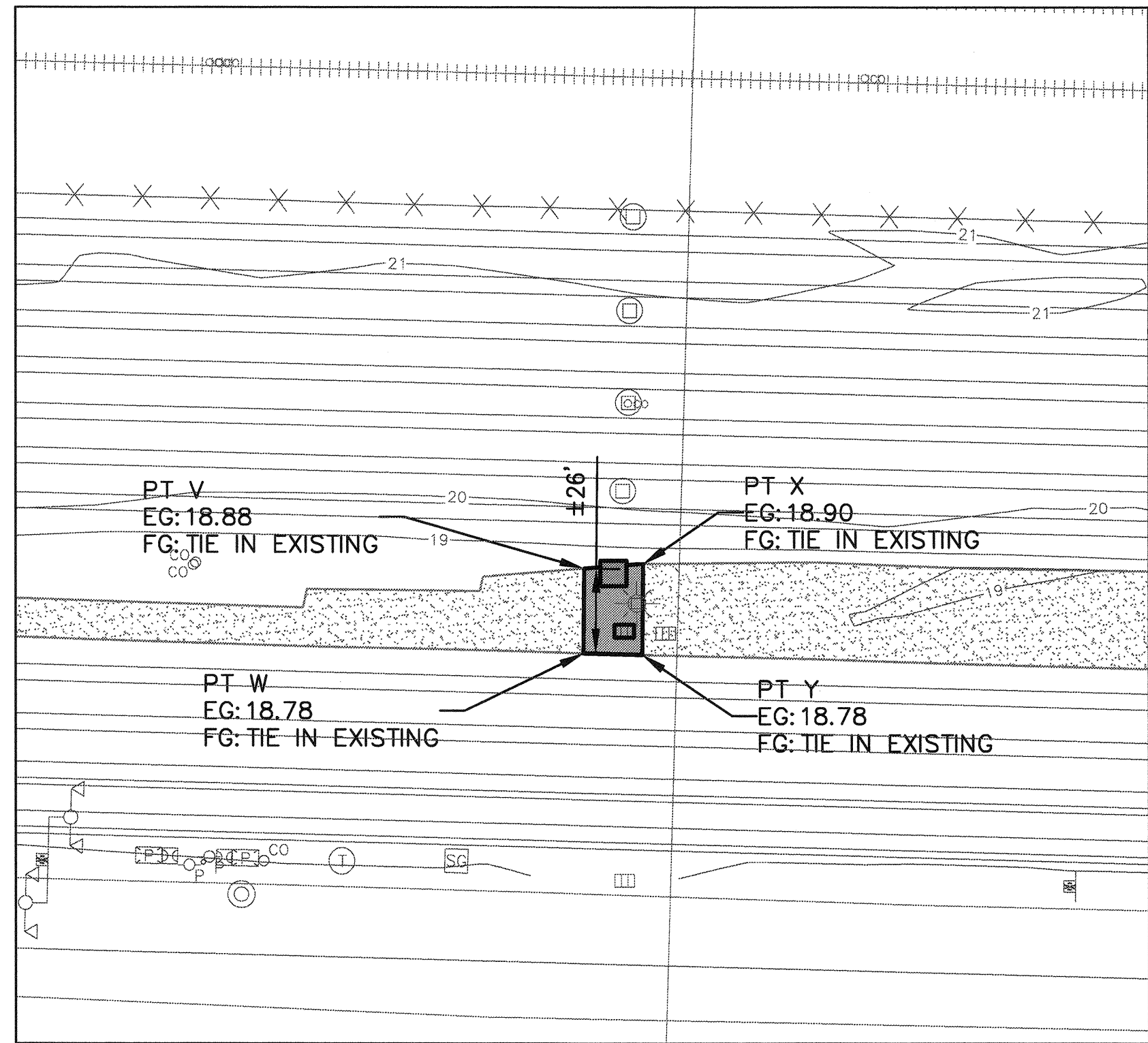
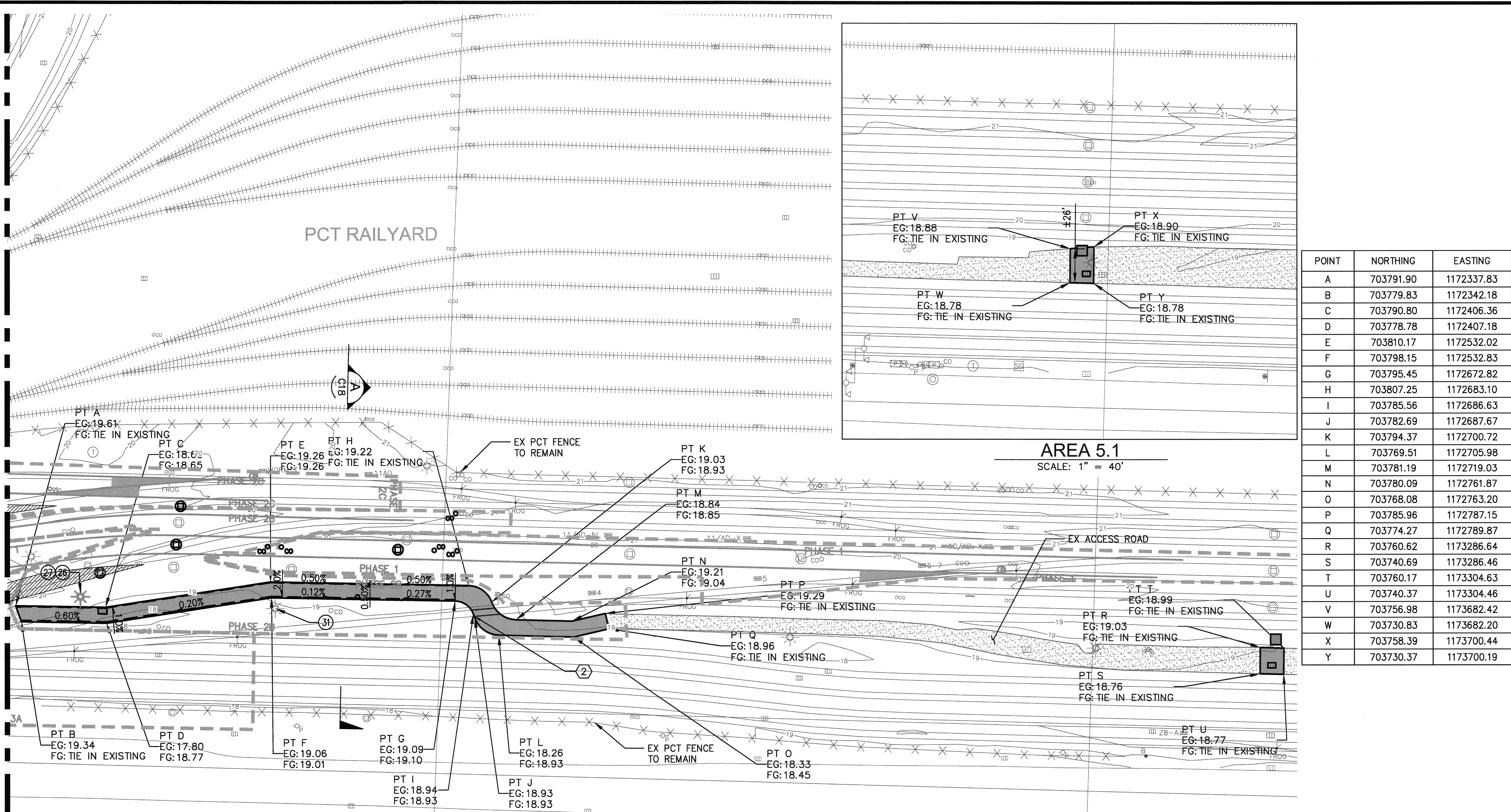
BY: \_\_\_\_\_

REVISION: \_\_\_\_\_

APPR: \_\_\_\_\_

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MATCH LINE - SEE SHEET C4



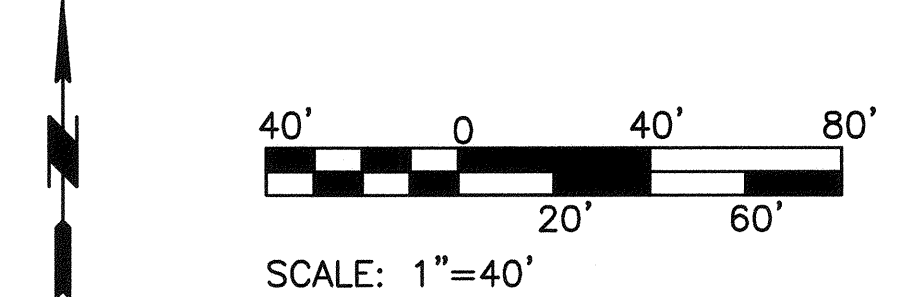
POINT	NORTHING	EASTING
A	703791.90	1172337.83
B	703779.83	1172342.18
C	703790.80	1172406.36
D	703778.78	1172407.18
E	703810.17	1172532.02
F	703798.15	1172532.83
G	703795.45	1172672.82
H	703807.25	1172683.10
I	703785.56	1172686.63
J	703782.69	1172687.67
K	703794.37	1172700.72
L	703769.51	1172705.98
M	703781.19	1172719.03
N	703780.09	1172761.87
O	703768.08	1172763.20
P	703785.96	1172787.15
Q	703774.27	1172789.87
R	703760.62	1173286.64
S	703740.69	1173286.46
T	703760.17	1173304.63
U	703740.37	1173304.46
V	703756.98	1173682.42
W	703730.83	1173682.20
X	703758.39	1173700.44
Y	703730.37	1173700.19

NOTES :

- RAIL GEOMETRY SHOWN ON R1-R7.
- SEE C7 FOR PAVEMENT SECTIONS AND DETAILS.
- ALL HORIZONTAL CLEARANCE FROM  $\epsilon$  OF TRACK TO FENCES, COLUMNS, AND OTHER SITE FEATURES GREATER THAN 12.5 FT, EXCEPT WHERE NOTED. ABSOLUTE MINIMUM HORIZONTAL CLEARANCE FROM  $\epsilon$  8.5 FT.
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- FINISH GRADE ELEVATIONS SHOWN FOR HMA PAVEMENT REPRESENT TOP OF ASPHALT SURFACE.
- MATCH EX ACCESS ROADWAY, PER DETAIL ON SHEET C7, U.N.O.
- ASPHALT FLANGEWAY GRADE CROSSING PER DETAIL 6 ON SHEET C7, U.N.O.
- NO 9 CROSSOVER GRADE CROSSING, PER DETAIL 1 ON C9, U.N.O.
- PROPOSED SWITCH STAND, PER R3. CONTRACTOR TO PAVE AROUND SWITCH STAND

LEGEND:

- PHASING & SEQUENCING BOUNDARIES
- EX FENCE
- FENCE
- BOLLARD
- HMA PAVEMENT AND HMA CROSSING PAVEMENT, FOR TYPICAL SECTIONS AND LIMITS, SEE (1) (6) (B) (C7) (C7) (C8)
- EX ACCESS ROADWAY
- BACKFILL EXISTING TRACKBED TO MATCH SURROUNDING GRADE
- RAISED PAVEMENT EDGE (3) (C7)
- FILL, GRADE TO DRAIN
- SWALE



**6555**  
**C5**  
SHEET 42 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

**NORTH LEAD EAST END - AREA 5 CIVIL/SITE PLAN**

APPROVED: *[Signature]*  
SWK 03/17/16  
CHECKED BY: *[Signature]*  
DATE: 03/17/16

DIRECTOR ENG. DATE: nmedley Mar 18, 2016  
PRINTED BY: nmedley  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

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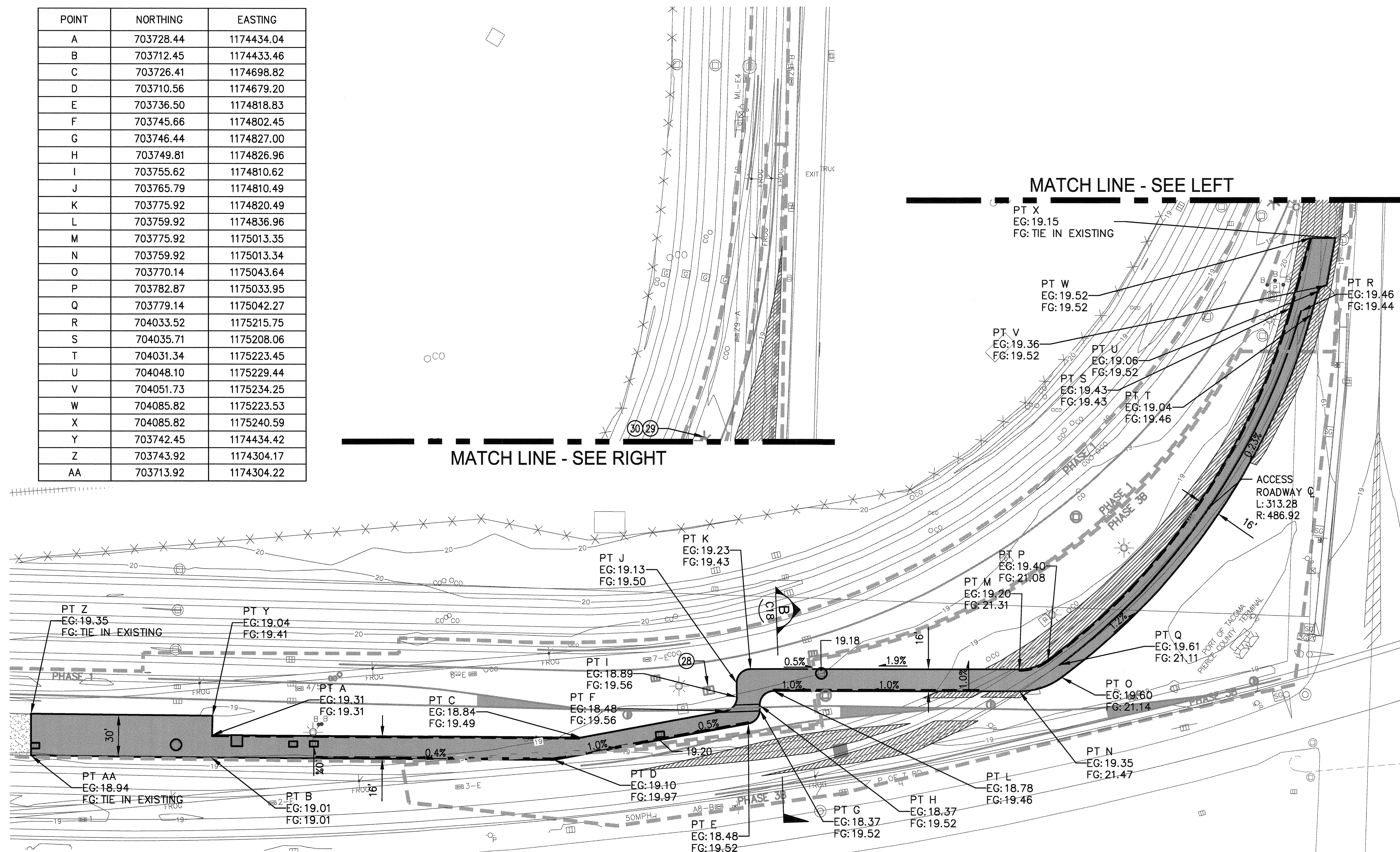
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**kpff**  
Port of Tacoma  
P.O. BOX 1837 TACOMA, WA 98401-1837

MADE IN WASHINGTON  
REGISTERED PROFESSIONAL  
CIVIL ENGINEER  
No. 17176  
EXPIRES 12/31/2018

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POINT	NORTHING	EASTING
A	703728.44	1174434.04
B	703712.45	1174433.46
C	703726.41	1174698.82
D	703710.56	1174679.20
E	703736.50	1174818.83
F	703745.66	1174802.45
G	703746.44	1174827.00
H	703749.81	1174826.96
I	703755.62	1174810.62
J	703765.79	1174810.49
K	703775.92	1174820.49
L	703759.92	1174836.96
M	703775.92	1175013.35
N	703759.92	1175013.34
O	703770.14	1175043.64
P	703782.87	1175033.95
Q	703779.14	1175042.27
R	704033.52	1175215.75
S	704035.71	1175208.06
T	704031.34	1175223.45
U	704048.10	1175229.44
V	704051.73	1175234.25
W	704085.82	1175223.53
X	704085.82	1175240.59
Y	703742.45	1174434.42
Z	703743.92	1174304.17
AA	703713.92	1174304.22



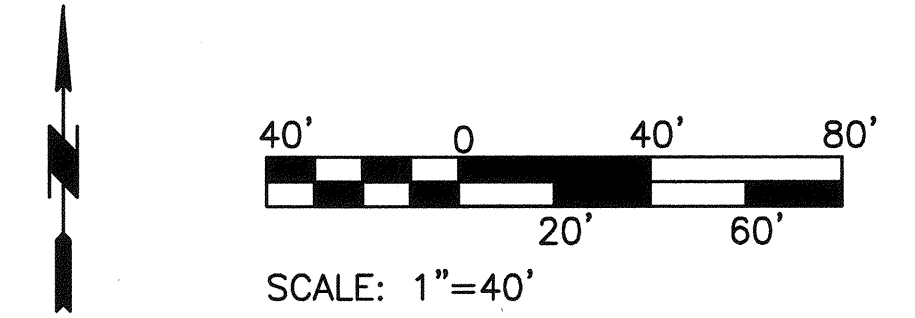
NOTES:

- RAIL GEOMETRY SHOWN ON R1-R7.
- SEE C7 FOR PAVEMENT SECTIONS AND DETAILS.
- ALL HORIZONTAL CLEARANCE FROM  $\epsilon$  OF TRACK TO FENCES, COLUMNS, AND OTHER SITE FEATURES GREATER THAN 12.5 FT, EXCEPT WHERE NOTED. ABSOLUTE MINIMUM HORIZONTAL CLEARANCE FROM  $\epsilon$  8.5 FT.
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- UTILITY VAULT AND POLE LOCATIONS ON C13, LOCATIONS CORRESPOND TO CENTER OF SYMBOL ON PLAN.
- FINISH GRADE ELEVATIONS SHOWN FOR HMA PAVEMENT REPRESENT TOP OF ASPHALT SURFACE.
- MATCH EX ACCESS ROADWAY, PER DETAIL ON SHEET C7, U.N.O.
- ASPHALT FLANGWAY GRADE CROSSING PER DETAIL 6 ON SHEET C7, U.N.O.
- NO 9 CROSSOVER GRADE CROSSING, PER DETAIL 1 ON C9, U.N.O.
- PROPOSED SWITCH STAND, PER R3. CONTRACTOR TO PAVE AROUND SWITCH STAND

LEGEND:

- PHASING & SEQUENCING BOUNDARIES
- EX FENCE
- FENCE
- BOLLARD
- HMA PAVEMENT AND HMA CROSSING PAVEMENT, FOR TYPICAL SECTIONS AND LIMITS, SEE (1) (6) (B) (C7) (C7) (C8)
- EX ACCESS ROADWAY
- BACKFILL EXISTING TRACKBED TO MATCH SURROUNDING GRADE
- RAISED PAVEMENT EDGE (3) (C7)
- FILL, GRADE TO DRAIN
- SWALE



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DATE: \_\_\_\_\_  
APPR: \_\_\_\_\_  
BY: \_\_\_\_\_  
REVISION: \_\_\_\_\_

APPROVED: *Julia Howard* 4/2-16

SWK 03/17/16 CHECKED BY DATE

SWK 03/17/16 PROJ. ENGR DATE

DIRECTOR ENG. DATE: nmedley Mar 18, 2016

PRINTED BY: nmedley Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

**6555**

**C6**

SHEET 43 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**EAST END - AREA 6**

**CIVIL/SITE PLAN**

RANGE: 03E SECTION: 1, 2, 3

TOWNSHIP: 20N DAT-HRZ: W83-SF

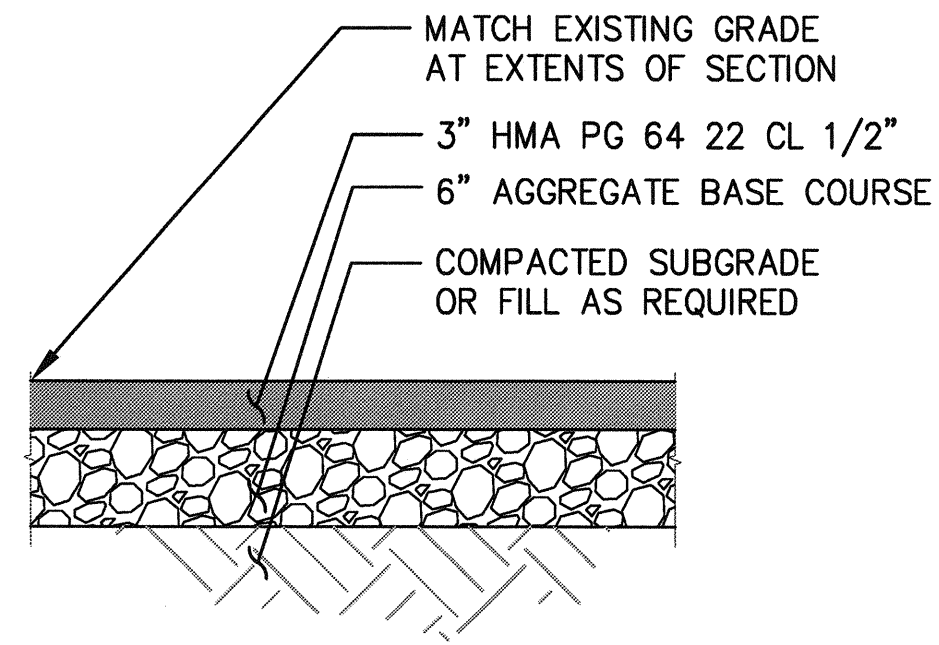
VERT: PORT OF TACOMA BM #846

DRAWING SCALE: AS NOTED

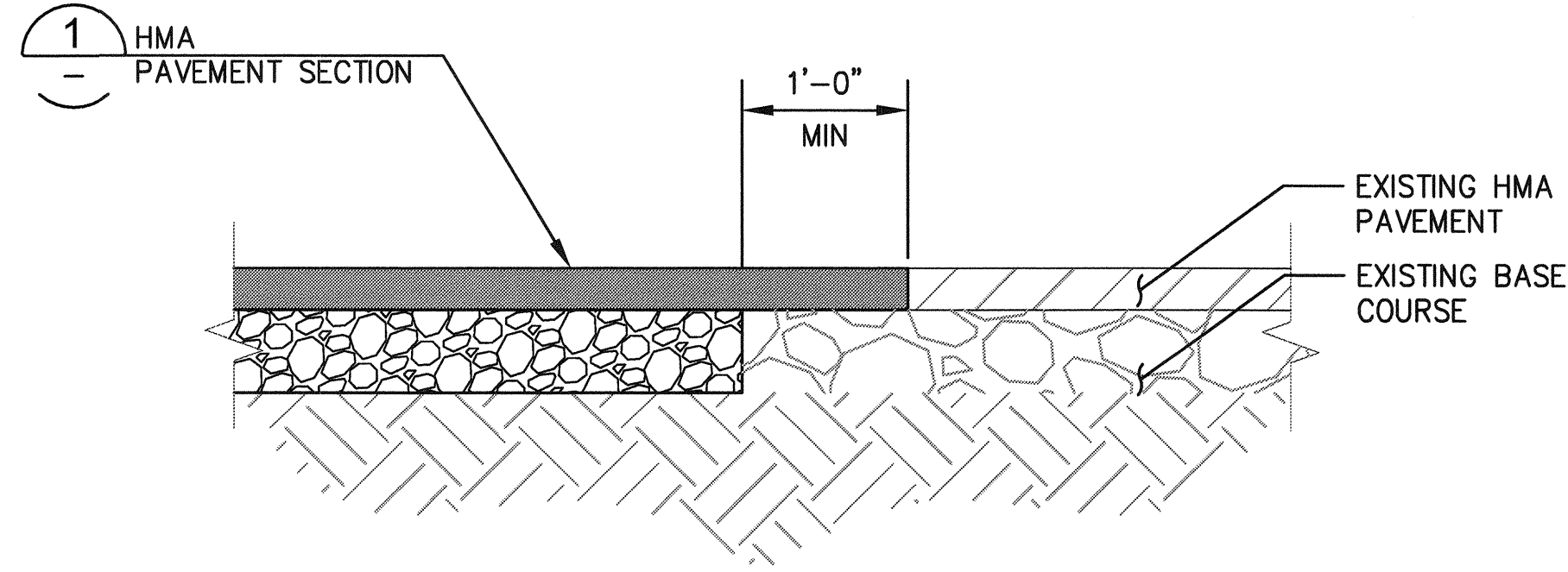
PARCEL: MULTIPLE

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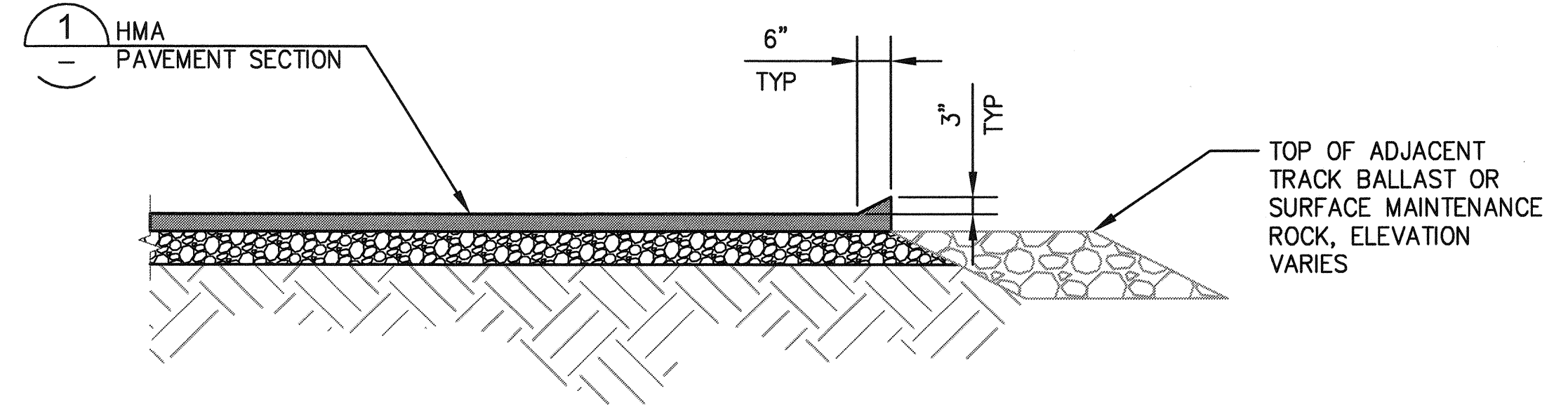
BINDING EDGE



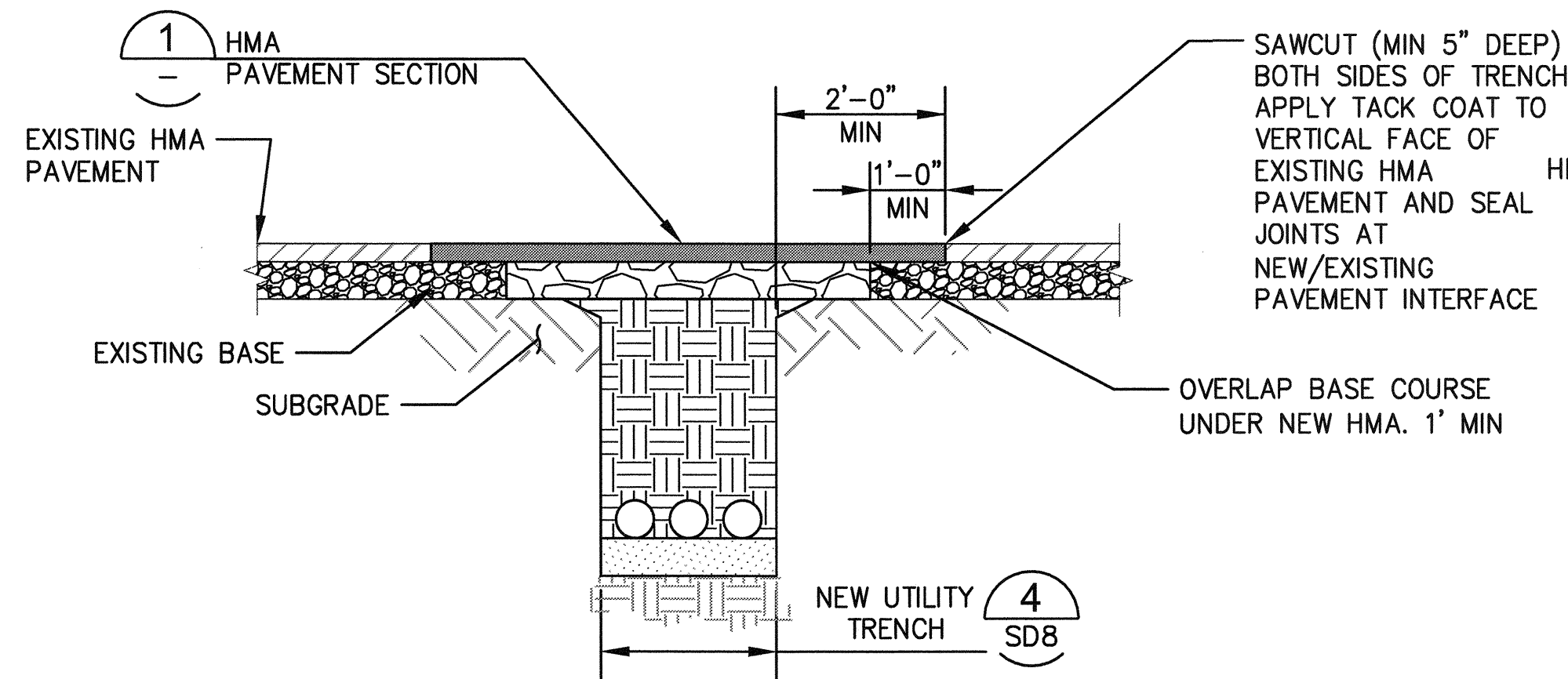
**1**  
HMA PAVEMENT SECTION  
1" = 1'



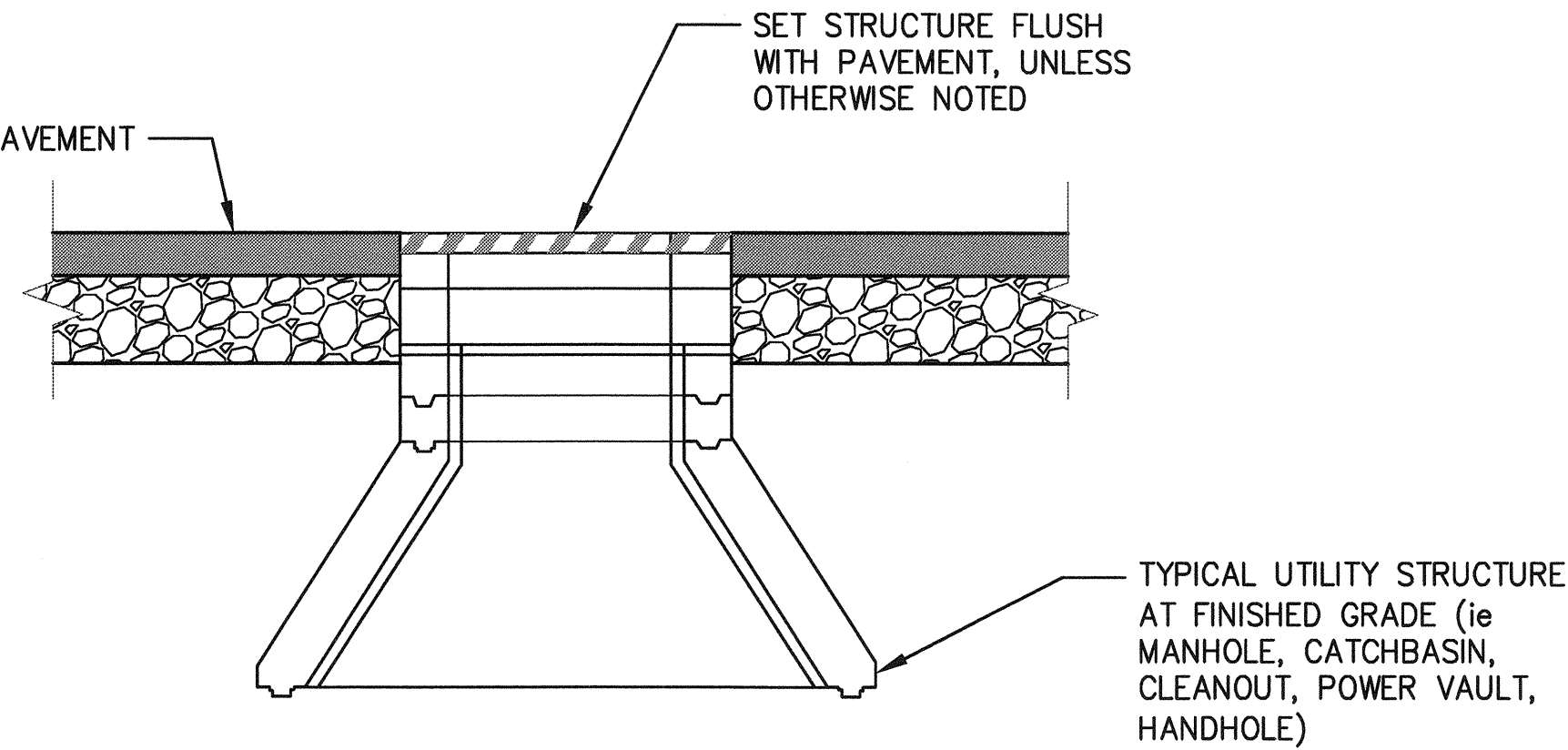
**2**  
MATCH EXISTING PAVEMENT DETAIL  
1" = 1'



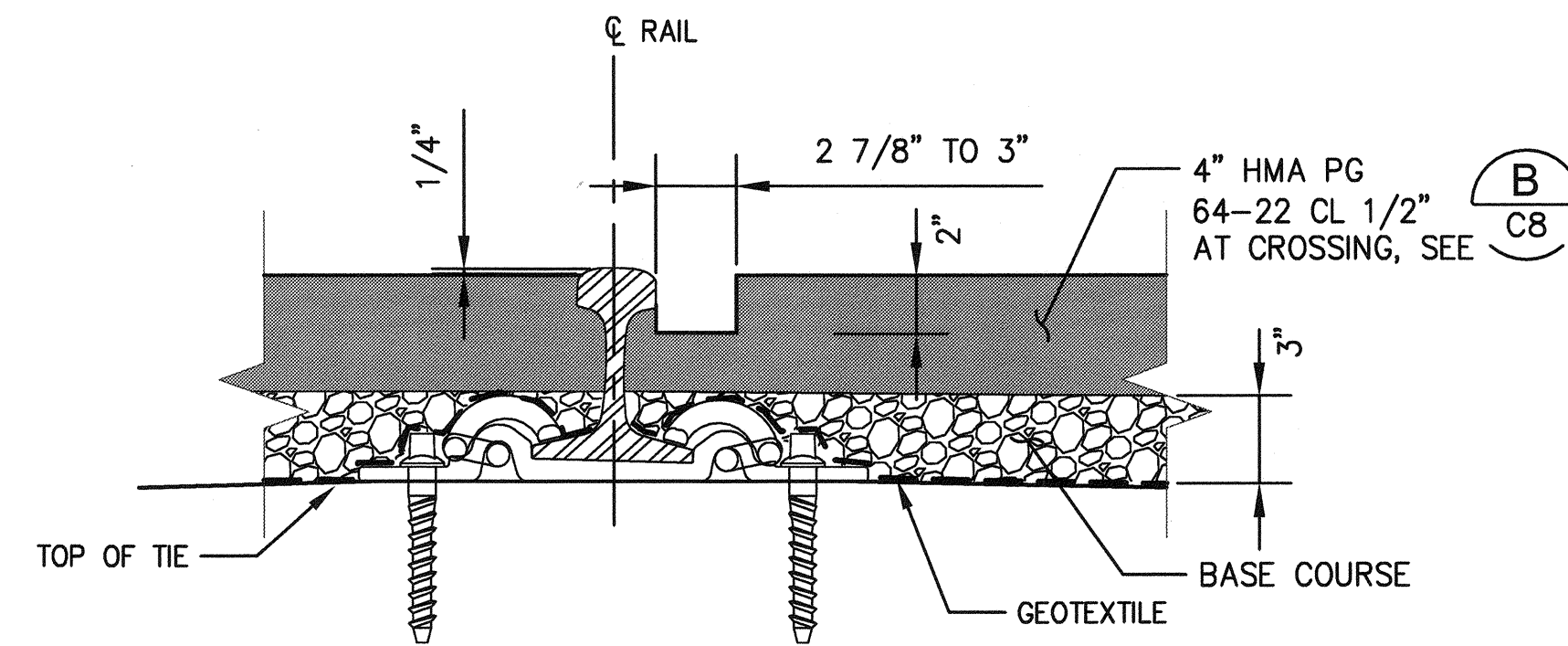
**3**  
TYPICAL RAISED PAVEMENT EDGE  
1" = 2'



**4**  
UTILITY TRENCH PAVEMENT RESTORATION  
1" = 2'



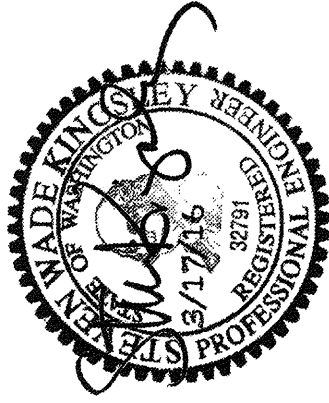
**5**  
HMA PAVEMENT AT STRUCTURES  
1" = 1'



**6**  
HMA CROSSING PAVEMENT AND ASPHALT FLANGEWAY  
1" = 6"



**kpff**  
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Tacoma, Washington 98407  
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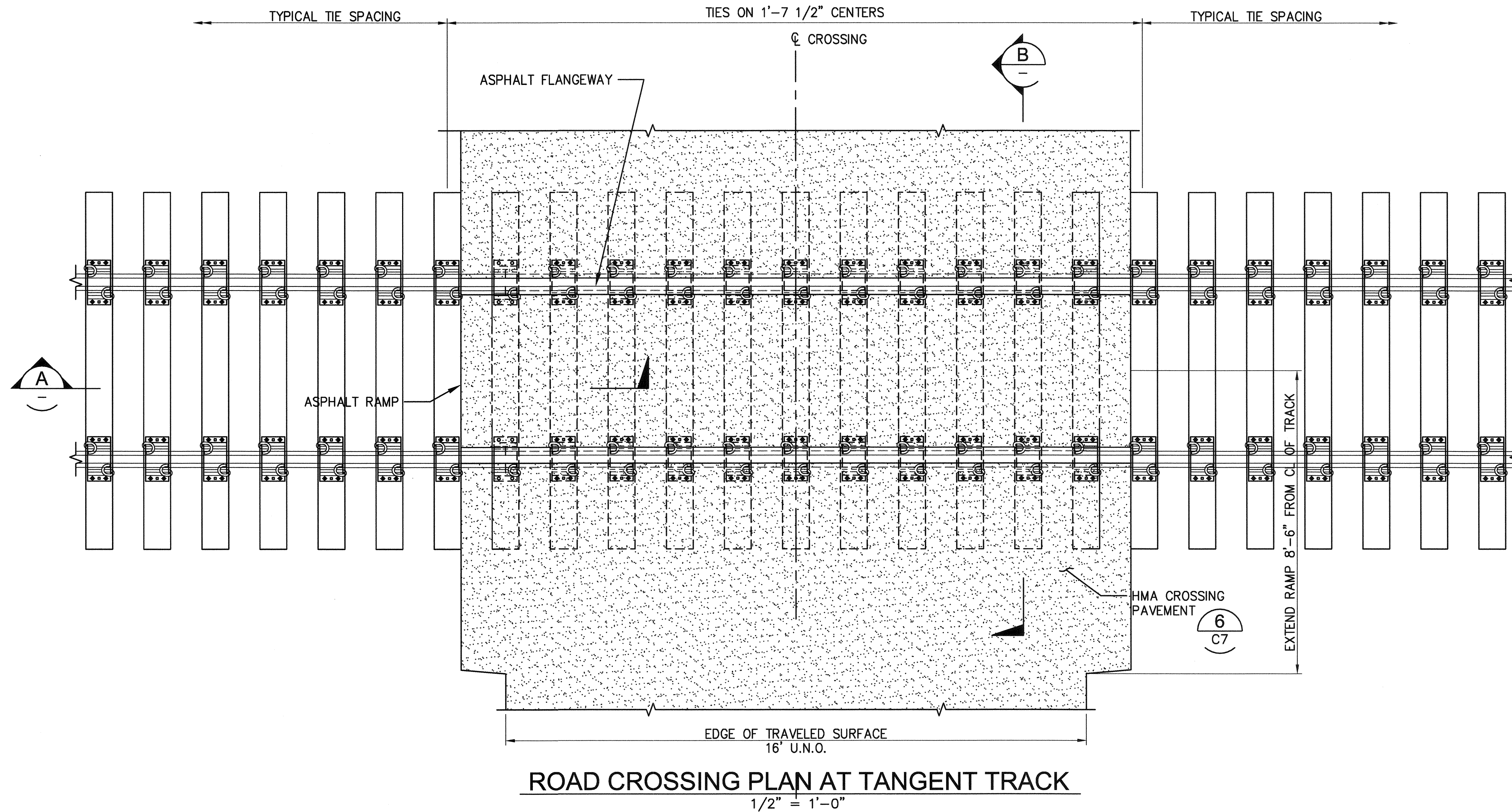


APPROVED:	SWK	03/17/16
<i>James Hovind</i>	CHECKED BY	DATE
	SWK	03/17/16
	PROJ. ENGR	DATE
	4-12-16	mmedley Mar 18, 2016
	DIRECTOR	ENG. DATE
	PRINTED BY:	mmedley
	PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837

<b>6555</b> <b>C7</b>	<b>NORTH LEAD</b>	
	CIVIL SITE DETAILS	
	TOWNSHIP: 20N	SECTION: 1, 2, 3
	RANGE: 03E	DATE: 03/17/16
CONT/CONS: 070164	VERT: PORT OF TACOMA	BM #4846
M. ID: 092938	PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED
PHASE: BID		

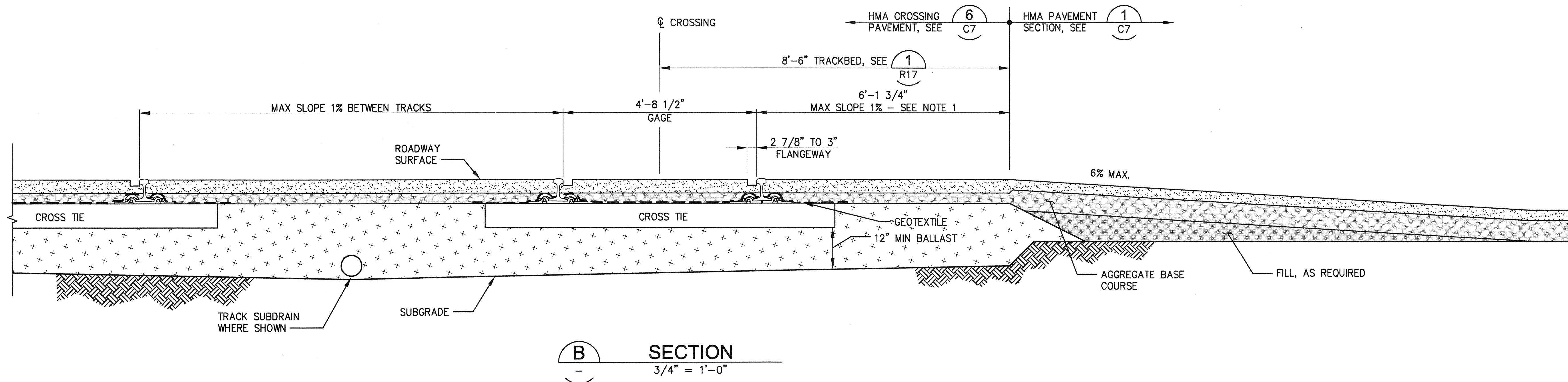
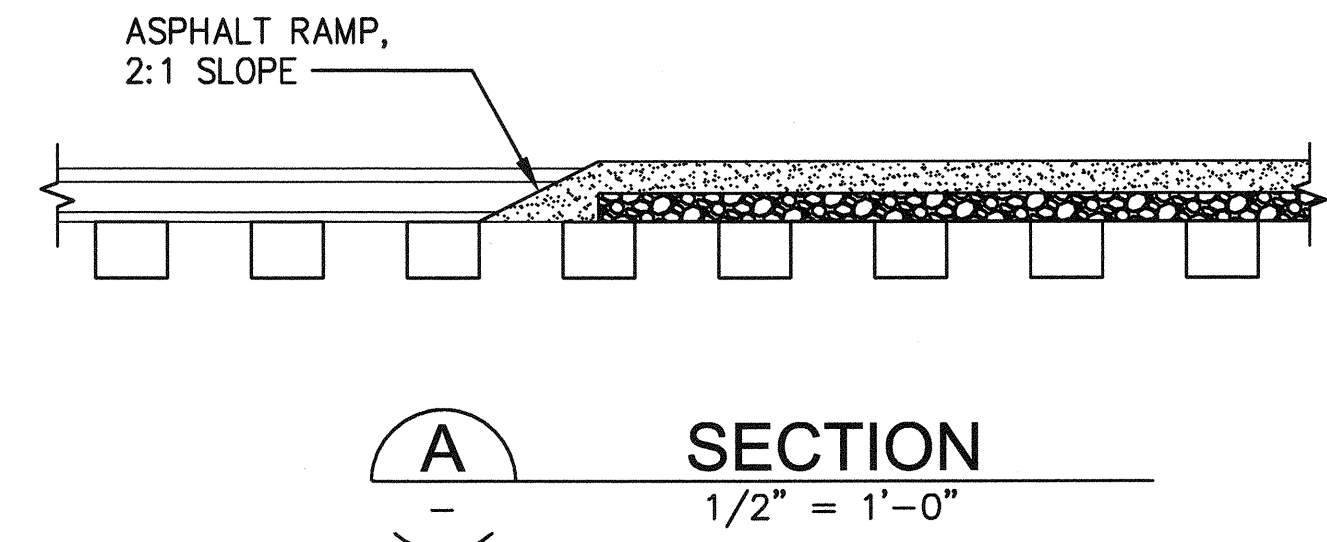
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PORT OF TACOMA FILE: N:\Civil\114114148 Pot North Lead RailPart 3 - KPFF Design\3.13 Drawings\Current\092938-C07



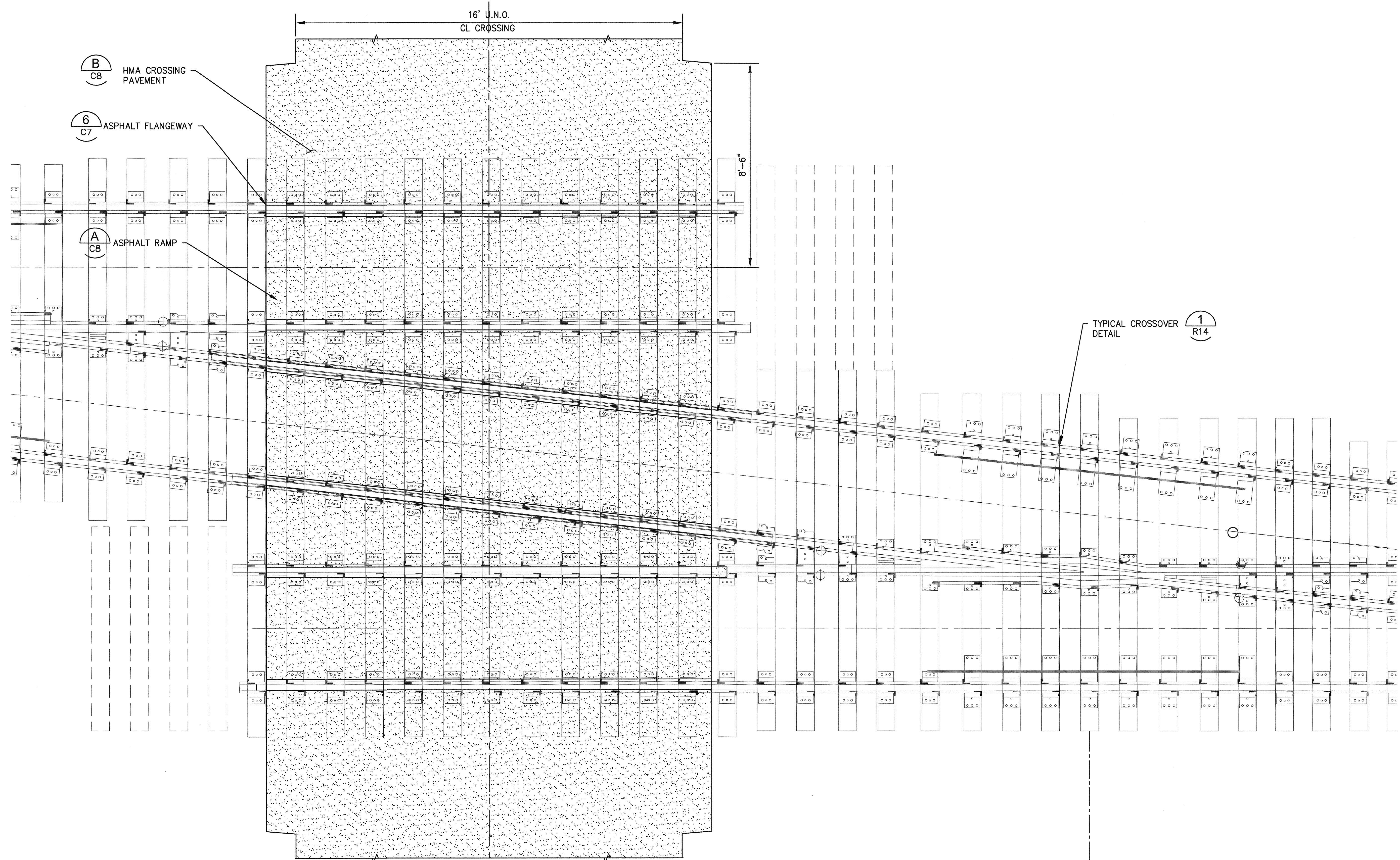
NOTES:

- ACCESS ROAD SURFACE SHOULD NOT BE MORE THAN 3/4" HIGHER OR LOWER THAN TOP OF THE NEAR RAIL 8'-6" FROM TRACK CENTERLINE, UNLESS TRACK SUPERELEVATION DICTATES OTHERWISE.
- PLACE GEOTEXTILE FABRIC ON TOP OF TIES AND TIE PLATE PRIOR TO PLACING BASE COURSE AND PAVEMENT.



6555	C8	SHEET 45 OF 134	CONT/CONS: 070164	M. ID: 092938	PHASE: BID	NORTH LEAD		ROAD CROSSING AT TRACK		CIVIL/SITE DETAILS		APPROVED: <i>[Signature]</i>		SWK: 03/17/16		CHECKED BY: DATE	
						TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3	VERT: PORT OF TACOMA BM #846	PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED	DATE: 03/17/16	PROJECT: 03/17/16	PROJ. ENGR: DATE	DATE: 03/17/16	PROJ. ENGR: DATE	DATE: 03/17/16
												Port of Tacoma 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401					

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**1** NO. 9 CROSSOVER CROSSING  
 C1-C6 SCALE: 1/2"=1'

<b>6555</b> <b>C9</b> SHEET 46 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> ROAD CROSSING AT CROSSOVER CIVIL/SITE DETAILS		APPROVED: <i>[Signature]</i> 4-2-16	SWK CHECKED BY DATE SWK 03/17/16
	TOWNSHIP: 20N DAT-HRZ: W83-SF PARCEL: MUL TIPLE	SECTION: 1, 2, 3 VERT: PORT OF TACOMA BM #846 DRAWING SCALE: AS NOTED	DIRECTOR ENG. DATE PRINTED BY: nmedley Mar 18, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SWK PROJ. ENGR DATE SWK 03/17/16

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 5/17/15  
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 PROFESSIONAL

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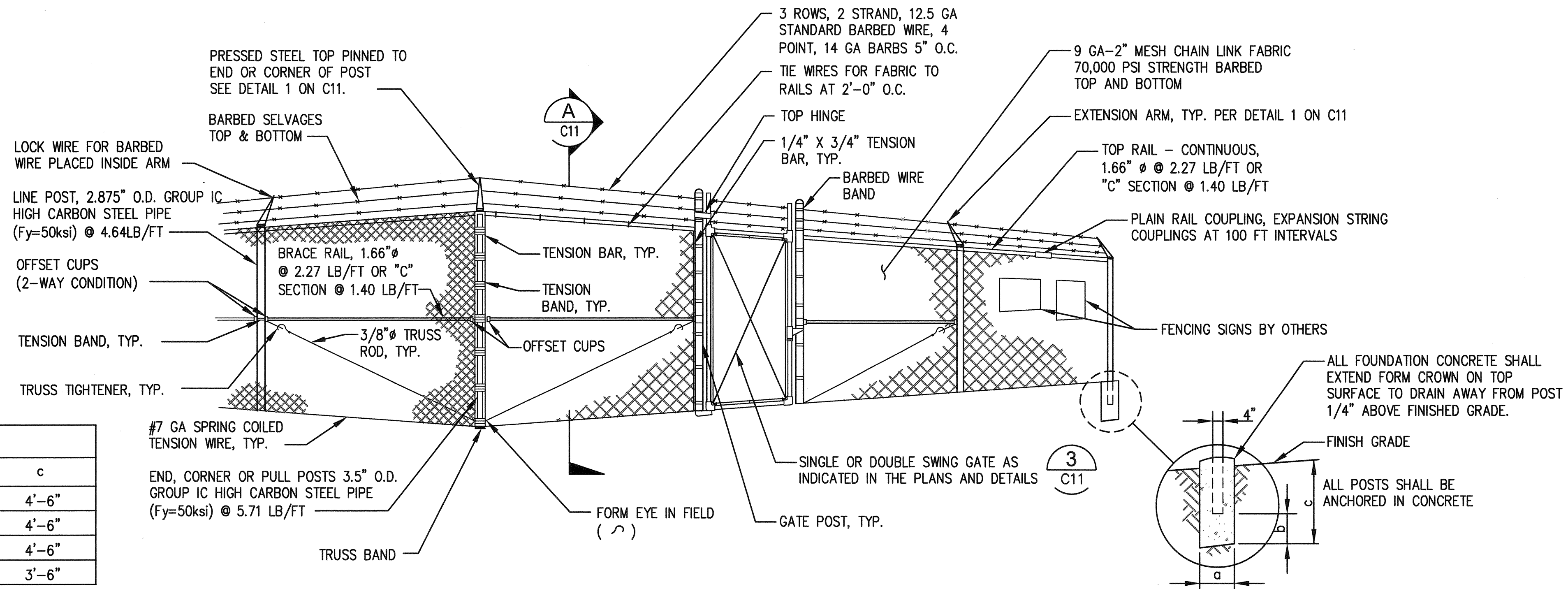
MARK: REVISION: BY: DATE:  
 APPR:

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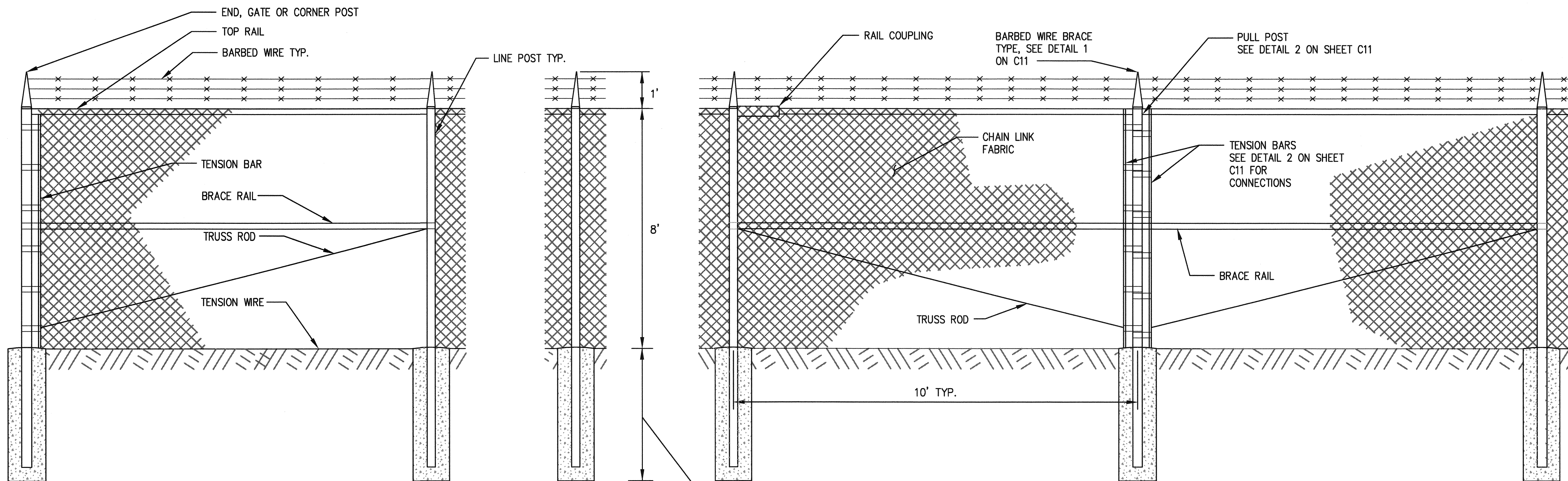
**NOTES :**

1. ALL FENCING MATERIALS SHALL BE POLYVINYL CHLORIDE (PVC) COATED, UNLESS NOTED OTHERWISE.

CONCRETE FOUNDATION DIMENSIONS			
LOCATION	a	b	c
CORNER	12"	6"	4'-6"
END	12"	6"	4'-6"
GATE	18" + POST OD	6"	4'-6"
LINE & OTHER	10"	6"	3'-6"



**1**  
C1-6  
**BLACK VINYL COATED CHAIN LINK FENCE DETAIL**  
NTS



**2**  
C1-6  
**PULL POST/LINE POST DETAIL**  
NTS

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(253) 396-0150 Fax (253) 396-0152

DATE: \_\_\_\_\_

APPR: \_\_\_\_\_

BY: \_\_\_\_\_

REVISION: \_\_\_\_\_

MARK: \_\_\_\_\_

APPROVED: <i>Kevin J. Hines</i>	SWK	03/17/16	CHECKED BY	DATE
	4-12-16		SWK	03/17/16
DIRECTOR ENG. DATE	PROJ. ENGR	DATE		
PRINTED BY: nmedley	Mar 18, 2016			
PORT ADDRESS: ONE SITCUM PLAZA		TACOMA, WA 98401-1837		

**6555**

**C10**

SH 47 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**FENCING**

CIVIL/SITE DETAILS

TOWNSHIP: 20N

RANGE: 03E

SECTION: 1, 2, 3

VERT: PORT OF TACOMA BM #846

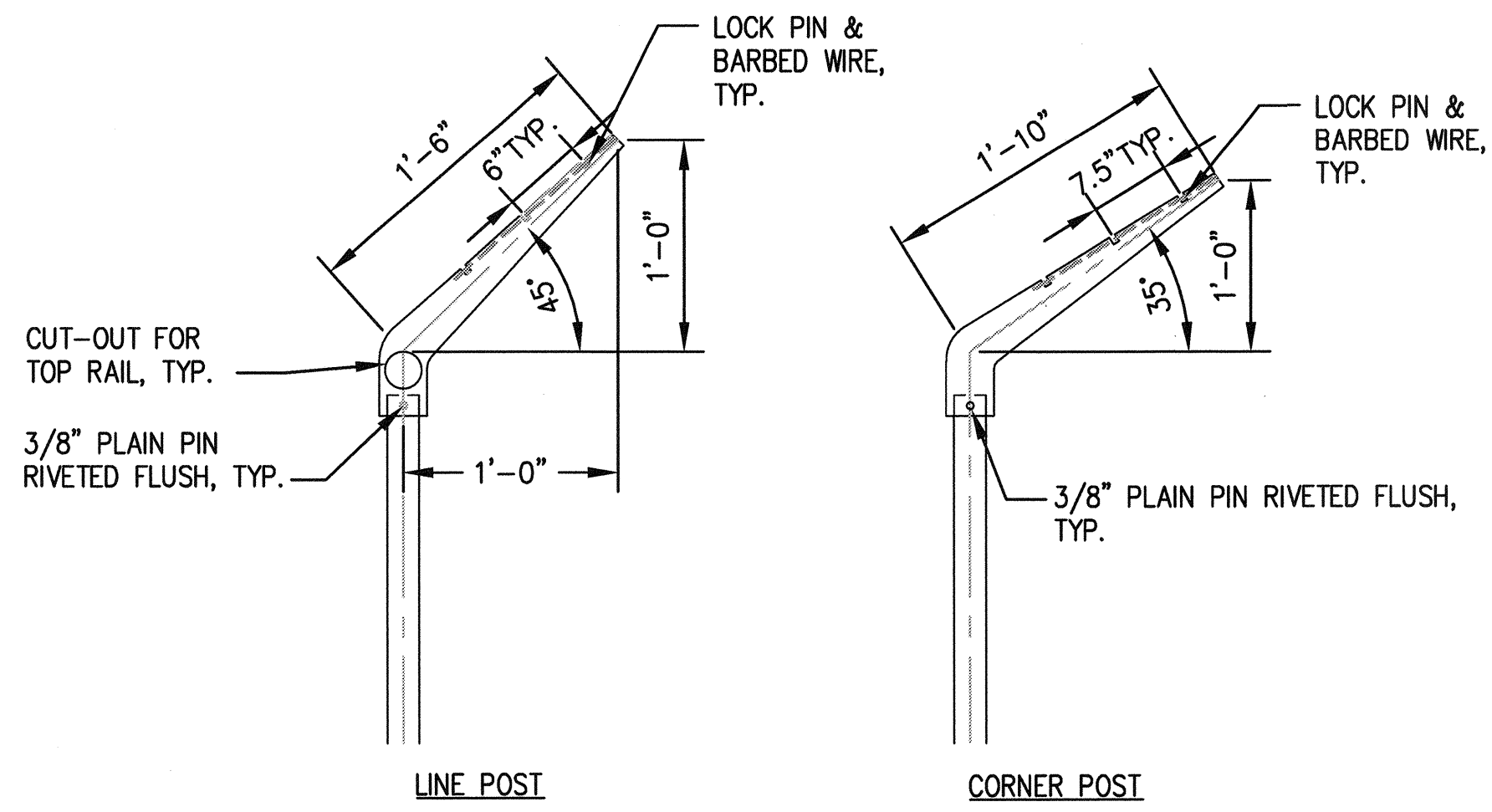
PARCEL: MULTIPLE

DRAWING SCALE: AS NOTED

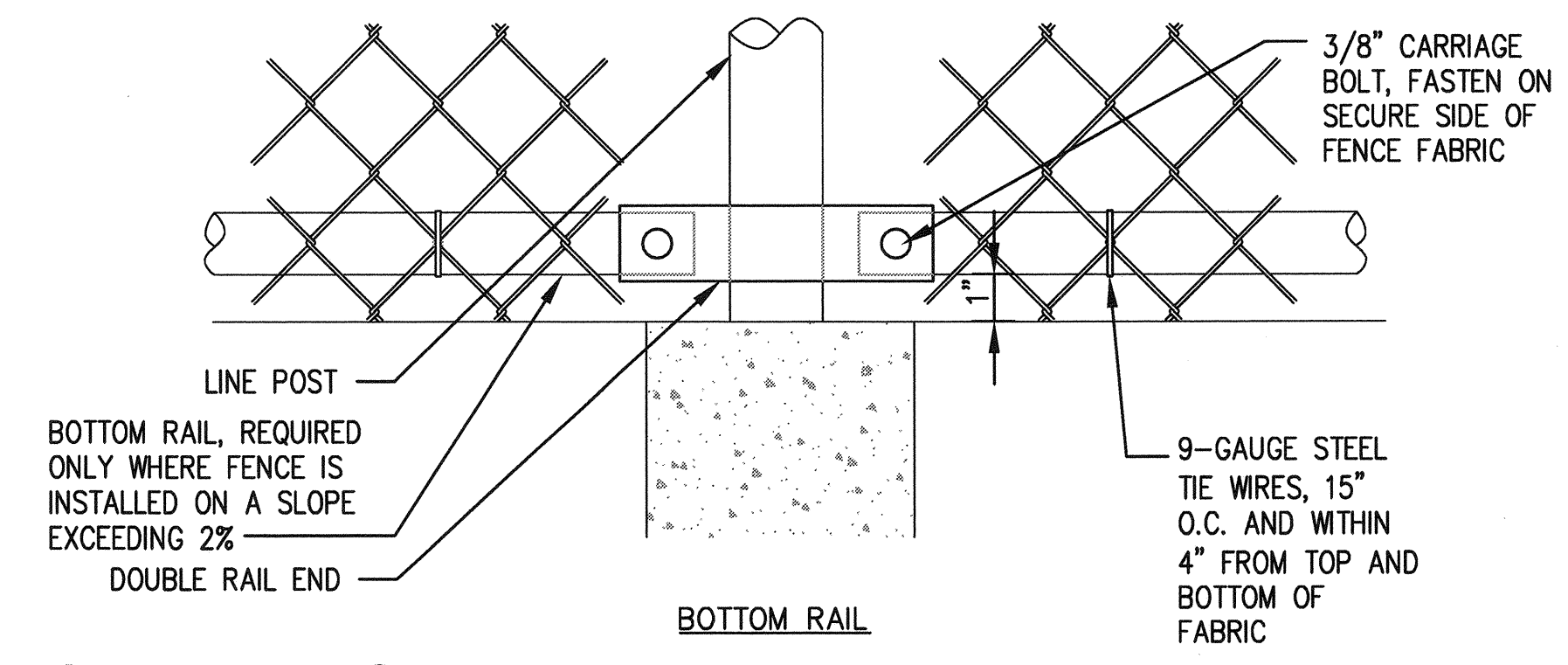
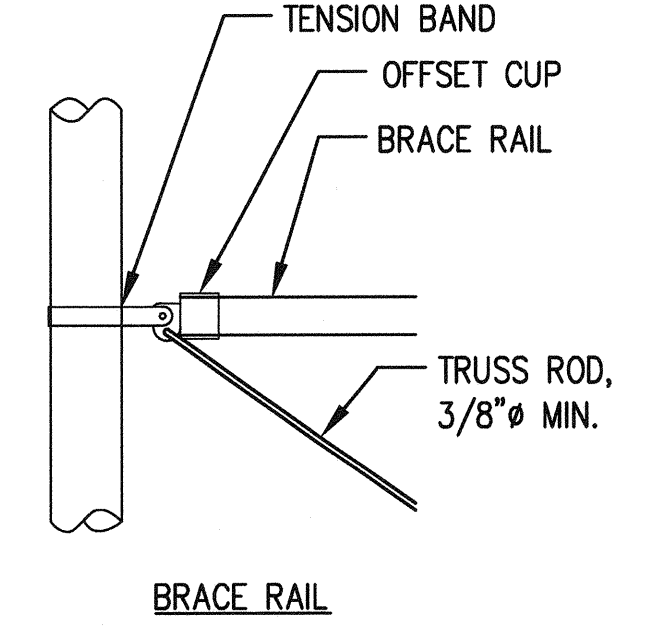
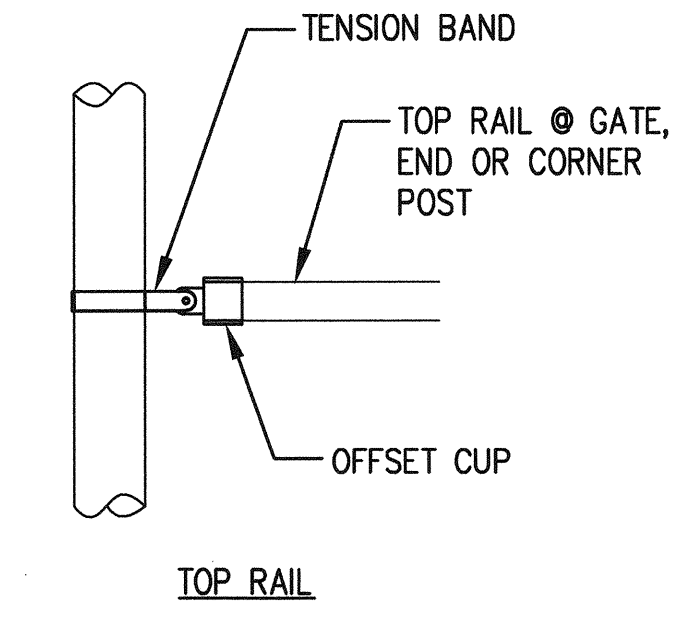
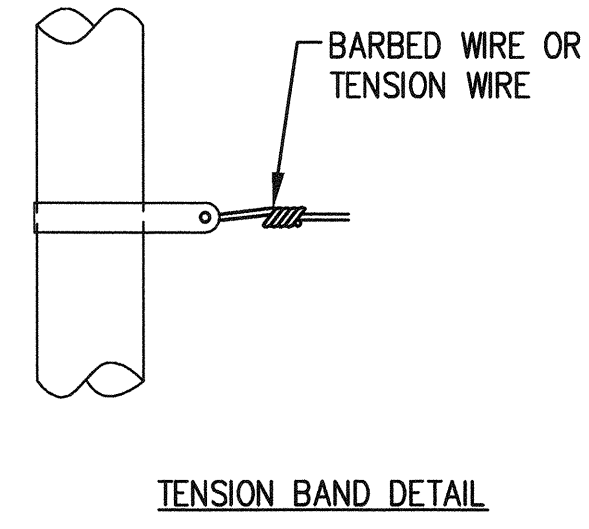
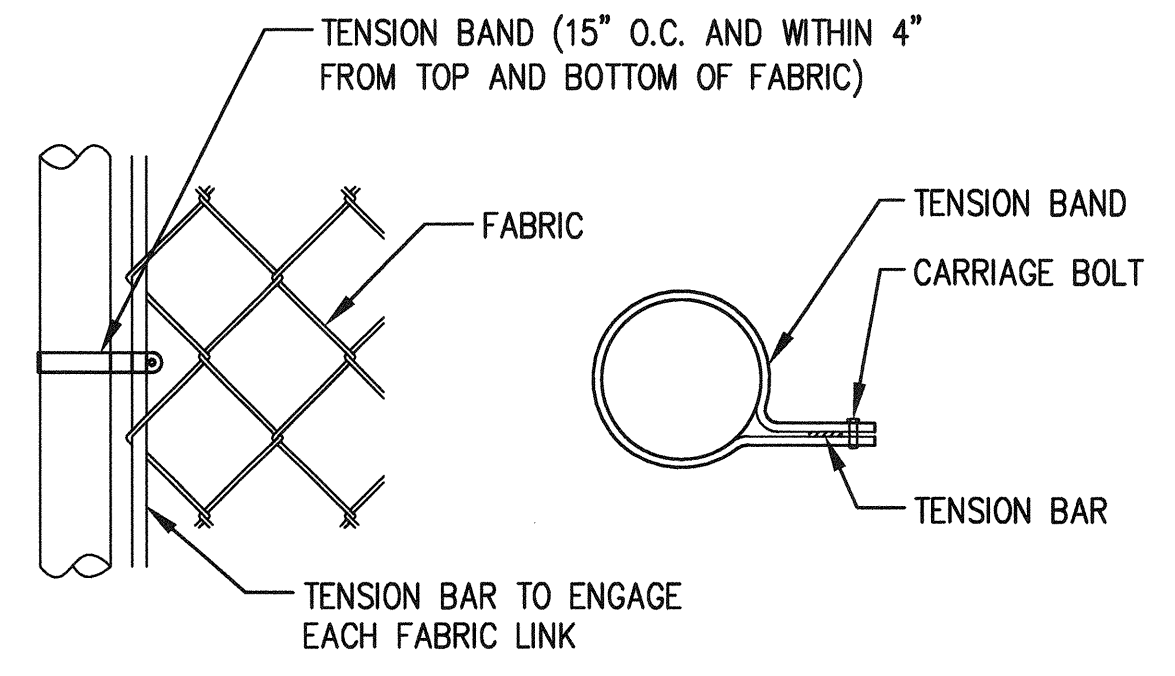
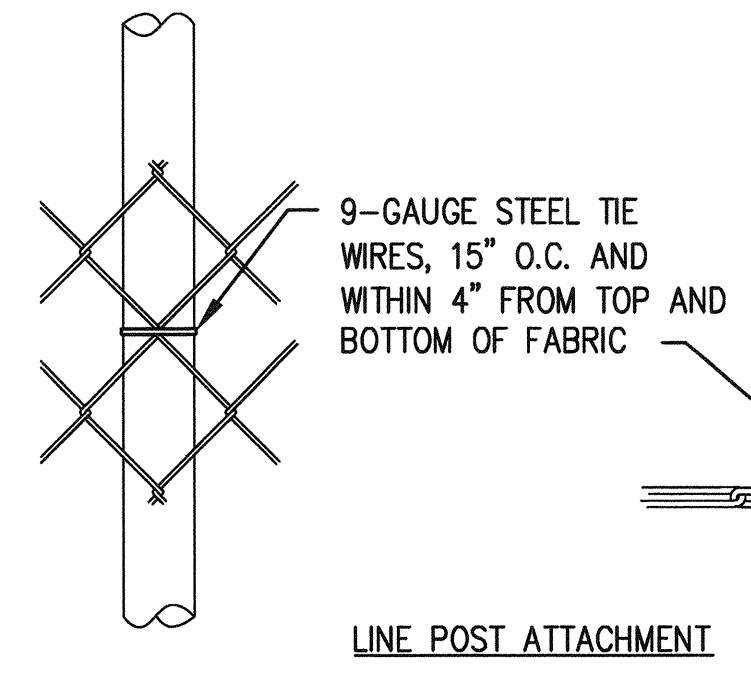
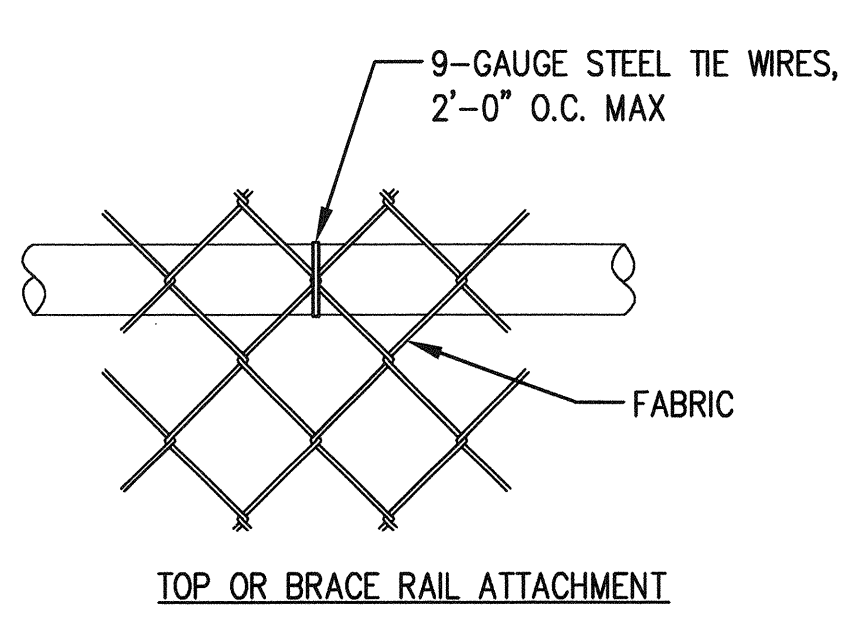
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**NOTES :**

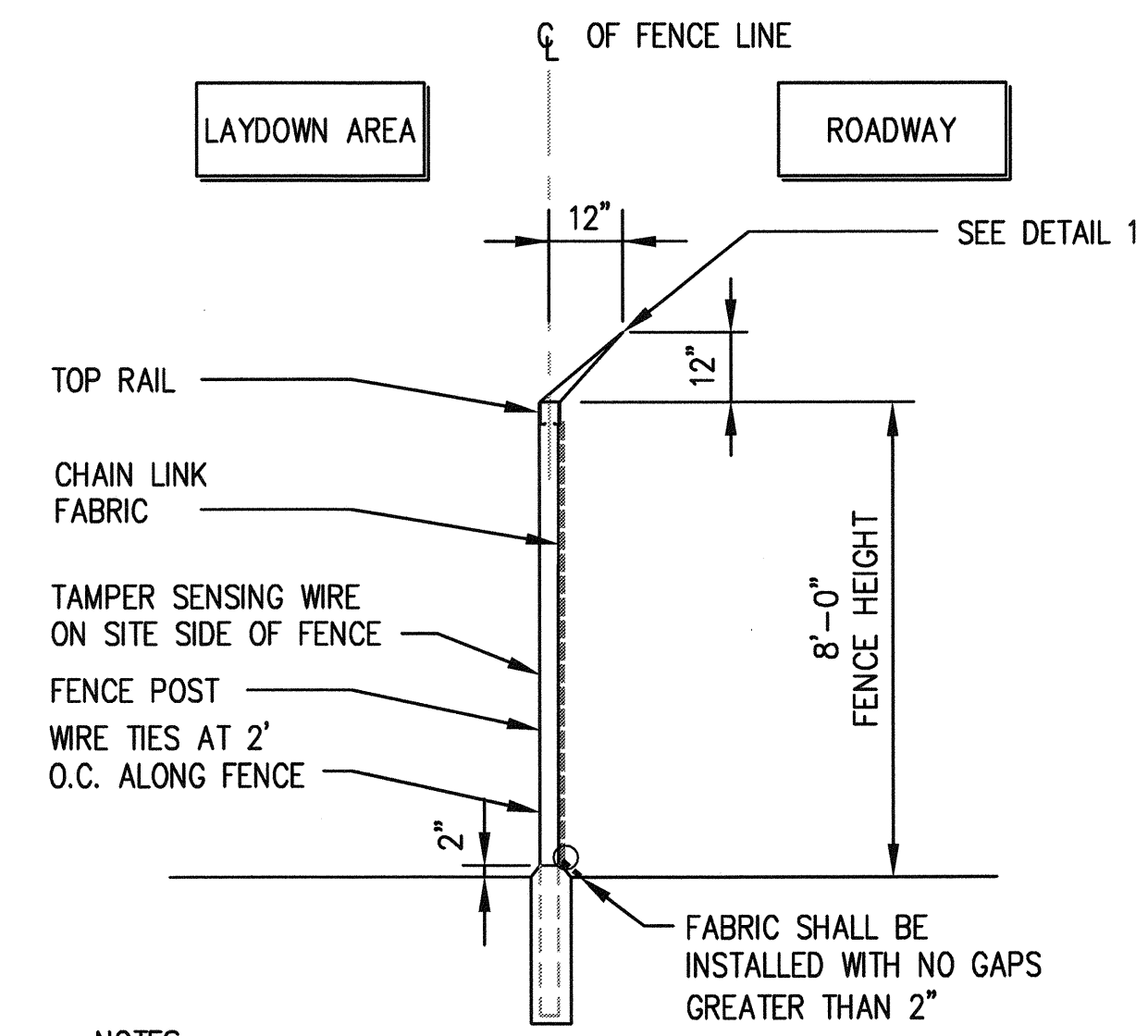
- 1. ALL FENCING MATERIALS SHALL BE POLYVINYL CHLORIDE (PVC) COATED, UNLESS NOTED OTHERWISE.



**1**  
C10 EXTENSION ARMS  
NTS

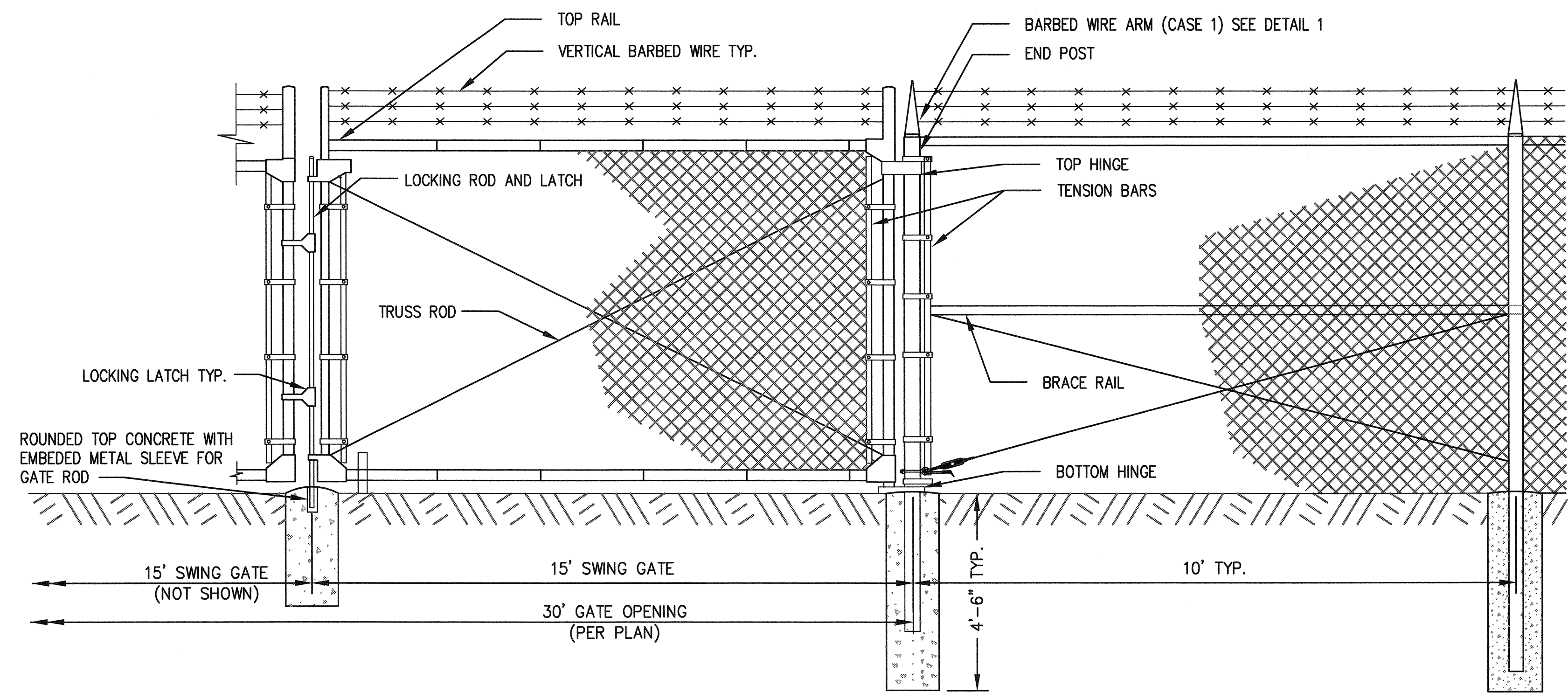


**2**  
C10 CONNECTION DETAILS  
NTS



- NOTES:**
- 1. WHERE FENCING IS LOCATED ON A SLOPE THE CONTRACTOR SHALL INSTALL A BOTTOM RAIL.

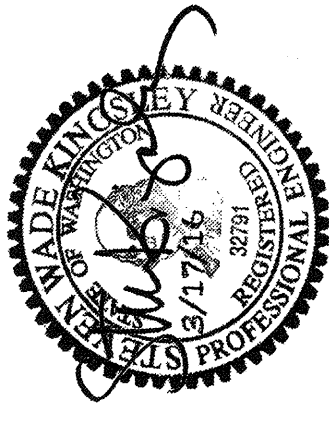
**A**  
C10 TYPICAL FENCE SECTION  
NTS



**3**  
C10 DOUBLE SWING GATE  
NTS

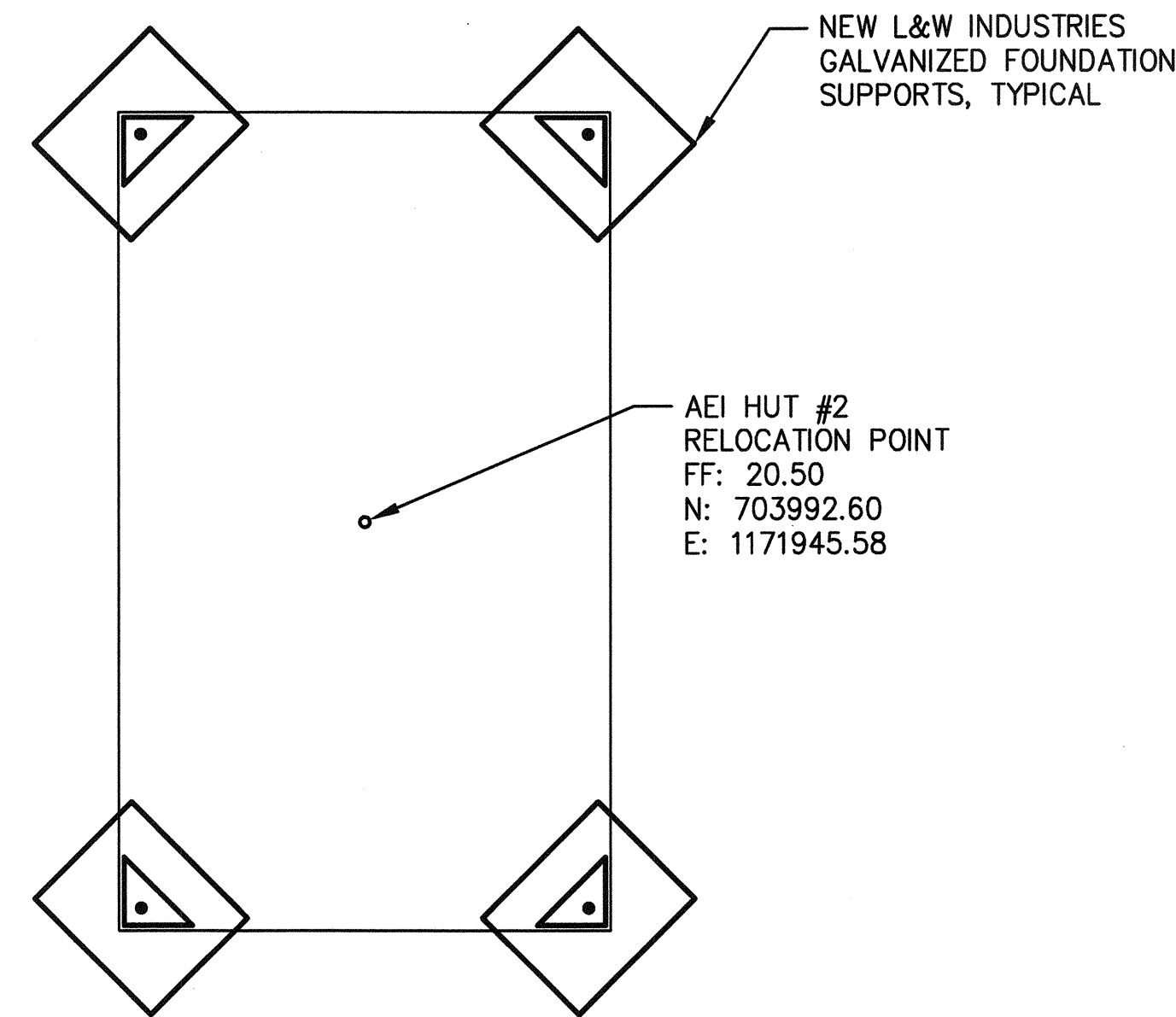


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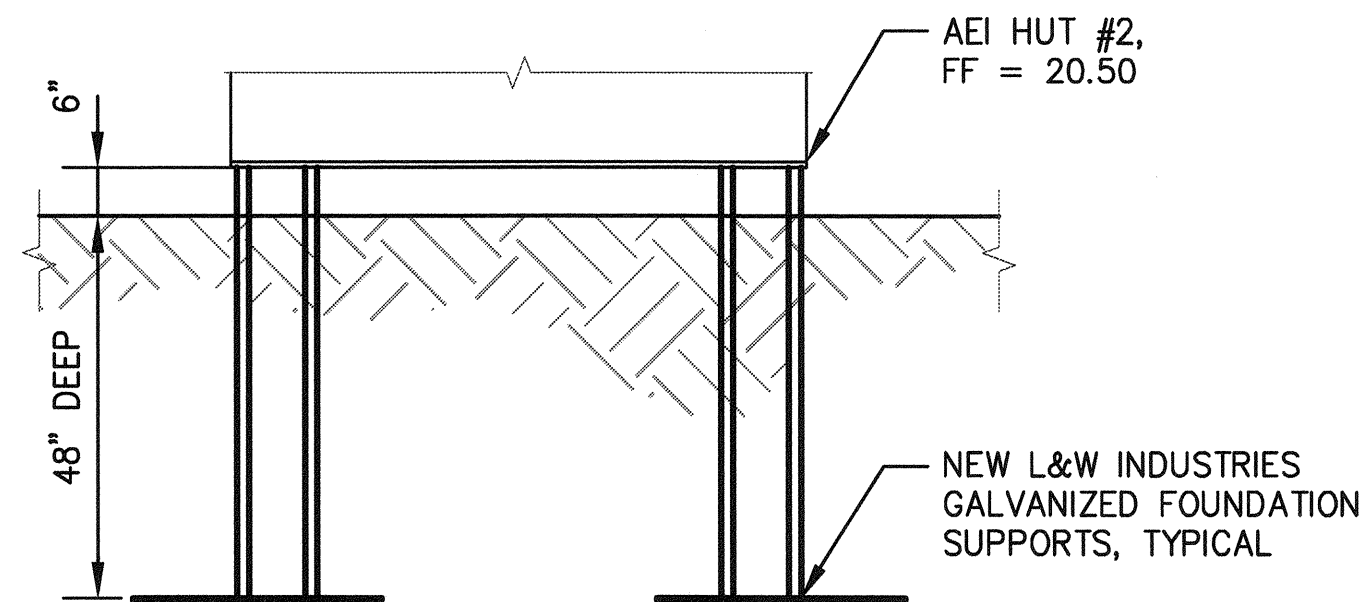


APPROVED:	SWK	03/17/16	CHECKED BY:	DATE
<i>Michael J. Riedel</i>	SWK	03/17/16	PROJ. ENGR	DATE
			PRINTED BY:	nmmedley Mar 18, 2016
			PORT ADDRESS: ONE SITCUM PLAZA	TACOMA, WA 98401-1837

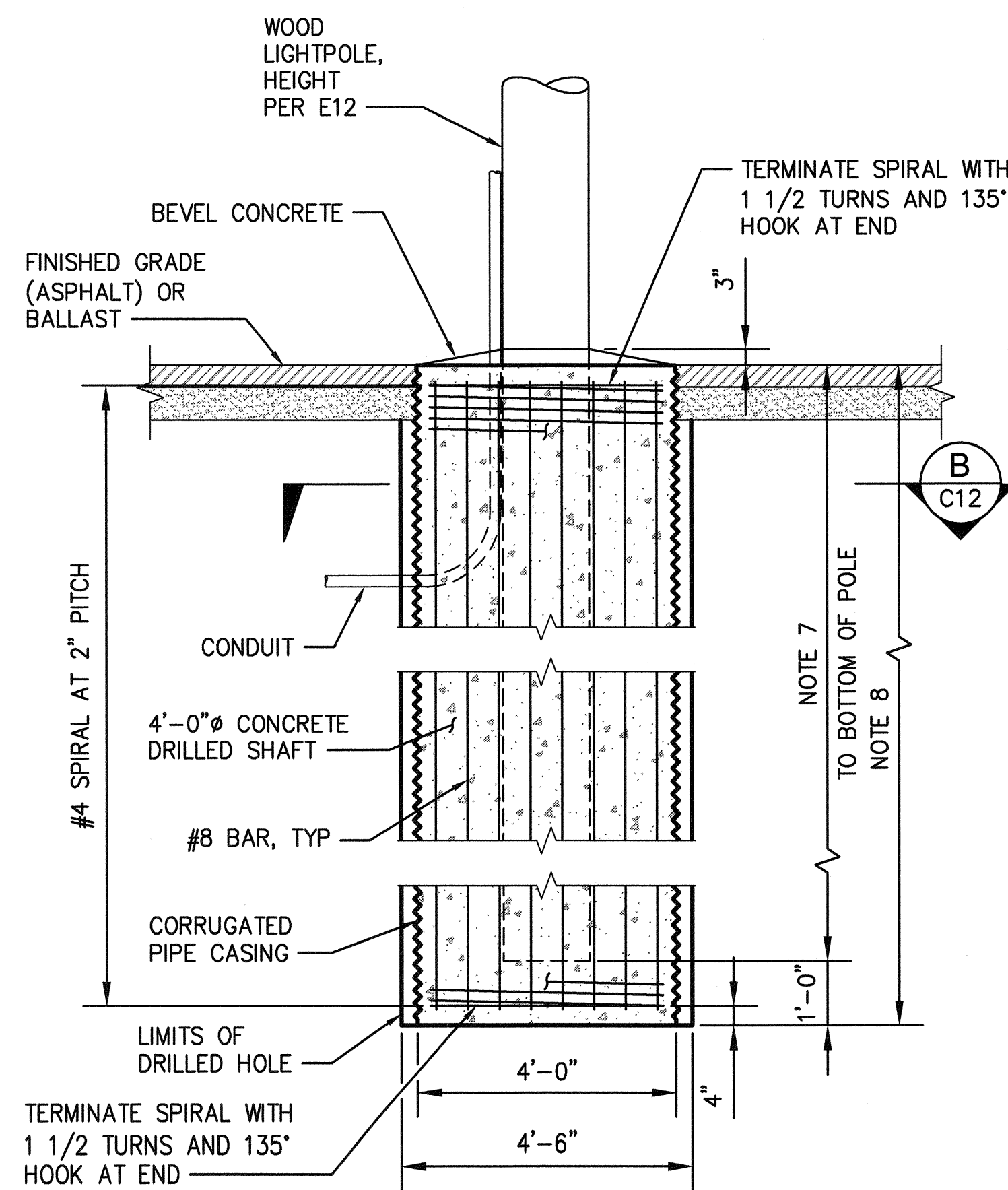
<b>6555</b>	<b>C11</b>		<b>NORTH LEAD</b>	
	FENCING			
	CIVIL SITE DETAILS			
	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3	DATE: 03/17/16
CONT./CONS: 070164	DAT-HRZ: W83-SF	VERT: PORT OF TACOMA BM #846	PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED
M. ID: 092938	PHASE: BID			



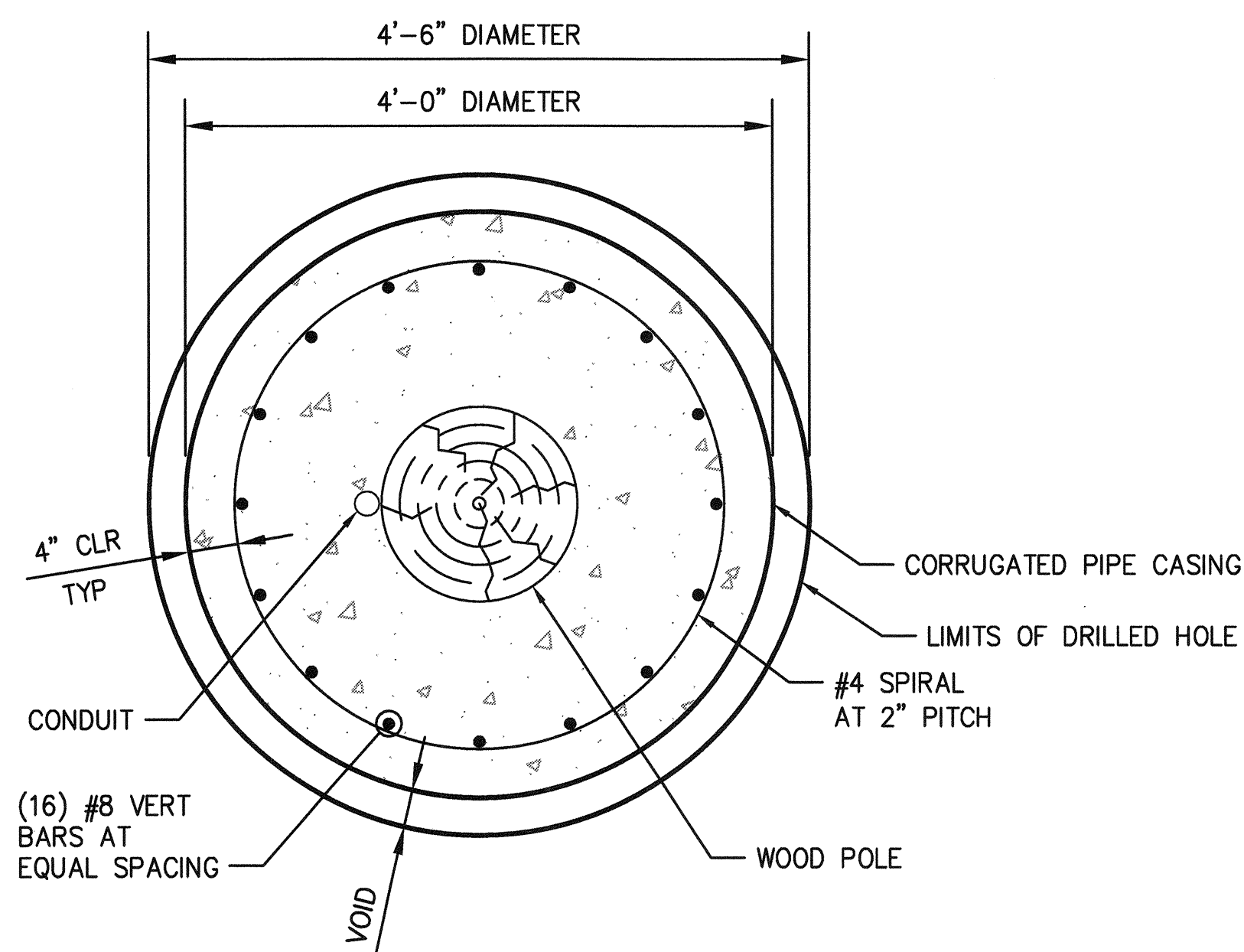
**1**  
AEI HUT 2 FOUNDATION  
C4, E9  
1/2" = 1'-0"



**A**  
AEI HUT 2 FOUNDATION SECTION  
C4, E9  
1/2" = 1'-0"



**2**  
LIGHTPOLE FOUNDATION  
C1-6, E1-6  
1/2" = 1'-0"



**B**  
FOUNDATION SECTION  
C12  
1" = 1'-0"

**STRUCTURAL NOTES:**

1. DESIGN LOADS:

1.1 DESIGN LOAD CRITERIA FOR 65 FT AND 80 FT LIGHT POLE ABOVE BASE  
EARTHQUAKE LOADS PER AASHTO LTS-2013  
WIND LOADS: AASHTO LTS-2013

1.2 DESIGN WORKING LOAD ON LIGHT POLE FOUNDATION:

	65 FT	80 FT
OVERTURNING MOMENT M (KIP-FT)	52	76
DOWNLOAD N (KIP)	12	12.3
SHEAR V (KIP)	1.2	1.5

1.3 DESIGN WORKING LOAD ON 6 FT POST AND TRANSFORMER PAD:  
OVERTURNING MOMENT M = 1800 LB-FT PER POST  
DOWNLOAD N = 500 LB PER POST  
SHEAR V = 450 LB PER POST  
TRANSFORMER WEIGHT = 1000 LB

2. GENERAL:

THIS DRAWING SHALL BE USED IN CONJUNCTION WITH ELECTRICAL, AND CIVIL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS FOR COMPATIBILITY PRIOR TO COMMENCING WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING.

LIGHT POLE, ANCHOR BOLTS, NUTS, BASE PLATES AND THEIR LOCATIONS, SHALL BE DESIGNED AND SUPPLIED BY THE POLE MANUFACTURER.

CONTRACTOR SHALL REFER TO ELECTRICAL AND CIVIL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS AND DETAILS NOT SHOWN ON LIGHT POLE FOUNDATION DRAWINGS.

CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY PRECAUTIONS, ERECTION STABILITY AND TEMPORARY SHORING AS NECESSARY UNTIL PERMANENT SUPPORT AND STIFFENING ARE INSTALLED. CONTRACTOR SHALL PROTECT SURROUNDING BUILDINGS AND EQUIPMENT FROM AUGER DEBRIS DURING SHAFT DRILLING.

HYDRANT OPENINGS AND BLOCKOUT DIMENSIONS ARE DEPENDENT ON ACTUAL HYDRANT AND PIPING INSTALLED. CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE REINFORCING STEEL FABRICATION AND BASE CONSTRUCTION.

3. DRILLED CAISSON MATERIAL AND TRANSFORMER PAD:

CONCRETE STRENGTH AT 28 DAYS (f'c) SHALL BE 4000 PSI. THE REINFORCING STEEL SHALL BE GRADE 60 (fy=60,000 PSI) CONFORMING TO ASTM A-615. THE MINIMUM CONCRETE COVER IS 4 INCHES UNLESS OTHERWISE INDICATED.

4. EXCAVATION, SHORING AND BACKFILL:

CONTRACTOR SHALL SAWCUT PAVEMENT PRIOR TO EXCAVATION AND INSTALLATION OF SHORING. INSTALL AND SHORE EXCAVATION AS NECESSARY TO PROTECT WORKERS, UTILITIES, PAVEMENT AND OTHER IMPROVEMENTS AGAINST LOSS OF GROUND, ROCKS, GRAVELS OR CAVING EMBANKMENTS. BACKFILL AND COMPACT WITH NATIVE SOIL TO SUBGRADE ELEVATION NO SOONER THAN 3 DAYS AFTER COMPLETION OF FOUNDATION. DO NOT BACKFILL HYDRANT CAVITY. LOOSE MATERIAL SHALL BE REMOVED FROM THE BOTTOM OF THE AUGERED HOLE PRIOR TO CONCRETE PLACEMENT. SIDES OF EXCAVATION SHALL BE ROUGH AND FREE OF LOOSE CUTTINGS.

SEE SPECIFICATIONS FOR SOIL HANDLING AND DISPOSAL REQUIREMENTS.

THE CONTRACTOR SHALL SELECT APPROPRIATE METHODS TO MAINTAIN THE HOLE OPEN UNTIL CONCRETE HAS BEEN PLACED. THE HOLE SHALL BE KEPT DRY AND FREE OF MUD PRIOR TO REINFORCING CAGE INSTALLATION AND DURING CONCRETE PLACEMENT. SEE SPECIFICATIONS FOR SOIL DISPOSAL AND DEWATERING REQUIREMENTS.

5. SPECIAL INSPECTIONS:

A QUALIFIED INSPECTOR SHALL INSPECT THE FOLLOWING TYPES OF WORK:  
CONCRETE AND REINFORCING STEEL PLACEMENT  
DRILLED SHAFT CONCRETE PIER  
ANCHOR BOLTS

6. DRILLED SHAFT FOUNDATION:

CAGE RING TEMPLATE SHALL BE DESIGNED AND SUPPLIED BY THE POLE MANUFACTURER.

ADJUSTMENTS MAY BE MADE IN SPACING OF SHEAR REINFORCEMENT WHERE THERE IS CONFLICT WITH MIDDLE CAGE RING SPACING.

7. TIMBER POLE EMBEDMENT DEPTH, POLE HEIGHT PER SHEET E12:

FOR 65 FOOT POLES, POLE EMBEDMENT = 15 FT  
FOR 80 FOOT POLES, POLE EMBEDMENT = 17 FT

8. DRILLED SHAFT DEPTH:

FOR 65 FOOT POLES, DRILLED SHAFT LENGTH = 16 FT  
FOR 80 FOOT POLES, DRILLED SHAFT LENGTH = 18 FT

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APPROVED: *[Signature]*

4-2-16

SWK 03/17/16  
CHECKED BY DATE

SWK 03/17/16  
PROJ. ENGR DATE

DIRECTOR ENG. DATE: nmedley Mar 18, 2016

PRINTED BY: nmedley Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

**6555**

**C12**

SHEET 49 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**CIVILSITE DETAILS**

RANGE: 03E

TOWNSHIP: 20N

DAT-HRZ: W83-SF

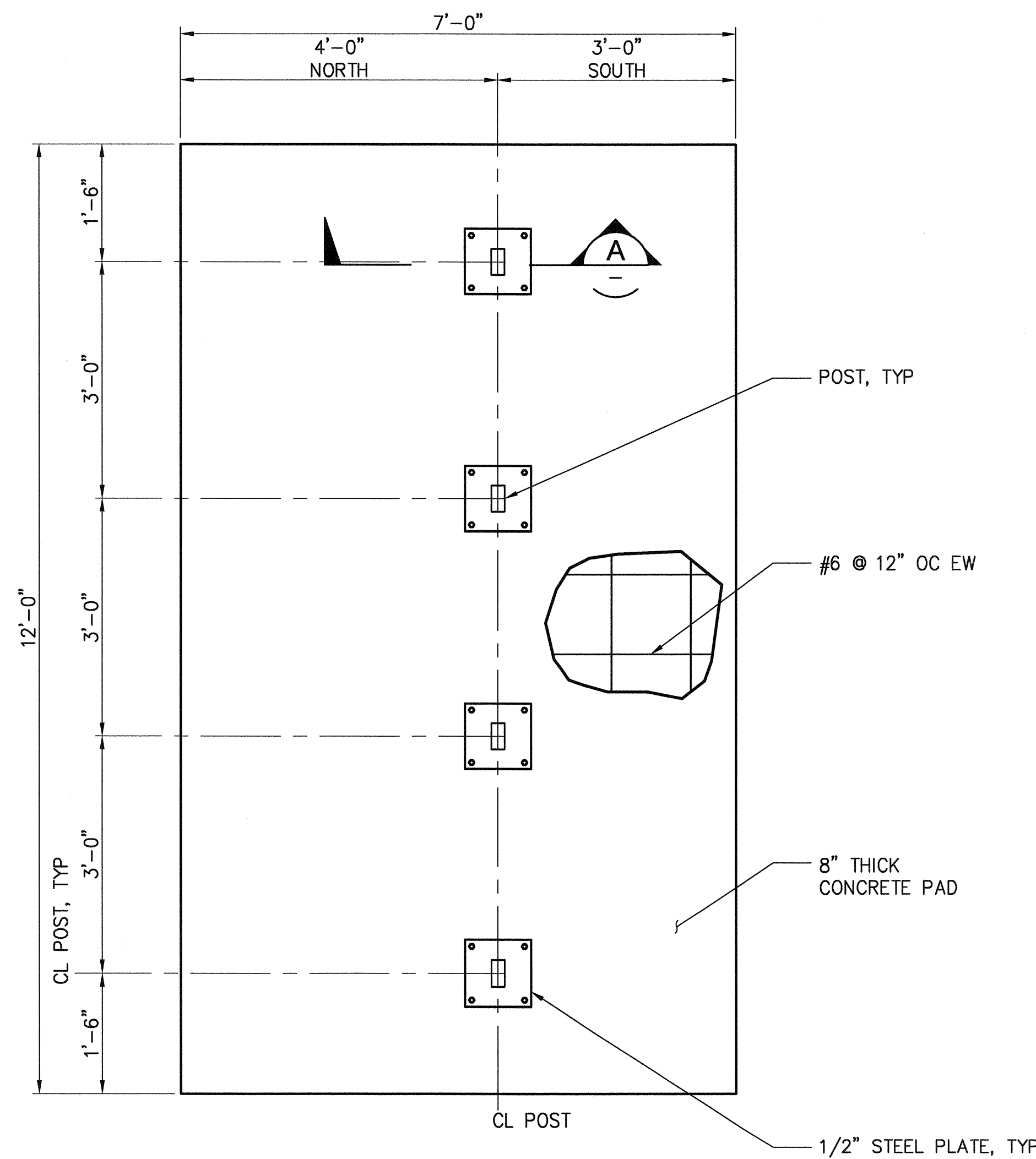
VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE

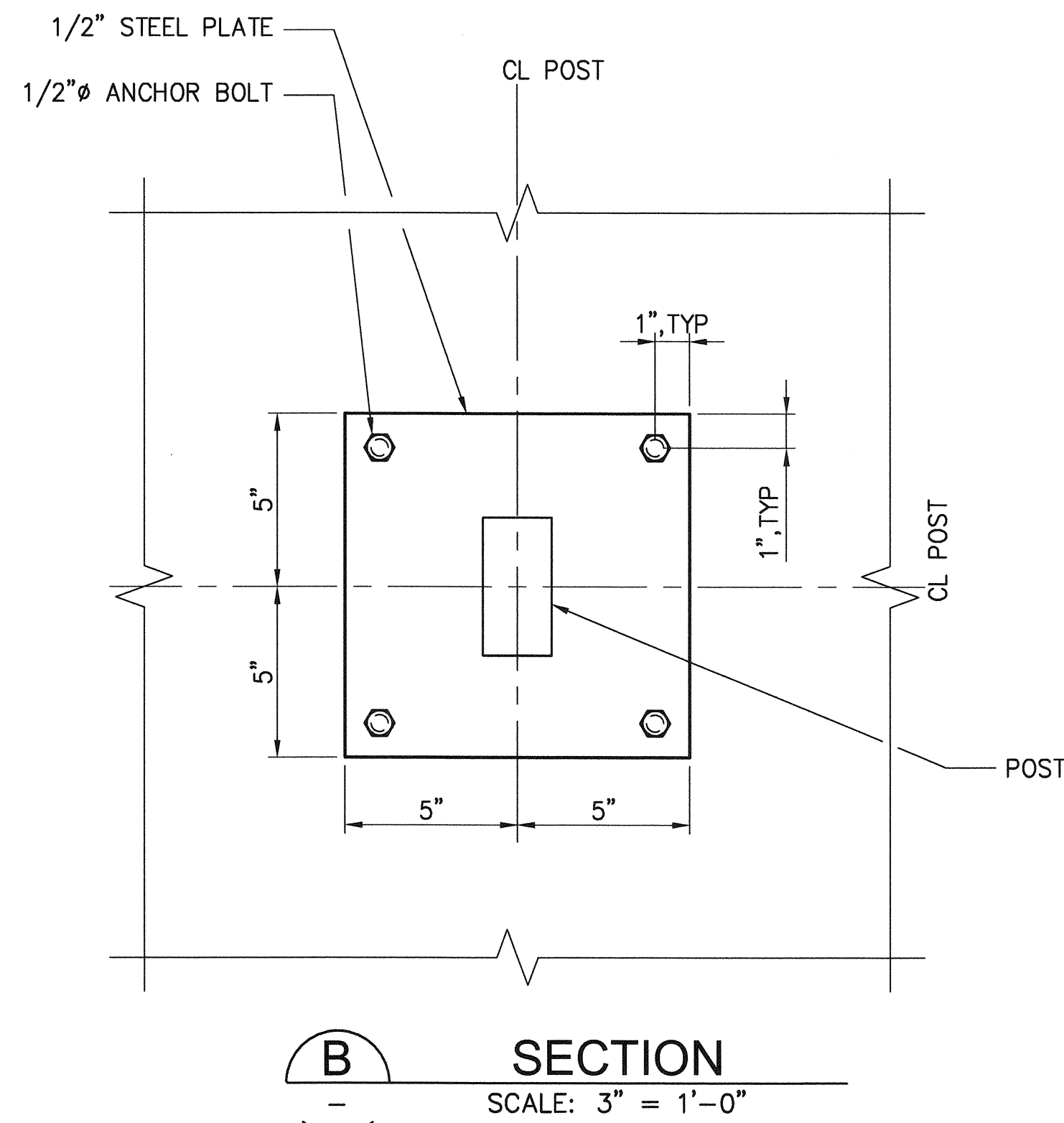
SECTION: 1, 2, 3

DRIVING SCALE: AS NOTED

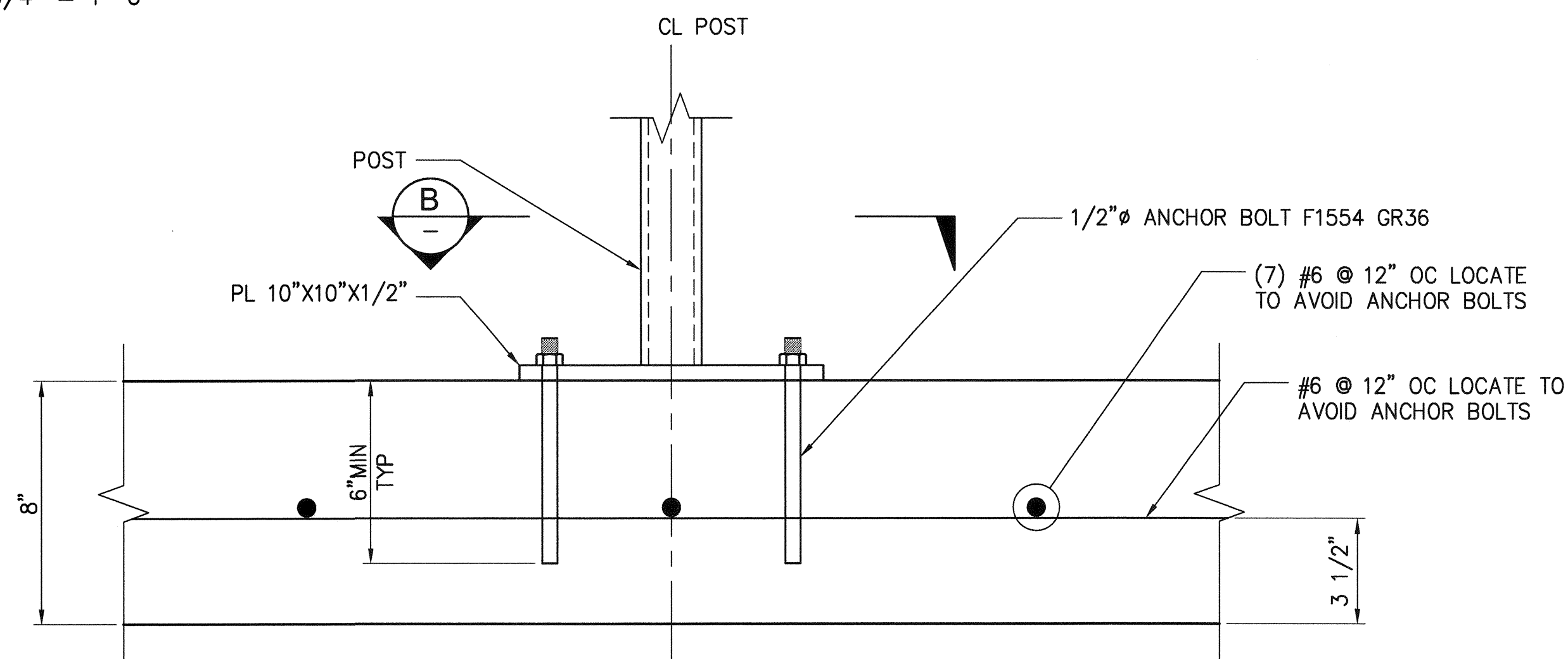
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**ELECTRICAL PANEL AND TRANSFORMER FOUNDATION PLAN**  
 1  
 C4, E9, E13      3/4" = 1'-0"



**SECTION B**  
 SCALE: 3" = 1'-0"



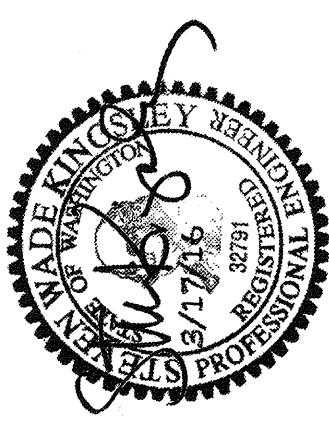
**SECTION A**  
 SCALE: 3" = 1'-0"

**NOTES :**

FOR STRUCTURAL NOTES SEE C12

ITEM #	SHEET	NORTHING	EASTING	DESCRIPTION	RIM/FG
1	C1	704434.53	1168939.71	NEW HANDHOLE (LH1A)	19.45
2	C1	704395.99	1168947.99	NEW PULLBOX (LH1B)	
3	C1	704395.99	1168947.99	NEW LIGHTPOLE (LP1)	19.52
4	C2	704346.34	1169333.33	NEW PULLBOX (LH2A)	
5	C2	704346.34	1169333.33	NEW LIGHTPOLE (LP2)	18.10
6	C3	703973.01	1171096.72	NEW HANDHOLE (LH4A)	18.07
7	C3	703984.19	1171112.38	NEW LIGHTPOLE (LP4)	18.00
8	C3	703939.04	1171397.71	NEW HANDHOLE (LH5A)	19.33
9	C3	703955.11	1171375.22	NEW LIGHTPOLE (LP5)	18.82
10	C3	703873.58	1171391.90	NEW HANDHOLE (LH6A)	19.31
11	C3	703823.75	1171372.54	RELOCATED TPU POLE, SEE C14	19.95
12	C3	703848.69	1171364.64	NEW TPU HANDHOLE, SEE C14	19.00
13	C3	703849.55	1171346.75	TPU METER AND BREAKER SERVICE	19.00
14	C3	703835.18	1171279.68	NEW LIGHTPOLE (LP6)	19.84
15	C3	703844.81	1171272.87	NEW HANDHOLE (LH6B)	19.84
16	C4	703911.74	1171454.73	RELOCATED POWER VAULT	19.14
17	C4	703909.00	1171478.87	RELOCATED COMMUNICATION VAULT	19.14
18	C4	703933.66	1171560.47	NEW POWER VAULT (2VPA)	18.87
19	C4	703931.94	1171575.37	NEW COMMUNICATION VAULT (2CVB)	18.87
20	C4	703871.65	1171696.86	NEW PULLBOX (LH7B)	19.04
21	C4	703871.65	1171696.86	NEW LIGHTPOLE (LP7)	
22	C4	703903.23	1171890.13	NEW HANDHOLE (LH8A)	18.87
23	C4	703992.61	1171945.59	AEI HUT No. 2	20.50
24	C4	703980.67	1171947.31	ELECTRICAL PLAN PAD, SEE C13	20.50
25	C4	703854.06	1172074.51	NEW PULLBOX (LH9A)	
26	C5	703798.90	1172387.19	NEW PULLBOX (LH10A)	
27	C5	703798.90	1172387.19	NEW LIGHTPOLE (LP10)	19.20
28	C6	703760.45	1174790.39	NEW HANDHOLE (LH13A)	
29	C6	704113.59	1175196.19	NEW LIGHTPOLE (LP17)	18.76
30	C6	704113.59	1175196.19	NEW PULLBOX (LH17A)	
31	C5	703789.99	1172535.64	NEW PULLBOX (LH11A)	
32	C4	703861.99	1171494.00	NEW HANDHOLE (LH5A)	19.40

ALL LOCATES RELATIVE TO CENTER OF VAULT OR CENTER OF POLE, SEE E14 FOR ALL VAULT SIZES



APPROVED: *James S. Williams*  
 SWK 03/17/16  
 CHECKED BY: DATE: SWK 03/17/16  
 DIRECTOR ENG. DATE: 4-12-16  
 PRINTED BY: nmedley Mar 18, 2016  
 PORT ADDRESS: ONE SITCUM PLAZA  
 TACOMA, WA 98401-1837

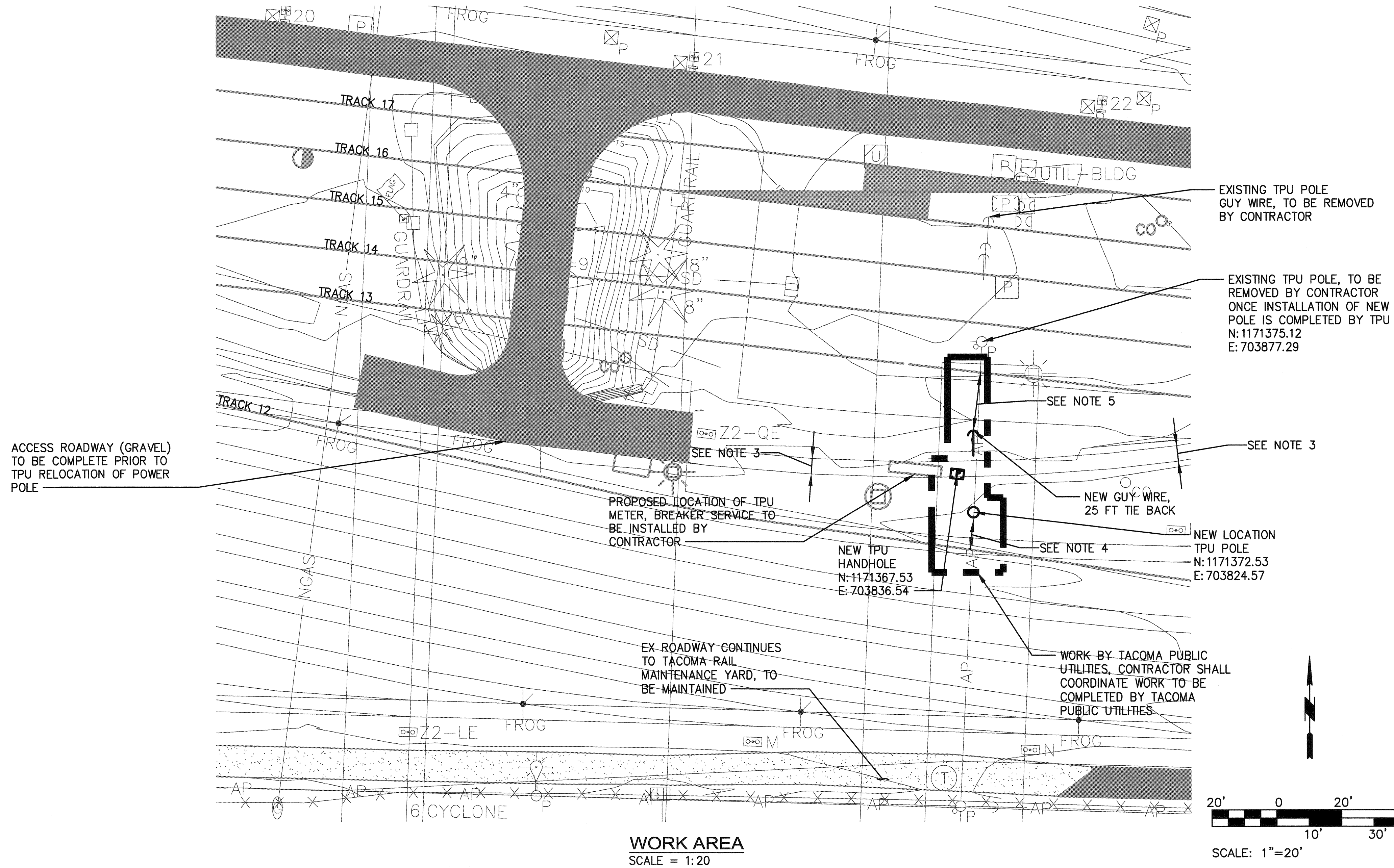
**NORTH LEAD**

**TRANSFORMER PAD DETAILS**

6555

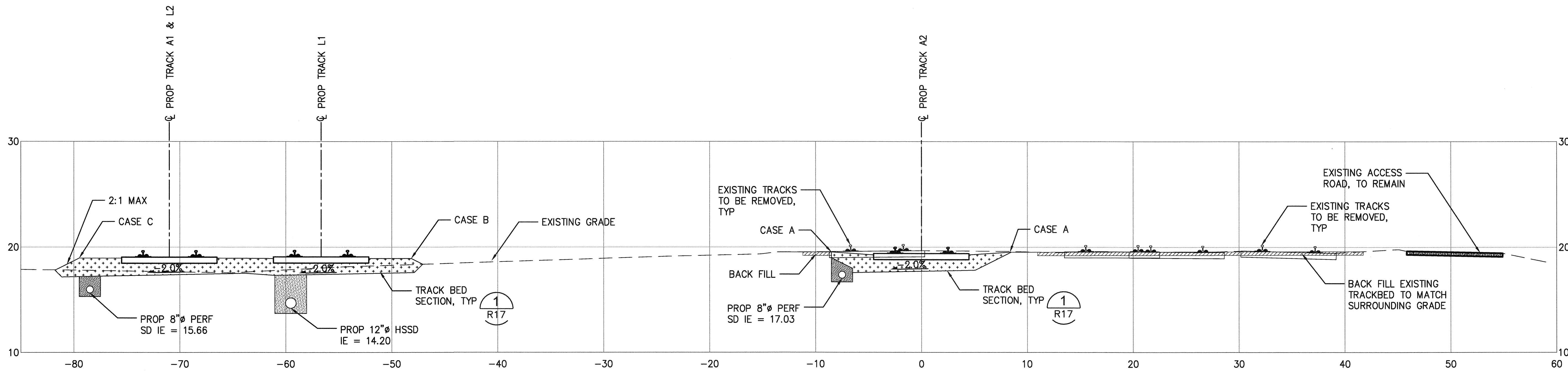
**C13**

SHEET 50 OF 134  
 CONT/CONS: 070164  
 M. ID: 092938  
 PHASE: BID

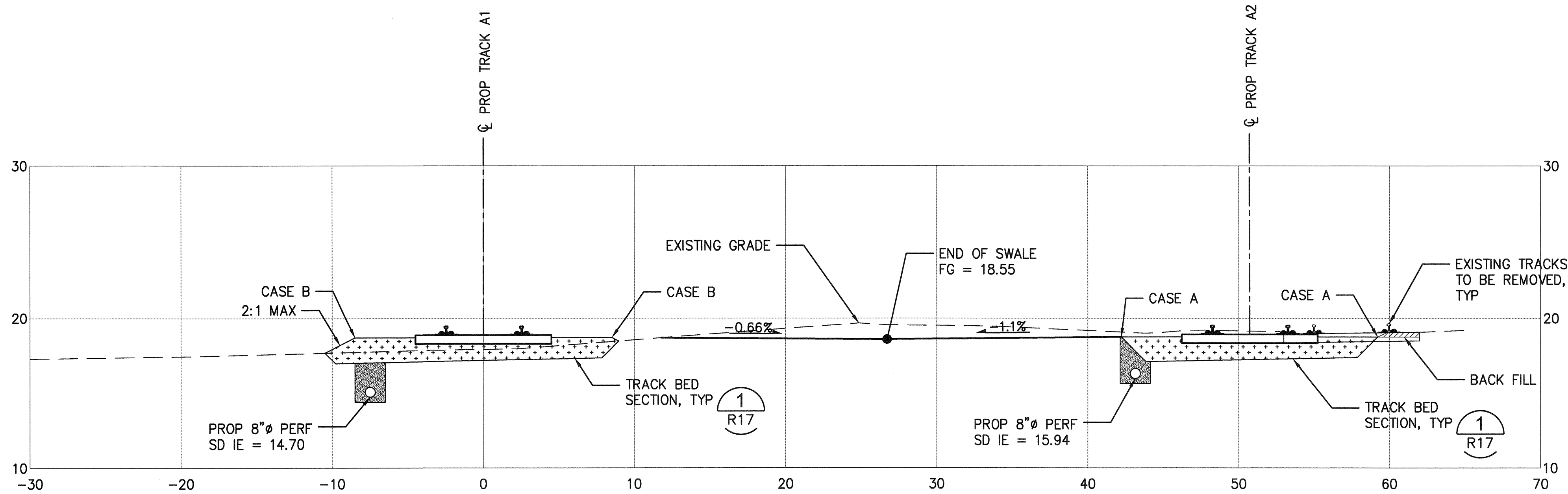


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<b>6555</b> <b>C14</b> SHEET 51 OF 134	<b>NORTH LEAD</b> TPU POWER POLE PLAN	SWK 03/17/16 CHECKED BY _____ DATE _____ SWK 03/17/16 PROJ. ENGR DATE _____ DATE _____ DIRECTOR ENG. DATE: nmedley Mar 18, 2016 PRINTED BY: nmedley PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3 DAT-HRZ: WB3-SF VERT: PORT OF TACOMA BM #846 PARCEL: MULTIPLE DRAWING SCALE: AS NOTED
PHASE: BID			

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**A**  
C1  
**SECTION ALONG ANNIE 2**  
**STA 926+95.00**  
SCALE: 1" = 5'



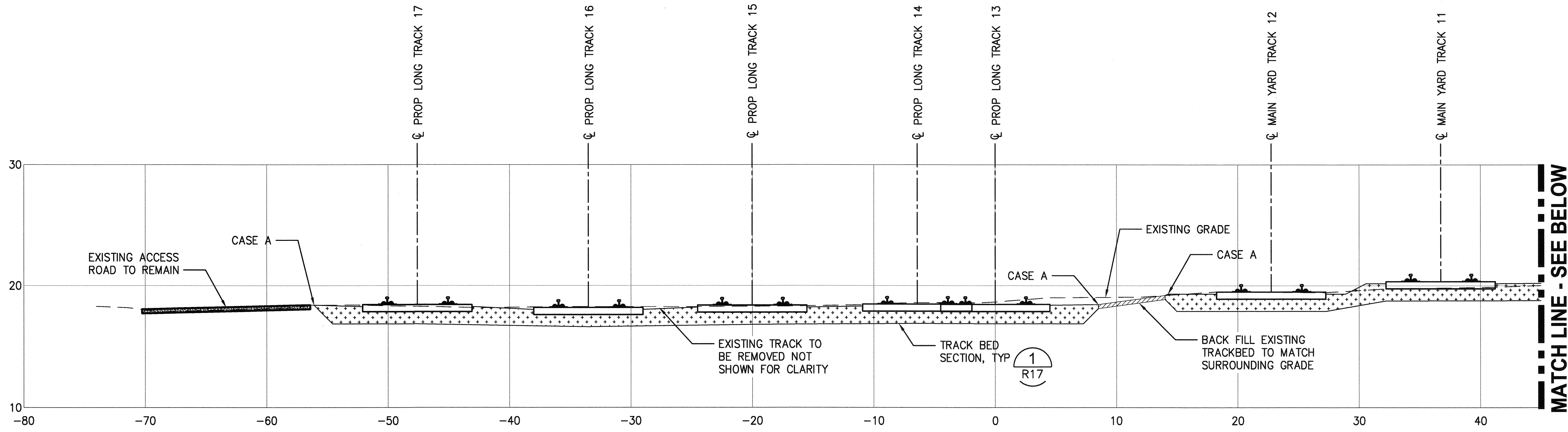
**B**  
C1  
**SECTION ALONG ANNIE 1**  
**STA 915+02.77**  
SCALE: 1" = 5'

**NOTES :**

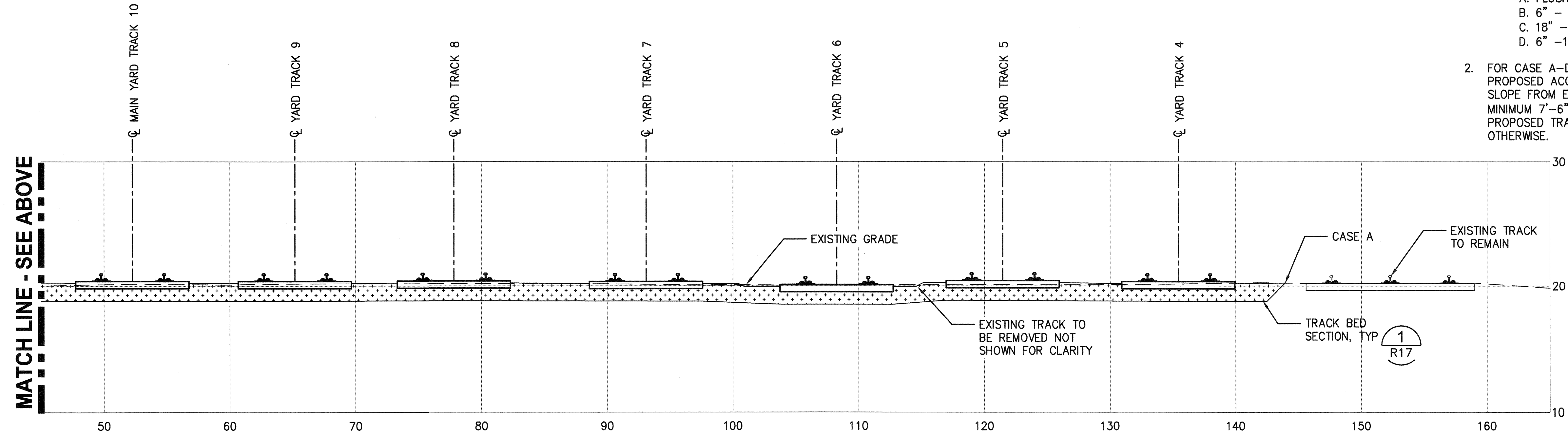
- CASE OF TYPICAL TRACKBED ELEVATION ADJACENT TO EXISTING OR PROPOSED GRADE  
 A. FLUSH  
 B. 6" - 18" ABOVE GRADE  
 C. 18" - 26" ABOVE GRADE  
 D. 6" - 18" BELOW GRADE
- FOR CASE A-D ADJACENT TO EXISTING OR PROPOSED ACCESS ROADWAY, PROVIDE 2:1 SLOPE FROM EDGE OF PAVEMENT AND MINIMUM 7'-6" TO CENTERLINE OF PROPOSED TRACK, UNLESS NOTED OTHERWISE.

 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401		SWK 03/17/16 CHECKED BY DATE SWK 03/17/16 PROJ. ENGR DATE PRINTED BY: rmedley Mar 18, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	APPROVED:  4/2/16 DIRECTOR ENG. DATE
	<b>6555</b> <b>C15</b> SHEET 52 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>CIVIL/SITE SECTIONS</b> RANGE: 03E SECTION: 1, 2, 3 TOWNSHIP: 20N DAT-HRZ: W83-SF PARCEL: MULTIPLE	PART OF TACOMA <b>Part of Tacoma</b> P.O. BOX 187 TACOMA, WA 98401

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MATCH LINE - SEE BELOW

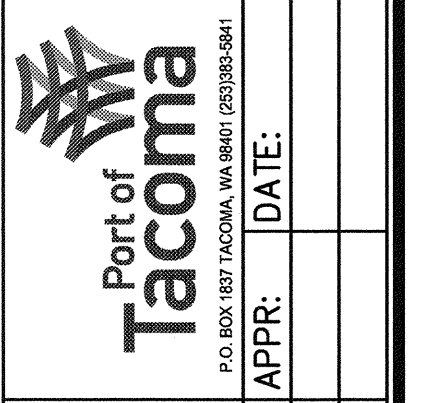


MATCH LINE - SEE ABOVE

**SECTION ALONG LONG TRACK 13**  
**STA 304+22.09**  
 SCALE: 1" = 5'

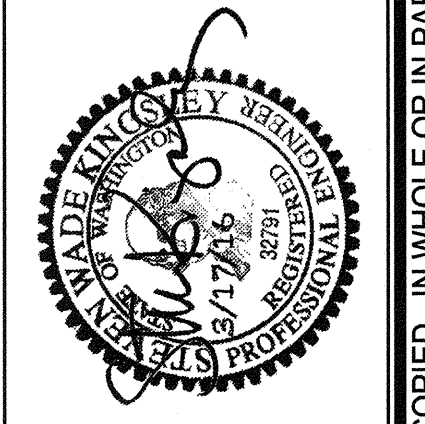
**NOTES :**

- CASE OF TYPICAL TRACKBED ELEVATION ADJACENT TO EXISTING OR PROPOSED GRADE
  - A. FLUSH
  - B. 6" - 18" ABOVE GRADE
  - C. 18" - 26" ABOVE GRADE
  - D. 6" - 18" BELOW GRADE
- FOR CASE A-D ADJACENT TO EXISTING OR PROPOSED ACCESS ROADWAY, PROVIDE 2:1 SLOPE FROM EDGE OF PAVEMENT AND MINIMUM 7'-6" TO CENTERLINE OF PROPOSED TRACK, UNLESS NOTED OTHERWISE.



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MARK: REVISION: BY: DATE: APPR: DATE:



APPROVED:	SWK	03/17/16
<i>Chris Howard</i>	CHECKED BY	DATE
	SWK	03/17/16
	PROJ. ENGR	DATE
	DIRECTOR	4-12-16
	ENG. DATE	nmmedley Mar 18, 2016
	PRINTED BY:	
	PORT ADDRESS:	ONE SITCUM PLAZA
	DRAWING SCALE:	TACOMA, WA 98401 - 1837

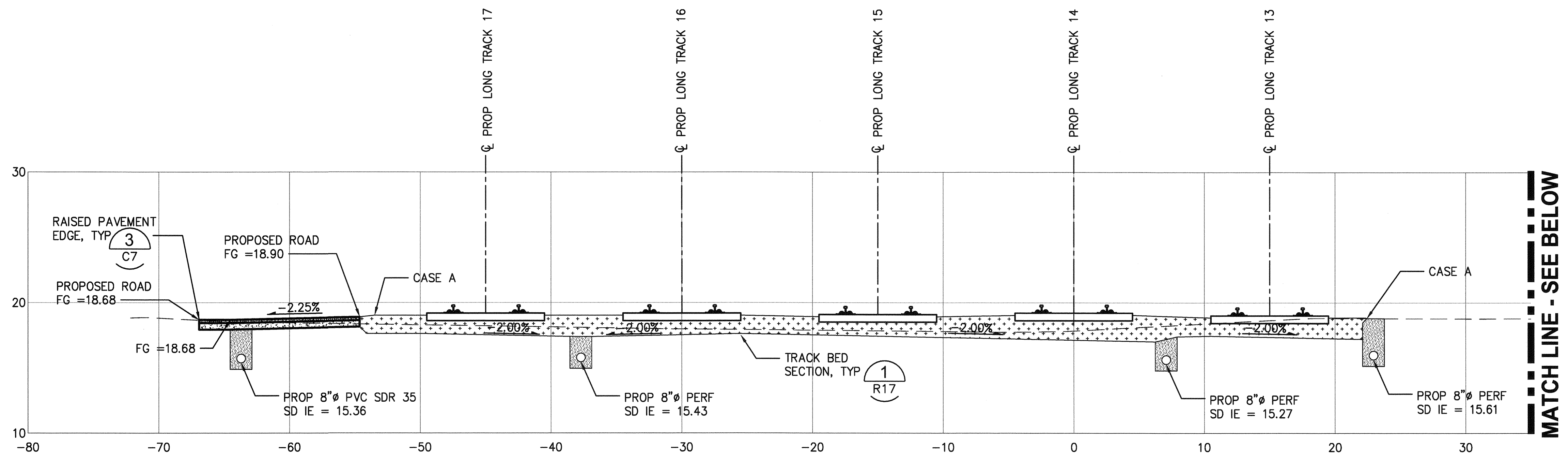
<b>6555</b>	<b>NORTH LEAD</b>	
	CIVIL/SITE SECTIONS	
	TOWNSHIP: 20N	RANGE: 03E
	DATE-HRZ: W83-SF	VERT: PORT OF TACOMA BM #846
CONTR/CONS: 070164	SECTION: 1, 2, 3	
M. ID: 092938	PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED
PHASE: BID		

<b>C16</b>	SHEET 53 OF 134
CONTR/CONS: 070164	
M. ID: 092938	
PHASE: BID	

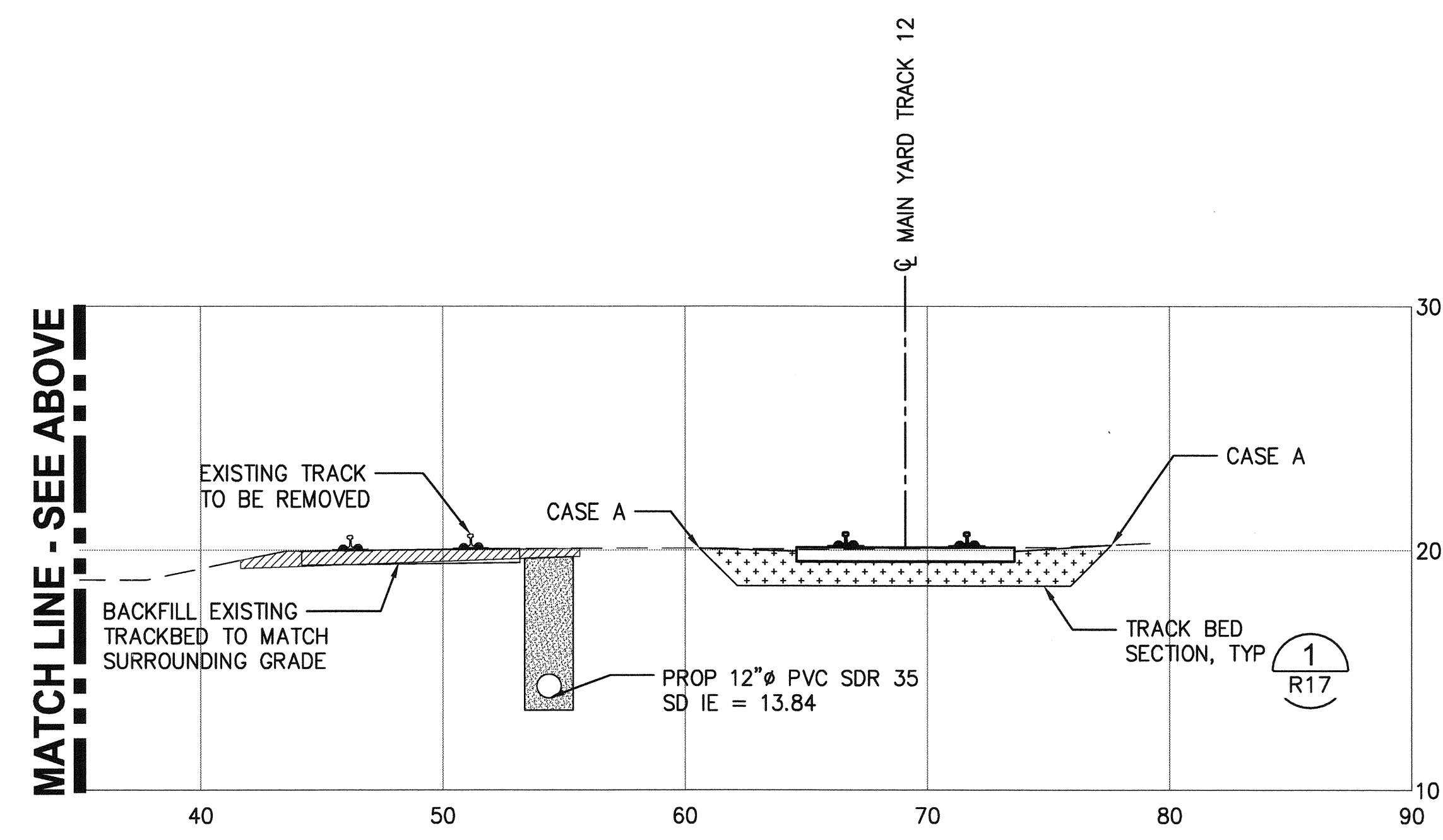
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BINDING EDGE

PORT OF TACOMA FILE: N:\Civil\114114148 Port North Lead Rail\Part 3 - KPFF Design\3.13 Drawings\Current\092938-C17



MATCH LINE - SEE BELOW



**SECTION ALONG LONG TRACK 14**  
**STA 422+25.00**  
 SCALE: 1" = 5'

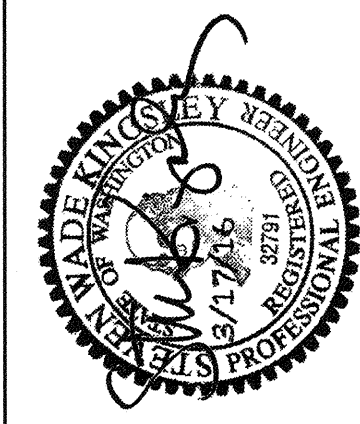
**NOTES :**

- CASE OF TYPICAL TRACKBED ELEVATION ADJACENT TO EXISTING OR PROPOSED GRADE
  - A. FLUSH
  - B. 6" - 18" ABOVE GRADE
  - C. 18" - 26" ABOVE GRADE
  - D. 6" - 18" BELOW GRADE
- FOR CASE A-D ADJACENT TO EXISTING OR PROPOSED ACCESS ROADWAY, PROVIDE 2:1 SLOPE FROM EDGE OF PAVEMENT AND MINIMUM 7'-6" TO CENTERLINE OF PROPOSED TRACK, UNLESS NOTED OTHERWISE.

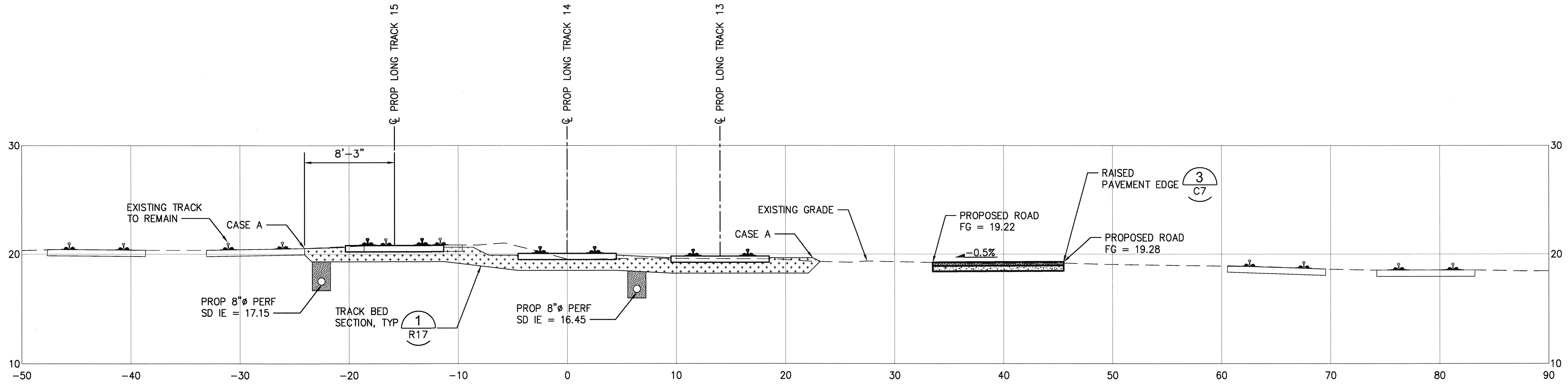
6555 <b>C17</b> SHEET 54 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	NORTH LEAD CIVIL/SITE SECTIONS	SWK 03/17/16 CHECKED BY DATE	APPROVED: <i>[Signature]</i>
		SWK 03/17/16 PROJ. ENGR DATE	DIRECTOR ENG. DATE 4-12-16
TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3	VERT: PORT OF TACOMA BM #846	PRINTED BY: rmedley Mar 18, 2016	PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837
PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED	MARK: REVISION:	DATE:



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 (253) 396-0150 Fax (253) 396-0162  
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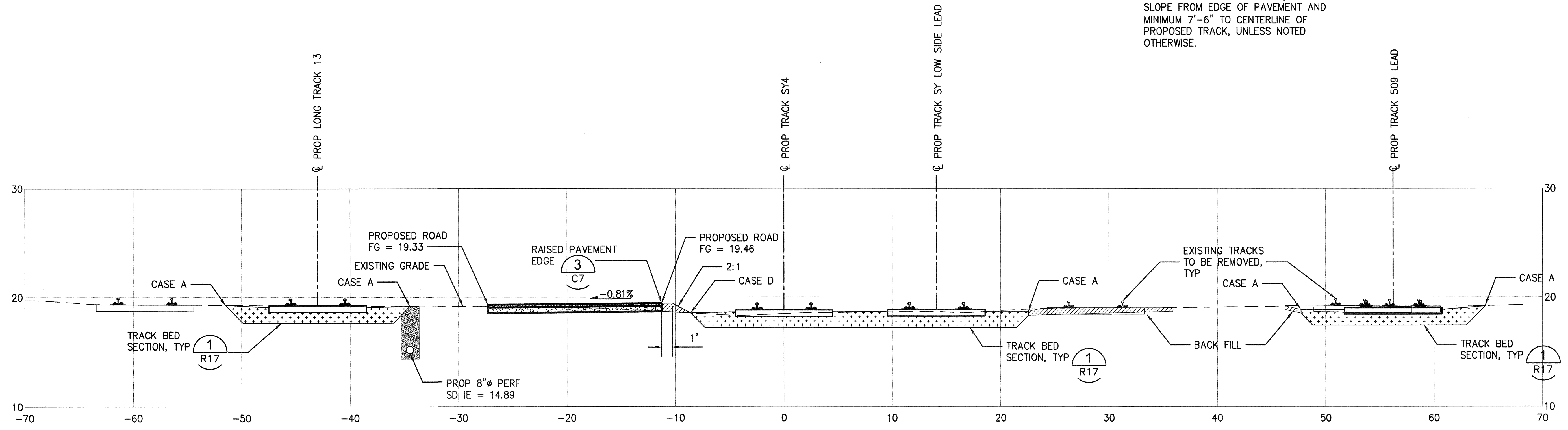


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**SECTION ALONG LONG TRACK 14**  
**STA 434+75.00**  
 SCALE: 1" = 5'

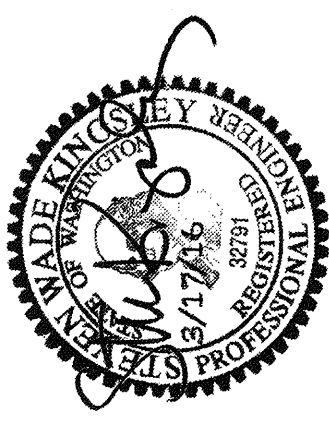
- NOTES :**
- CASE OF TYPICAL TRACKBED ELEVATION ADJACENT TO EXISTING OR PROPOSED GRADE  
 A. FLUSH  
 B. 6" - 18" ABOVE GRADE  
 C. 18" - 26" ABOVE GRADE  
 D. 6" -18" BELOW GRADE
  - FOR CASE A-D ADJACENT TO EXISTING OR PROPOSED ACCESS ROADWAY, PROVIDE 2:1 SLOPE FROM EDGE OF PAVEMENT AND MINIMUM 7'-6" TO CENTERLINE OF PROPOSED TRACK, UNLESS NOTED OTHERWISE.



**SECTION ALONG SY4**  
**STA 11+15.00**  
 SCALE: 1" = 5'



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APPROVED:	SMK	03/17/16
<i>Michael S. Kasper</i>	CHECKED BY	DATE
	SMK	03/17/16
	PROJ. ENGR	DATE
	4-12-16	nmmedley Mar 18, 2016
DIRECTOR ENG. DATE	PRINTED BY:	PORT ADDRESS: ONE SITCUM PLAZA
		TACOMA, WA 98401-1837

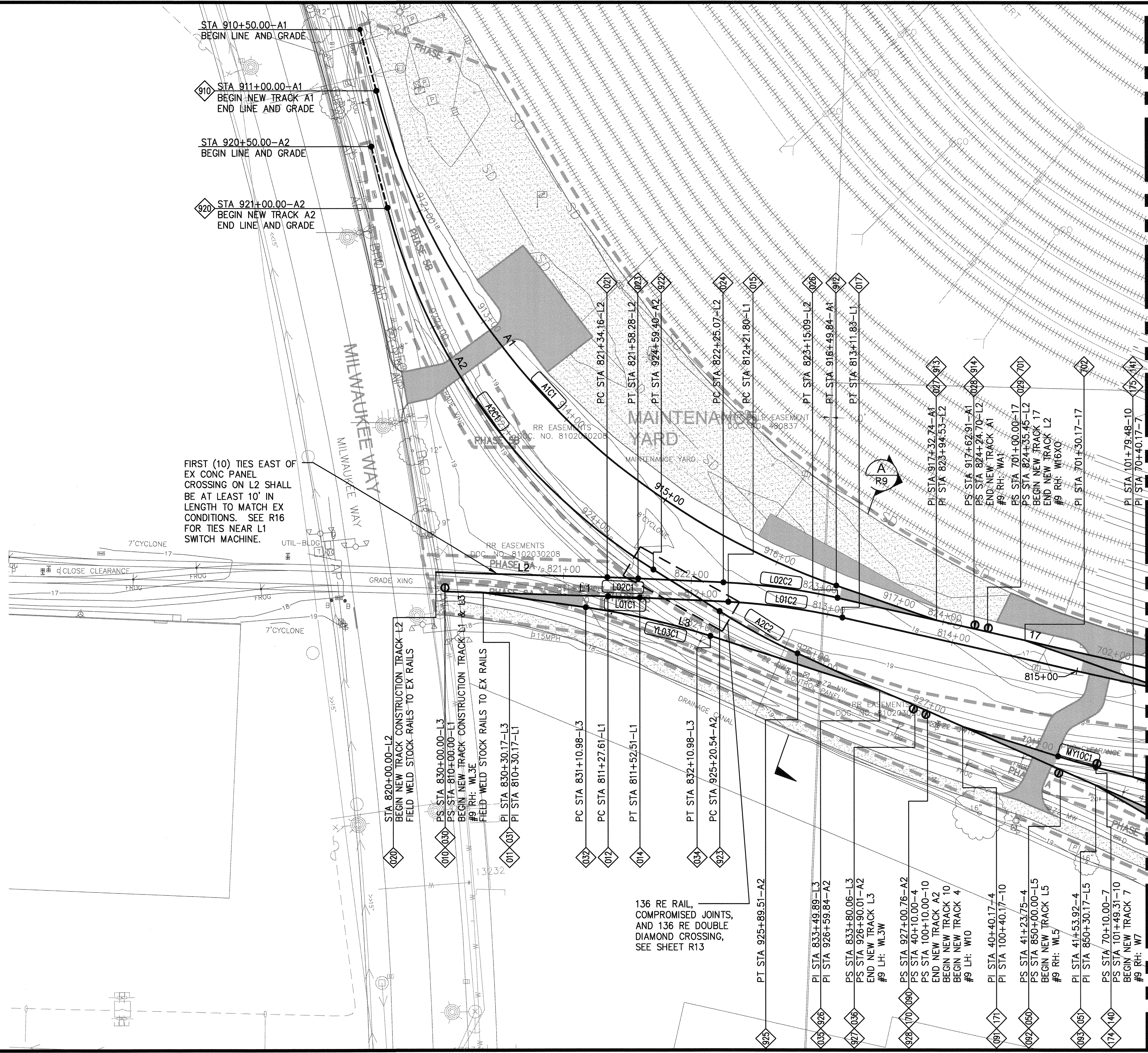
<b>NORTH LEAD</b>	<b>CIVIL/SITE SECTIONS</b>		
	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
	DAT-HRZ: W83-SF	VERT: PORT OF TACOMA	BM #846
	PAPARCEL: MULTIPLE	DRAWING SCALE:	AS NOTED

<b>6555</b>	<b>C18</b>
SHEET 55 OF 134	
CONT/CONS: 070164	
M. ID: 092938	
PHASE: BID	

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BINDING EDGE

PORT OF TACOMA FILE: N:\Civil\114114148 Pot North Lead Rail\Part 3 - KPFF Design\3.13 Drawings\Current\092938-R01



FIRST (10) TIES EAST OF EX CONC PANEL CROSSING ON L2 SHALL BE AT LEAST 10' IN LENGTH TO MATCH EX CONDITIONS. SEE R16 FOR TIES NEAR L1 SWITCH MACHINE.

136 RE RAIL, COMPROMISED JOINTS, AND 136 RE DOUBLE DIAMOND CROSSING, SEE SHEET R13

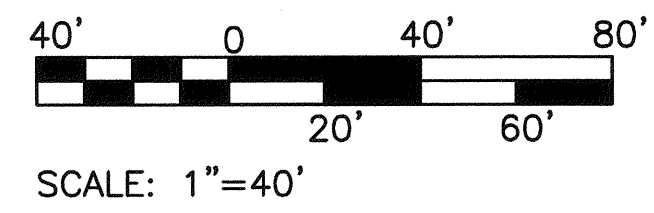
**LEGEND:**

- NEW TRACK, CENTER LINE, SEE NOTES 6 AND 12
- LINE AND GRADE EXISTING TRACK
- RELAY TRACK WITH SALVAGE RAIL FOR RELAY
- POINT OF SWITCH
- NEW TRACK ALIGNMENT POINT, SEE SHEETS R18-R25
- TRACK HORIZONTAL CURVE
- EXISTING RAIL, TOP OF RAIL
- AIR CONNECTION PIT
- #9 TURNOUT
- #9 TURNOUT
- #9 TURNOUT
- #9 TURNOUT
- NEW ACCESS ROAD SEE SHEETS C1-C6
- PHASING BOUNDARY SEE SHEETS G7-G23

**NOTES:**

1. REFER TO SHEETS G7 THROUGH G23 FOR PHASING AND SEQUENCING REQUIREMENTS.
2. ALL NEW TURNOUTS, CROSSOVERS, AND DIAMOND CROSSINGS ARE PORT FURNISHED. CONTRACTOR SHALL UNLOAD MATERIALS ON SITE OR TO A PORT FURNISHED STAGING AREA, SEE SHEET G7. SEE SHEETS R11 THRU R15 AND PROJECT SPECIFICATIONS FOR SPECIAL TRACKWORK MATERIALS PROVIDED BY THE PORT.
3. ALL NEW RAIL 115 LB. JOINTED RAIL, EXCEPT WHERE NOTED. SEE SURVEY SHEETS G24 THRU G29 FOR EX RAIL SIZE.
4. ALL NEW TRACK TIES ARE TIMBER. SEE SURVEY SHEETS G24 THRU G29 FOR EX TRACK TIE TYPE.
5. REFER TO SHEETS CD1 THRU CD6 FOR TRACK AND SITE DEMOLITION.
6. FOR TYPICAL TRACKBED SECTION, SEE
7. SEE SHEET R16 FOR TURNOUT AND CROSSOVER INSULATION REQUIREMENTS.
8. REFER TO SHEETS C1 THRU C6 FOR ROADWAY GRADE CROSSINGS.
9. SALVAGE RAIL FOR RELAY, AS INDICATED ON SHEETS CD1 THRU CD6, SHALL BE USED IN CONSTRUCTION OF TANGENT SEGMENTS OF TRACK 4 THRU 12 ONLY AND AS SHOWN ON SHEET R7.
10. POINTS OF CURVATURE (PC) AND POINTS OF TANGENCY (PT) ON TRACKS L5, MY TRACKS 4 THRU 11, AND 12 BETWEEN STATIONS 201+00 AND 207+00 NOT LABELED FOR CLARITY. REFER TO TRACK DATA CHARTS ON SHEETS R18 THRU R25 FOR DATA.
11. REFER TO SHEETS RRP1 THRU RRP10 FOR VERTICAL ALIGNMENT OF RAIL.
12. ALL START AND END NEW TRACK LOCATIONS, WHICH MATCH INTO EXISTING TRACK, ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE NEAREST EXISTING JOINT AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL AND HORIZONTAL ALIGNMENT AND TIE INTO EXISTING TRACK AT EXISTING JOINT.

MATCH LINE - SEE SHEET R2



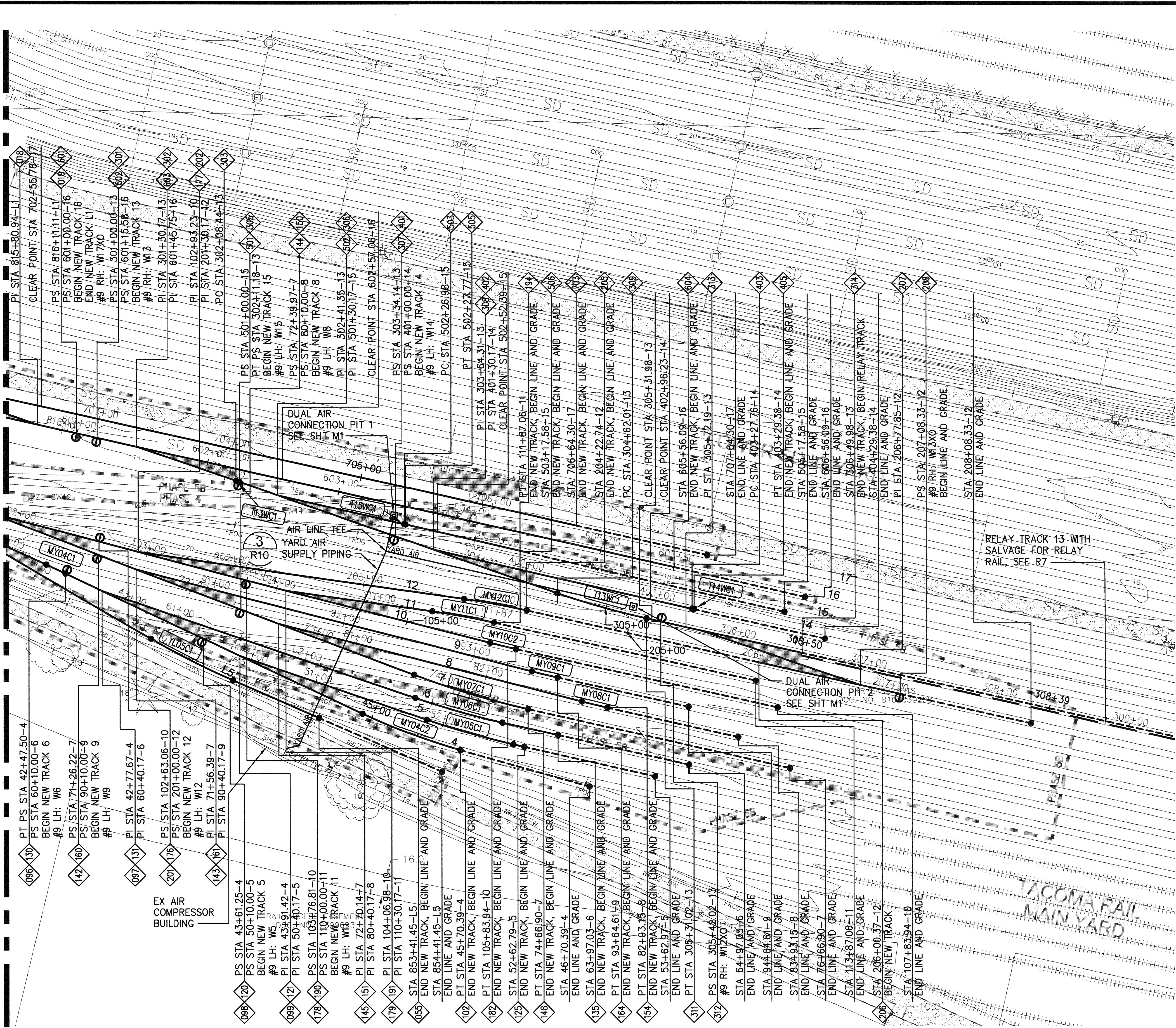
<b>6555</b>	<b>NORTH LEAD WEST END - AREA 1 RAIL PLAN</b>				SWK 03/17/16
	<b>R1</b>	SHEET 86 OF 134	APPROVED: <i>[Signature]</i>	CHECKED BY: DATE	SWK 03/17/16
CONT/CONS: 070164	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3	DATE: 4-12-16	DATE: 03/17/16
M. ID: 092938	DAT-HRZ: W83-SF	VERT: PORT OF TACOMA BM #846	PRINTED BY: bosterhaus Mar 21, 2016	PORT ADDRESS: ONE SITCUM PLAZA	DATE: 03/17/16
PHASE: BID	PARCEL: MUL TIPLE	DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837		

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MATCH LINE - SEE SHEET R1

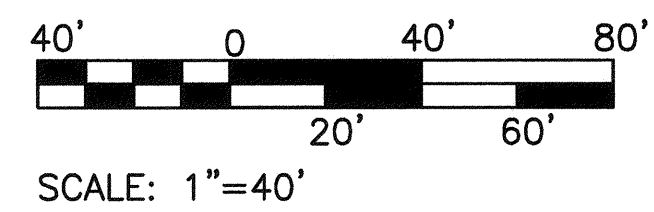


LEGEND:

- NEW TRACK, CENTER LINE, SEE NOTES 6 AND 12
- LINE AND GRADE EXISTING TRACK
- RELAY TRACK WITH SALVAGE RAIL FOR RELAY
- POINT OF SWITCH
- NEW TRACK ALIGNMENT POINT, SEE SHEETS R18-R25
- TRACK HORIZONTAL CURVE
- EXISTING RAIL, TOP OF RAIL
- AIR CONNECTION PIT
- #9 TURNOUT
- NEW ACCESS ROAD SEE SHEETS C1-C6
- PHASING BOUNDARY SEE SHEETS G7-G23

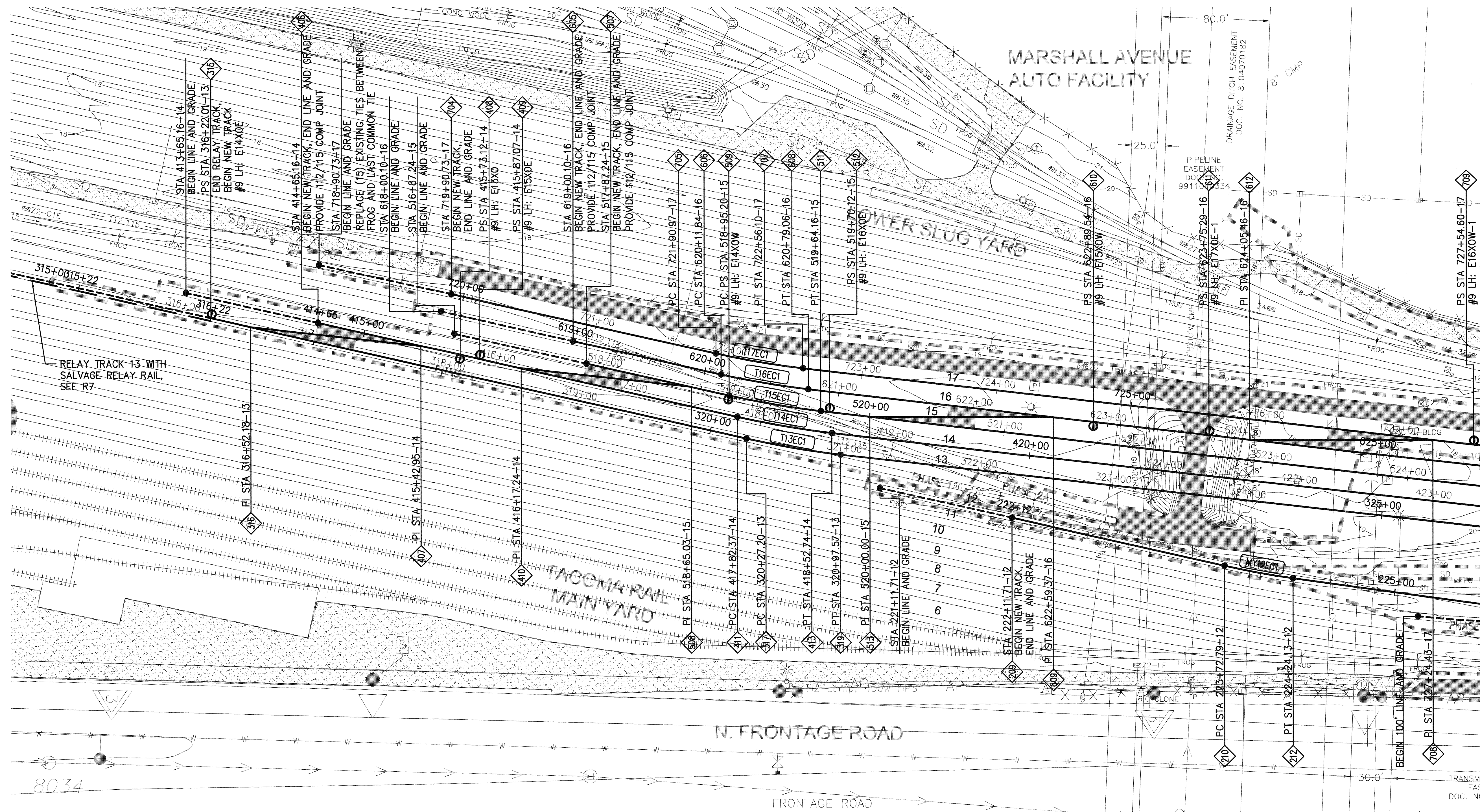
NOTES:

1. REFER TO SHEETS G7 THROUGH G23 FOR PHASING AND SEQUENCING REQUIREMENTS.
2. ALL NEW TURNOUTS, CROSSOVERS, AND DIAMOND CROSSINGS ARE PORT FURNISHED. CONTRACTOR SHALL UNLOAD MATERIALS ON SITE OR TO A PORT FURNISHED STAGING AREA, SEE SHEET G7. SEE SHEETS R11 THRU R15 AND PROJECT SPECIFICATIONS FOR SPECIAL TRACKWORK MATERIALS PROVIDED BY THE PORT.
3. ALL NEW RAIL 115 LB. JOINTED RAIL, EXCEPT WHERE NOTED. SEE SURVEY SHEETS G24 THRU G29 FOR EX RAIL SIZE.
4. ALL NEW TRACK TIES ARE TIMBER. SEE SURVEY SHEETS G24 THRU G29 FOR EX TRACK TIE TYPE.
5. REFER TO SHEETS CD1 THRU CD6 FOR TRACK AND SITE DEMOLITION.
6. FOR TYPICAL TRACKBED SECTION, SEE R17
7. SEE SHEET R16 FOR TURNOUT AND CROSSOVER INSULATION REQUIREMENTS.
8. REFER TO SHEETS C1 THRU C6 FOR ROADWAY GRADE CROSSINGS.
9. SALVAGE RAIL FOR RELAY, AS INDICATED ON SHEETS CD1 THRU CD6, SHALL BE USED IN CONSTRUCTION OF TANGENT SEGMENTS OF TRACK 4 THRU 12 ONLY AND AS SHOWN ON SHEET R7.
10. POINTS OF CURVATURE (PC) AND POINTS OF TANGENCY (PT) ON TRACKS L5, MY TRACKS 4 THRU 11, AND 12 BETWEEN STATIONS 201+00 AND 207+00 NOT LABELED FOR CLARITY. REFER TO TRACK DATA CHARTS ON SHEETS R18 THRU R25 FOR DATA.
11. REFER TO SHEETS RRP1 THRU RRP10 FOR VERTICAL ALIGNMENT OF RAIL.
12. ALL START AND END NEW TRACK LOCATIONS, WHICH MATCH INTO EXISTING TRACK, ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE NEAREST EXISTING JOINT AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL AND HORIZONTAL ALIGNMENT AND TIE INTO EXISTING TRACK AT EXISTING JOINT.




 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162	Part of <b>Tacoma</b> <small>P.O. BOX 187 TACOMA, WA 98401</small>	DATE: _____ APPR: _____
	REVISION: _____ BY: _____	MARK: _____
	APPROVED: <i>William Howard</i> SWK 03/17/16 CHECKED BY: _____ DATE: _____	
<b>6555</b> <b>R2</b> SHEET 57 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD WEST END - AREA 2 RAIL PLAN</b> DIRECTOR ENG. DATE: 4-2-16 SWK 03/17/16 PRINTED BY: bosterhaus Mar 21, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	
TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3 DAT-HRZ: W83-SF VERT: PORT OF TACOMA, BM #846 PARCEL: MULTIPLE DRAWING SCALE: AS NOTED		

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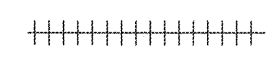



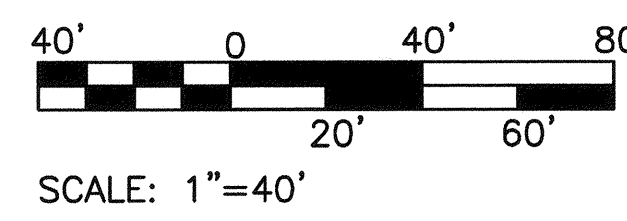
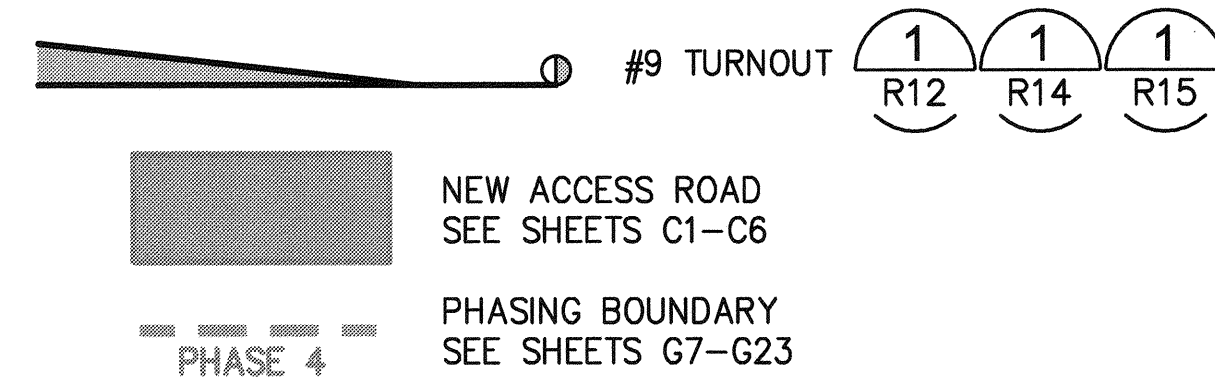
NOTES :

1. REFER TO SHEETS G7 THROUGH G23 FOR PHASING AND SEQUENCING REQUIREMENTS.
2. ALL NEW TURNOUTS, CROSSOVERS, AND DIAMOND CROSSINGS ARE PORT FURNISHED. CONTRACTOR SHALL UNLOAD MATERIALS ON SITE OR TO A PORT FURNISHED STAGING AREA, SEE SHEET G7. SEE SHEETS R11 THRU R15 AND PROJECT SPECIFICATIONS FOR SPECIAL TRACKWORK MATERIALS PROVIDED BY THE PORT.
3. ALL NEW RAIL 115 LB. JOINTED RAIL, EXCEPT WHERE NOTED. SEE SURVEY SHEETS G24 THRU G29 FOR EX RAIL SIZE.
4. ALL NEW TRACK TIES ARE TIMBER. SEE SURVEY SHEETS G24 THRU G29 FOR EX TRACK TIE TYPE.
5. REFER TO SHEETS CD1 THRU CD6 FOR TRACK AND SITE DEMOLITION.
6. FOR TYPICAL TRACKBED SECTION, SEE  R17
7. SEE SHEET R16 FOR TURNOUT AND CROSSOVER INSULATION REQUIREMENTS.
8. REFER TO SHEETS C1 THRU C6 FOR ROADWAY GRADE CROSSINGS.
9. SALVAGE RAIL FOR RELAY, AS INDICATED ON SHEETS CD1 THRU CD6, SHALL BE USED IN CONSTRUCTION OF TANGENT SEGMENTS OF TRACK 4 THRU 12 ONLY AND AS SHOWN ON SHEET R7.
10. POINTS OF CURVATURE (PC) AND POINTS OF TANGENCY (PT) ON TRACKS L5, MY TRACKS 4 THRU 11, AND 12 BETWEEN STATIONS 201+00 AND 207+00 NOT LABELED FOR CLARITY. REFER TO TRACK DATA CHARTS ON SHEETS R18 THRU R25 FOR DATA.

11. REFER TO SHEETS RRP1 THRU RRP10 FOR VERTICAL ALIGNMENT OF RAIL.
12. ALL START AND END NEW TRACK LOCATIONS, WHICH MATCH INTO EXISTING TRACK, ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE NEAREST EXISTING JOINT AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL AND HORIZONTAL ALIGNMENT AND TIE INTO EXISTING TRACK AT EXISTING JOINT.

LEGEND:

-  NEW TRACK, CENTER LINE, SEE NOTES 6 AND 12
-  LINE AND GRADE EXISTING TRACK
-  RELAY TRACK WITH SALVAGE RAIL FOR RELAY
-  POINT OF SWITCH
-  NEW TRACK ALIGNMENT POINT, SEE SHEETS R18-R25
-  TRACK HORIZONTAL CURVE
-  EXISTING RAIL, TOP OF RAIL
-  AIR CONNECTION PIT




MATCH LINE - SEE SHEET R4

6555

NORTH LEAD

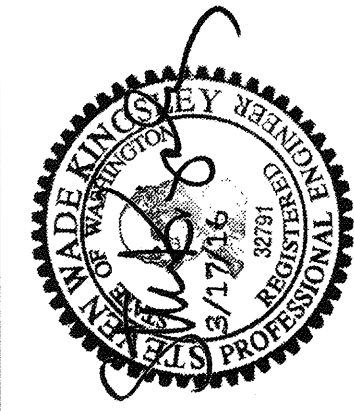
EAST END - AREA 3

RAIL PLAN

APPROVED: 

SWK 03/17/16

CHECKED BY: DATE



kpff

Port of Tacoma

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Tacoma, Washington 98407  
(253) 396-0150 Fax (253) 396-0162

SHEET 58 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

RANGE: 03E

SECTION: 1, 2, 3

VERT. PORT OF TACOMA BM #846

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

DIRECTOR ENG. DATE: 4-2-16

PROJ. ENGR DATE: 03/17/16

PRINTED BY: bosterhaus Mar 21, 2016

DATE: 03/17/16

MARK:

REVISION:

BY:

APPR:

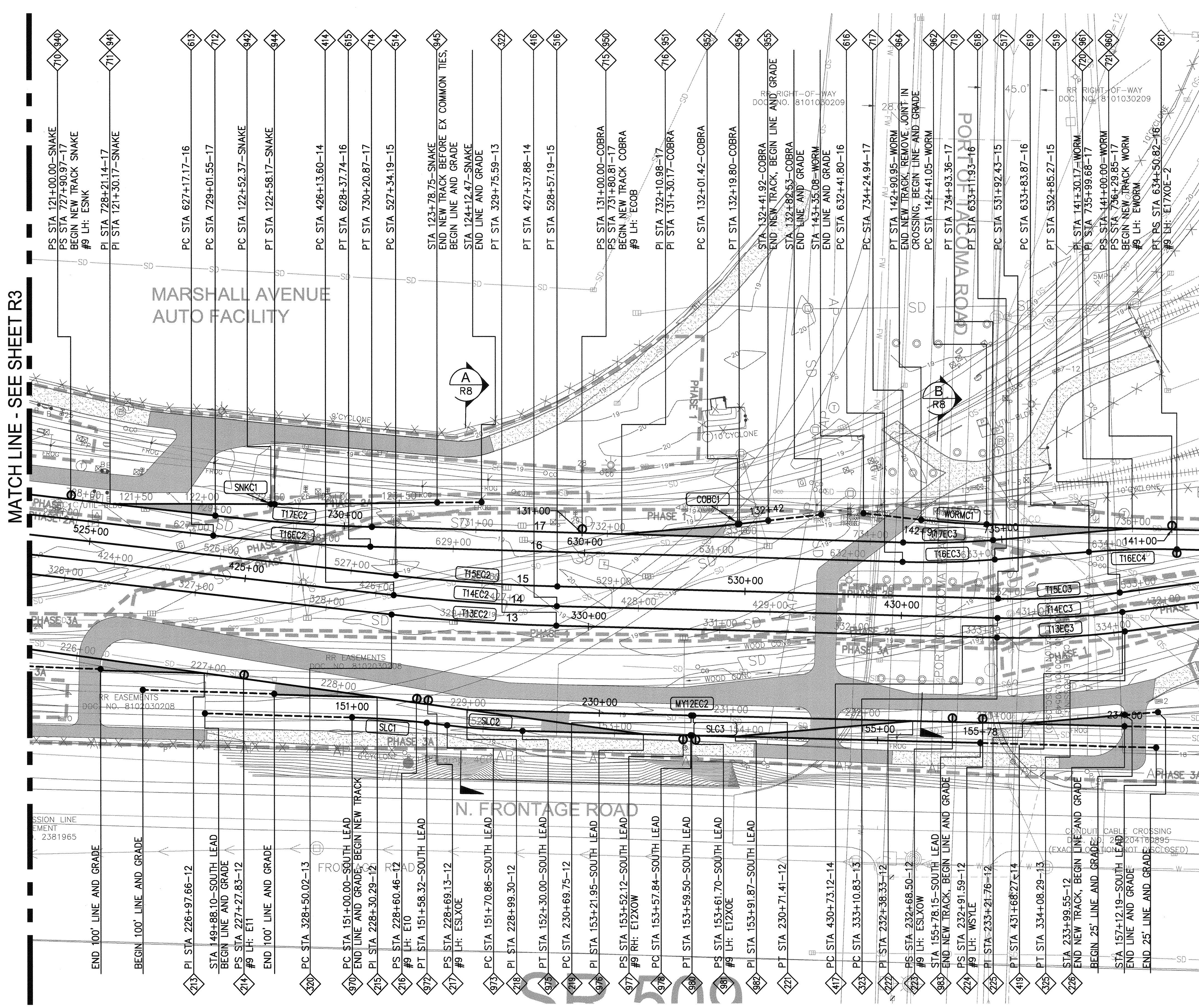
DATE:

DATE:

DATE:

MATCH LINE - SEE SHEET R3

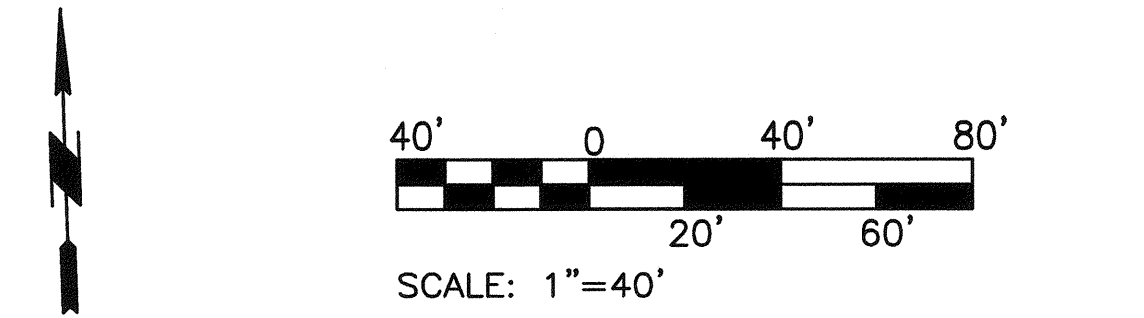
MATCH LINE - SEE SHEET R5



**LEGEND:**

- NEW TRACK, CENTER LINE, SEE NOTES 6 AND 12
- LINE AND GRADE EXISTING TRACK
- RELAY TRACK WITH SALVAGE RAIL FOR RELAY
- POINT OF SWITCH
- NEW TRACK ALIGNMENT POINT, SEE SHEETS R18-R25
- TRACK HORIZONTAL CURVE (AICI)
- EXISTING RAIL, TOP OF RAIL
- AIR CONNECTION PIT (R10)
- #9 TURNOUT (R12, R14, R15)
- NEW ACCESS ROAD SEE SHEETS C1-C6
- PHASING BOUNDARY SEE SHEETS G7-G23

- NOTES:**
- REFER TO SHEETS G7 THROUGH G23 FOR PHASING AND SEQUENCING REQUIREMENTS.
  - ALL NEW TURNOUTS, CROSSOVERS, AND DIAMOND CROSSINGS ARE PORT FURNISHED. CONTRACTOR SHALL UNLOAD MATERIALS ON SITE OR TO A PORT FURNISHED STAGING AREA, SEE SHEET G7. SEE SHEETS R11 THRU R15 AND PROJECT SPECIFICATIONS FOR SPECIAL TRACKWORK MATERIALS PROVIDED BY THE PORT.
  - ALL NEW RAIL 115 LB. JOINTED RAIL, EXCEPT WHERE NOTED. SEE SURVEY SHEETS G24 THRU G29 FOR EX RAIL SIZE.
  - ALL NEW TRACK TIES ARE TIMBER. SEE SURVEY SHEETS G24 THRU G29 FOR EX TRACK TIE TYPE.
  - REFER TO SHEETS CD1 THRU CD6 FOR TRACK AND SITE DEMOLITION.
  - FOR TYPICAL TRACKBED SECTION, SEE (R17)
  - SEE SHEET R16 FOR TURNOUT AND CROSSOVER INSULATION REQUIREMENTS.
  - REFER TO SHEETS C1 THRU C6 FOR ROADWAY GRADE CROSSINGS.
  - SALVAGE RAIL FOR RELAY, AS INDICATED ON SHEETS CD1 THRU CD6, SHALL BE USED IN CONSTRUCTION OF TANGENT SEGMENTS OF TRACK 4 THRU 12 ONLY AND AS SHOWN ON SHEET R7.
  - POINTS OF CURVATURE (PC) AND POINTS OF TANGENCY (PT) ON TRACKS L5, MY TRACKS 4 THRU 11, AND 12 BETWEEN STATIONS 201+00 AND 207+00 NOT LABELED FOR CLARITY. REFER TO TRACK DATA CHARTS ON SHEETS R18 THRU R25 FOR DATA.
  - REFER TO SHEETS RRP1 THRU RRP10 FOR VERTICAL ALIGNMENT OF RAIL.
  - ALL START AND END NEW TRACK LOCATIONS, WHICH MATCH INTO EXISTING TRACK, ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE NEAREST EXISTING JOINT AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL AND HORIZONTAL ALIGNMENT AND TIE INTO EXISTING TRACK AT EXISTING JOINT.



<b>6555</b>	<b>NORTH LEAD EAST END - AREA 4 RAIL PLAN</b>		SWK	03/17/16
	SHEET 59 OF 134		CHECKED BY	DATE
CONT/CONS:	070164	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
M. ID:	092938	DAT-HRZ: WB3-SF	VERT: PORT OF TACOMA BM #846	PRINTED BY: bosterhaus Mar 21, 2016
PHASE:	BID	PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED	PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837

**APPROVED:** *[Signature]* 4-12-16

**DATE:** 03/17/16

**REVISION:**

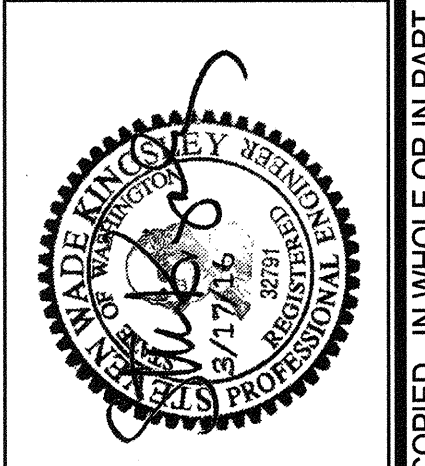
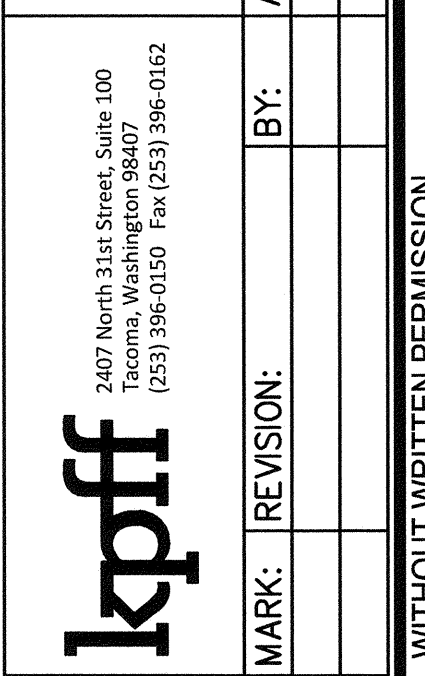
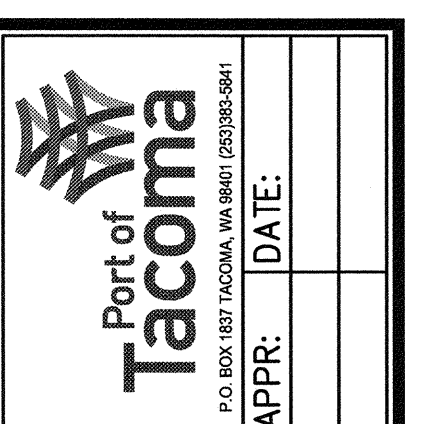
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**REVISION:**

**BY:**

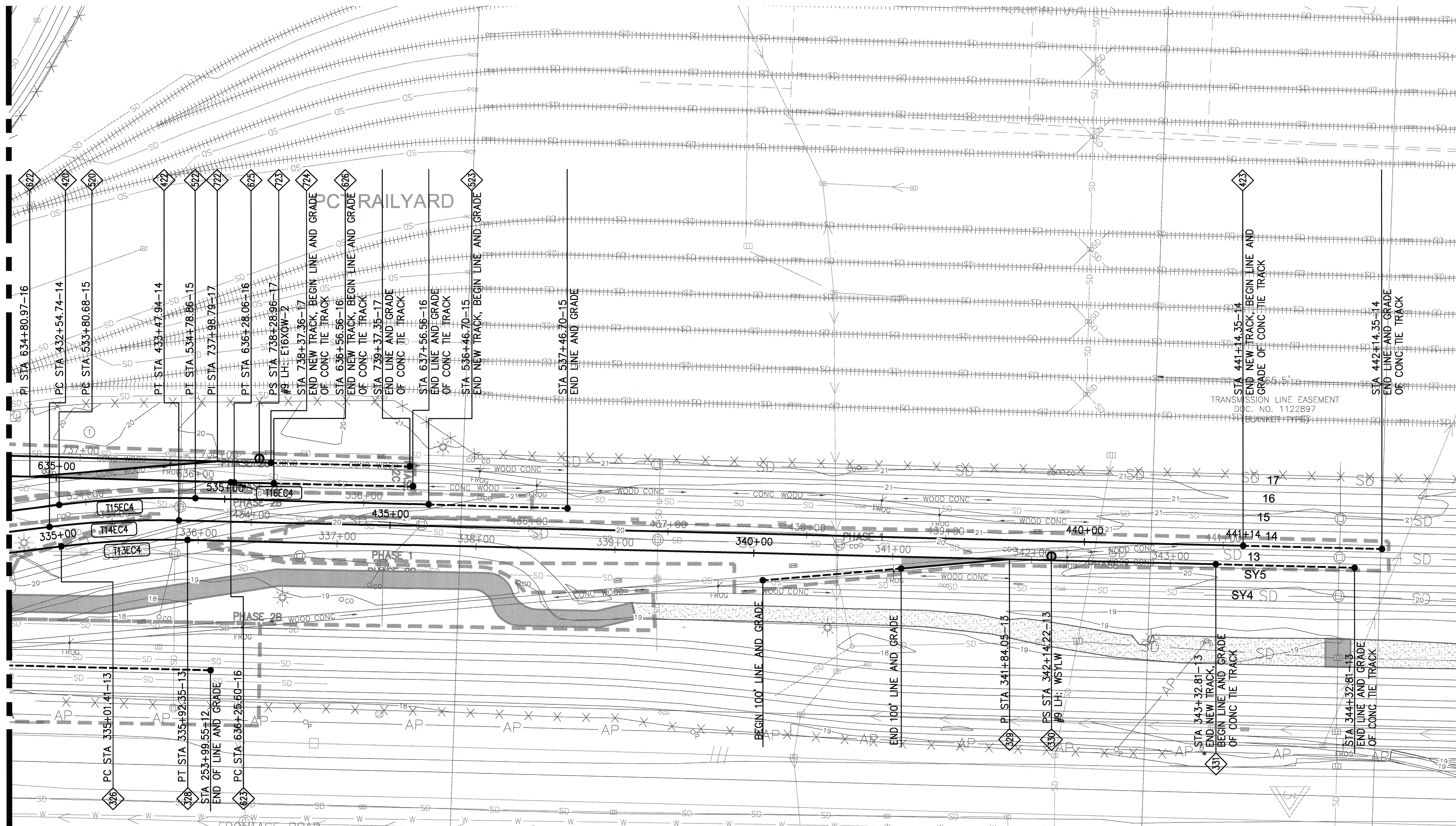
**DATE:**

**APPR:**



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MATCH LINE - SEE SHEET R4

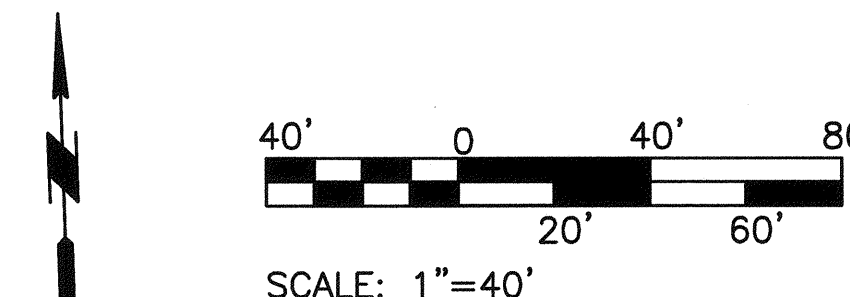


NOTES:

- REFER TO SHEETS G7 THROUGH G23 FOR PHASING AND SEQUENCING REQUIREMENTS.
- ALL NEW TURNOUTS, CROSSOVERS, AND DIAMOND CROSSINGS ARE PORT FURNISHED. CONTRACTOR SHALL UNLOAD MATERIALS ON SITE OR TO A PORT FURNISHED STAGING AREA, SEE SHEET G7. SEE SHEETS R11 THRU R15 AND PROJECT SPECIFICATIONS FOR SPECIAL TRACKWORK MATERIALS PROVIDED BY THE PORT.
- ALL NEW RAIL 115 LB. JOINTED RAIL, EXCEPT WHERE NOTED. SEE SURVEY SHEETS G24 THRU G29 FOR EX RAIL SIZE.
- ALL NEW TRACK TIES ARE TIMBER. SEE SURVEY SHEETS G24 THRU G29 FOR EX TRACK TIE TYPE.
- REFER TO SHEETS CD1 THRU CD6 FOR TRACK AND SITE DEMOLITION.
- FOR TYPICAL TRACKBED SECTION, SEE 1  
R17
- SEE SHEET R16 FOR TURNOUT AND CROSSOVER INSULATION REQUIREMENTS.
- REFER TO SHEETS C1 THRU C6 FOR ROADWAY GRADE CROSSINGS.
- SALVAGE RAIL FOR RELAY, AS INDICATED ON SHEETS CD1 THRU CD6, SHALL BE USED IN CONSTRUCTION OF TANGENT SEGMENTS OF TRACK 4 THRU 12 ONLY AND AS SHOWN ON SHEET R7.
- POINTS OF CURVATURE (PC) AND POINTS OF TANGENCY (PT) ON TRACKS L5, MY TRACKS 4 THRU 11, AND 12 BETWEEN STATIONS 201+00 AND 207+00 NOT LABELED FOR CLARITY. REFER TO TRACK DATA CHARTS ON SHEETS R18 THRU R25 FOR DATA.

LEGEND:

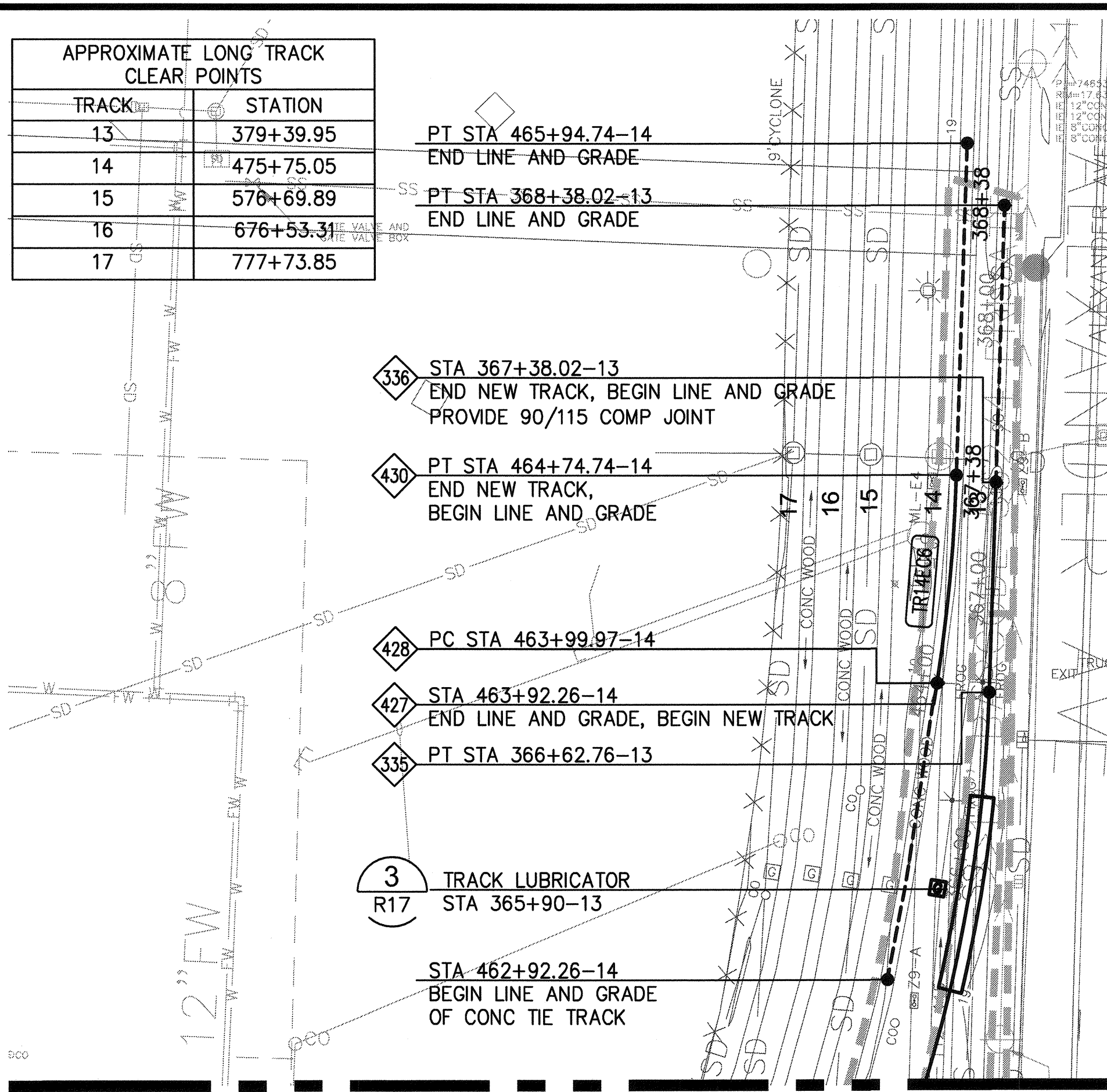
- NEW TRACK, CENTER LINE, SEE NOTES 6 AND 12
- LINE AND GRADE EXISTING TRACK
- RELAY TRACK WITH SALVAGE RAIL FOR RELAY
- POINT OF SWITCH
- NEW TRACK ALIGNMENT POINT, SEE SHEETS R18-R25
- TRACK HORIZONTAL CURVE
- EXISTING RAIL, TOP OF RAIL
- AIR CONNECTION PIT
- #9 TURNOUT 1  
R12 1  
R14 1  
R15
- NEW ACCESS ROAD SEE SHEETS C1-C6
- PHASING BOUNDARY SEE SHEETS G7-G23



<b>6555</b> <b>R5</b> SHEET 60 OF 134	<b>NORTH LEAD EAST END - AREA 5 RAIL PLAN</b>		APPROVED: <i>[Signature]</i> DATE: 03/17/16
	SWK	CHECKED BY	DATE
CONT./CONS: 070164	RANGE: 03E	SECTION: 1, 2, 3	SWK
M. ID: 092938	TOWNSHIP: 20N	VERT: PORT OF TACOMA BM #846	PROJ. ENGR
PHASE: BID	DAT-HRZ: WB3-SF	PARCEL: MUL TUPLE	PRINTED BY: bosterhaus Mar 21, 2016
DRAWING SCALE: AS NOTED	TACOMA, WA 98401-1837	PORT ADDRESS: ONE SITCUM PLAZA	
<b>kpff</b>		MARK:	REVISION:
		BY:	DATE:
		2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 1837 TACOMA, WA 98401-1837	

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APPROXIMATE LONG TRACK CLEAR POINTS	
TRACK	STATION
13	379+39.95
14	475+75.05
15	576+69.89
16	676+53.31
17	777+73.85



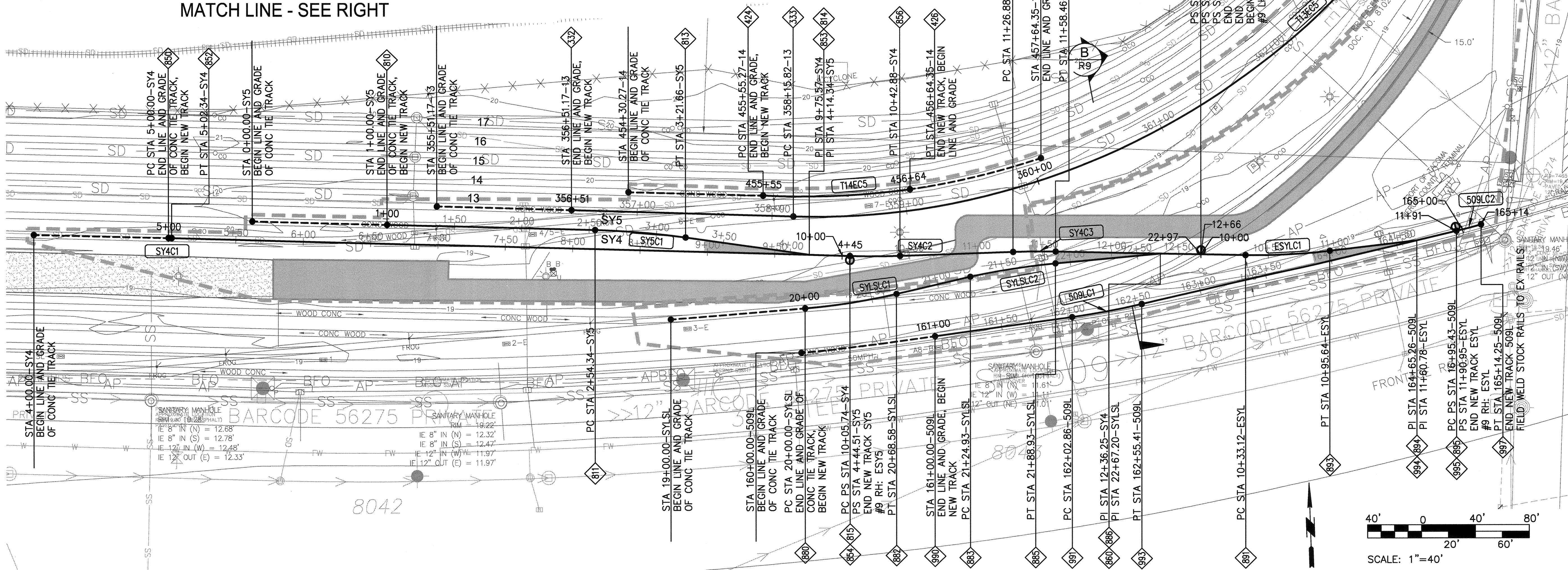
MATCH LINE - SEE RIGHT

NOTES :

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- ALL NEW TRACK TIES ARE TIMBER. SEE SURVEY SHEETS G24 THRU G29 FOR EX TRACK TIE TYPE.
- REFER TO SHEETS CD1 THRU CD6 FOR TRACK AND SITE DEMOLITION.
- FOR TYPICAL TRACKBED SECTION, SEE (1) R17
- SEE SHEET R16 FOR TURNOUT AND CROSSOVER INSULATION REQUIREMENTS.
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LEGEND:

- NEW TRACK, CENTER LINE, SEE NOTES 6 AND 12
- LINE AND GRADE EXISTING TRACK
- RELAY TRACK WITH SALVAGE RAIL FOR RELAY
- POINT OF SWITCH
- NEW TRACK ALIGNMENT POINT, SEE SHEETS R18-R25
- TRACK HORIZONTAL CURVE
- EXISTING RAIL, TOP OF RAIL
- AIR CONNECTION PIT
- #9 TURNOUT
- NEW ACCESS ROAD SEE SHEETS C1-C6
- PHASING BOUNDARY SEE SHEETS G7-G23



MATCH LINE - SEE LEFT

- REFER TO SHEETS RRP1 THRU RRP10 FOR VERTICAL ALIGNMENT OF RAIL.
- ALL START AND END NEW TRACK LOCATIONS, WHICH MATCH INTO EXISTING TRACK, ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE NEAREST EXISTING JOINT AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL AND HORIZONTAL ALIGNMENT AND TIE INTO EXISTING TRACK AT EXISTING JOINT.

**6555**

**R6**

SHEET 61 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**EAST END - AREA 6**

**RAIL PLAN**

SWK 03/17/16

CHECKED BY DATE

SWK 03/17/16

PROJ. ENGR DATE

PRINTED BY: bosterhaus Mar 21, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

APPROVED: *[Signature]*

4-12-16

APPROVED: *[Signature]*

4-12-16

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BY: APPR: DATE:

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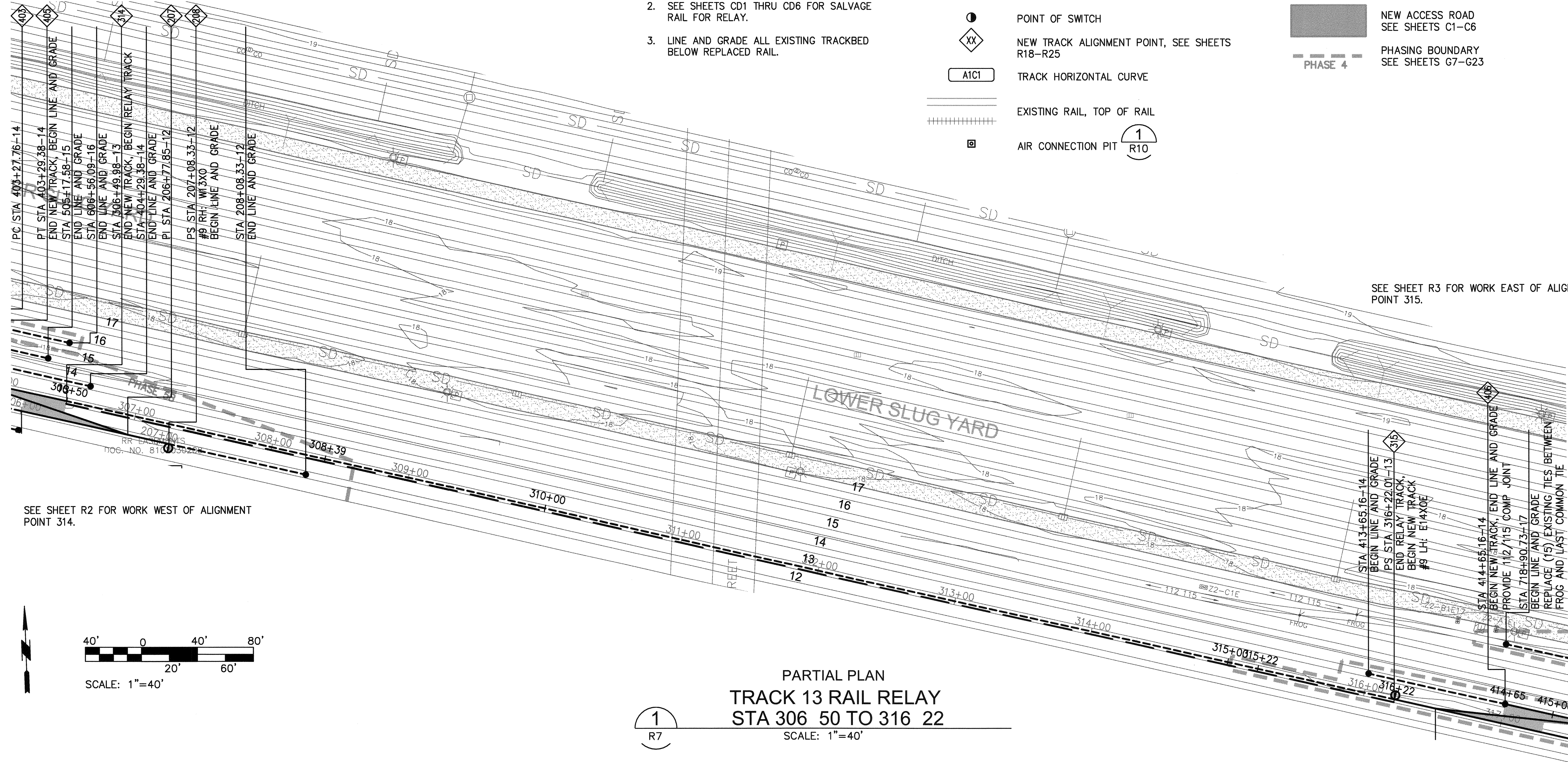
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4-12-16

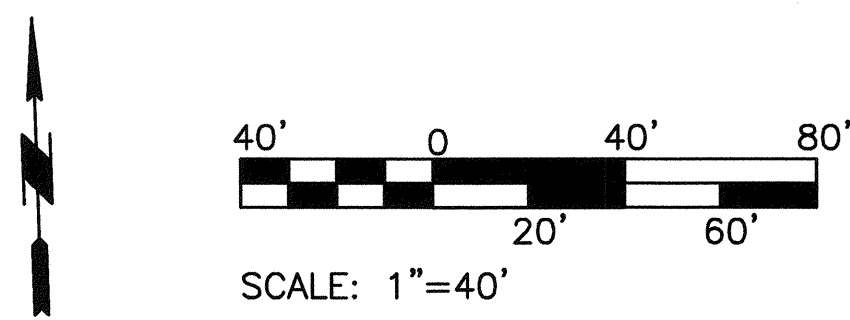
APPROVED: *[Signature]*

4-12-



SEE SHEET R2 FOR WORK WEST OF ALIGNMENT POINT 314.

SEE SHEET R3 FOR WORK EAST OF ALIGNMENT POINT 315.



1  
R7

PARTIAL PLAN  
 TRACK 13 RAIL RELAY  
 STA 306 50 TO 316 22  
 SCALE: 1"=40'

- NOTES :**
1. REPLACE EXISTING 90 RE RAIL WITH SALVAGE RAIL FOR RELAY ON TRACK 13 BETWEEN ALIGNMENT POINT 314 AND 315.
  2. SEE SHEETS CD1 THRU CD6 FOR SALVAGE RAIL FOR RELAY.
  3. LINE AND GRADE ALL EXISTING TRACKBED BELOW REPLACED RAIL.

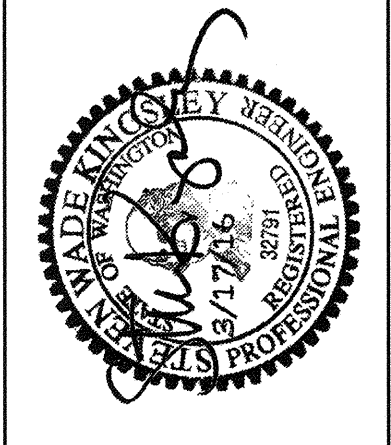
- LEGEND:**
- NEW TRACK, CENTER LINE, SEE NOTES 6 AND 12
  - LINE AND GRADE EXISTING TRACK
  - RELAY TRACK WITH SALVAGE RAIL FOR RELAY
  - POINT OF SWITCH
  - NEW TRACK ALIGNMENT POINT, SEE SHEETS R18-R25
  - TRACK HORIZONTAL CURVE
  - EXISTING RAIL, TOP OF RAIL
  - AIR CONNECTION PIT

- #9 TURNOUT
- NEW ACCESS ROAD SEE SHEETS C1-C6
- PHASING BOUNDARY SEE SHEETS G7-G23

6555  
**R7**  
 SHEET 62 OF 134  
 CONT/CONS: 070164  
 M. ID: 092938  
 PHASE: BID

**NORTH LEAD  
 AREA 7  
 SALVAGED RELAY RAIL PLAN**

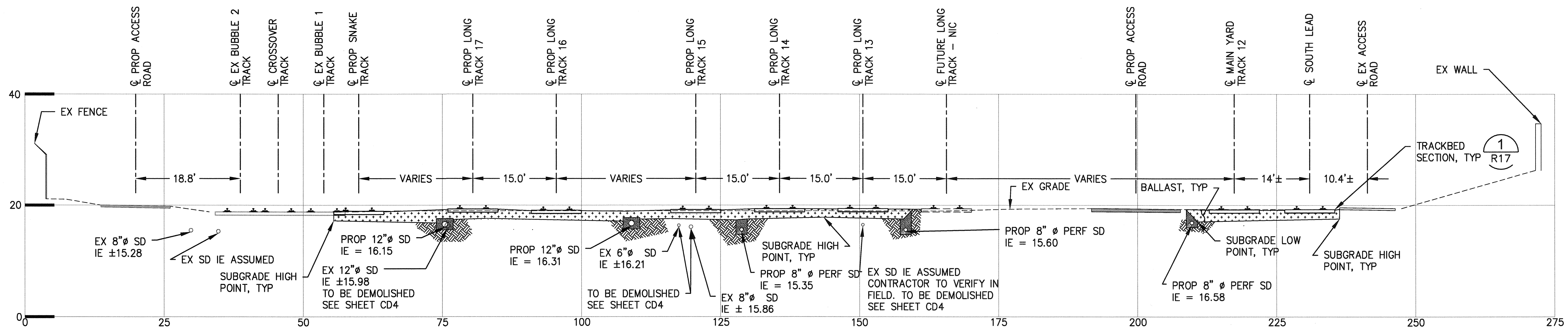
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<i>Shane Ford</i>	CHECKED BY	DATE
4-12-16	SWK	03/17/16
DIRECTOR ENG. DATE	PROJECTOR	DATE
bosterhaus Mar 21, 2016	PRINTED BY:	
PORT ADDRESS: ONE SITCLIM PLAZA	TACOMA, WA 98401-1837	



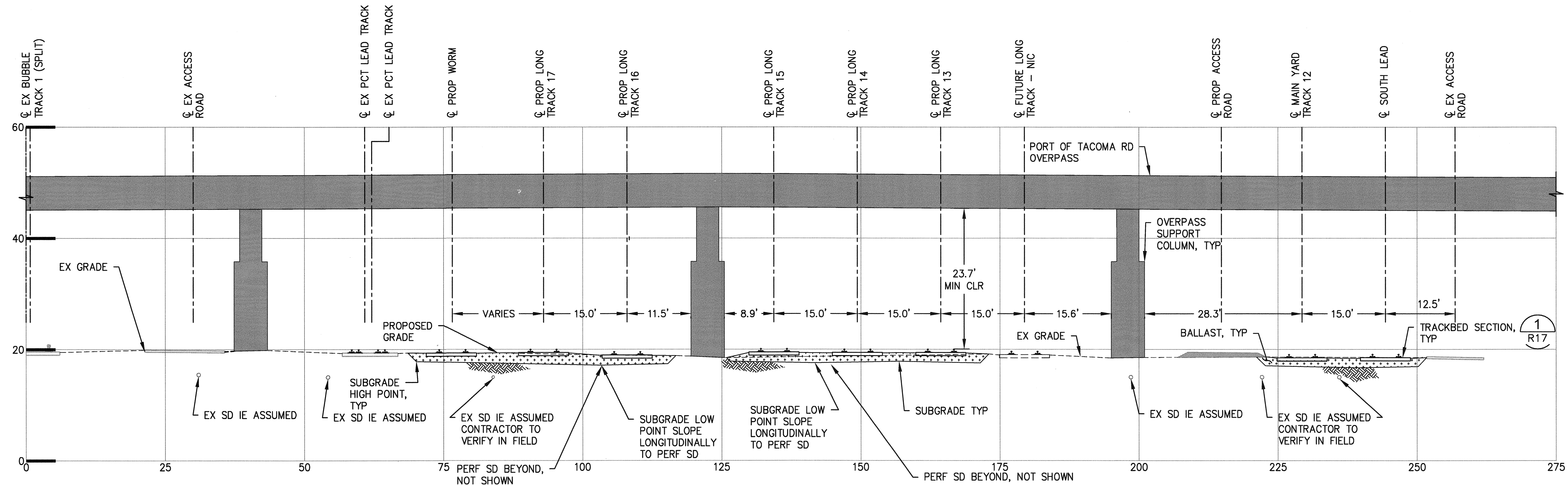
**kpff**  
 2407 North 31st Street, Suite 100  
 Tacoma, Washington 98407  
 (253) 396-0150 Fax (253) 396-0162

**Part of Tacoma**  
 P.O. BOX 1877 TACOMA, WA 98402 (203)88-9941

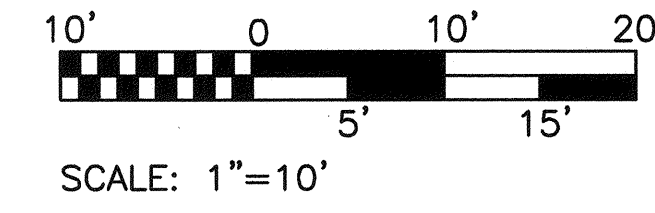
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**A**  
C4,R4



**B**  
C4,R4



 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 936-0150 Fax (253) 936-0162		SWK 03/17/16 CHECKED BY DATE	SWK 03/17/16 PROJ. ENGR DATE
	APPROVED: <i>[Signature]</i> 4-12-16 DIRECTOR ENG. DATE	PRINTED BY: bosterhaus Mar 21, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SECTION: 1, 2, 3 RANGE: 03E TOWNSHIP: 20N
Part of Tacoma P.O. BOX 187 TACOMA, WA 98401	DATE:	REVISION:	BY:
MARK:	REVISION:	BY:	DATE:

6555 R8

SHEET 63 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

NORTH LEAD  
RAILWAY TYPICAL SECTIONS

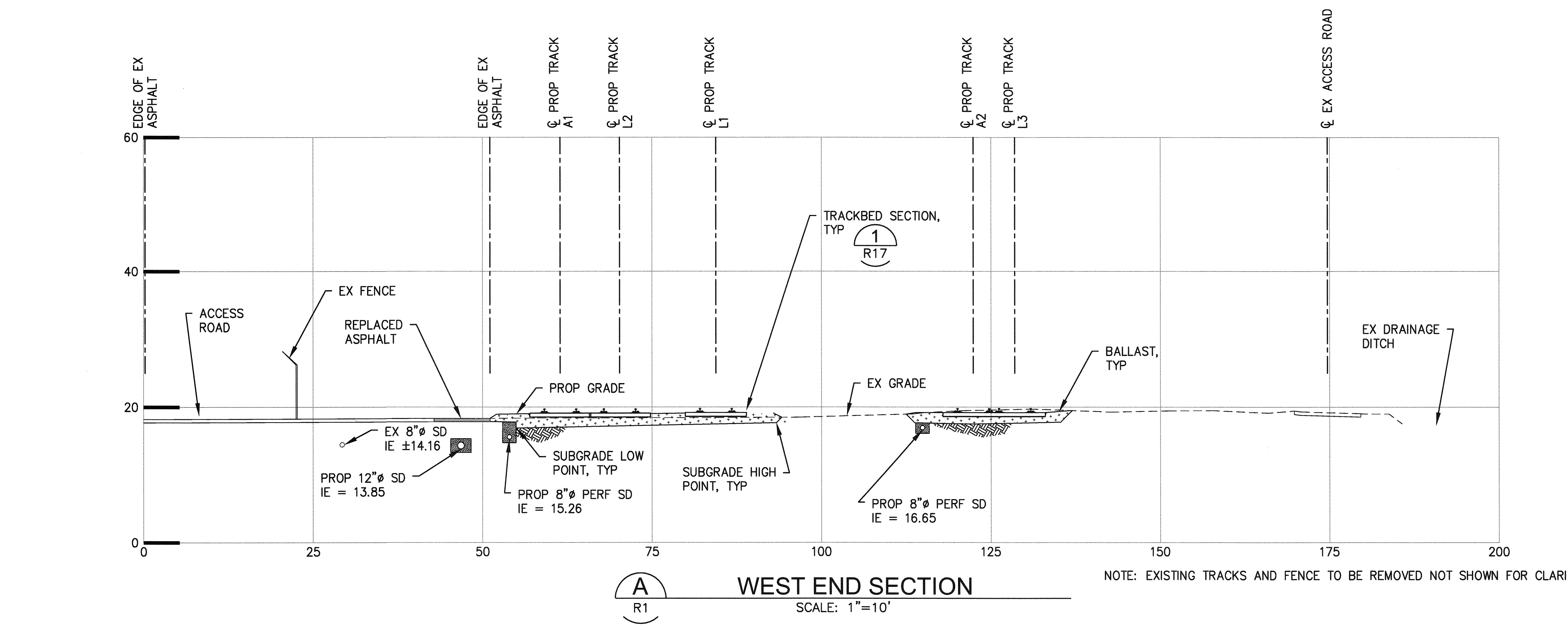
DATE: 03/17/16

PROJECT: PORT OF TACOMA BM #846

DRAWING SCALE: AS NOTED

PARCEL: MULTIPLE

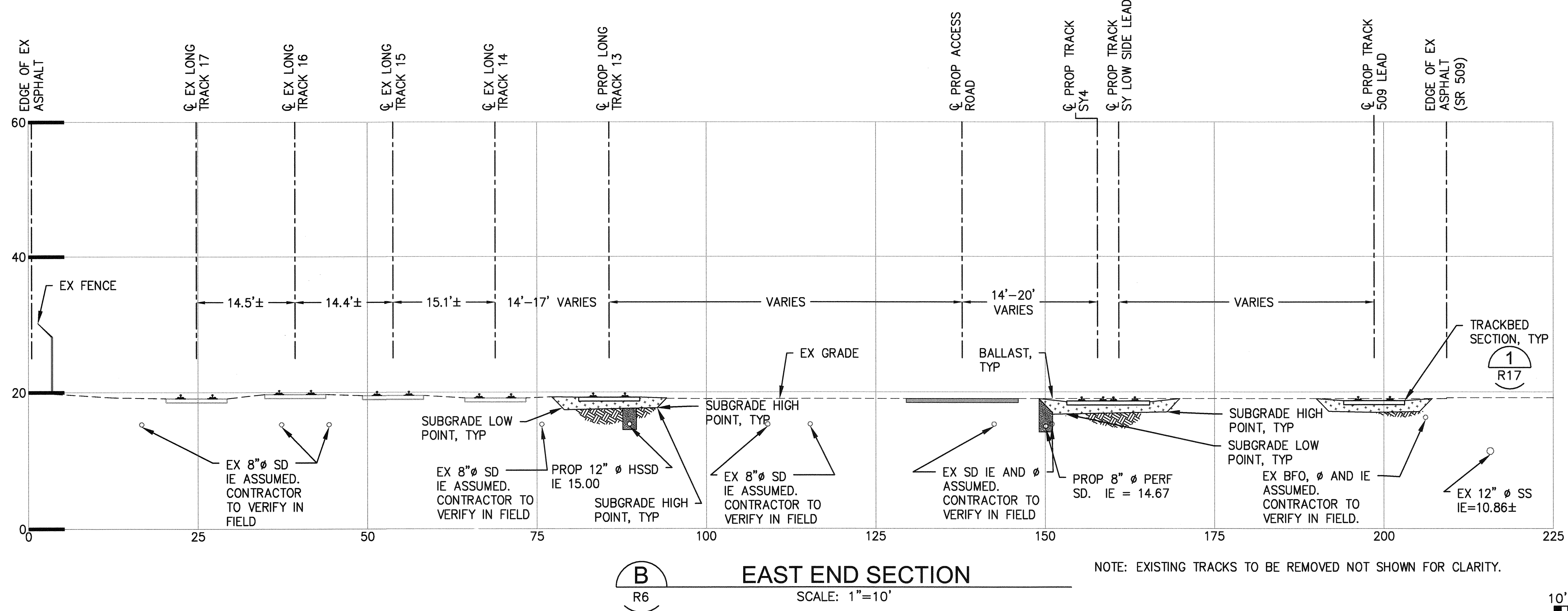
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**WEST END SECTION**

SCALE: 1"=10'

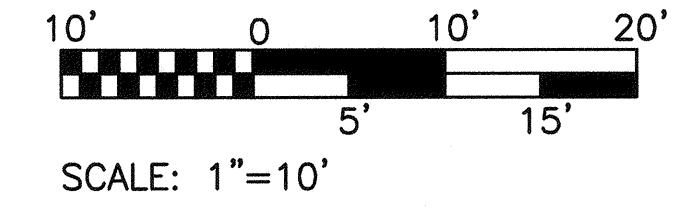
NOTE: EXISTING TRACKS AND FENCE TO BE REMOVED NOT SHOWN FOR CLARITY.



**EAST END SECTION**

SCALE: 1"=10'

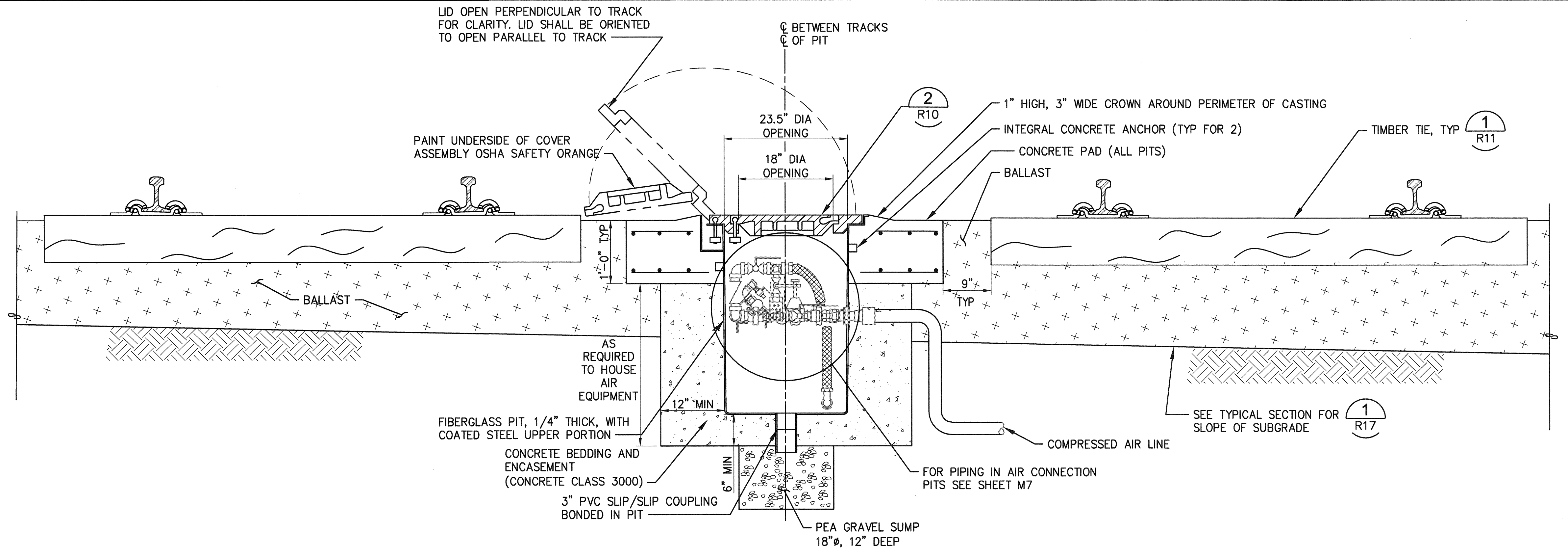
NOTE: EXISTING TRACKS TO BE REMOVED NOT SHOWN FOR CLARITY.



	2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162		P.O. BOX 187, MOANA, WA 98010 (206) 854-5441
SWK 03/17/16	CHECKED BY DATE	SWK 03/17/16	DATE
DIRECTOR 4-12-16	ENG. DATE	PROJ. ENGR bosterhaus	DATE Mar 21, 2016
PRINTED BY: bosterhaus		PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	
<b>6555 R9</b>		<b>NORTH LEAD</b>	
SHEET 64 OF 134		RAILWAY TYPICAL SECTIONS	
CONT/CONS: 070164	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
M. ID: 092938	DAT-HRZ: W83-SF	VERT: PORT OF TACOMA BM #846	DAT: PORT OF TACOMA BM #846
PHASE: BID	PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED	AS NOTED

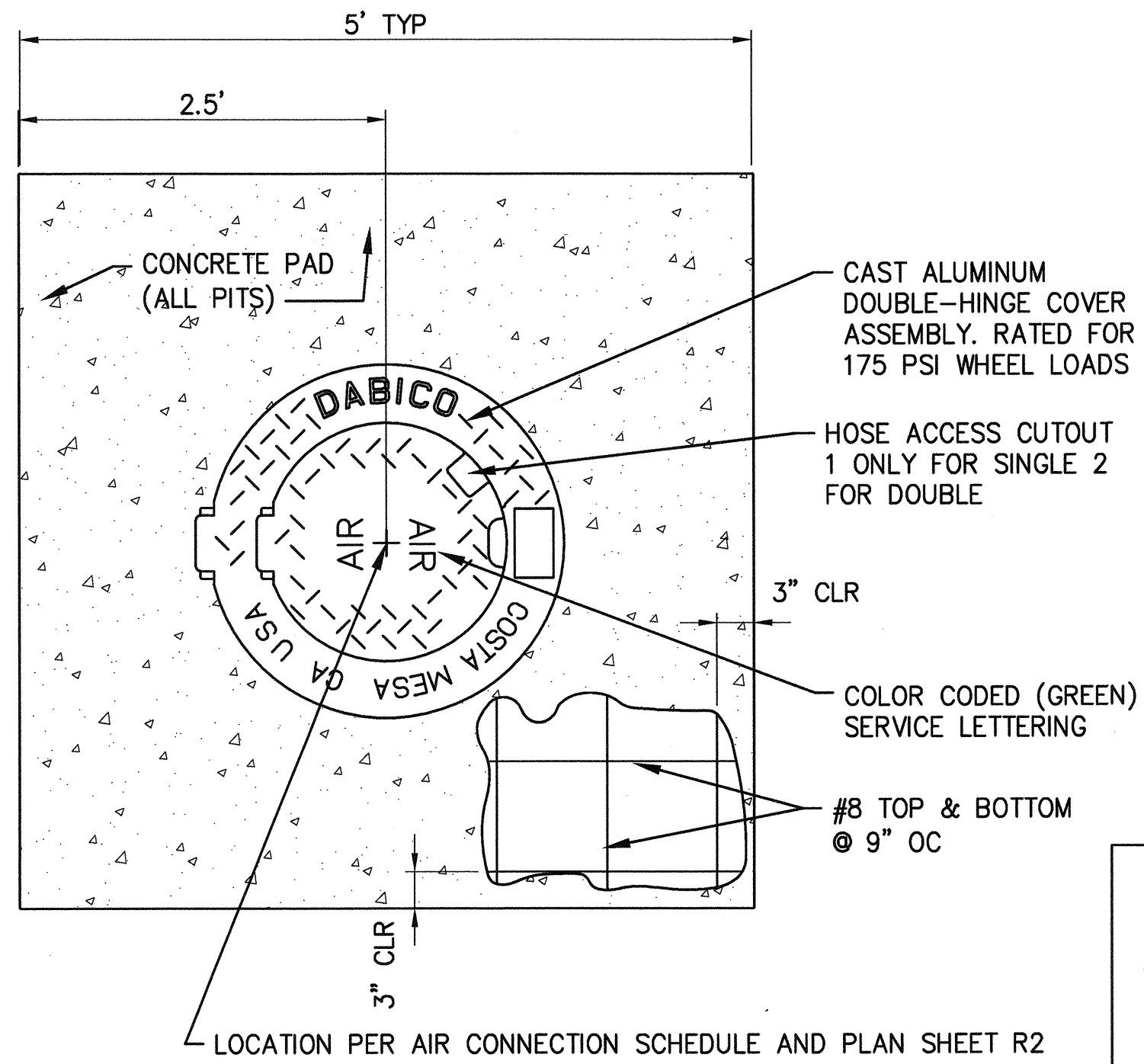
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PORT OF TACOMA FILE: N:\Civil\14114148 Port North Lead Rail\Part 3 - KPFF Design\3.13 Drawings\Current\092938-R10



**AIR PIT CONNECTION  
PIT - BALLASTED**

1  
R2  
1" = 1'-0"

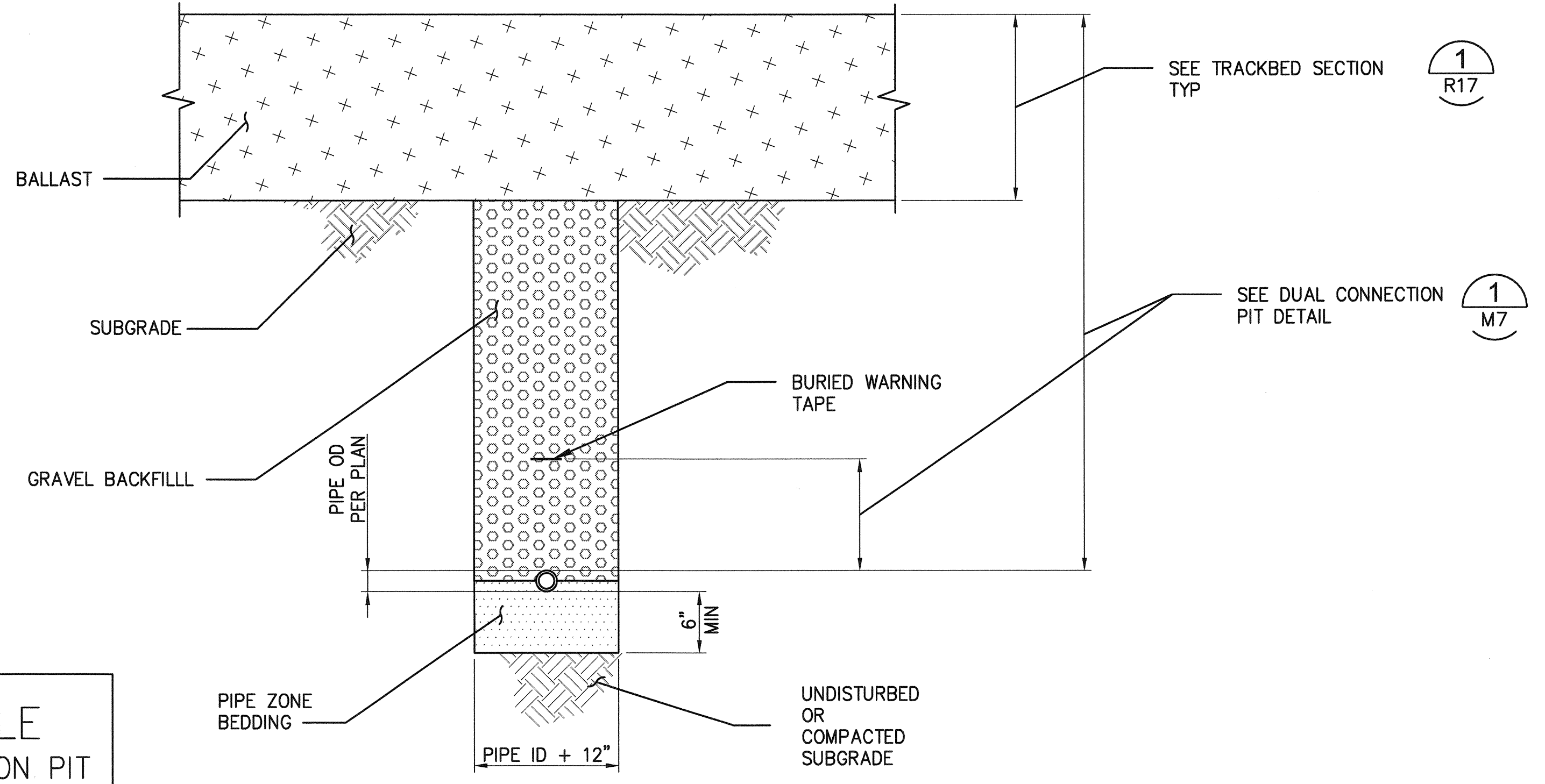


**AIR CONNECTION PIT**

2  
R10  
1" = 1'-0"

**AIR CONNECTION SCHEDULE  
SEE 1 R10 AND SHEET M7 FOR CONNECTION PIT  
DETAILS**

ITEM	NORTHING	EASTING
PIT 1	704329.56	1169261.65
PIT 2	704261.85	1169440.01
AIR LINE TEE	704303.21	1169255.74



**AIR CONNECTION  
TRENCH DETAIL**

3  
R2  
NTS

**Port of Tacoma**  
2407 North 31st Street, Suite 100  
Tacoma, Washington 98407  
(252) 396-0150 FAX (252) 396-0162

**kpff**  
K. P. F. F. ENGINEERS  
MADE IN THE U.S.A.  
REGISTERED PROFESSIONAL ENGINEER  
NO. 32781  
EXPIRES 12/31/15

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BY: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
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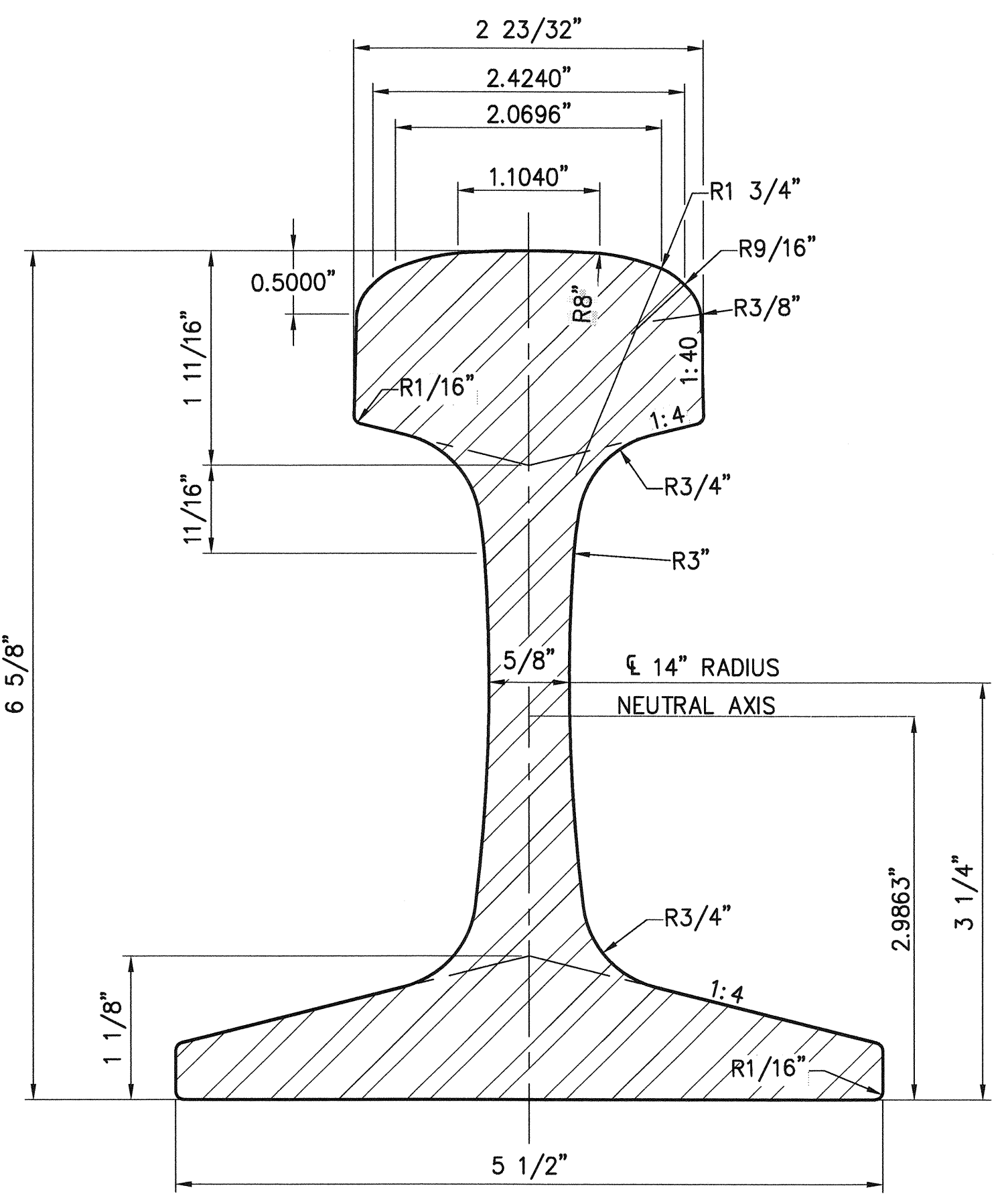
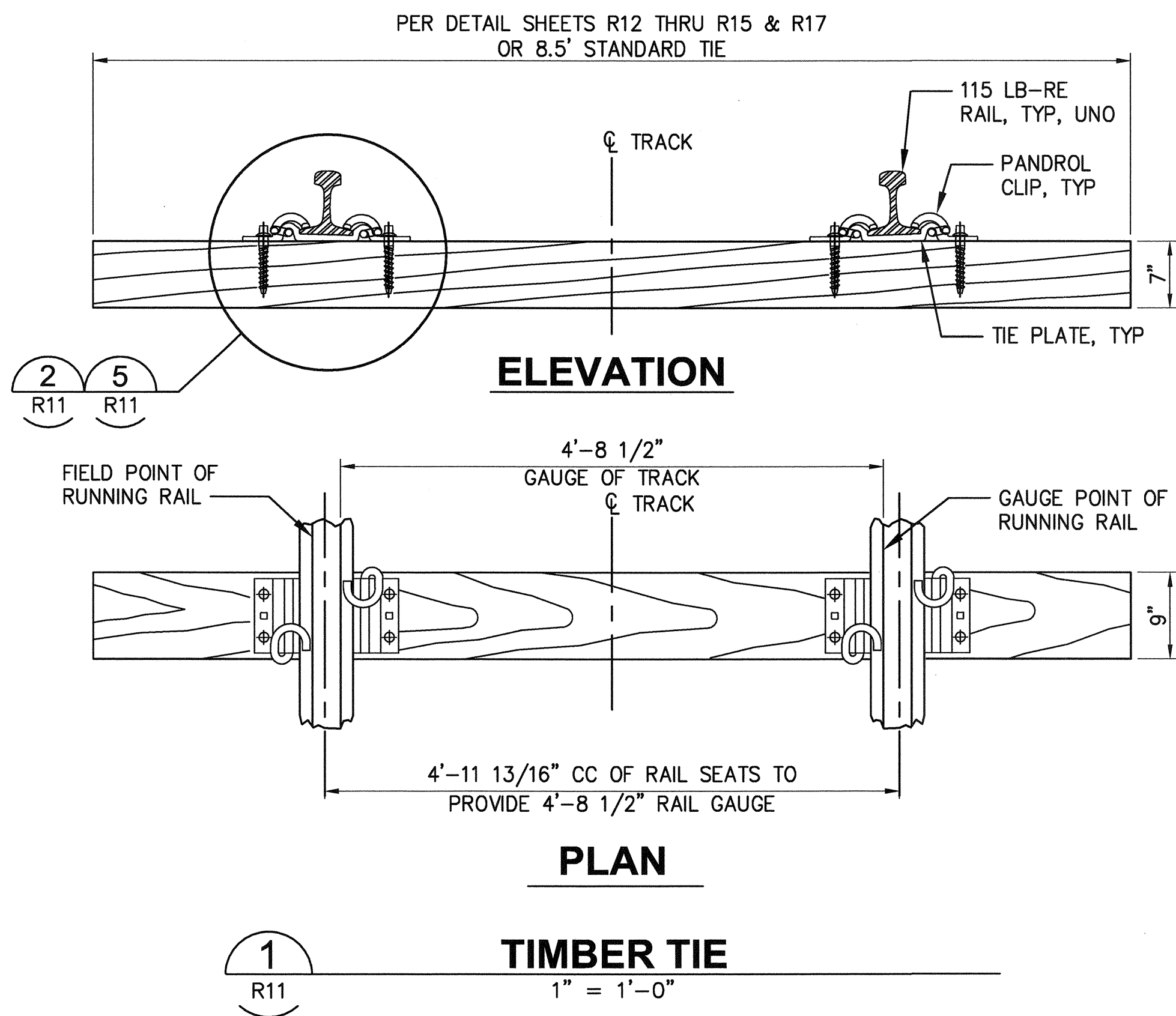
**6555 R10**  
SHEET 65 OF 134  
CONT./CONS: 070164  
M. ID: 092938  
PHASE: BID

**NORTH LEAD**  
RAIL DETAILS  
RANGE: 03E SECTION: 1, 2, 3  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
VERT. PORT OF TACOMA, BM #846  
DRAWING SCALE: AS NOTED  
PARCEL: MULTIPLE  
TACOMA, WA 98401-1837

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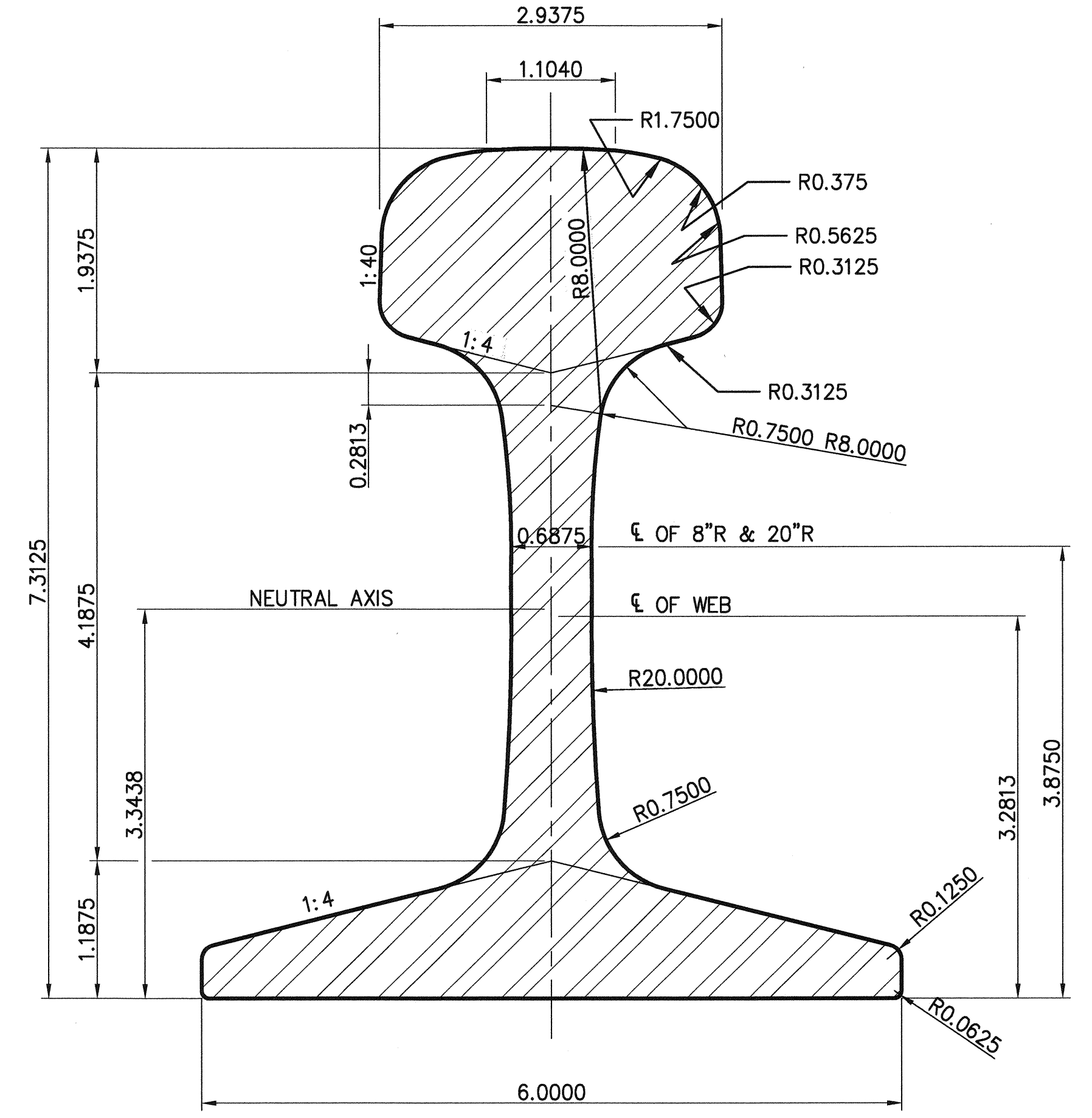
PORT OF TACOMA FILE: N:\Civ\114114148 Pot North Lead Rail\Part 3 - KPFF Design\3.13 Drawings\Current\092938-R11



PROPERTIES

AREA OF HEAD	3.91 SQ. IN.	34.8%
AREA OF WEB	3.05 SQ. IN.	27.1%
AREA OF BASE	4.29 SQ. IN.	38.1%
TOTAL AREA	11.25 SQ. IN.	100.0%

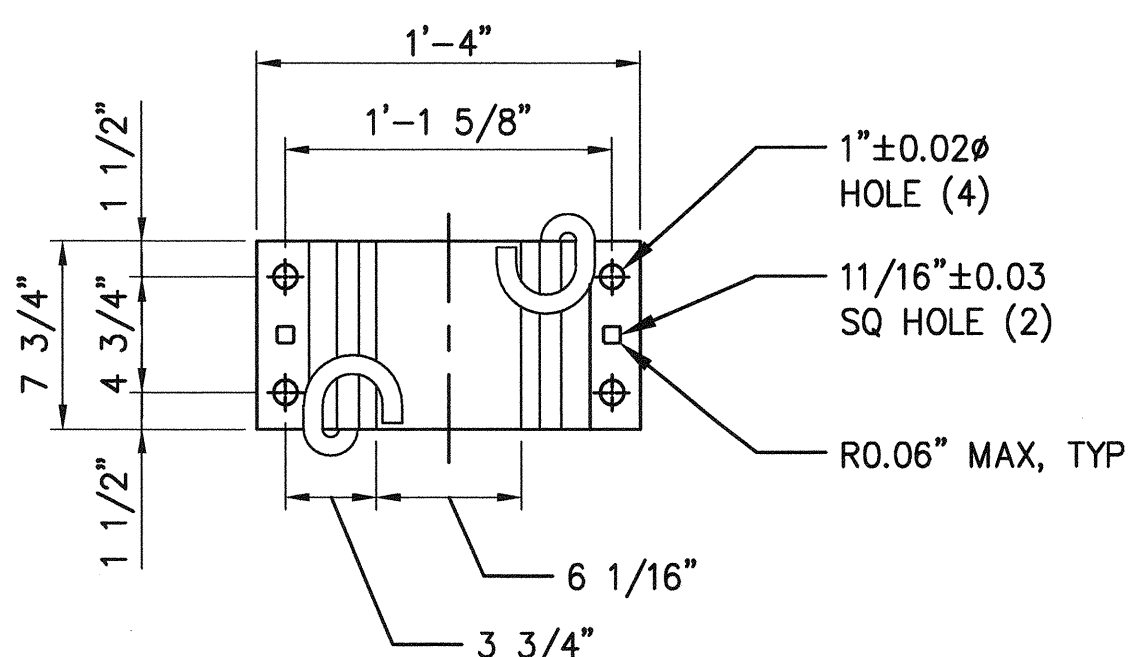
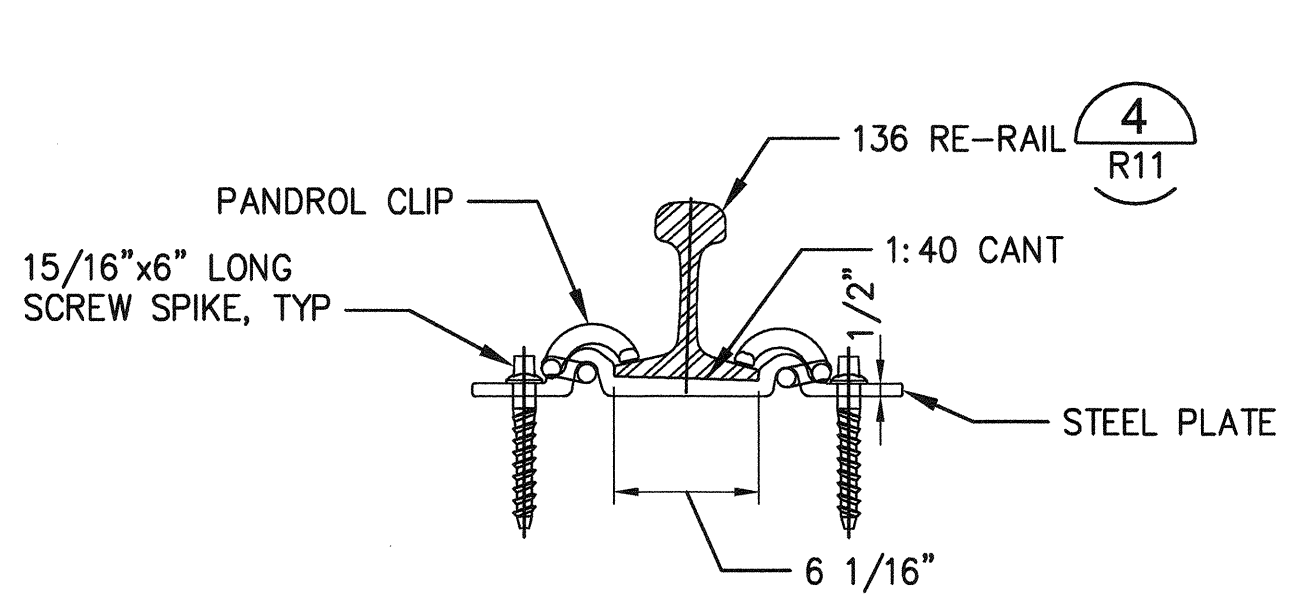
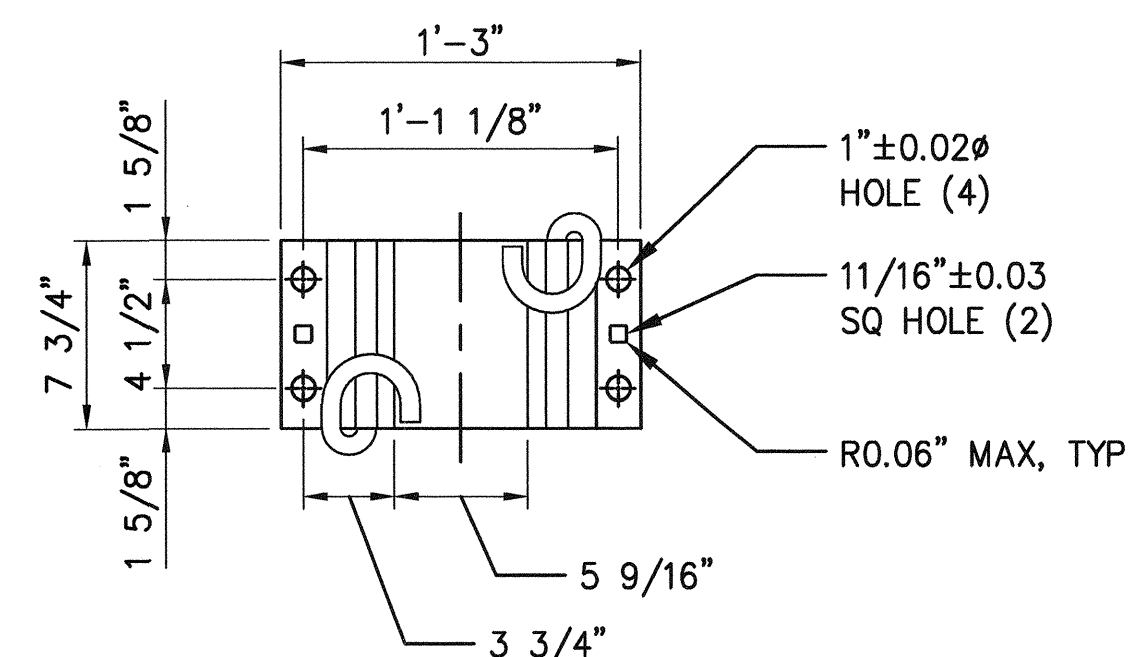
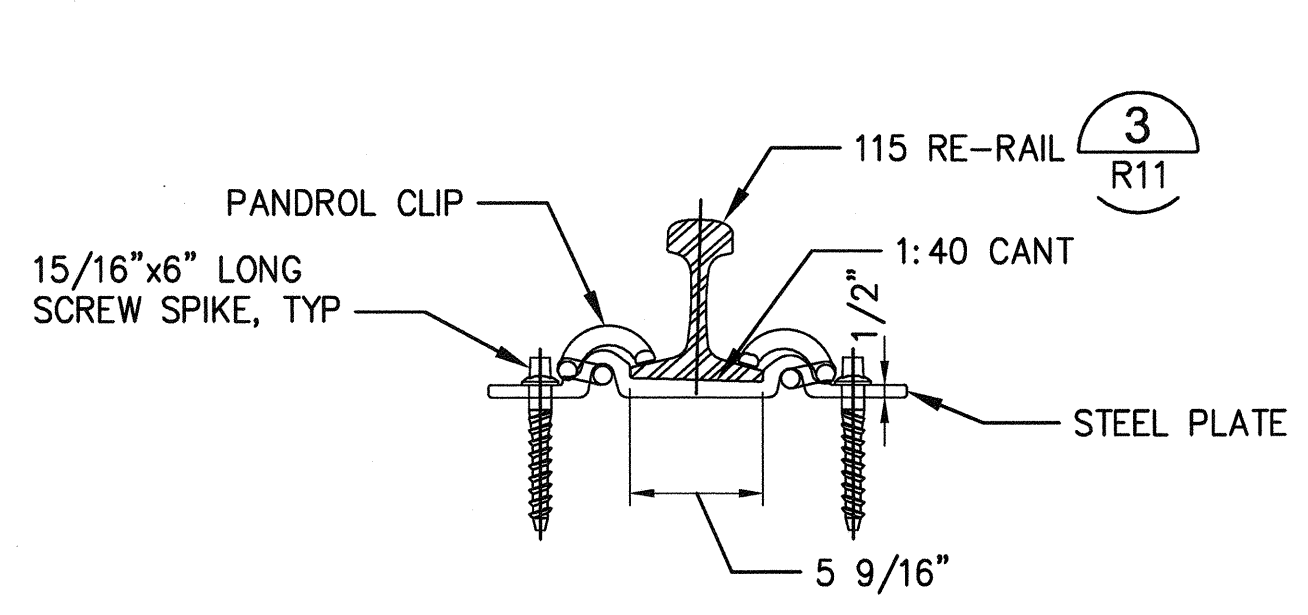
MOMENT OF INERTIA 65.60  
SECTION MODULUS, HEAD 18.00  
SECTION MODULUS, BASE 22.00  
WEIGHT 114.70 LBS PER YARD



PROPERTIES

AREA OF HEAD	4.8187 SQ. IN.	36.2%
AREA OF WEB	3.6375 SQ. IN.	27.3%
AREA OF BASE	4.8702 SQ. IN.	36.5%
TOTAL AREA	13.3263 SQ. IN.	100.0%

MOMENT OF INERTIA 94.20  
SECTION MODULUS, HEAD 23.70  
SECTION MODULUS, BASE 28.20  
WEIGHT 135.8826 LBS PER YARD



**2 TIMBER TIE FASTENERS W/ 115# RAIL**

1 1/2" = 1'-0"

**5 TIMBER TIE FASTENERS W/136# RAIL**

1 1/2" = 1'-0"

6555	R11	SHEET 06 OF 134	CONT/CONS: 070164	M. ID: 092938	PHASE: BID	NORTH LEAD	RAIL DETAILS	APPROVED: <i>[Signature]</i>	SWK 03/17/16	CHECKED BY: DATE
								DIRECTOR ENGR. DATE: 4-12-16	SWK 03/17/16	PROJ. ENGR DATE
						TACOMA, WA 98401-1837		TOWNSHIP: 20N		SECTION: 1, 2, 3
						PARCEL: MULTIPLE		DATE: 03/17/16		PRINTED BY: bosterhaus Mar 21, 2016
						DRAWING SCALE: AS NOTED		PORT ADDRESS: ONE SITCUM PLAZA		BY: [ ]
								REVISION: [ ]		DATE: [ ]
								MARK: [ ]		APP: [ ]

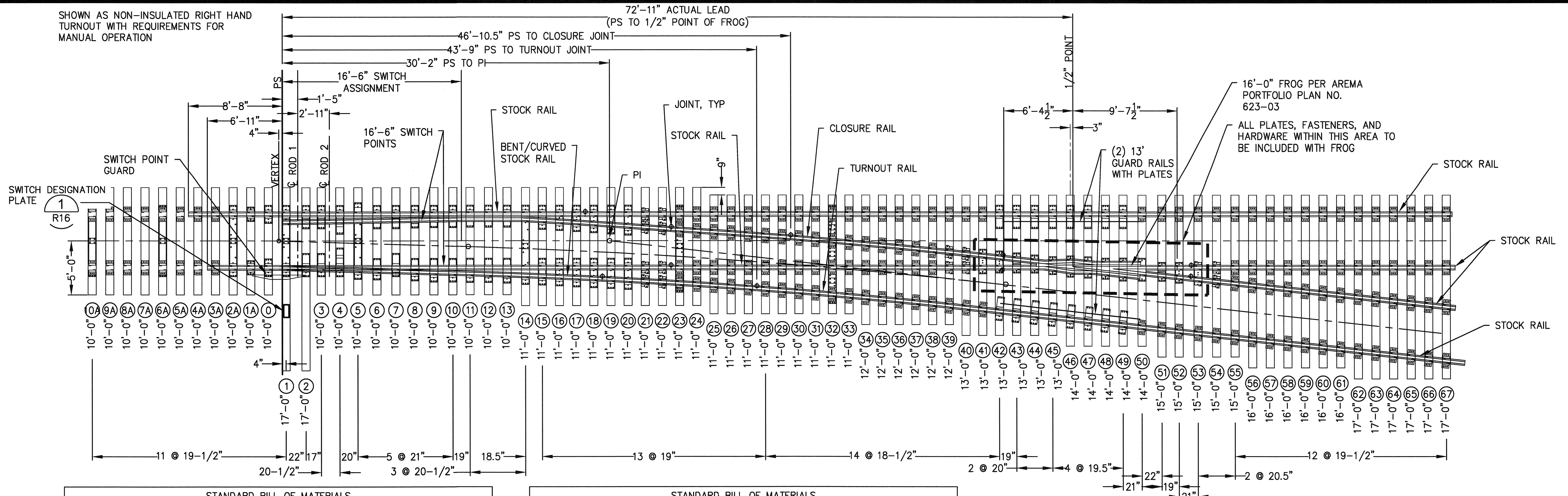
Port of Tacoma  
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Tacoma, Washington 98407  
(253) 396-0150 Fax (253) 396-0162  
P.O. BOX 187 TACOMA, WA 98401-0187

MADE IN KINGSTON, BRITAIN

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SHOWN AS NON-INSULATED RIGHT HAND TURNOUT WITH REQUIREMENTS FOR MANUAL OPERATION



STANDARD BILL OF MATERIALS			
QTY	DESCRIPTION	LOCATION	BNSF/UP COMMON STANDARDS DWG NUMBER
2	16'-6" KNIFE POINT SWITCH POINTS (AREA DETAIL 6100)		
1	SWITCH ROD #1		241600
1	SWITCH ROD #2		241600
2	GAGE PLATE AHEAD OF POINT	TIES 6A & 10A	241304
1	ADJUSTABLE BRACE GAGE PLATE	TIE 2A	241301
2	TIE PLATE	TIE 1A	241307
1	ADJUSTABLE BRACE GAGE PLATE	TIE 1	241300
2	ADJUSTABLE BRACE GAGE PLATE	TIES 5 & 9	241305
2	PLATE	TIE 0	241306
6	ADJUSTABLE BRACE SLIDE PLATE	TIES 2, 3, & 7	241306
2	SLIDE PLATE	TIE 6	241306
2	RISER SLIDE PLATE	TIE 8	243309
2	RISER SLIDE PLATE	TIE 10	241306
18	TURNOUT PLATE	TIES 11, 12, 13, 15, 16, 17, 18, 19, & 20	241307
1	GAGE PLATE	TIE 14	241311
1	GAGE PLATE	TIE 23	241312
1	GAGE PLATE	TIE 32	241313
1	CLOSURE INSULATED JOINT RAIL		341001
1	INSULATED JOINT TURNOUT RAIL		341001
A/R	INSULATED JOINT CLIP ASSEMBLY		132800
1	CLOSURE RAIL		341001
1	TURNOUT RAIL		341001

STANDARD BILL OF MATERIALS			
QTY	DESCRIPTION	LOCATION	BNSF/UP COMMON STANDARDS DWG NUMBER
A/R	115 RE RAIL		N/A
A/R	PANDROL TIE PLATES	SEE NOTE 1	263000
14	MODIFIED PANDROL TIE PLATE	TIES 21, 22, 39, 40, & 54	263001
A/R	PANDROL ECLIP E-2055		132500
A/R	15/16" DIA. X 6 1/2" LG. SCREW SPIKES		130800
2	FIXED HEEL BLOCKS		
1	NO. 9 16'-0" AREMA RBM FROG PER AREMA PORTFOLIO PLAN NO. 623-03 WITH SCREW SPIKE PLATES AND ELASTIC FASTENERS		N/A
2	GUARD RAILS PER AREMA PORTFOLIO PLAN NO. 504-03 (13') WITH SCREW PLATES AND ELASTIC FASTENERS		N/A
1	SWITCH POINT GUARD. A&K RAILROAD MATERIALS MODEL U69, OR APPROVED EQUAL		N/A
1	SWITCH STAND, RACOR MODEL 22-E TRAILABLE		N/A
22	7" X 9" X 10'-0" TIE	TIES 0-10A & 3-13	
20	7" X 9" X 11'-0" TIE	TIES 14-33	
6	7" X 9" X 12'-0" TIE	TIES 34-39	
6	7" X 9" X 13'-0" TIE	TIES 40-45	
5	7" X 9" X 14'-0" TIE	TIES 46-50	
5	7" X 9" X 15'-0" TIE	TIES 51-55	
6	7" X 9" X 16'-0" TIE	TIES 56-61	
8	7" X 9" X 17'-0" TIE	TIES 1-2 & 62-67	

FROG DATA	
ANGLE	6'-21'-35"
TURNOUT DATA	
RADIUS OF CENTERLINE	614'
T =	24.59'
CENTRAL ANGLE - CLOSURE CURVE	4'-35'-13"
DEGREE OF CURVE	9'-20'-31"
DIMENSIONS ALONG TURNOUT	
VERTEX TO PC	17'-7 9/32"
PC TO PT	614'-0" $\frac{1}{2}$ RADIUS
PT TO FROG POINT	6'-4 1/2"

SWITCH DATA		
SWITCH LENGTH		16'-6"
HEEL SPREAD		6 1/4"
HEEL ANGLE		1'-46'-22"
SWITCH ANGLE		1'-46'-22"
THROW AT ROD #1		4 3/4"
THICKNESS AT POINT		0"
RADIUS (CLOSURE CURVE)		616.3542'
VERTEX DISTANCE		7 4/16"

- NOTES :**
- PANDROL TIE PLATES AND RESILIENT FASTENERS SHALL BE USED AT ALL LOCATIONS UNLESS OTHERWISE NOTED, SEE DETAIL 2 ON SHEET R11.
  - SWITCH POINTS SHALL HAVE MANGANESE TIPS (AREA 220).
  - KNIFE POINT SWITCH POINTS SHALL BE HEAD HARDENED AND DOUBLE REINFORCED PER AREA DETAIL 6100 WITH TRANSIT STYLE CLIPS.
  - TURNOUTS SHALL HAVE HORIZONTAL SWITCH RODS.
  - FROG SHALL BE HIGH INTEGRITY, EXPLOSION HARDENED, RAIL BOUND MANGANESE STEEL CASTING WITH MITERED HEEL AND EXTENDED HEEL AND WING RAILS.
  - THE GUARD RAIL IS TO BE 54-5/8" FROM THE GAUGE SIDE OF THE FROG POINT TO THE STRAIGHT GUARDING FACE OF THE GUARD RAIL.
  - NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS OR END POST IN COMPUTING RAIL LENGTHS SHOWN.
  - FRACTIONAL RAIL LENGTH CUTTINGS SHOWN ARE THEORETICAL AND ARE SUBJECT TO MINOR ADJUSTMENT TO MEET ACTUAL CLOSURE REQUIREMENTS IN THE FIELD.
  - ALL SWITCH RODS AND GAUGE PLATES ARE TO BE INSULATED TYPES.
  - STOCK RAILS ARE TO BE BENT IN THE MILL OR IN THE SHOP.
  - A MINIMUM 1" GAP MUST BE MAINTAINED BETWEEN THE ENDS OF METAL TIE PLATES LOCATED BEYOND THE CLOSURE AREA OF INSULATED JOINTS IN ORDER TO PROVIDE PROPER TRACK CIRCUIT PROTECTION.
  - ACTUAL TURNOUT DATA, TURNOUT OFFSETS, RAIL LENGTHS, AND SWITCH TIE LENGTHS MAY VARY ON MANUFACTURER'S SHOP DRAWINGS.
  - CHORD METHOD IS USED TO CALCULATE TURNOUT CURVE DATA AND OFFSETS.

**NOTE: SEE PROJECT SPECIFICATIONS FOR SPECIAL TRACKWORK MATERIALS PROVIDED BY THE PORT**

**1** **DETAIL - NO. 9 TURNOUT**  
SCALE: 1"=5'

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APPROVED: *[Signature]* SWK 03/17/16  
4-12-16

DIRECTOR ENGR. DATE: bosterhaus Mar 21, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

SWK 03/17/16 CHECKED BY DATE  
SWK 03/17/16

SECTION: 1, 2, 3  
RANGE: 03E  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
M. ID: 092938  
PHASE: BID

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**6555**

**R12**

SHEET 67 OF 134

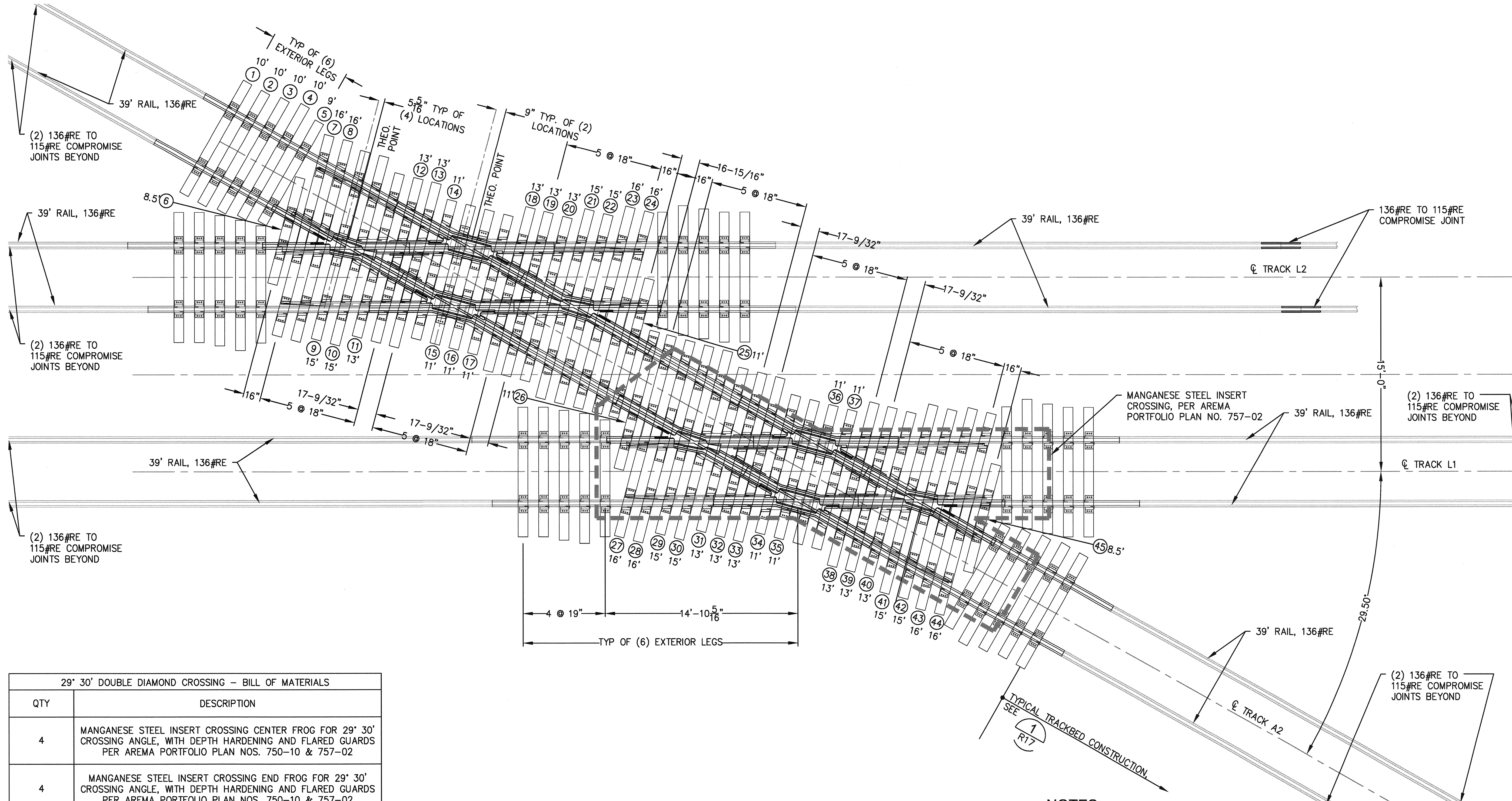
CONT/CONS: 070164

**Port of Tacoma**

MARK: REVISION: BY: DATE:

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PORT OF TACOMA FILE: N:\Civil\114114148 Pot North Lead Rail\Part 3 - KPFF Design\3.13 Drawings\Current\092938-R13



29' 30' DOUBLE DIAMOND CROSSING - BILL OF MATERIALS	
QTY	DESCRIPTION
4	MANGANESE STEEL INSERT CROSSING CENTER FROG FOR 29' 30' CROSSING ANGLE, WITH DEPTH HARDENING AND FLARED GUARDS PER AREMA PORTFOLIO PLAN NOS. 750-10 & 757-02
4	MANGANESE STEEL INSERT CROSSING END FROG FOR 29' 30' CROSSING ANGLE, WITH DEPTH HARDENING AND FLARED GUARDS PER AREMA PORTFOLIO PLAN NOS. 750-10 & 757-02
8 PR	FROG JOINT BARS
6	FLARED CENTER FROG GUARDS, PER AREMA PORTFOLIO PLAN BASIC NO. 350
6	FLARED END FROG GUARDS, PER AREMA PORTFOLIO PLAN BASIC NO. 350
A/R	INTERTRACK RUNNING RAIL AND GUARD RAIL
A/R	ARM RUNNING RAIL AND JOINT BARS, PER AREMA PORTFOLIO PLAN BASIC NO. 757-02
A/R	FLANGEWAY FILLERS AND SPACER BLOCKS
A/R	TRACK BOLTS AND TRACK BOLT NUTS
A/R	SPECIAL PLATES WITH PANDROL CLIPS, SEE NOTES 8, 9, AND 12

29' 30' DOUBLE DIAMOND CROSSING - BILL OF TIMBER TIES	
QTY	DESCRIPTION
2	7" x 9" x 8'-6" TIE
6	7" x 9" x 9'-0" TIE
24	7" x 9" x 10'-0" TIE
10	7" x 9" x 11'-0" TIE
12	7" x 9" x 13'-0" TIE
8	7" x 9" x 15'-0" TIE
8	7" x 9" x 16'-0" TIE

**1** DOUBLE DIAMOND CROSSING  
SCALE: 1"=4'

**NOTE: SEE PROJECT SPECIFICATIONS FOR SPECIAL TRACKWORK MATERIALS PROVIDED BY THE PORT.**

- NOTES :**
- CROSSINGS SHALL CONFORM TO AREA PORTFOLIO PLAN 757-02.
  - RAIL AND COMPONENTS SHALL CONFORM TO 136 RE RAIL SECTION.
  - RAIL DRILLINGS, BAR PUNCHINGS, OVAL NECK TRACK BOLTS AND TRACK BOLT NUTS SHALL BE IN ACCORDANCE WITH AREMA MANUAL, VOL. 1, CHAPTER 4, SECTION 3.3 THROUGH SECTION 3.5 FOR 36", 6 HOLE JOINT BAR, 136 RE RAIL SECTION.
  - IMPACT AREAS SHALL BE DEPTH HARDENED IN ACCORDANCE WITH AREMA PORTFOLIO PLAN NO. 771-02.
  - GUARDING OF INTERTRACK CONNECTION SHALL BE CONTINUOUS, FLARED GUARDS SHALL BE PROVIDED FOR EXTERNAL ARMS.
  - RUNNING RAIL SHALL BE FURNISHED BETWEEN CROSSINGS.
  - LOCATE INTERTRACK JOINT APPROXIMATELY AT THE MIDPOINT BETWEEN CROSSINGS.
  - ALL SPECIAL PLATES SHALL BE 1 1/4" THICK WITH 1/4" DEEP MILL SEAT AND NO RAIL CANT.
  - MULTI-TIE PLATES SHALL BE USED UNDER ALL CASTING AREAS.
  - FLANGEWAY FILLER SHALL BE OF ROLLED STEEL, PER AREMA PORTFOLIO PLAN BASIC NO. 325 AND SHALL MAINTAIN THE REQUIRED FLANGEWAY THROUGHOUT. SPACER BLOCKS MAY BE OF CAST IRON.
  - GAGES AND WIDTHS OF FLANGEWAYS FOR TANGENT TRACK PER AREMA PORTFOLIO PLAN BASIC NO. 790. FOR PERMISSIBLE VARIATIONS IN MANUFACTURE SEE AREMA PORTFOLIO PLAN BASIC NO. 100, SECTION 7.
  - PANDROL TIE PLATES SHALL BE USED AT ALL LOCATIONS NOT OTHERWISE MENTIONED, SEE DETAIL 5 ON SHEET R11.

**kpff**

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**Part of Tacoma**

DATE: \_\_\_\_\_

BY: \_\_\_\_\_

REVISION: \_\_\_\_\_

APPR: \_\_\_\_\_

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**APPROVED:** *[Signature]*

DATE: 4-12-16

DIRECTOR ENG. DATE: bosterhaus Mar 21, 2016

PRINTED BY: bosterhaus Mar 21, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

SWK 03/17/16

CHECKED BY DATE

SWK 03/17/16

PROJ. ENGR DATE

DATE: 03/17/16

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**6555 R13**

SHEET 68 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

DOUBLE DIAMOND CROSSING

RANGE: 0.3E SECTION: 1, 2, 3

TOWNSHIP: 20N

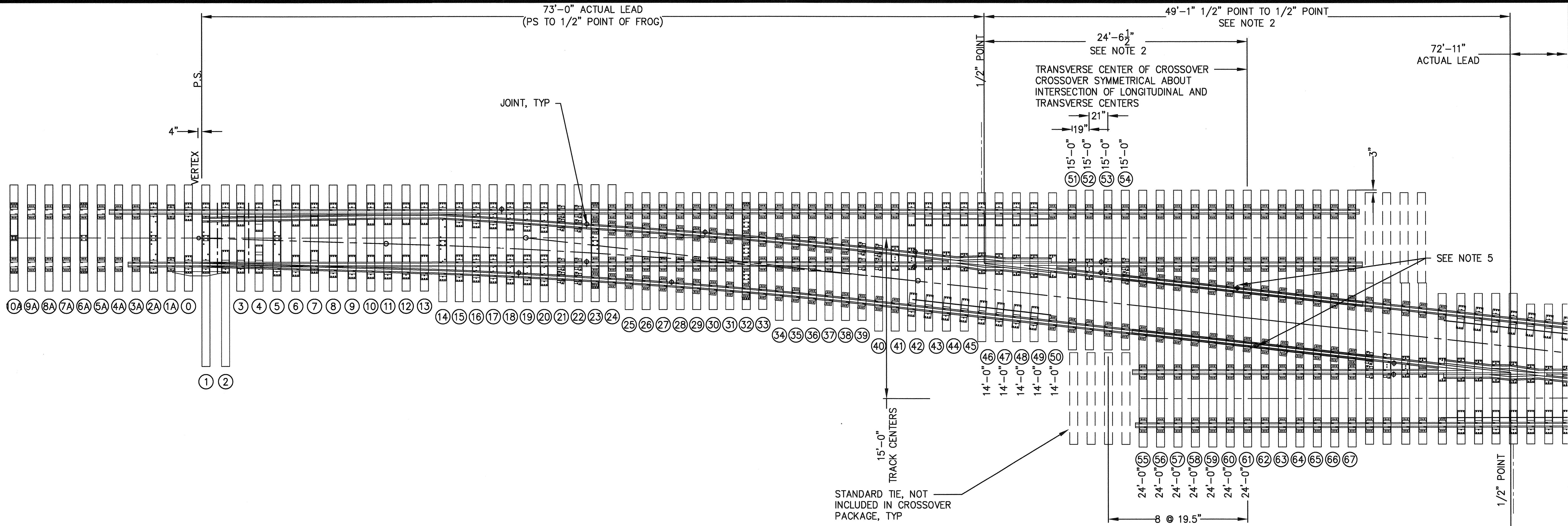
DATE-HRZ: W83-SF

VERT: PORT OF TACOMA BM #846

DRAWING SCALE: AS NOTED

PARCEL: MULTIPLE

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**NOTE: SEE PROJECT SPECIFICATIONS FOR SPECIAL TRACKWORK MATERIALS PROVIDED BY THE PORT**

TABLE 1 - TIE DATA FOR CROSSOVER WITH 14'-0" TRACK CENTERS

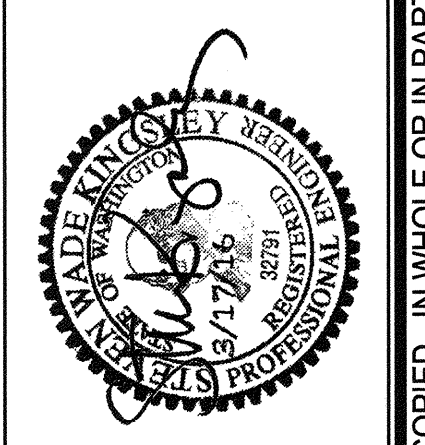
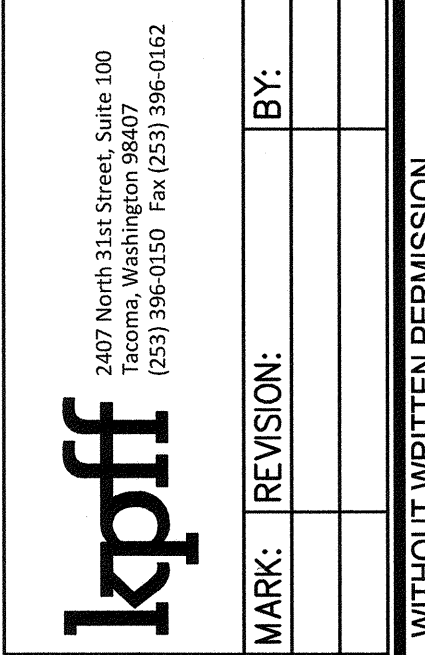
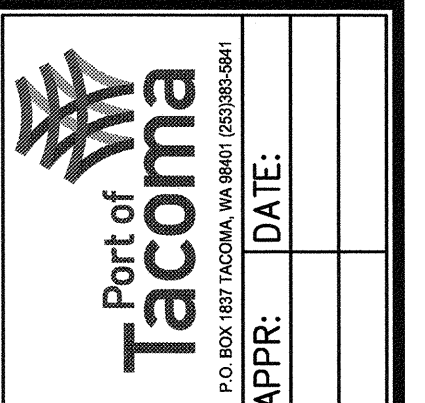
TIE	SIZE	SPACING
45	7" X 9" X 13'-0"	19"
46	7" X 9" X 14'-0"	19"
47	7" X 9" X 14'-0"	19"
48	7" X 9" X 14'-0"	19"
49	7" X 9" X 23'-0"	19"
50	7" X 9" X 23'-0"	19"
51	7" X 9" X 23'-0"	19"
52	7" X 9" X 23'-0"	18"
53	7" X 9" X 23'-0"	20 1/2"
54	7" X 9" X 23'-0"	21"
55	7" X 9" X 23'-0"	19 1/2"
56	7" X 9" X 23'-0"	19 1/2"
57	7" X 9" X 23'-0"	21"
58	7" X 9" X 23'-0"	21"

**NOTES :**

- RIGHT HAND TO RIGHT HAND TURNOUT IS SHOWN WITH 15'-0" TRACK CENTERS. SEE TABLE 1 FOR TIE SIZES AND SPACING FOR CROSSOVER WITH 14'-0" TRACK CENTERS.
- FOR CROSSOVER WITH 14'-0" TRACK CENTERS THE LINE OF SYMMETRY IS ABOUT TIE 58 WITH THE FOLLOWING DIMENSIONS:  
 1/2" POINT TO 1/2" POINT = 39'-10 1/2"  
 1/2" TO LINE OF SYMMETRY = 19'-11 1/4"  
 SEE TABLE 1 FOR TIE SIZES AND SPACING FOR CROSSOVER WITH 14'-0" TRACK CENTERS.
- FOR TURNOUT DATA AND NOTES SEE SHEET R12.
- SEE TURNOUT DETAIL ON SHEET R12 FOR SIZE AND SPACING OF TIES 10A - 45.
- LOCATE JOINT APPROXIMATELY AT THE MIDPOINT OF THE CROSSOVER.

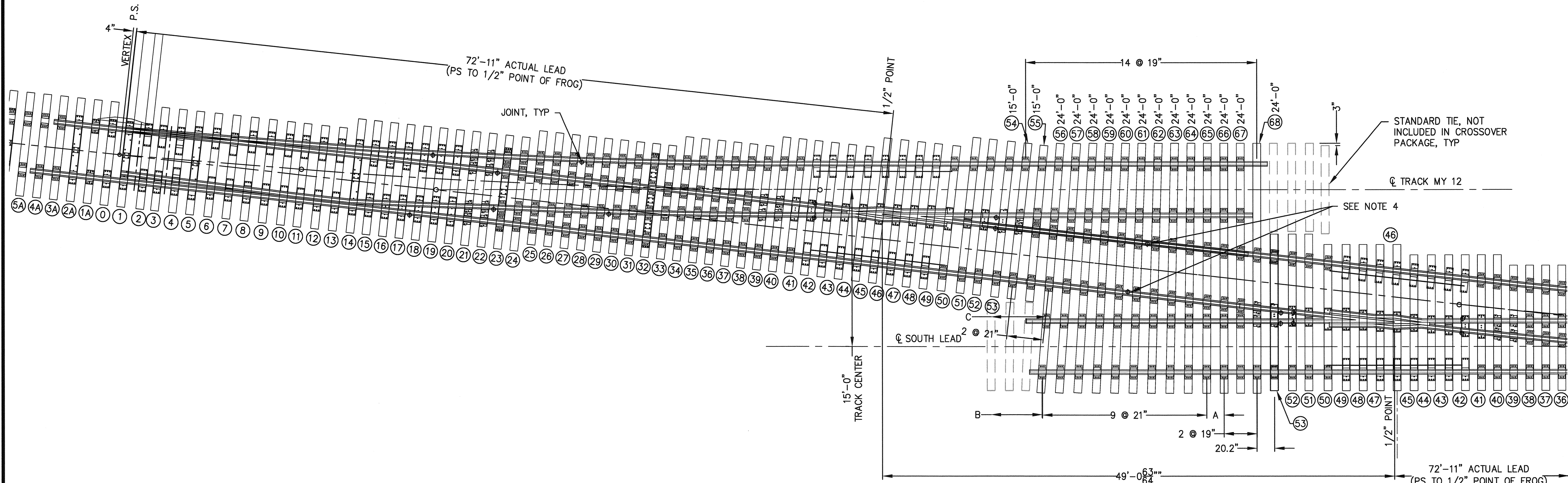
**1** DETAIL - NO. 9 CROSSOVER  
 R1-R6 SCALE: 1"=5'

<p><b>6555</b>  <b>R14</b>                  SHEET 69 OF 134                  CONT./CONS: 070164                  M. ID: 092938                  PHASE: BID</p>	<p><b>NORTH LEAD</b>                  NO. 9 CROSSOVER PLAN</p>	SWK 03/17/16 CHECKED BY DATE	SWK 03/17/16 PROJ. ENGR DATE
		APPROVED: <i>[Signature]</i> DIRECTOR ENG. DATE 4-12-16	PRINTED BY: bosterhaus Mar 21, 2016 PORT ADDRESS: ONE SITCOM PLAZA TACOMA, WA 98401-1837
<p>6555 R14 SHEET 69 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID</p>		<p>APPROVED: <i>[Signature]</i> DATE: 4-12-16</p>	
<p>6555 R14 SHEET 69 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID</p>		<p>APPROVED: <i>[Signature]</i> DATE: 4-12-16</p>	
<p>6555 R14 SHEET 69 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID</p>		<p>APPROVED: <i>[Signature]</i> DATE: 4-12-16</p>	



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NOTES :

1. ADDITIONAL DIMENSIONS:
  - 1.1. A IS EQUAL TO SPACING REQUIRED TO POSITION TIE 66 NORMAL TO SOUTH LEAD TRACK CENTERLINE.
  - 1.2. B IS EQUAL A MINIMUM SPACING OF 19.5" UNTIL TIES ARE NORMAL TO SOUTH LEAD.
  - 1.3. C IS EQUAL TO A MAXIMUM SPACING OF 21.5" UNTIL TIES ARE NORMAL TO SOUTH LEAD.
2. FOR TURNOUT DATA AND NOTES SEE SHEET R12.
3. SEE TURNOUT DETAIL ON SHEET R11 FOR SIZE AND SPACING OF TIES 10A - 53.
4. LOCATE JOINT APPROXIMATELY AT THE MIDPOINT OF THE CROSSOVER.

1  
R4

DETAIL - NO. 9 CROSSOVER  
RIGHT HAND-LEFT HAND

SCALE: 1"=5'

6555

R15

SHEET 70 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

NORTH LEAD

NO. 9 CROSSOVER PLAN  
RIGHT HAND-LEFT HAND  
TOWNSHIP: 20N  
DAT-HRZ: W83-SF  
PARCEL: MULTIPLE  
RANGE: 03E  
VERT: PORT OF TACOMA BM #B46  
SECTION: 1, 2, 3  
DRAWING SCALE: AS NOTED

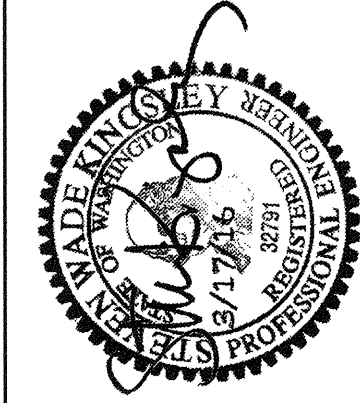
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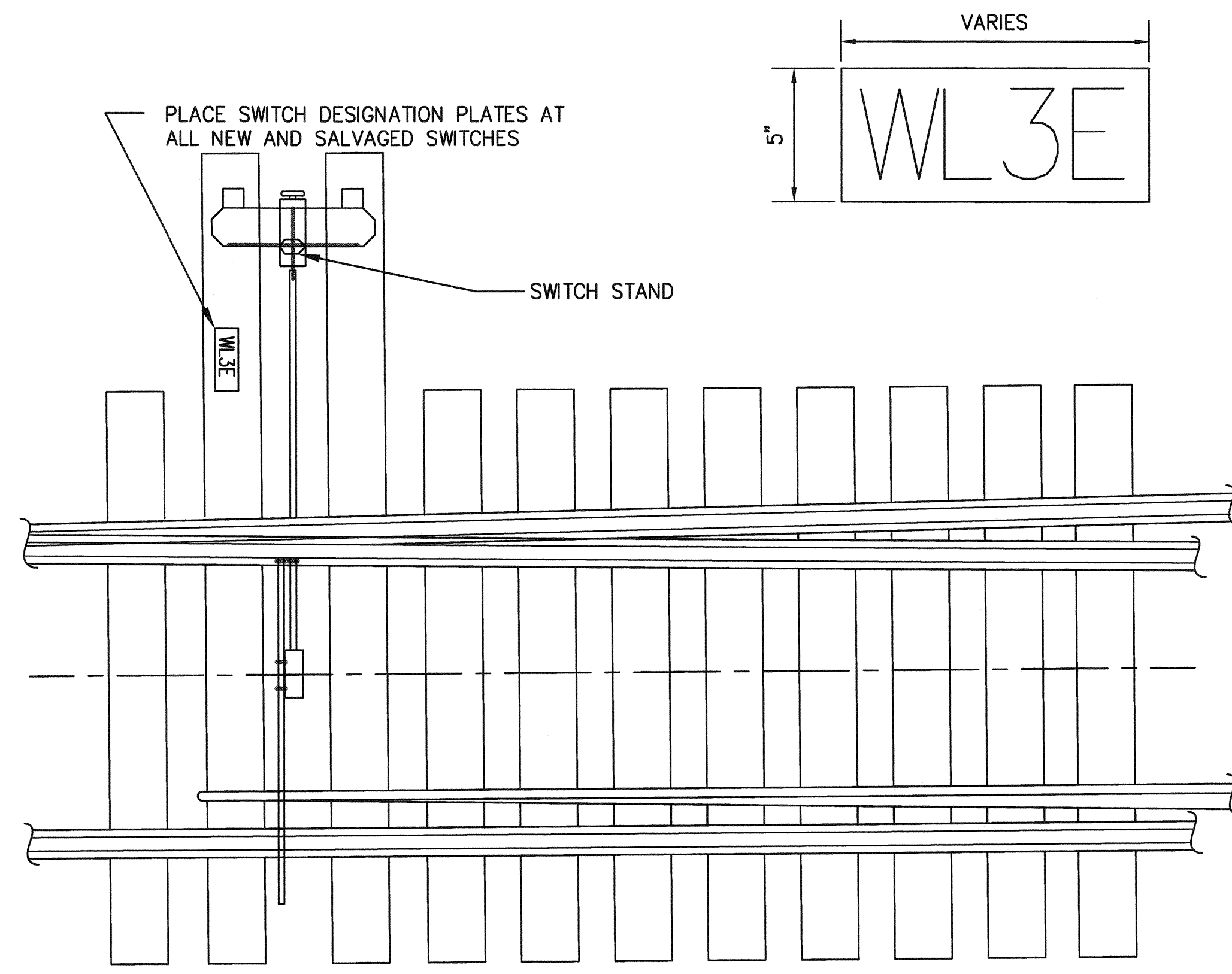
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Port of Tacoma  
P.O. BOX 887 TACOMA, WA 98401

MARK: REVISION: BY: APPR: DATE:

TURNOUT AND CROSSOVER SCHEDULE						
	SWITCH NAME	DIRECTION	MATERIAL ORIGIN	INSULATION REQUIREMENT	PORT PROVIDED MATERIALS DELIVERY PACKAGE	NOTES
1	ECOB	LH	PORT PROVIDED	NO	1	
2	ESYL	RH	PORT PROVIDED	YES	2	
3	ESY5	RH	SALVAGED: E1	NO	N/A	CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 TURNOUT, SEE SHEET R12, SEE NOTE 2
4	ESYLSL	LH	PORT PROVIDED	YES	2	
5	E10	LH	PORT PROVIDED	NO	1	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
6	E11	LH	PORT PROVIDED	NO	1	
7	WSYLE	LH	PORT PROVIDED	NO	1	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
8	WSYLW	LH	PORT PROVIDED	NO	1	CONTRACTOR SHALL PROVIDE 24'-0" TIMBER TIES FOR TIES 57- 67 AND INSTALL TO SUPPORT ADJACENT TRACK SY5
9	ESLXOE	LH	PORT PROVIDED	NO	1	15' CROSSOVER TRACK SPACING, ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
10	ESLXOW	LH	PORT PROVIDED	NO	1	15' CROSSOVER TRACK SPACING
11	E14XOE	LH	PORT PROVIDED	NO	1	14' CROSSOVER TRACK SPACING
12	E15XOE	LH	PORT PROVIDED	NO	1	14' CROSSOVER TRACK SPACING, ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
13	E13XO	LH	PORT PROVIDED	NO	1	14' CROSSOVER TRACK SPACING, ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
14	E16XOE	LH	PORT PROVIDED	NO	1	15' CROSSOVER TRACK SPACING
15	E14XOW	LH	PORT PROVIDED	NO	1	14' CROSSOVER TRACK SPACING
16	E17XOE-1	LH	PORT PROVIDED	NO	1	15' CROSSOVER TRACK SPACING
17	E17XOE-2	LH	SALVAGED: M4	NO	N/A	14' CROSSOVER TRACK SPACING, CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 CROSSOVER, SEE SHEET R14, SEE NOTE 2
18	E15XOW	LH	PORT PROVIDED	NO	1	15' CROSSOVER TRACK SPACING
19	E16XOW-1	LH	PORT PROVIDED	NO	1	15' CROSSOVER TRACK SPACING
20	E16XOW-2	LH	SALVAGED: M5	NO	N/A	14' CROSSOVER TRACK SPACING, CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 CROSSOVER, SEE SHEET R14, SEE NOTE 2
21	E12XOE	LH	PORT PROVIDED	NO	1	15' CROSSOVER TRACK SPACING, ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
22	E12XOW	RH	PORT PROVIDED	NO	1	15' CROSSOVER TRACK SPACING, ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
23	ESNK	LH	PORT PROVIDED	NO	1	
24	W11	LH	PORT PROVIDED	NO	3	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
25	W12	LH	PORT PROVIDED	NO	3	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
26	W13	RH	PORT PROVIDED	NO	2	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
27	W14	LH	PORT PROVIDED	NO	3	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
28	W15	LH	PORT PROVIDED	NO	3	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
29	W17XO	RH	PORT PROVIDED	YES	2	14' CROSSOVER TRACK SPACING, ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
30	W16XO	RH	PORT PROVIDED	YES	2	14' CROSSOVER TRACK SPACING, ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
31	W10	LH	PORT PROVIDED	YES	3	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
32	W5	LH	SALVAGED: M2	NO	N/A	CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 TURNOUT, SEE SHEET R12, ALL TIES AHEAD OF PS MAY NOT BE REQUIRED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 2
33	W6	LH	SALVAGED: WEST 8	NO	N/A	CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 TURNOUT, SEE SHEET R12, ALL TIES AHEAD OF PS MAY NOT BE REQUIRED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 2
34	W7	RH	PORT PROVIDED	NO	3	
35	W8	LH	SALVAGED: WEST 9	NO	N/A	CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 TURNOUT, SEE SHEET R12, ALL TIES AHEAD OF PS MAY NOT BE REQUIRED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 2
36	W9	LH	SALVAGED: WEST 10	NO	N/A	CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 TURNOUT, SEE SHEET R12, ALL TIES AHEAD OF PS MAY NOT BE REQUIRED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT
37	WA1	RH	PORT PROVIDED	YES	2	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
38	WL3W	LH	PORT PROVIDED	YES	2	ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 1
39	WL3E	RH	PORT PROVIDED	YES	3	TIES 1 & 2 SHALL BE 24' IN LENGTH, PROVIDED BY THE CONTRACTOR, AND SHALL EXTEND UNDER ADJACENT TRACK L2. ALL PORT FURNISHED TIES MAY NOT BE USED DUE TO SPACE CONSTRAINT AT MILWAUKEE WAY CROSSING, SEE NOTE 1. CONTRACTOR SHALL PROVIDE FIELD WELDED JOINT BETWEEN STOCK RAILS AND EXISTING RAIL AT MILWAUKEE WAY CROSSING.
40	WL5	RH	SALVAGED: M1	NO	N/A	CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 TURNOUT, SEE SHEET R12, TIES A3 - 10A AHEAD OF PS NOT REQUIRED DUE TO SPACE CONSTRAINT TO ADJACENT TURNOUT, SEE NOTE 2
41	EWORM	LH	PORT PROVIDED	NO	1	
42	W12XO	RH	SALVAGED: M3	NO	N/A	14' CROSSOVER TRACK SPACING, CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 CROSSOVER, SEE SHEET R14, SEE NOTE 2
43	W13XO	RH	SALVAGED: M6	NO	N/A	14' CROSSOVER TRACK SPACING, CONTRACTOR SHALL PROVIDE TIE PACKAGE PER DETAIL - NO.9 CROSSOVER, SEE SHEET R14, SEE NOTE 2



**NOTES:**

- PLATES TO BE SHEET ALUMINUM, MILL FINISH SIMILAR TO ALCOA 61S-T6(61ST). PLATE TO BE 1/8" THICK.
- APPLY 3M SCOTCHLITE HIGH INTENSITY SILVER REFLECTIVE SHEETING, OR APPROVED EQUAL, TO PLATES. APPLY 3" HIGH LETTERS AND NUMBERS TO SHEETING. LETTERS AND NUMBERS SHALL BE BLACK VINYL, CUT WITH CLEAR LAMINATE UV AND WEATHER PROTECTION MANUFACTURED BY INTERNATIONAL DESIGN & MARKETING, INC., HUNTINGTON BEACH, CA, 800-689-7446 OR APPROVED EQUAL.
- CONTRACTOR SHALL APPLY PLATES TO WOOD TIES USING 3/8" X 2", 316 SS OR 18-8 SS LAG BOLTS, EACH BOLT 1"± 1/16" FROM BOTH EDGES OF EACH CORNER.

**1 SWITCH DESIGNATION PLATE**  
R16 NTS

**NOTES :**

- ALL PORT FURNISHED TIES MADE SURPLUS DUE TO SPACE CONSTRAINTS AT PROPOSED TURNOUT AND CROSSOVER LOCATIONS SHALL BE USED ELSEWHERE IN THE PROJECT BY INCORPORATING INTO THE CONTRACTOR PROVIDED TIE PACKAGE FOR SALVAGE TURNOUTS OR 10' TIES MAY BE USED AS STANDARD TIMBER TIES EITHER IMMEDIATELY BEFORE OR AFTER PROPOSED TURNOUTS OR CROSSOVERS. FIELD CUTTING OF SURPLUS TIES SHALL NOT BE ALLOWED.
- ALL SWITCH STANDS, SPIKES, PLATES, CLIPS, AND ANCHORS SHALL BE REPLACED WITH NEW MATERIAL ON SALVAGED TURNOUTS. THE CONTRACTOR SHALL INVENTORY ALL SALVAGED TURNOUTS AND REPLACE ALL SPIKES, PLATES, CLIPS, AND ANCHORS IN KIND. SWITCH STANDS SHALL BE REPLACED TO MATCH PORT FURNISHED TURNOUTS, SEE SPECIFICATION SECTION 34 11 23. ALL OTHER MATERIAL FROM SALVAGED TURNOUTS SHALL BE CONSIDERED SUITABLE FOR REINSTALLATION.

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P.O. BOX 107 TACOMA, WA 98401 (2025)581

APPROVED: *[Signature]* DATE: 03/17/16

4-12-14

CHECKED BY: SWK DATE: 03/17/16

PROJECT: PROJ. ENGR DATE: 03/17/16

PRINTED BY: bosterhaus Mar 21, 2016

DIRECTOR: bosterhaus

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

6555

**R16**

SHEET 71 OF 134

NORTH LEAD

TURNOUT AND CROSSOVER DETAILS

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3

DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846

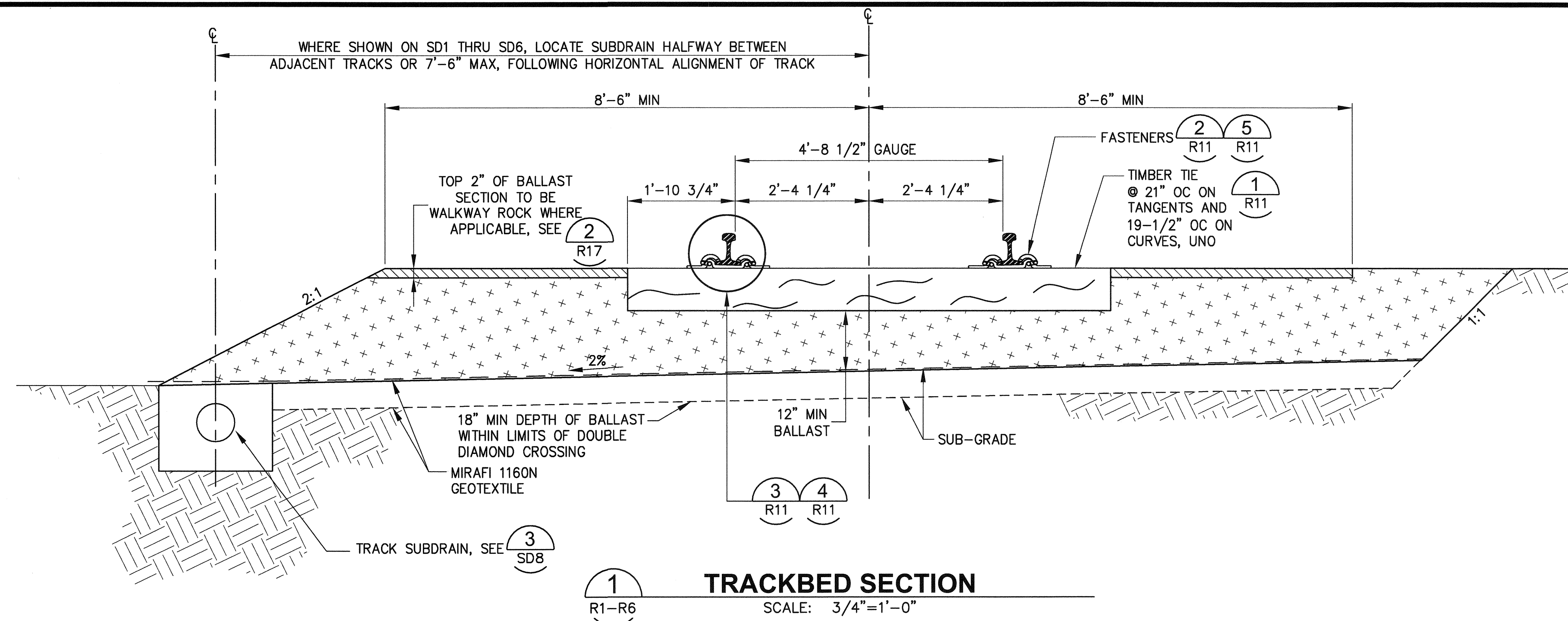
PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

CONT/CONS: 070164

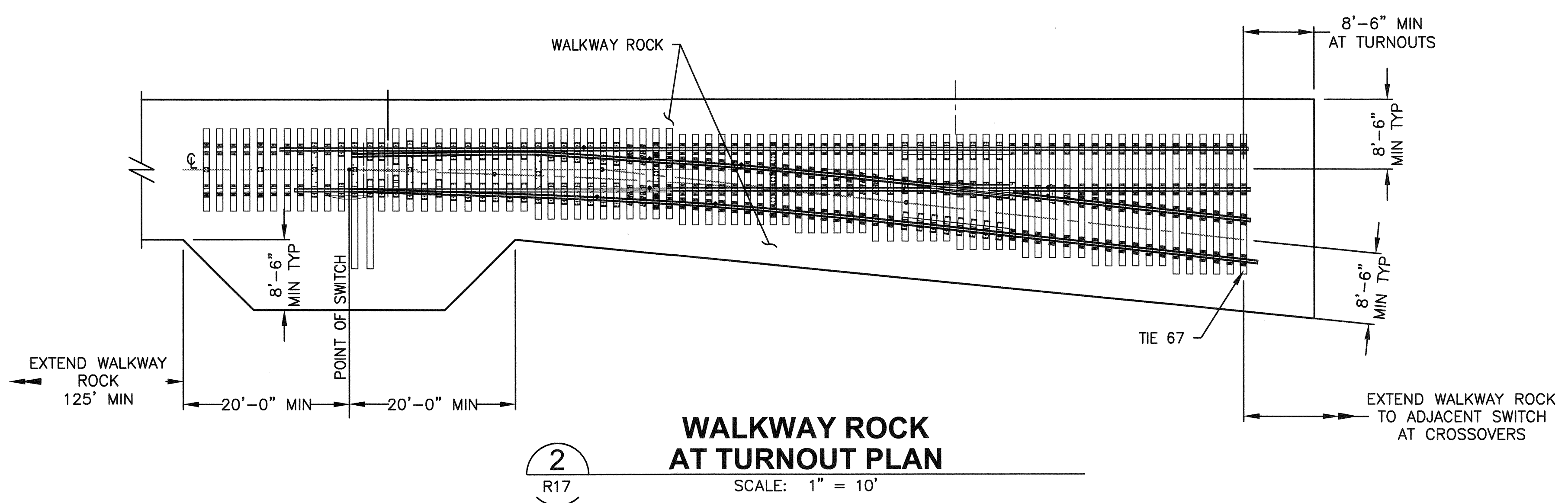
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PHASE: BID

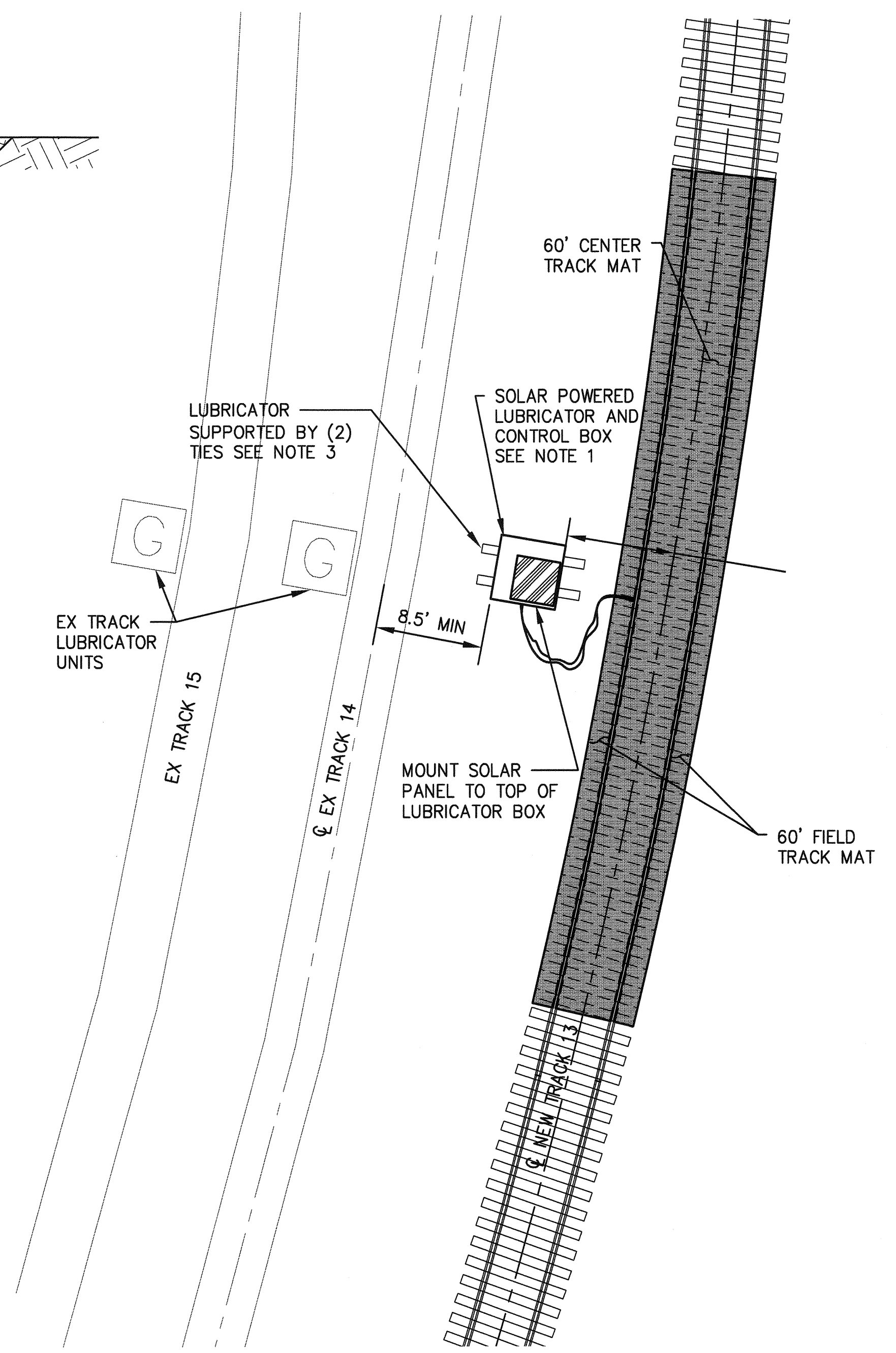
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**1 TRACKBED SECTION**  
SCALE: 3/4" = 1'-0"



**2 WALKWAY ROCK AT TURNOUT PLAN**  
SCALE: 1" = 10'



**NOTES :**

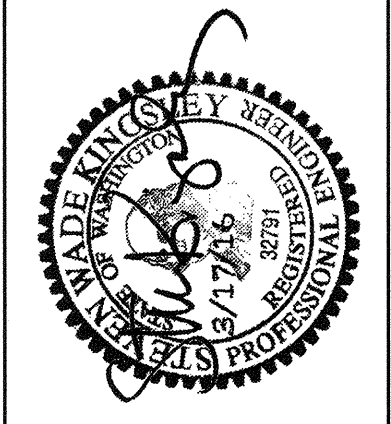
1. CONTRACTOR SHALL INSTALL TRACK LUBRICATOR EQUIPMENT PER PROJECT SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
2. POSITION TRACK LUBRICATOR CONTROL BOX ACCORDING TO TRACK ALIGNMENT NOTED ON PLAN R6 AND IN LINE WITH EXISTING TRACK LUBRICATORS, ±5'.
3. SUPPORT TRACK LUBRICATOR CONTROL BOX ON MIN (2) TIES. TIE SIZE, SPACING, AND ORIENTATION SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS.

**3 TRACK LUBRICATOR DETAIL**  
SCALE: NTS

<p>6555 <b>R17</b> SHEET 72 OF 134</p>	<p><b>North Lead</b></p>		<p>APPROVED: <i>[Signature]</i></p>		<p>SWK 03/17/16</p>
	<p>RAIL DETAILS</p>		<p>CHECKED BY: <i>[Signature]</i></p>	<p>DATE: 03/17/16</p>	<p>DATE: 03/17/16</p>
<p>CONT/CONS: 070164</p>	<p>TOWNSHIP: 20N</p>	<p>RANGE: 03E</p>	<p>SECTION: 1, 2, 3</p>	<p>DIRECTOR ENG. DATE: 4-2-16</p>	<p>PROJ. ENGR DATE: 03/17/16</p>
<p>M. ID: 092938</p>	<p>DATE-HRZ: W83-SF</p>	<p>VERT: PORT OF TACOMA BM #846</p>	<p>PRINTED BY: bosterhaus Mar 21, 2016</p>	<p>PORT ADDRESS: ONE SITCUM PLAZA</p>	<p>TACOMA, WA 98401-1837</p>
<p>PHASE: BID</p>	<p>PARCEL: MULTIPLE</p>	<p>DRAWING SCALE: AS NOTED</p>	<p>DATE: 03/17/16</p>	<p>REVISION: BY: [ ]</p>	<p>DATE: [ ]</p>



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MAIN YARD LEAD (L5)

Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include L05L1, L05L2, L05C1, and L05L3.

MAIN YARD (4)

Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include MY04L1 through MY04C2.

MAIN YARD (5)

Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include MY05L1, MY05L2, MY05C1, and MY05L3.

MAIN YARD (6)

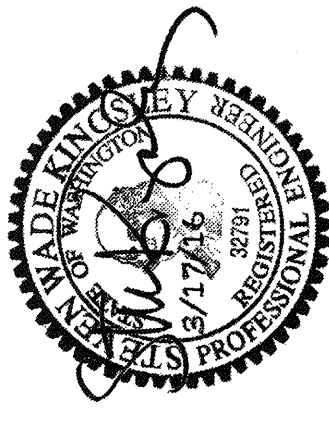
Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include MY06L1, MY06L2, MY06C1, and MY06L3.

MAIN YARD (7)

Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include MY07L1 through MY07C1.



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SWK 03/17/16  
CHECKED BY DATE  
SWK 03/17/16

APPROVED: Mike J. Bosterman  
4-12-16  
DIRECTOR ENG. DATE  
PRINTED BY: bosterman Mar 21, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

NORTH LEAD

TRACK DATA CHARTS

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3  
DATE: HRZ: W83-SF VERT: PORT OF TACOMA BM #846  
PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

6555 R19

SHEET 74 OF 134  
CONT./CONS: 070164  
M. ID: 092938  
PHASE: BID

MAIN YARD (8)								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
MY08L1	BEGIN: <150	PS #9 TO (LH); BEGIN TR 8	80+10.00	704260.056	1169147.500	30.17'	S69° 04' 18.91"E	
	END: <151	PI #9 TO (LH)	80+40.17	704249.279	1169175.679			
MY08L2	BEGIN: <151	PI #9 TO (LH)	80+40.17	704249.279	1169175.679	233.43'	S75° 25' 53.82"E	
	END: <152	PC	82+73.60	704190.564	1169401.604			
MY08C1	<152	PC	82+73.60	704190.564	1169401.604			LENGTH=19.55' RADIUS=603.81' TANGENT=9.79' DELTA=1°51'30" Dc=9°30'00" EXTERNAL=0.08'
	<153	PI	82+83.39	704188.102	1169411.076			
	<154	PT, END TR 8	82+93.15	704185.948	1169420.623			


MAIN YARD (9)								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
MY09L1	BEGIN: <160	PS #9 TO (LH); BEGIN TR 9	90+10.00	704300.687	1169041.254	30.17'	S69° 04' 18.92"E	
	END: <161	PI #9 TO (LH)	90+40.17	704289.911	1169069.433			
MY09L2	BEGIN: <161	PI #9 TO (LH)	90+40.17	704289.911	1169069.433	304.68'	S75° 25' 53.82"E	
	END: <162	PC	93+44.85	704213.273	1169364.316			
MY09C1	<162	PC	93+44.85	704213.273	1169364.316			LENGTH=19.76' RADIUS=603.81' TANGENT=9.89' DELTA=1°52'40" Dc=9°30'00" EXTERNAL=0.08'
	<163	PI	93+54.74	704210.784	1169373.893			
	<164	PT, END TR 9	93+64.61	704208.610	1169383.545			

MAIN YARD (10)								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
MY10L1	BEGIN: <170	PS #9 TO (LH); BEGIN TR 10	100+10.00	704383.411	1168799.780	30.17'	S66° 04' 20.07"E	
	END: <171	PI #9 TO (LH)	100+40.17	704371.175	1168827.357			
MY10L2	BEGIN: <171	PI #9 TO (LH)	100+40.17	704371.175	1168827.357	77.58'	S72° 25' 56.13"E	
	END: <172	PC	101+17.74	704347.760	1168901.314			
MY10C1	<172	PC	101+17.74	704347.760	1168901.314			LENGTH=31.57' RADIUS=603.81' TANGENT=15.81' DELTA=3°00'00" Dc=9°30'00" EXTERNAL=0.21'
	<173	PI	101+33.55	704342.989	1168916.383			
	<174	PT, PS #9 TO (RH)	101+49.31	704339.013	1168931.681			
MY10L3	BEGIN: <174	PT, PS #9 TO (RH)	101+49.31	704339.013	1168931.681	30.17'	S75° 25' 53.82"E	
	END: <175	PI #9 TO (RH)	101+79.48	704331.424	1168960.881			
MY10L4	BEGIN: <175	PI #9 TO (RH)	101+79.48	704331.424	1168960.881	83.57'	S75° 25' 53.82"E	
	END: <176	PS #9 TO (LH)	102+63.06	704310.403	1169041.766			
MY10L5	BEGIN: <176	PS #9 TO (LH)	102+63.06	704310.403	1169041.766	30.17'	S75° 25' 53.82"E	
	END: <177	PI #9 TO (LH)	102+93.23	704302.814	1169070.966			
MY10L6	BEGIN: <177	PI #9 TO (LH)	102+93.23	704302.814	1169070.966	83.58'	S75° 25' 53.82"E	
	END: <178	PS #9 TO (LH)	103+76.81	704281.791	1169151.859			
MY10L7	BEGIN: <178	PS #9 TO (LH)	103+76.81	704281.791	1169151.859	30.17'	S75° 25' 53.82"E	
	END: <179	PI #9 TO (LH)	104+06.98	704274.202	1169181.059			
MY10L8	BEGIN: <179	PI #9 TO (LH)	104+06.98	704274.202	1169181.059	157.21'	S75° 25' 53.82"E	
	END: <180	PC	105+64.19	704234.658	1169333.216			
MY10C2	<180	PC	105+64.19	704234.658	1169333.216			LENGTH=19.75' RADIUS=603.81' TANGENT=9.89' DELTA=1°52'40" Dc=9°30'00" EXTERNAL=0.08'
	<181	PI	105+74.08	704232.170	1169342.788			
	<182	PT, END TR 10	105+83.94	704229.997	1169352.436			

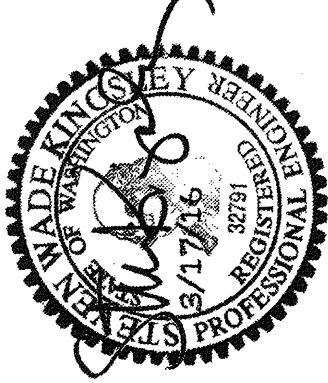
MAIN YARD (11)								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
MY11L1	BEGIN: <190	PS #9 TO (LH); BEGIN TR 11	110+00.00	704281.791	1169151.859	30.17'	S75° 25' 53.82"E	
	END: <191	PI #9 TO (LH)	110+30.17	704274.202	1169181.059			
MY11L2	BEGIN: <191	PI #9 TO (LH)	110+30.17	704274.202	1169181.059	110.15'	S81° 47' 28.74"E	
	END: <192	PC	111+40.32	704258.475	1169290.079			
MY11C1	<192	PC	111+40.32	704258.475	1169290.079			LENGTH=46.74' RADIUS=603.81' TANGENT=23.41' DELTA=4°26'20" Dc=9°30'00" EXTERNAL=0.45'
	<193	PI	111+63.73	704255.133	1169313.248			
	<194	PT, END TR 11	111+87.06	704250.007	1169336.088			

MAIN YARD (12)								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
MY12L1	BEGIN: <201	PS #9 TO (LH); BEGIN TR 12	201+00.00	704310.403	1169041.766	30.17'	S75° 25' 53.82"E	
	END: <202	PI #9 TO (LH)	201+30.17	704302.814	1169070.966			
MY12L2	BEGIN: <202	PI #9 TO (LH)	201+30.17	704302.814	1169070.966	245.34'	S81° 47' 28.74"E	
	END: <203	PC	203+75.51	704267.785	1169313.793			
MY12C1	<203	PC	203+75.51	704267.785	1169313.793			LENGTH=47.23' RADIUS=603.81' TANGENT=23.65' DELTA=4°29'10" Dc=9°30'00" EXTERNAL=0.46'
	<204	PI	203+99.16	704264.408	1169337.205			
	<205	PT, END TR 12	204+22.74	704259.209	1169360.281			
MY12L3	BEGIN: <205	PT, END TR 12	204+22.74	704259.209	1169360.281	177.63'	S77° 15' 24.87"E	
	END: <206	BEGIN TR 12	206+00.37	704220.028	1169533.533			
MY12L4	BEGIN: <206	BEGIN TR 12	206+00.37	704220.028	1169533.533	77.48'	S77° 25' 05.81"E	
	END: <207	PI #9 TO (RH)	206+77.85	704203.150	1169609.152			
MY12L5	BEGIN: <207	PI #9 TO (RH)	206+77.85	704203.150	1169609.152	30.48'	S77° 19' 41.39"E	
	END: <208	PS #9 TO (RH); END TR 12	207+08.33	704196.464	1169638.888			

MAIN YARD (12) EAST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
MY12EL1	BEGIN: <209	BEGIN TR 12 EAST	222+11.71	703865.952	1171105.498	161.08'	S77° 12' 46.84"E	
	END: <210	PC	223+72.79	703830.301	1171262.581			
MY12EC1	<210	PC	223+72.79	703830.301	1171262.581			LENGTH=51.34' RADIUS=603.80' TANGENT=25.71' DELTA=4°52'40" Dc=9°30'00" EXTERNAL=0.55'
	<211	PI	223+98.50	703824.609	1171287.658			
	<212	PT	224+24.13	703821.071	1171313.127			
MY12EL2	BEGIN: <212	PT	224+24.13	703821.071	1171313.127	273.53'	S82° 05' 24.44"E	
	END: <213	PI #9 TO (LH)	226+97.66	703783.428	1171584.059			
MY12EL3	BEGIN: <213	PI #9 TO (LH)	226+97.66	703783.428	1171584.059	30.17'	S82° 05' 24.44"E	
	END: <214	PS #9 TO (LH)	227+27.83	703779.276	1171613.942			
MY12EL4	BEGIN: <214	PS #9 TO (LH)	227+27.83	703779.276	1171613.942	102.46'	S82° 05' 24.44"E	
	END: <215	PI #9 TO (LH)	228+30.29	703765.176	1171715.429			
MY12EL5	BEGIN: <215	PI #9 TO (LH)	228+30.29	703765.176	1171715.429	30.17'	S82° 05' 24.44"E	
	END: <216	PS #9 TO (LH)	228+60.46	703761.024	1171745.312			
MY12EL6	BEGIN: <216	PS #9 TO (LH)	228+60.46	703761.024	1171745.312	8.67'	S82° 05' 24.44"E	
	END: <217	PS #9 TO (LH)	228+69.13	703759.831	1171753.898			
MY12EL7	BEGIN: <217	PS #9 TO (LH)	228+69.13	703759.831	1171753.898	30.17'	S82° 05' 24.44"E	
	END: <218	PI #9 TO (LH)	228+99.30	703755.679	1171783.781			
MY12EL8	BEGIN: <218	PI #9 TO (LH)	228+99.30	703755.679	1171783.781	170.45'	S88° 26' 59.36"E	
	END: <219	PC	230+69.75	703751.068	1171954.173			



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MADE IN WASHINGTON  
STATE OF WASHINGTON  
PROFESSIONAL ENGINEER  
9/17/15  
32781

APPROVED: *[Signature]* SWK 03/17/16  
CHECKED BY: DATE  
DIRECTOR ENG. DATE: 4-2-16 SWK 03/17/16  
PRINTED BY: bosterhaus Mar 21, 2016  
PORT ADDRESS: ONE SITCOM PLAZA  
TACOMA, WA 98401-1837

6555  
**R20**  
SHEET 75 OF 134

NORTH LEAD  
TRACK DATA CHARTS

MARK: REVISION:  
BY:  
APPR: DATE:

CONTR/CONS: 070164  
M. ID: 092938  
PHASE: BID

TOWNSHIP: 20N  
RANGE: 03E  
SECTION: 1, 2, 3  
DATE-HRZ: W83-SF  
VERT: PORT OF TACOMA BM #846  
PARCEL: MUL TIPLE  
DRAWING SCALE: AS NOTED

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**MAIN YARD (12) EAST**

ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
MY12EC2	219	PC	230+69.75	703751.068	1171954.173			LENGTH=1.66' RADIUS=603.80' TANGENT=0.83' DELTA=0°09'30" Dc=9°30'00" EXTERNAL=0.00'
	220	PI	230+70.58	703751.046	1171955.001			
	221	PT	230+71.41	703751.026	1171955.829			
MY12EL9	BEGIN: 221 END: 222	PT PI #9 TO (LH)	230+71.41 232+38.33	703751.026 703746.968	1171955.829 1172122.705	166.92'	S88° 36' 25.43"E	
MY12EL10	BEGIN: 222 END: 223	PI #9 TO (LH) PS #9 TO (LH)	232+38.33 232+68.50	703746.968 703746.235	1172122.705 1172152.866	30.17'	S88° 36' 25.43"E	
MY12EL11	BEGIN: 223 END: 224	PS #9 TO (LH) PS #9 TO (LH)	232+68.50 232+91.59	703746.235 703745.673	1172152.866 1172175.948	23.09'	S88° 36' 25.43"E	
MY12EL12	BEGIN: 224 END: 225	PS #9 TO (LH) PI #9 TO (LH)	232+91.59 233+21.76	703745.673 703744.940	1172175.948 1172206.109	30.17'	S88° 36' 25.43"E	
MY12EL13	BEGIN: 225 END: 226	PI #9 TO (LH) END TR 12 EAST	233+21.76 233+99.55	703744.940 703743.049	1172206.109 1172283.875	77.79'	S88° 36' 25.43"E	

**TRACK 13 WEST**

ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T13WL1	BEGIN: 301 END: 302	PS #9 TO (RH) PI #9 TO (RH)	301+00.00 301+30.17	704387.611 704381.026	1169040.453 1169069.895	30.17'	S77° 23' 34.22"E	
T13WL2	BEGIN: 302 END: 303	PI #9 TO (RH) PC	301+30.17 302+08.44	704381.026 704355.586	1169069.895 1169143.916	78.27'	S71° 01' 59.30"E	
T13WC1	303	PC	302+08.44	704355.586	1169143.916			LENGTH=2.74' RADIUS=603.82' TANGENT=1.37' DELTA=0°15'40" Dc=9°30'00" EXTERNAL=0.00'
	304	PI	302+09.81	704355.141	1169145.211			
	305	PT, PS #9 TO (LH)	302+11.18	704354.690	1169146.505			
T13WL3	BEGIN: 305 END: 306	PT, PS #9 TO (LH) PI #9 TO (LH)	302+11.18 302+41.35	704354.690 704344.755	1169146.505 1169174.992	30.17'	S70° 46' 23.30"E	
T13WL4	BEGIN: 306 END: 307	PI #9 TO (LH) PS #9 TO (LH)	302+41.35 303+34.14	704344.755 704314.199	1169174.992 1169262.605	92.79'	S70° 46' 23.30"E	
T13WL5	BEGIN: 307 END: 308	PS #9 TO (LH) PI #9 TO (LH)	303+34.14 303+64.31	704314.199 704304.263	1169262.605 1169291.092	30.17'	S70° 46' 23.30"E	
T13WL6	BEGIN: 308 END: 309	PI #9 TO (LH) PC	303+64.31 304+62.01	704304.263 704272.089	1169291.092 1169383.344	97.70'	S70° 46' 23.30"E	
T13WC2	309	PC	304+62.01	704272.089	1169383.344			LENGTH=69.02' RADIUS=603.80' TANGENT=34.58' DELTA=6°33'20" Dc=9°30'00" EXTERNAL=0.99'
	310	PI	304+96.59	704260.700	1169415.999			
	311	PT	305+31.02	704253.114	1169449.742			
T13WL7	BEGIN: 311 END: 312	PT PS #9 TO (RH)	305+31.02 305+42.02	704253.114 704250.713	1169449.742 1169460.477	11.00'	S77° 23' 34.22"E	
T13WL8	BEGIN: 312 END: 313	PS #9 TO (RH) PI #9 TO (RH)	305+42.02 305+72.19	704250.713 704244.128	1169460.477 1169489.920	30.17'	S77° 23' 34.22"E	
T13WL9	BEGIN: 313 END: 314	PI #9 TO (RH) END TR 13 WEST	305+72.19 306+49.98	704244.128 704227.150	1169489.920 1169565.832	77.79'	S77° 23' 34.22"E	

**TRACK 13 EAST**

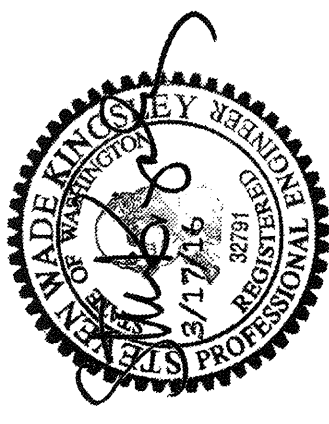
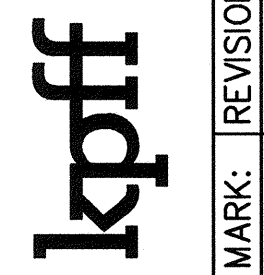
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T13EL1	BEGIN: 315 END: 316	PS #9 TO (LH); BEGIN TR 13 EAST PI #9 TO (LH)	316+22.01 316+52.18	704013.686 704007.056	1170514.137 1170543.569	30.17'	S77° 18' 15.22"E	
	BEGIN: 316 END: 317	PI #9 TO (LH) PC	316+52.18 320+27.20	704007.056 703924.636	1170543.569 1170909.420	375.02'	S77° 18' 15.22"E	
T13EC1	317	PC	320+27.20	703924.636	1170909.420			LENGTH=70.37' RADIUS=648.81' TANGENT=35.26' DELTA=6°13'20" Dc=8°50'20" EXTERNAL=0.96'
	318	PI	320+62.46	703916.887	1170943.815			
	319	PT	320+97.57	703912.912	1170978.847			
T13EL3	BEGIN: 319 END: 320	PT PC	320+97.57 328+50.02	703912.912 703828.061	1170978.847 1171726.489	752.44'	S83° 31' 30.61"E	
	320	PC	328+50.02	703828.061	1171726.489			LENGTH=125.57' RADIUS=1462.68' TANGENT=62.84' DELTA=4°55'10" Dc=3°55'00" EXTERNAL=1.35'
321	PI	329+12.85	703820.975	1171788.924				
322	PT	329+75.59	703819.270	1171851.737				
T13EL4	BEGIN: 322 END: 323	PT PC	329+75.59 333+10.83	703819.270 703810.172	1171851.737 1172186.853	335.24'	S88° 26' 41.67"E	
	323	PC	333+10.83	703810.172	1172186.853			LENGTH=97.46' RADIUS=633.81' TANGENT=48.88' DELTA=8°49'10" Dc=9°03'00" EXTERNAL=1.88'
324	PI	333+59.70	703808.846	1172235.714				
325	PT	334+08.29	703815.027	1172284.200				
T13EL5	BEGIN: 325 END: 326	PT PC	334+08.29 335+01.41	703815.027 703826.803	1172284.200 1172376.578	93.13'	N82° 44' 07.38"E	
	326	PC	335+01.41	703826.803	1172376.578			LENGTH=90.93' RADIUS=603.80' TANGENT=45.61' DELTA=8°38'20" Dc=9°30'00" EXTERNAL=1.72'
327	PI	335+47.02	703832.569	1172421.817				
328	PT	335+92.35	703831.476	1172467.409				
T13EL6	BEGIN: 328 END: 329	PT PI #9 TO (LH)	335+92.35 341+84.05	703831.476 703817.287	1172467.409 1173058.941	591.70'	S88° 37' 33.52"E	
T13EL7	BEGIN: 329 END: 330	PI #9 TO (LH) PS #9 TO (LH)	341+84.05 342+14.22	703817.287 703816.564	1173058.941 1173089.102	30.17'	S88° 37' 33.52"E	
	330	PS #9 TO (LH)	342+14.22	703816.564	1173089.102			118.59'
T13EL8	BEGIN: 330 END: 331	PS #9 TO (LH) END TR 13 EAST	343+32.81	703813.719	1173207.659	118.59'	S88° 37' 31.44"E	

**TRACK 13 EAST CONT'D**

ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T13EL8	BEGIN: 332 END: 333	BEGIN TR 13 EAST CONT'D PC	356+51.17 358+15.82	703779.703 703774.957	1174525.578 1174690.155	164.65'	S88° 20' 53.89"E	
	333	PC	358+15.82	703774.957	1174690.155			LENGTH=846.94' RADIUS=541.30' TANGENT=539.18' DELTA=89°46'30" Dc=10°36'00" EXTERNAL=222.72'
334	PI	363+55.00	703759.416	1175229.115				
335	PT	366+62.76	704298.312	1175246.765				
T13EL9	BEGIN: 335 END: 336	PT END TR 13 EAST CONT'D	366+62.76 367+38.02	704298.312 704373.536	1175246.765 1175249.228	75.26'	N01° 52' 33.06"E	



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4/2/16  
SWK 03/17/16  
CHECKED BY: DATE  
SWK 03/17/16  
DIRECTOR ENG. DATE: bosterhaus Mar 21, 2016  
PRINTED BY:  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

**NORTH LEAD**

**TRACK DATA CHARTS**

6555  
SHEET 76 OF 134  
R21  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
RANGE: 03E  
VERT: PORT OF TACOMA BM #846  
SECTION: 1, 2, 3  
DRAWING SCALE: AS NOTED

TRACK 14 WEST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T14WL1	BEGIN: 401 END: 402	PS #9 TO (LH); BEGIN TR 14 WEST PI #9 TO (LH)	401+00.00 401+30.17	704314.199 704304.263	1169262.605 1169291.092	30.17'	S70° 46' 23.30"E	
T14WL2	BEGIN: 402 END: 403	PI #9 TO (LH) PC	401+30.17 403+27.76	704304.263 704260.261	1169291.092 1169483.723	197.59'	S77° 07' 58.22"E	
T14WC1	403 404 405	PC PI PT END TR 14 WEST	403+27.76 403+28.57 403+29.38	704260.261 704260.081 704259.902	1169483.723 1169484.513 1169485.304			LENGTH=1.62' RADIUS=603.81' TANGENT=0.81' DELTA=0°09'10" Dc=9°30'00" EXTERNAL=0.00'


TRACK 14 EAST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T14EL1	BEGIN: 406 END: 407	BEGIN TR 14 EAST PI #9 TO (LH)	414+65.16 415+42.95	704010.204 703993.106	1170593.297 1170669.190	77.79'	S77° 18' 15.22"E	
T14EL2	BEGIN: 407 END: 408	PI #9 TO (LH) PS #9 TO (LH)	415+42.95 415+73.12	703993.106 703986.476	1170669.190 1170698.622	30.17'	S77° 18' 15.22"E	
T14EL3	BEGIN: 408 END: 409	PS #9 TO (LH) PS #9 TO (LH)	415+73.12 415+87.07	703986.476 703983.410	1170698.622 1170712.229	13.95'	S77° 18' 15.22"E	
T14EL4	BEGIN: 409 END: 410	PS #9 TO (LH) PI #9 TO (LH)	415+87.07 416+17.24	703983.410 703976.780	1170712.229 1170741.661	30.17'	S77° 18' 15.22"E	
T14EL5	BEGIN: 410 END: 411	PI #9 TO (LH) PC	416+17.24 417+82.37	703976.780 703940.489	1170741.661 1170902.752	165.13'	S77° 18' 15.22"E	
T14EC1	411 412 413	PC PI PT	417+82.37 418+17.63 418+52.74	703940.489 703932.740 703928.765	1170902.752 1170937.147 1170972.179			LENGTH=70.37' RADIUS=648.81' TANGENT=35.26' DELTA=6°13'20" Dc=8°50'20" EXTERNAL=0.96'
T14EL6	BEGIN: 413 END: 414	PT PC	418+52.74 426+13.60	703928.765 703842.965	1170972.179 1171728.181	760.85'	S83° 31' 30.61"E	
T14EC2	414 415 416	PC PI PT	426+13.60 426+75.79 427+37.88	703842.965 703835.952 703834.265	1171728.181 1171789.975 1171852.144			LENGTH=124.28' RADIUS=1447.68' TANGENT=62.19' DELTA=4°55'10" Dc=3°57'30" EXTERNAL=1.34'
T14EL7	BEGIN: 416 END: 417	PT PC	427+37.88 430+73.12	703834.265 703825.167	1171852.144 1172187.260	335.24'	S88° 26' 41.67"E	
T14EC3	417 418 419	PC PI PT	430+73.12 431+20.84 431+68.27	703825.167 703823.872 703829.906	1172187.260 1172234.964 1172282.303			LENGTH=95.15' RADIUS=618.81' TANGENT=47.72' DELTA=8°49'10" Dc=9°16'10" EXTERNAL=1.84'
T14EL8	BEGIN: 419 END: 420	PT PC	431+68.27 432+54.74	703829.906 703840.840	1172282.303 1172368.077	86.47'	N82° 44' 07.38"E	
T14EC4	420 421 422	PC PI PT	432+54.74 433+01.48 433+47.94	703840.840 703846.750 703845.630	1172368.077 1172414.440 1172461.164			LENGTH=93.20' RADIUS=618.81' TANGENT=46.74' DELTA=8°38'20" Dc=9°16'10" EXTERNAL=1.76'
T14EL9	BEGIN: 422 END: 423	PT END TR 14 EAST	433+47.94 441+14.35	703845.630 703827.252	1172461.164 1173227.352	766.41'	S88° 37' 33.52"E	

TRACK 14 EAST CONT'D								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T14EC5	424 425 426	PC, BEGIN TR 14 E CONT'D PI PT, END TR 14 E CONT'D	455+55.27 456+10.02 456+64.35	703790.077 703787.494 703794.790	1174667.795 1174722.485 1174776.747			LENGTH=109.08' RADIUS=603.81' TANGENT=54.75' DELTA=10°21'40" Dc=9°30'00" EXTERNAL=2.48'

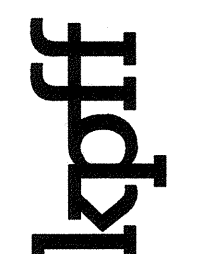
TRACK 14 EAST CONT'D-2								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T14EL10	BEGIN: 427 END: 428	BEGIN TR 14 EAST CONT'D PC	463+92.26 463+99.97	704294.044 704301.658	1175226.809 1175228.010	7.71'	N08° 58' 03.26"E	
T14EC6	428 429 430	PC PI PT END TR 14 EAST CONT'D	463+99.97 464+37.44 464+74.74	704301.658 704338.674 704376.129	1175228.010 1175233.852 1175235.071			LENGTH=74.77' RADIUS=603.81' TANGENT=37.47' DELTA=7°06'10" Dc=9°30'00" EXTERNAL=1.16'

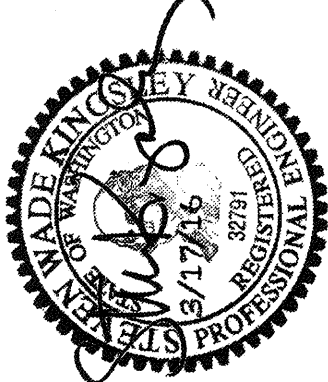
TRACK 15 WEST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T15WL1	BEGIN: 501 END: 502	PS #9 TO (LH); BEGIN TR 15 WEST PI #9 TO (LH)	501+00.00 501+30.17	704354.690 704344.755	1169146.505 1169174.992	30.17'	S70° 46' 23.30"E	
T15WL2	BEGIN: 502 END: 503	PI #9 TO (LH) PC	501+30.17 502+26.98	704344.755 704323.196	1169174.992 1169269.370	96.81'	S77° 07' 58.22"E	
T15WC1	503 504 505	PC PI PT	502+26.98 502+27.38 502+27.77	704323.196 704323.108 704323.019	1169269.370 1169269.757 1169270.144			LENGTH=0.79' RADIUS=603.81' TANGENT=0.40' DELTA=0°04'30" Dc=9°30'00" EXTERNAL=0.00'
T15WL3	BEGIN: 505 END: 506	PT END TR 15 WEST	502+27.77 503+17.58	704323.019 704302.905	1169270.144 1169357.666	89.80'	S77° 03' 26.67"E	

TRACK 15 EAST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T15EL1	BEGIN: 507 END: 508	BEGIN TR 13 EAST CONT'D PI #9 TO (LH)	517+87.24 518+65.03	703979.967 703962.845	1170791.405 1170867.285	77.79'	S77° 17' 05.24"E	
T15EL2	BEGIN: 508 END: 509	PI #9 TO (LH) PC, PS #9 TO (LH)	518+65.03 518+95.20	703962.845 703956.205	1170867.285 1170896.715	30.17'	S77° 17' 05.24"E	
T15EC1	509 510 511	PC, PS #9 TO (LH) PI PT	518+95.20 519+29.75 519+64.16	703956.205 703948.600 703944.704	1170896.715 1170930.418 1170964.747			LENGTH=68.96' RADIUS=633.81' TANGENT=34.55' DELTA=6°14'30" Dc=9°03'00" EXTERNAL=0.94'
T15EL3	BEGIN: 511 END: 512	PT PS #9 TO (LH)	519+64.16 519+70.12	703944.704 703944.032	1170964.747 1170970.670	5.96'	S83° 31' 30.61"E	
T15EL4	BEGIN: 512 END: 513	PS #9 TO (LH) PI #9 TO (LH)	519+70.12 520+00.00	703944.032 703940.662	1170970.670 1171000.361	29.88'	S83° 31' 30.61"E	
T15EL5	BEGIN: 513 END: 514	PI #9 TO (LH) PC	520+00.00 527+34.19	703940.662 703857.870	1171000.361 1171729.872	734.19'	S83° 31' 30.61"E	
T15EC2	514 515 516	PC PI PT	527+34.19 527+95.74 528+57.19	703857.870 703850.929 703849.259	1171729.872 1171791.027 1171852.551			LENGTH=122.99' RADIUS=1432.68' TANGENT=61.55' DELTA=4°55'10" Dc=4°00'00" EXTERNAL=1.32'



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APPROVED: *[Signature]*  
4-12-16

SWK 03/17/16  
CHECKED BY: DATE

SWK 03/17/16  
PROJ. ENGR. DATE

DATE: \_\_\_\_\_  
APPR: \_\_\_\_\_  
BY: \_\_\_\_\_

6555

**R22**

SHEET 77 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

TRACK DATA CHARTS

RANGE: 03E  
TOWNSHIP: 20N  
DAT-HRZ: W83-SF  
VERT: PORT OF TACOMA BM #846  
DRAWING SCALE: AS NOTED

SECTION: 1, 2, 3  
PRINTED BY: bosterhous Mar 21, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

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TRACK 15 EAST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T15EL6	BEGIN: 516 END: 517	PT PC	528+57.19 531+92.43	703849.259 703840.161	1171852.551 1172187.668	335.24'	S88° 26' 41.67"E	
T15EC3	517 518 519	PC PI PT	531+92.43 532+38.99 532+85.27	703840.161 703838.898 703844.786	1172187.668 1172234.215 1172280.406			LENGTH=92.84' RADIUS=603.81' TANGENT=46.56' DELTA=8°49'10" Dc=9°30'00" EXTERNAL=1.79'
T15EL7	BEGIN: 519 END: 520	PT PC	532+85.27 533+80.68	703844.786 703856.851	1172280.406 1172375.053	95.41'	N82° 44' 07.38"E	
T15EC4	520 521 522	PC PI PT	533+80.68 534+29.92 534+78.86	703856.851 703863.078 703861.685	1172375.053 1172423.899 1172473.121			LENGTH=98.18' RADIUS=633.81' TANGENT=49.24' DELTA=8°53'10" Dc=9°03'00" EXTERNAL=1.91'
T15EL8	BEGIN: 522 END: 523	PT END TR 15 EAST	534+78.86 536+46.70	703861.685 703856.939	1172473.121 1172640.889	167.84'	S88° 22' 46.82"E	
TRACK 16 WEST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T16WL1	BEGIN: 601 END: 602	PS #9 TO (RH); BEGIN TR 16 WEST PS #9 TO (RH)	601+00.00 601+15.58	704391.012 704387.611	1169025.245 1169040.453	15.58'	S77° 23' 34.22"E	
T16WL2	BEGIN: 602 END: 603	PS #9 TO (RH) PI #9 TO (RH)	601+15.58 601+45.75	704387.611 704381.026	1169040.453 1169069.895	30.17'	S77° 23' 34.22"E	
T16WL3	BEGIN: 603 END: 604	PI #9 TO (RH) END TR 16 WEST	601+45.75 605+56.09	704381.026 704291.463	1169069.895 1169470.339	410.34'	S77° 23' 34.22"E	
TRACK 16 EAST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T16EL1	BEGIN: 605 END: 606	BEGIN TR 16 EAST PC	619+00.10 620+11.84	703996.472 703971.897	1170781.574 1170890.575	111.74'	S77° 17' 40.17"E	
T16EC1	606 607 608	PC PI PT	620+11.84 620+45.52 620+79.06	703971.897 703964.490 703960.692	1170890.575 1170923.430 1170956.894			LENGTH=67.22' RADIUS=618.81' TANGENT=33.68' DELTA=6°13'50" Dc=9°16'10" EXTERNAL=0.92'
T16EL2	BEGIN: 608 END: 609	PT PI #9 TO (LH)	620+79.06 622+59.37	703960.692 703940.358	1170956.894 1171136.063	180.32'	S83° 31' 30.61"E	
T16EL3	BEGIN: 609 END: 610	PI #9 TO (LH) PS #9 TO (LH)	622+59.37 622+89.54	703940.358 703936.956	1171136.063 1171166.041	30.17'	S83° 31' 30.61"E	
T16EL4	BEGIN: 610 END: 611	PS #9 TO (LH) PS #9 TO (LH)	622+89.54 623+75.29	703936.956 703927.286	1171166.041 1171251.244	85.75'	S83° 31' 30.61"E	
T16EL5	BEGIN: 611 END: 612	PS #9 TO (LH) PI #9 TO (LH)	623+75.29 624+05.46	703927.286 703923.884	1171251.244 1171281.221	30.17'	S83° 31' 30.61"E	
T16EL6	BEGIN: 612 END: 613	PI #9 TO (LH) PC	624+05.46 627+17.17	703923.884 703888.734	1171281.221 1171590.938	311.70'	S83° 31' 30.61"E	
T16EC2	613 614 615	PC PI PT	627+17.17 627+77.50 628+37.74	703888.734 703881.931 703880.139	1171590.938 1171650.883 1171711.186			LENGTH=120.57' RADIUS=1447.68' TANGENT=60.33' DELTA=4°46'20" Dc=3°57'30" EXTERNAL=1.26'
T16EL7	BEGIN: 615 END: 616	PT PC	628+37.74 632+41.80	703880.139 703868.136	1171711.186 1172115.077	404.07'	S88° 17' 52.23"E	

TRACK 16 EAST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T16EC3	616 617 618	PC PI PT	632+41.80 632+76.94 633+11.93	703868.136 703867.092 703870.031	1172115.077 1172150.200 1172185.216			LENGTH=70.13' RADIUS=618.80' TANGENT=35.14' DELTA=6°30'00" Dc=9°16'10" EXTERNAL=1.00'
T16EL8	BEGIN: 618 END: 619	PT PC	633+11.93 633+83.87	703870.031 703876.049	1172185.216 1172256.908	71.94'	N85° 12' 07.40"E	
T16EC4	619 620 621	PC PI PT, PS #9 TO (LH)	633+83.87 634+17.42 634+50.82	703876.049 703878.855 703877.941	1172256.908 1172290.335 1172323.868			LENGTH=66.94' RADIUS=603.81' TANGENT=33.54' DELTA=6°21'30" Dc=9°30'00" EXTERNAL=0.93'
T16EL9	BEGIN: 621 END: 622	PT, PS #9 TO (LH) PI #9 TO (LH)	634+50.82 634+80.97	703877.941 703877.119	1172323.868 1172354.004	30.15'	S88° 26' 17.68"E	
T16EL10	BEGIN: 622 END: 623	PI #9 TO (LH) PC	634+80.97 636+25.60	703877.119 703873.177	1172354.004 1172498.588	144.64'	S88° 26' 17.68"E	
T16EC5	623 624 625	PC PI PT	636+25.60 636+26.83 636+28.06	703873.177 703873.143 703873.115	1172498.588 1172499.818 1172501.050			LENGTH=2.46' RADIUS=603.80' TANGENT=1.23' DELTA=0°14'00" Dc=9°30'00" EXTERNAL=0.00'
T16EL11	BEGIN: 625 END: 626	PT END TR 16 EAST	636+28.06 636+56.56	703873.115 703872.454	1172501.050 1172529.538	28.50'	S88° 40' 18.99"E	
TRACK 17 WEST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T17WL1	BEGIN: 701 END: 702	PS #9 TO (RH); BEGIN TR 17 WEST PI #9 TO (RH)	701+00.00 701+30.17	704445.261 704438.676	1168846.834 1168876.277	30.17'	S77° 23' 34.22"E	
T17WL2	BEGIN: 702 END: 703	PI #9 TO (RH) END TR 17 WEST	701+30.17 706+64.30	704438.676 704322.094	1168876.277 1169397.526	534.13'	S77° 23' 34.22"E	
TRACK 17 EAST								
ID	ALIGNMENT POINT	POINT TYPE	STATION	NORTHING	EASTING	DISTANCE	BEARING	CURVE DATA
T17EL1	BEGIN: 704 END: 705	BEGIN TR 17 EAST PC	719+90.73 721+90.97	704031.151 703987.258	1170691.659 1170887.026	200.24'	S77° 20' 15.18"E	
T17EC1	705 706 707	PC PI PT	721+90.97 722+23.60 722+56.10	703987.258 703980.104 703976.424	1170887.026 1170918.868 1170951.295			LENGTH=65.13' RADIUS=603.81' TANGENT=32.64' DELTA=6°11'20" Dc=9°30'00" EXTERNAL=0.88'
T17EL2	BEGIN: 707 END: 708	PT PI #9 TO (LH)	722+56.10 727+24.43	703976.424 703923.612	1170951.295 1171416.637	468.33'	S83° 31' 30.61"E	
T17EL3	BEGIN: 708 END: 709	PI #9 TO (LH) PS #9 TO (LH)	727+24.43 727+54.60	703923.612 703920.209	1171416.637 1171446.615	30.17'	S83° 31' 30.61"E	
T17EL4	BEGIN: 709 END: 710	PS #9 TO (LH) PS #9 TO (LH)	727+54.60 727+90.97	703920.209 703916.108	1171446.615 1171482.757	36.37'	S83° 31' 30.61"E	
T17EL5	BEGIN: 710 END: 711	PS #9 TO (LH) PI #9 TO (LH)	727+90.97 728+21.14	703916.108 703912.705	1171482.757 1171512.735	30.17'	S83° 31' 30.61"E	
T17EL6	BEGIN: 711 END: 712	PI #9 TO (LH) PC	728+21.14 729+01.55	703912.705 703903.638	1171512.735 1171592.629	80.41'	S83° 31' 30.61"E	

**6555**

**R23**

SHEET 78 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**TRACK DATA CHARTS**

TOWNSHIP: 20N

DAT-HRZ: W83-SF

PARCEL: MULTIPLE

RANGE: 03E

VERT: PORT OF TACOMA

SECTION: 1, 2, 3

EM #846

AS NOTED

APPROVED: *John Howard*

SWK 03/17/16

CHECKED BY: DATE

SWK 03/17/16

PROJ. ENGR DATE

4-12-16

bosterhaus Mar 21, 2016

DIRECTOR ENG. DATE

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

DATE: \_\_\_\_\_

APPR: \_\_\_\_\_

BY: \_\_\_\_\_

REVISION: \_\_\_\_\_

MARK: \_\_\_\_\_

**kpff**

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PG. 001 OF 100 TACOMA WA 001 (2016) 001



SUPPORT YARD LOW SIDE LEAD (SYLSL)

Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include SYLSLC1, SYLSLL1, SYLSLC2, SYLSLL2, SYLSLL3.

509 LEAD

Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include 509LL1, 509LC1, 509LL2, 509LL3, 509LC2.

EAST SUPPORT YARD LEAD (ESYL)

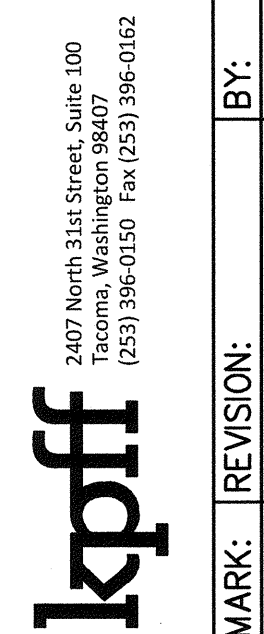
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SUPPORT YARD 4

Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include SY4C1, SY4L1, SY4L2, SY4C2, SY4L3, SY4C3, SY4L4, SY4L5.

SUPPORT YARD 5

Table with 9 columns: ID, ALIGNMENT POINT, POINT TYPE, STATION, NORTHING, EASTING, DISTANCE, BEARING, CURVE DATA. Rows include SY5L1, SY5C1, SY5L2, SY5L3.



SWK 03/17/16 CHECKED BY DATE

APPROVED: [Signature] DIRECTOR ENG. DATE

TRACK DATA CHARTS

TOWNSHIP: 20N RANGE: 03E

SECTION: 1, 2, 3

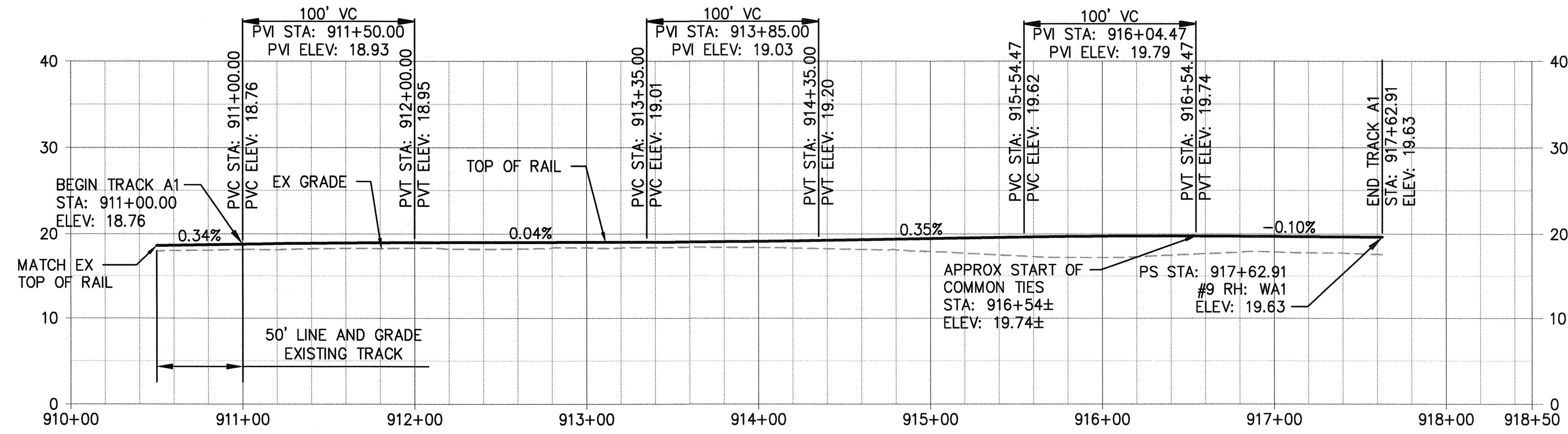
DATE: 092938

6555 R25 SHEET 80 OF 134

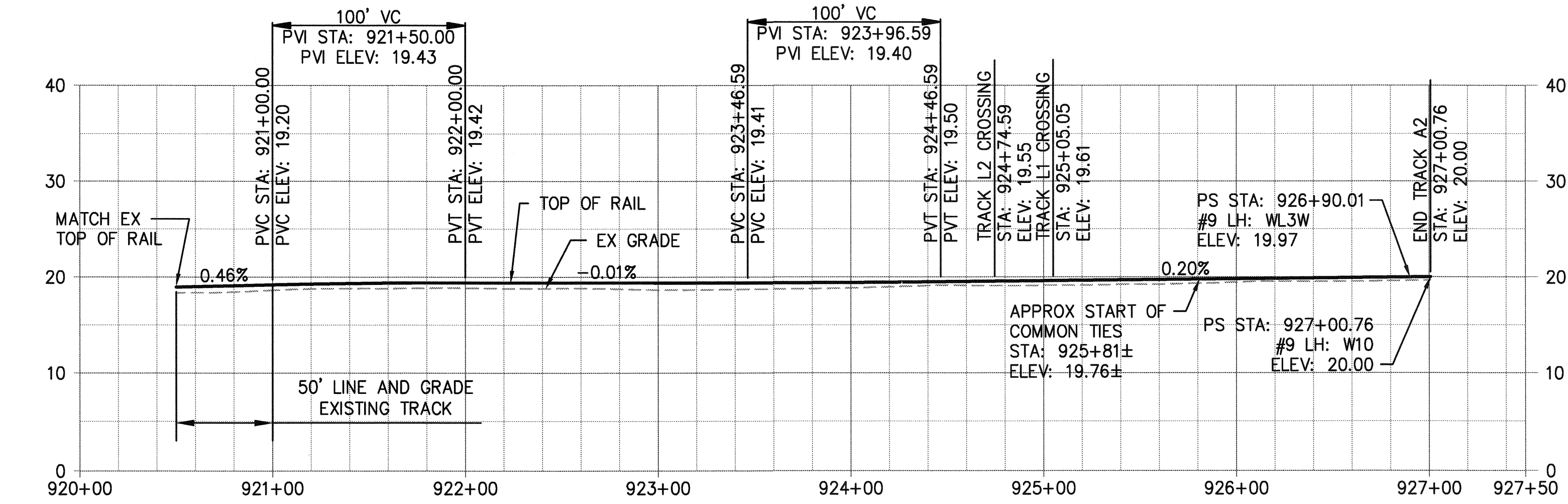
CONTRACT: 070164

PHASE: BID

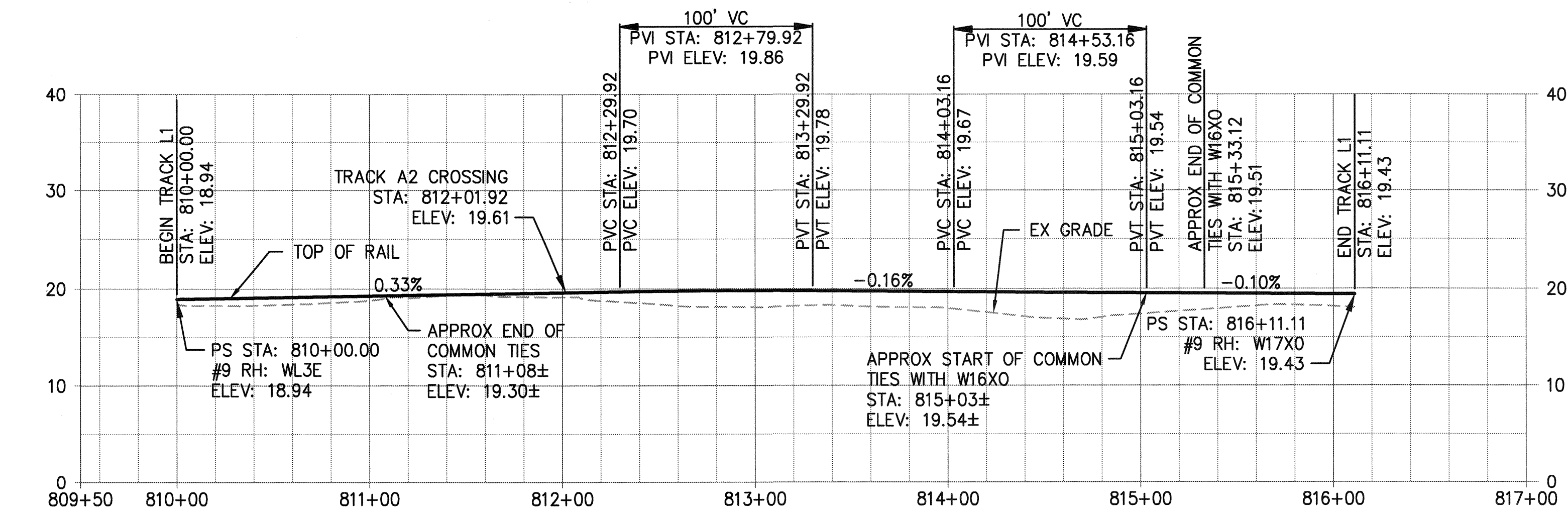
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**A**  
RRP1  
**TRACK A1 PROFILE**  
**STA 911+00 TO END**  
SCALE: 1"=50' HORZ 1"=10' VERT



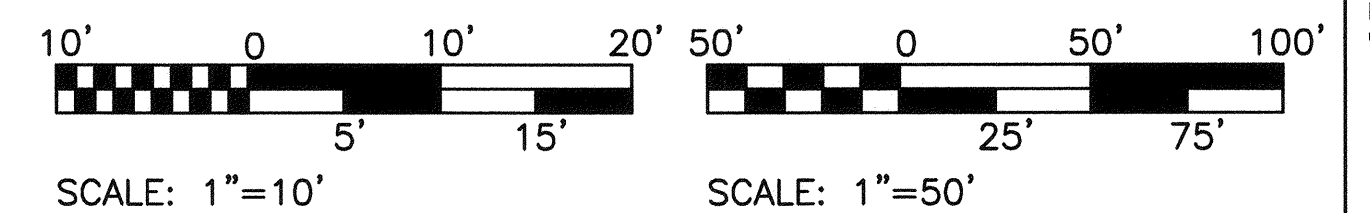
**B**  
RRP1  
**TRACK A2 PROFILE**  
**STA 921+00 TO END**  
SCALE: 1"=50' HORZ 1"=10' VERT



**C**  
RRP1  
**TRACK L1 PROFILE**  
**STA 810+00 TO END**  
SCALE: 1"=50' HORZ 1"=10' VERT

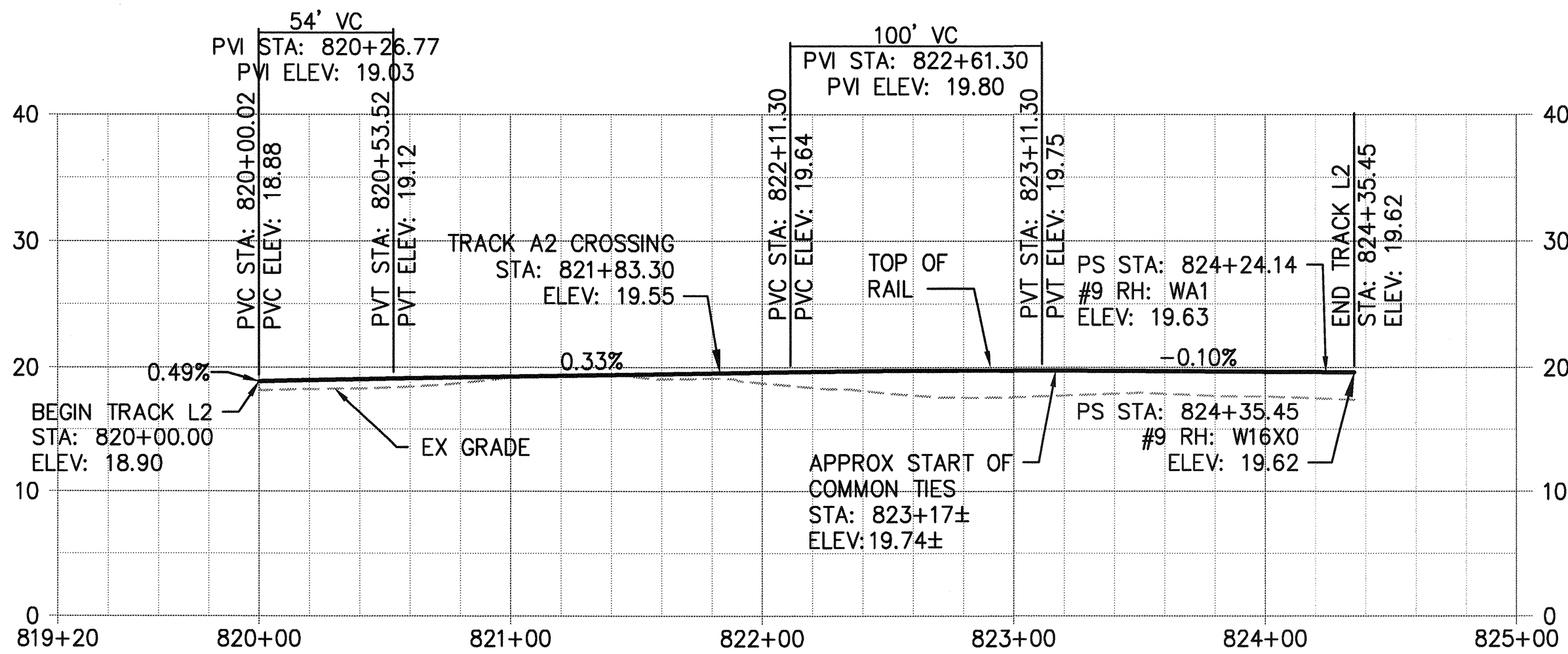
**NOTES:**

1. TIE IN LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE NEAREST JOINT IN THE FIELD AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL ALIGNMENT DATA, AND TIE INTO EXISTING RAIL AT EXISTING JOINT. CONTRACTOR SHALL NOT CUT EXISTING RAIL WITHOUT PRIOR APPROVAL FROM THE PORT.
2. APPROXIMATE LOCATIONS OF START OR END OF COMMON TIES REFERENCES TURNOUT COMMON TIES UNLESS OTHERWISE NOTED.



 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (252) 396-0150 Fax (252) 396-0162 P.O. BOX 1607 TACOMA, WASHINGTON 98501-0167	 DATE:
	APPR:
MARK:	REVISION:
BY:	DATE:
APPROVED: <i>Lewis Howard</i> 4-12-16	SWK 03/17/16 CHECKED BY: DATE
DIRECTOR ENG. DATE: bosterhaus Mar 21, 2016 PRINTED BY: bosterhaus Mar 21, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SWK 03/17/16 PROJ. ENGR DATE
<b>6555</b> <b>RRP1</b> SHEET 81 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>RAILROAD PROFILES</b> RANGE: 03E SECTION: 1, 2, 3 TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 DRAWING SCALE: AS NOTED

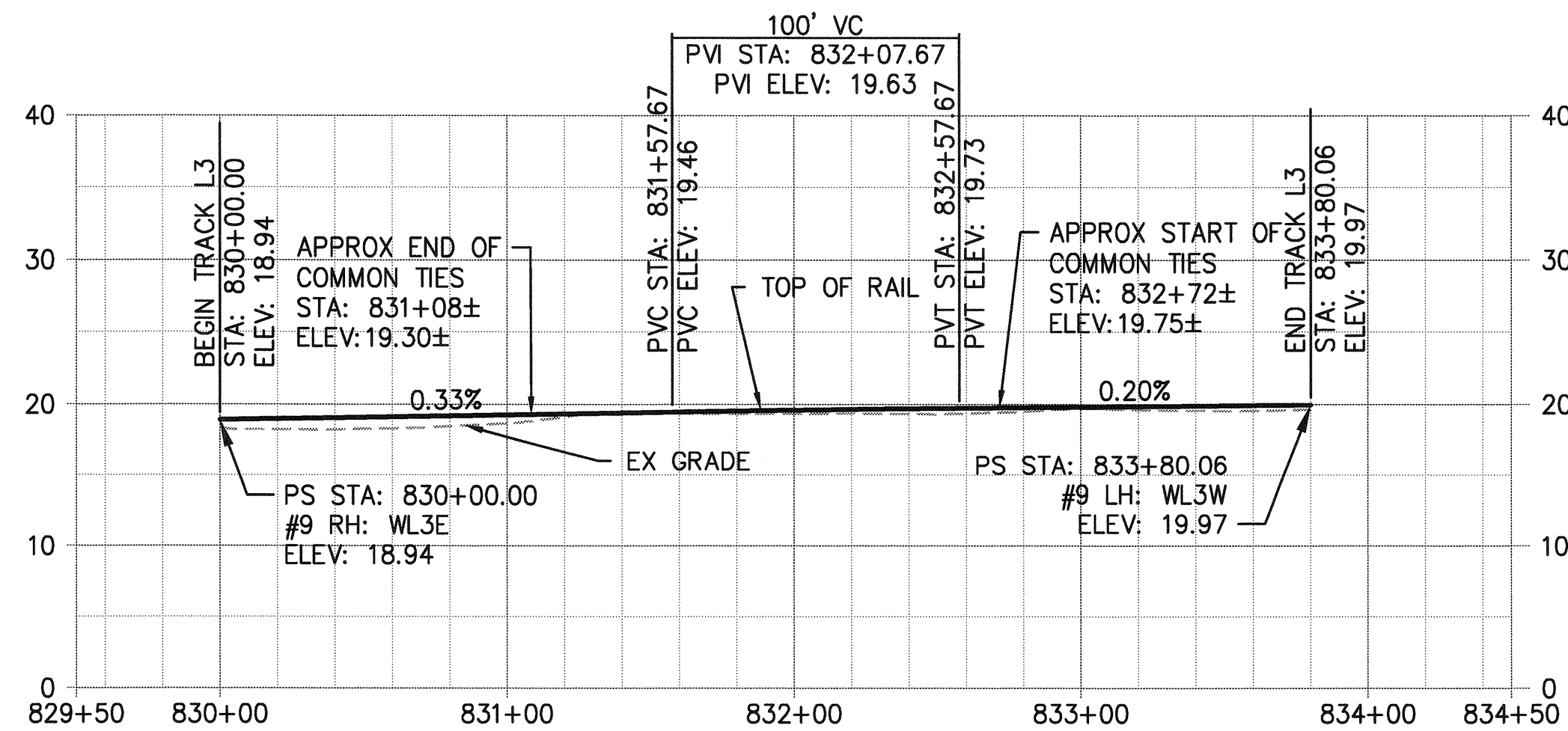
BINDING EDGE



**A**  
RRP2

**TRACK L2 PROFILE  
STA 820+00 TO END**

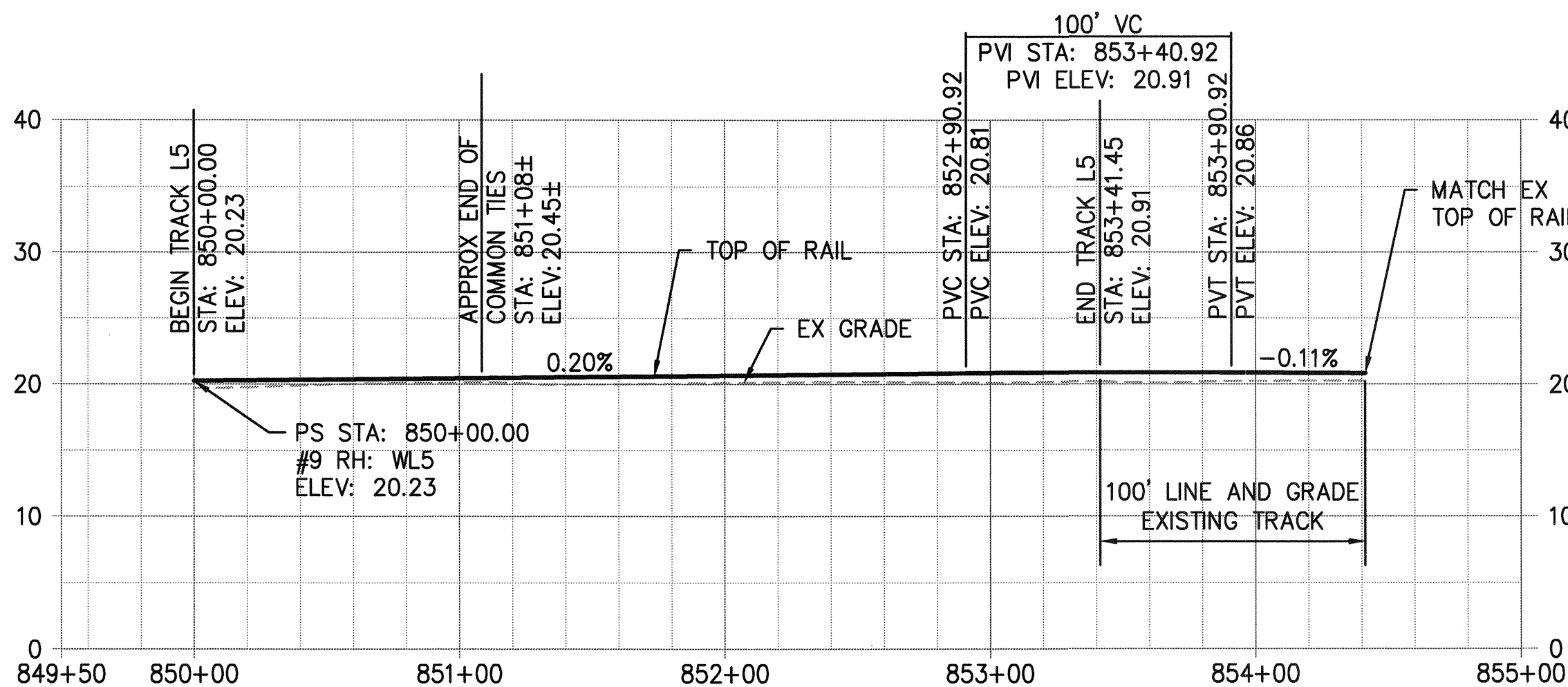
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**B**  
RRP2

**TRACK L3 PROFILE  
STA 830+00 TO END**

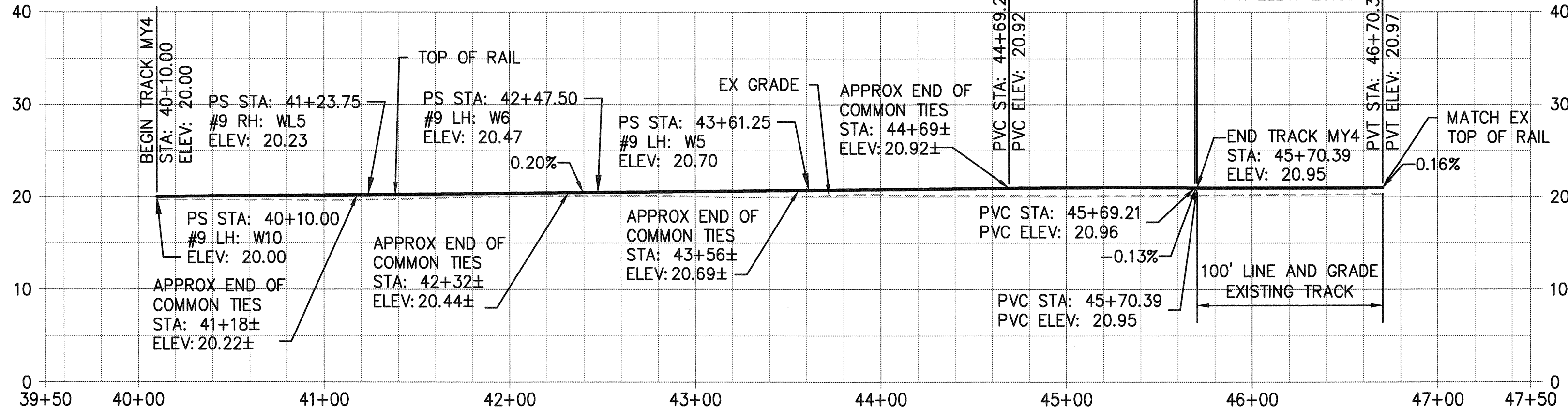
SCALE: 1"=50' HORZ 1"=10' VERT



**C**  
RRP2

**TRACK L5 PROFILE  
STA 850+00 TO END**

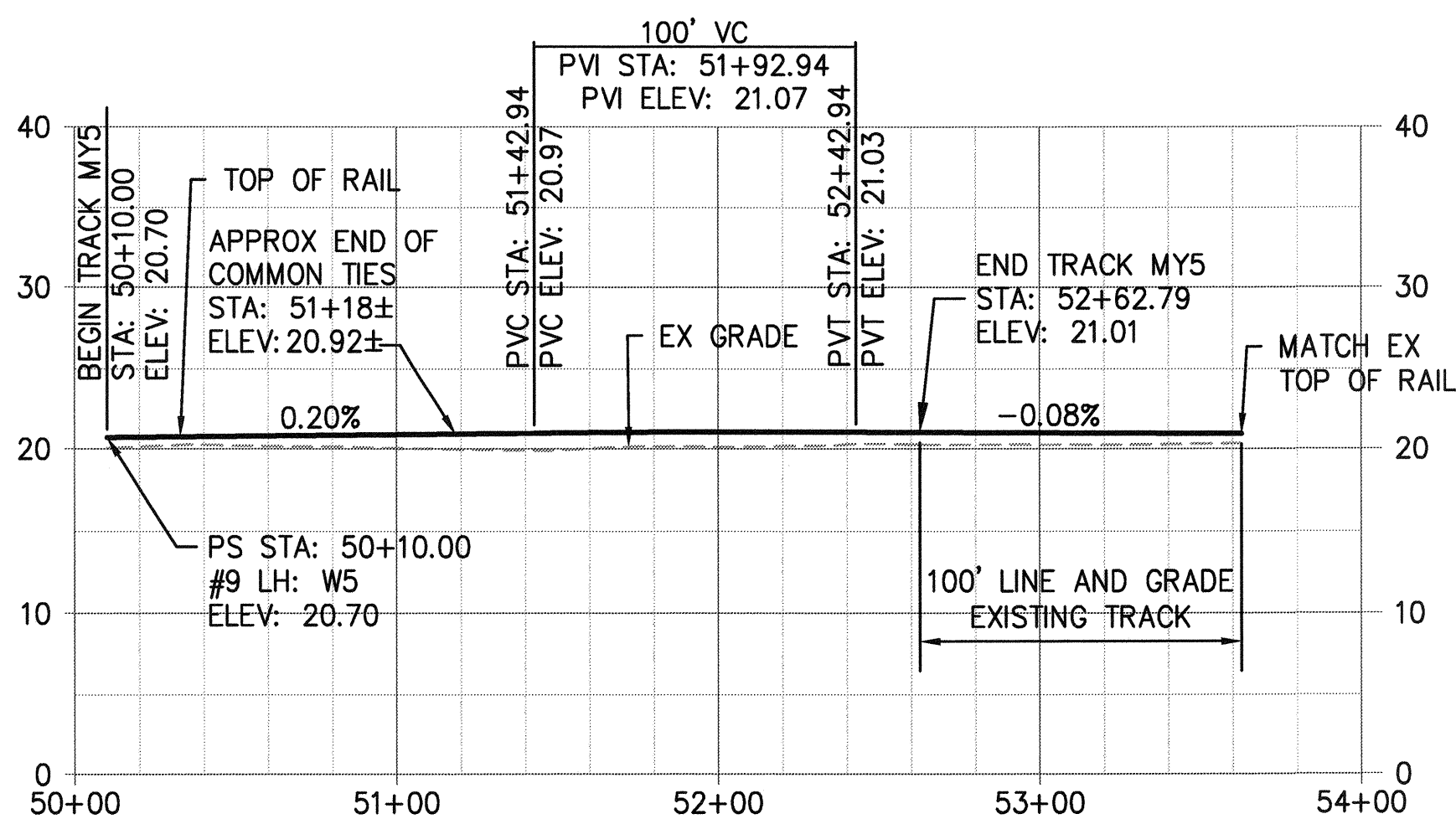
SCALE: 1"=50' HORZ 1"=10' VERT



**D**  
RRP2

**TRACK MY4 PROFILE  
STA 40+10 TO 47+00**

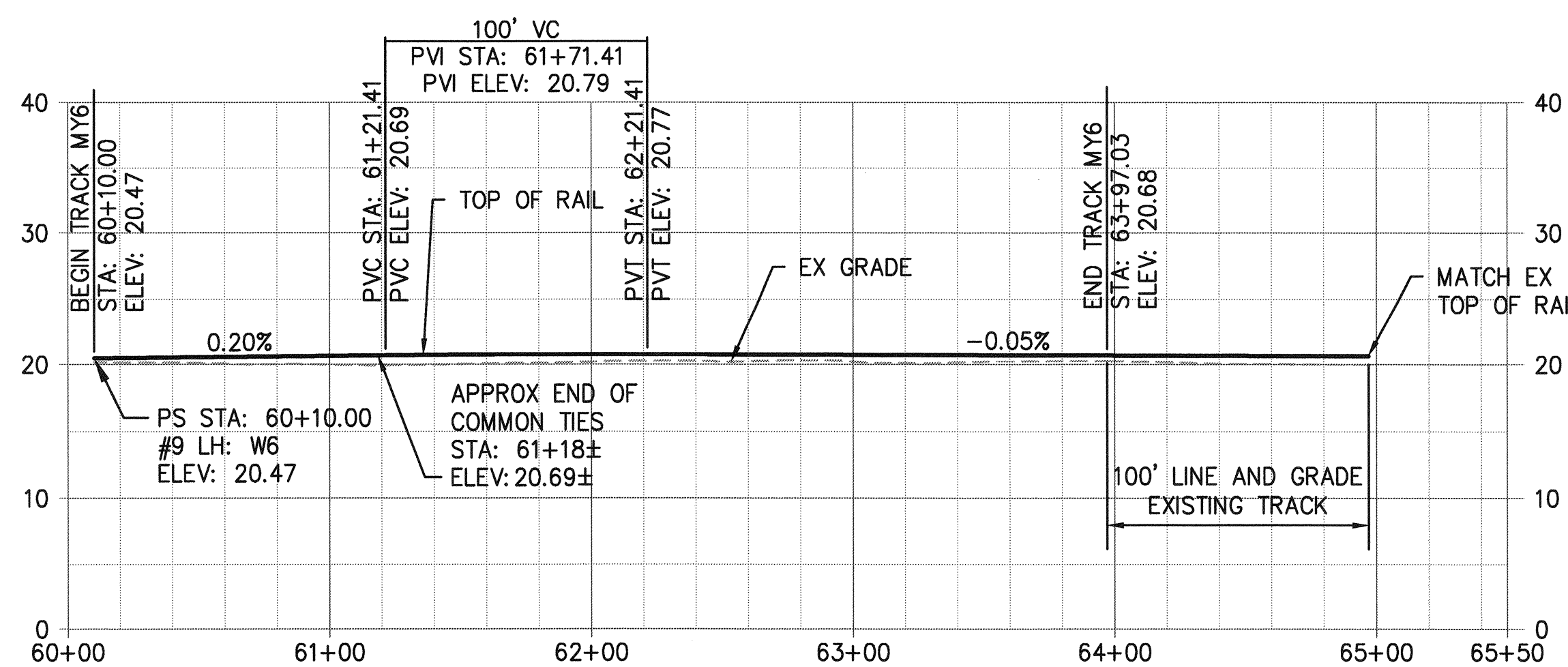
SCALE: 1"=50' HORZ 1"=10' VERT



**E**  
RRP2

**TRACK MY5 PROFILE  
STA 50+10 TO END**

SCALE: 1"=50' HORZ 1"=10' VERT



**F**  
RRP2

**TRACK MY6 PROFILE  
STA 60+10 TO END**

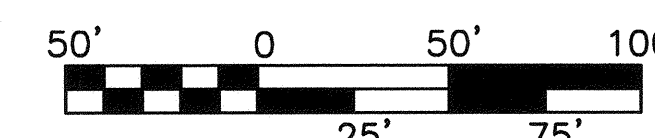
SCALE: 1"=50' HORZ 1"=10' VERT

**NOTES :**

1. TIE IN LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE NEAREST JOINT IN THE FIELD AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL ALIGNMENT DATA, AND TIE INTO EXISTING RAIL AT EXISTING JOINT. CONTRACTOR SHALL NOT CUT EXISTING RAIL WITHOUT PRIOR APPROVAL FROM THE PORT.
2. APPROXIMATE LOCATIONS OF START OR END OF COMMON TIES REFERENCES TURNOUT COMMON TIES UNLESS OTHERWISE NOTED.

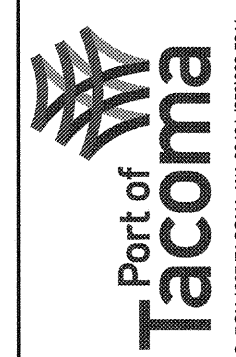


SCALE: 1"=10'



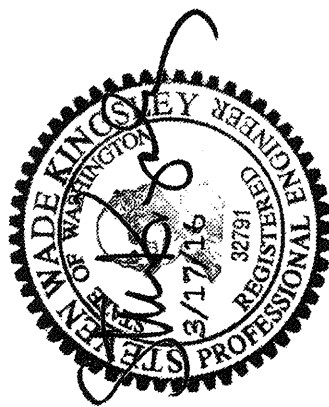
SCALE: 1"=50'

PORT OF TACOMA FILE: N:\Civ\114114148 Pot North Lead Rail\Part 3 - KPFF Design\3.13 Drawings\Current\092938-RRP02



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Tacoma, Washington 98407  
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APPROVED:	<i>David J. Bosterman</i>	DATE	03/17/16
DIRECTOR ENGR. DATE	4/20/16	PROJ. ENGR. DATE	03/17/16
PRINTED BY:	bosterman Mar 21, 2016	DATE	
PORT ADDRESS: ONE SITCUM PLAZA		DATE	
TACOMA, WA 98401-1837		DATE	

**NORTH LEAD**

**RAILROAD PROFILES**

6555

**RRP2**

SHEET 82 OF 134

CONT/CONS: 070164

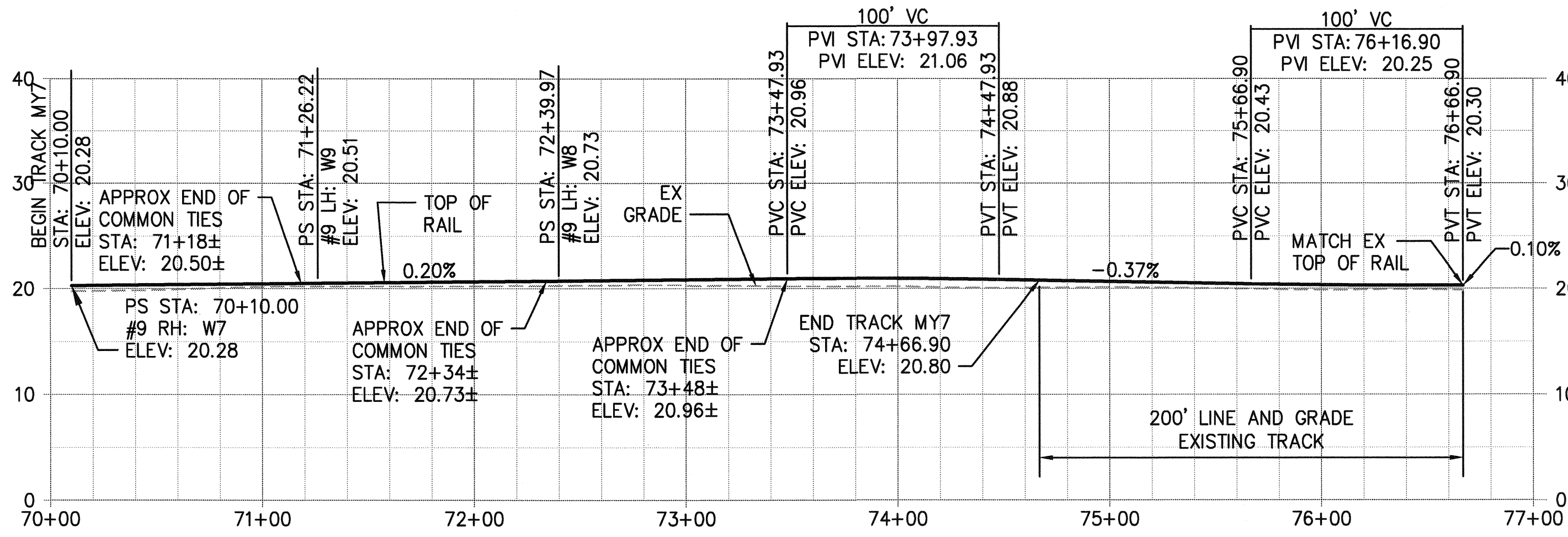
M. ID: 092938

PHASE: BID

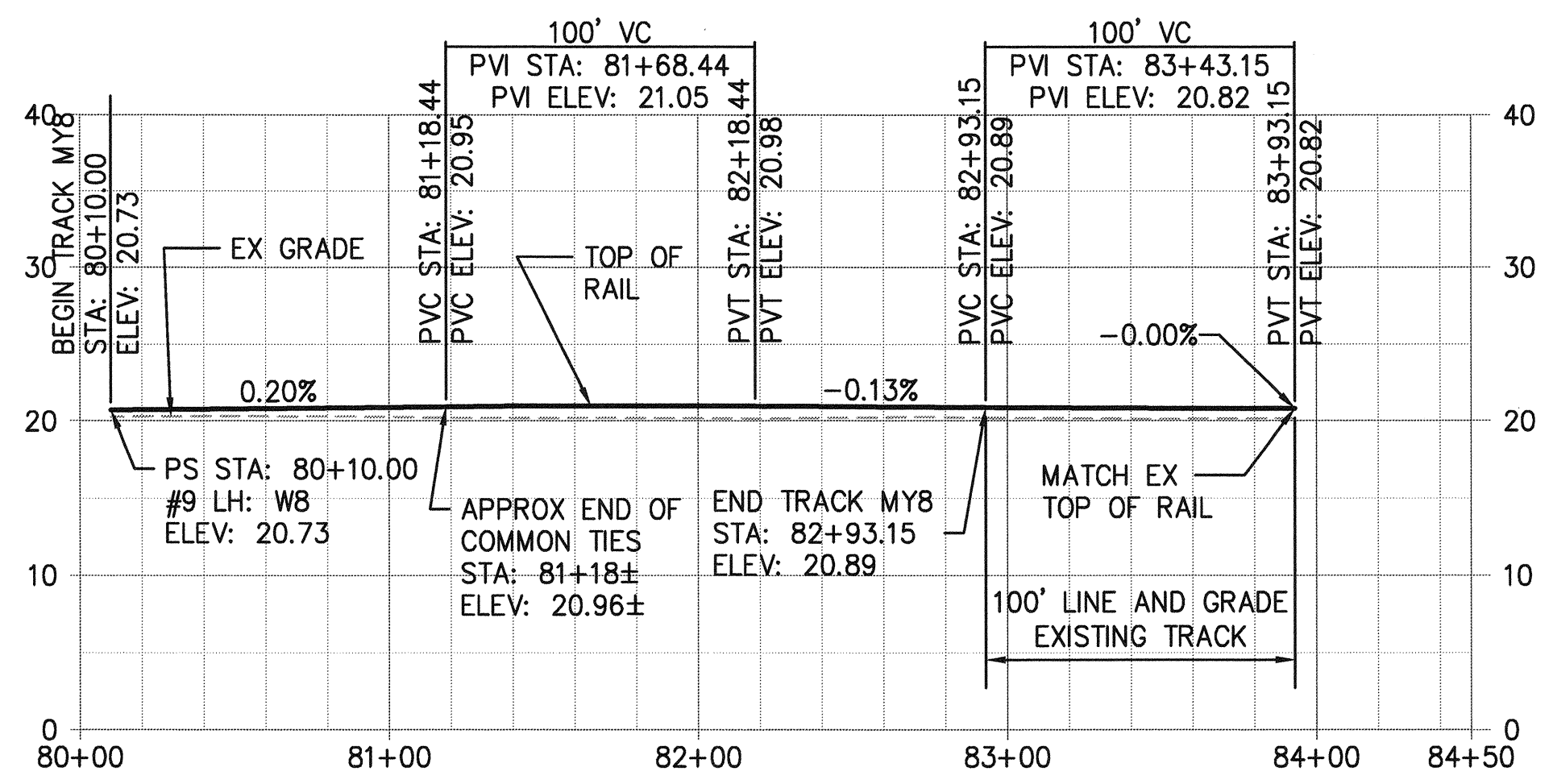
SWK	03/17/16	CHECKED BY	DATE
SWK	03/17/16	PROJ. ENGR	DATE
SECTION: 1, 2, 3		SECTION: 1, 2, 3	
TOWNSHIP: 20N		TOWNSHIP: 20N	
DAT-HRZ: W83-SF		DAT-HRZ: W83-SF	
PARCEL: MULTIPLE		PARCEL: MULTIPLE	
DRAWING SCALE: AS NOTED		DRAWING SCALE: AS NOTED	

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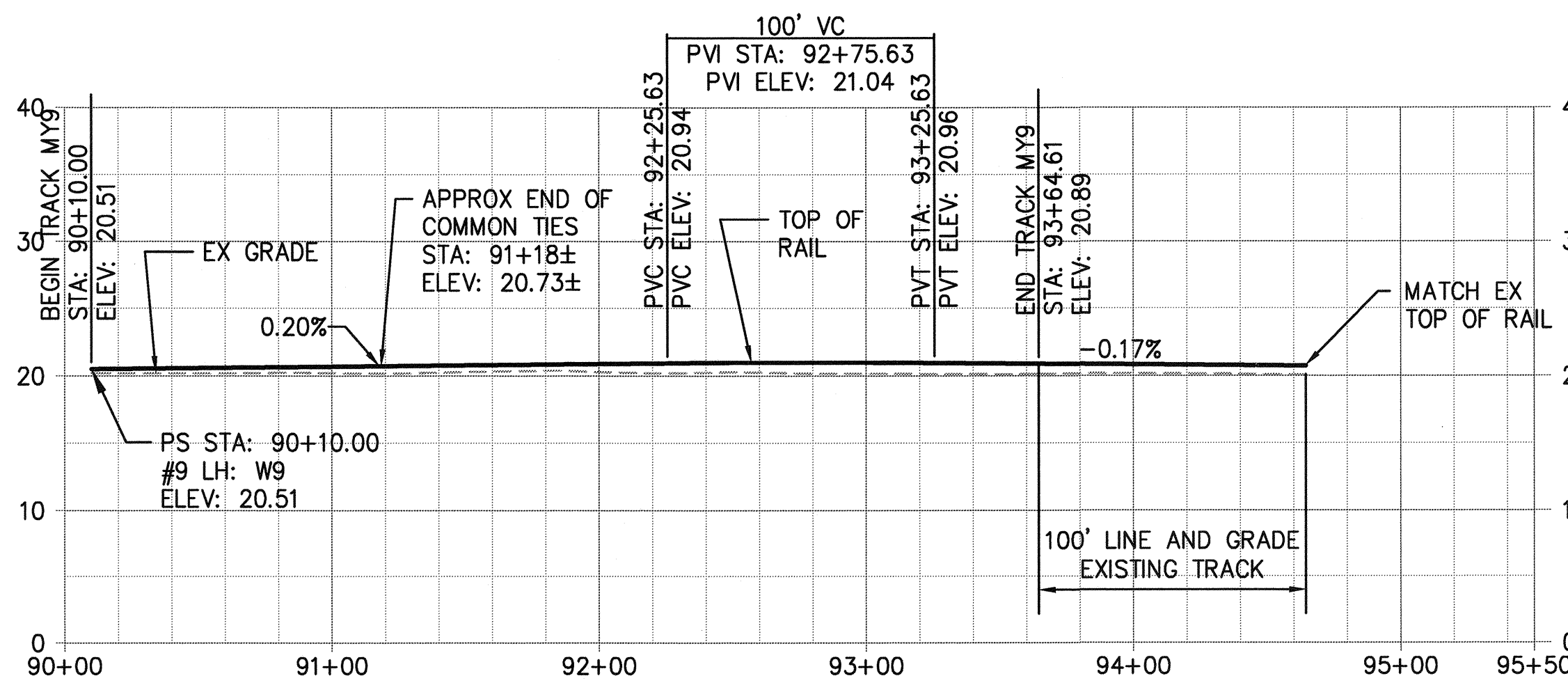
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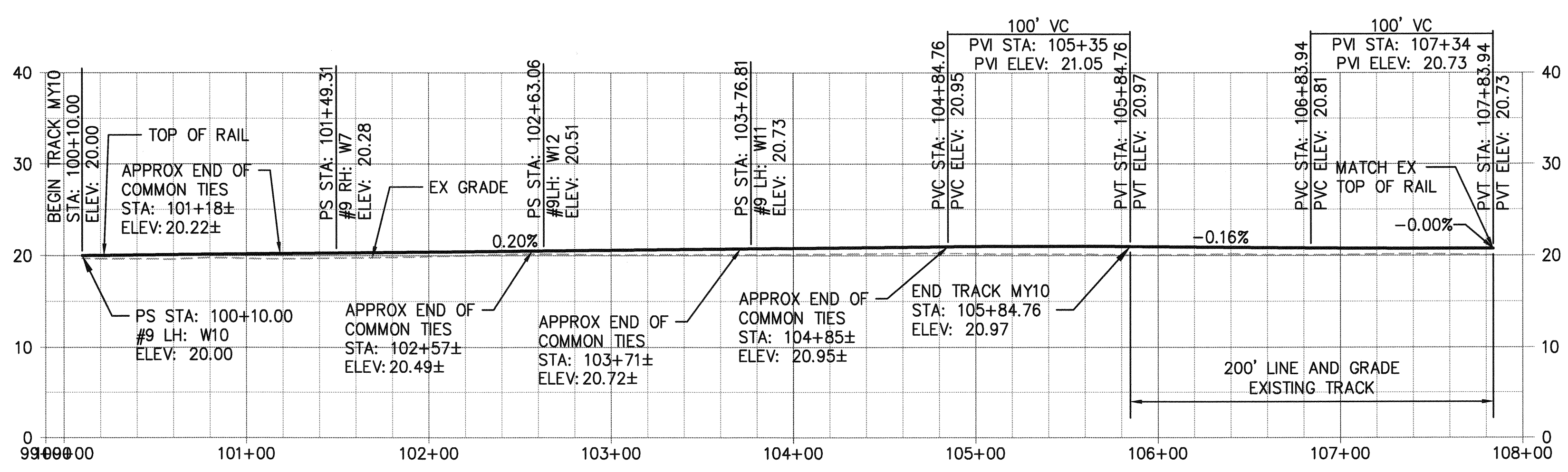
**A**  
**TRACK MY7 PROFILE**  
**STA 70+10 TO 77+00**  
 RRP3 SCALE: 1"=50' HORZ 1"=10' VERT



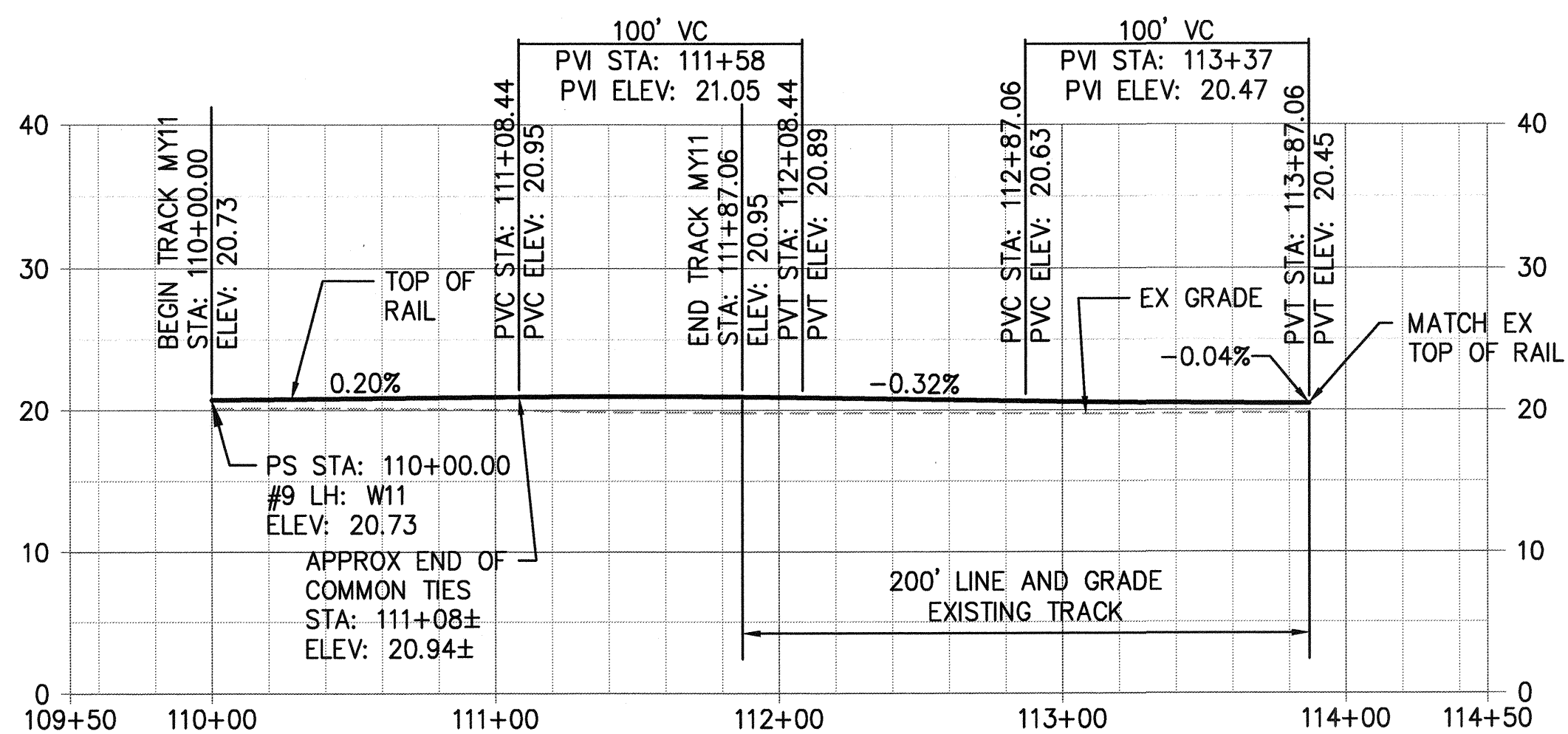
**B**  
**TRACK MY8 PROFILE**  
**STA 80+10 TO 84+00**  
 RRP3 SCALE: 1"=50' HORZ 1"=10' VERT



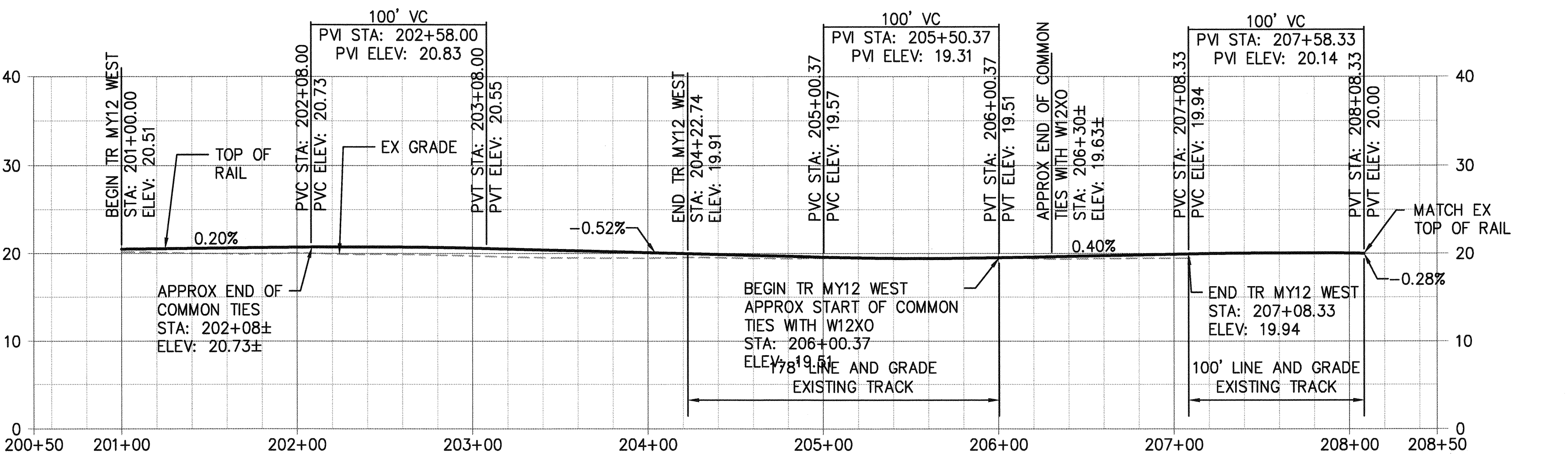
**C**  
**TRACK MY9 PROFILE**  
**STA 90+10 TO 95+00**  
 RRP3 SCALE: 1"=50' HORZ 1"=10' VERT



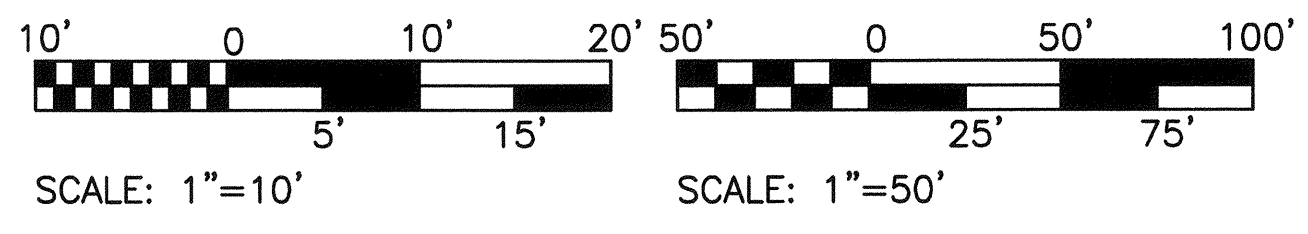
**D**  
**TRACK MY10 PROFILE**  
**STA 100+10 TO 108+00**  
 RRP3 SCALE: 1"=50' HORZ 1"=10' VERT



**E**  
**TRACK MY11 PROFILE**  
**STA 110+00 TO 114+00**  
 RRP3 SCALE: 1"=50' HORZ 1"=10' VERT



**F**  
**TRACK MY12 WEST PROFILE**  
**STA 201+00 TO 208+50**  
 RRP3 SCALE: 1"=50' HORZ 1"=10' VERT



- NOTES :**
- TIE IN LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE NEAREST JOINT IN THE FIELD AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL ALIGNMENT DATA, AND TIE INTO EXISTING RAIL AT EXISTING JOINT. CONTRACTOR SHALL NOT CUT EXISTING RAIL WITHOUT PRIOR APPROVAL FROM THE PORT.
  - APPROXIMATE LOCATIONS OF START OR END OF COMMON TIES REFERENCES TURNOUT COMMON TIES UNLESS OTHERWISE NOTED.

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MADE IN WASHINGTON  
REGISTERED PROFESSIONAL ENGINEER  
No. 17175  
EXPIRES 12/31/16

APPROVED: *[Signature]* DATE: 03/17/16

CHECKED BY: DATE: 03/17/16

DIRECTOR ENG. DATE: 4-12-16

PRINTED BY: bosterhaus Mar 21, 2016

PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

6555 **RRP3**

SHEET 83 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

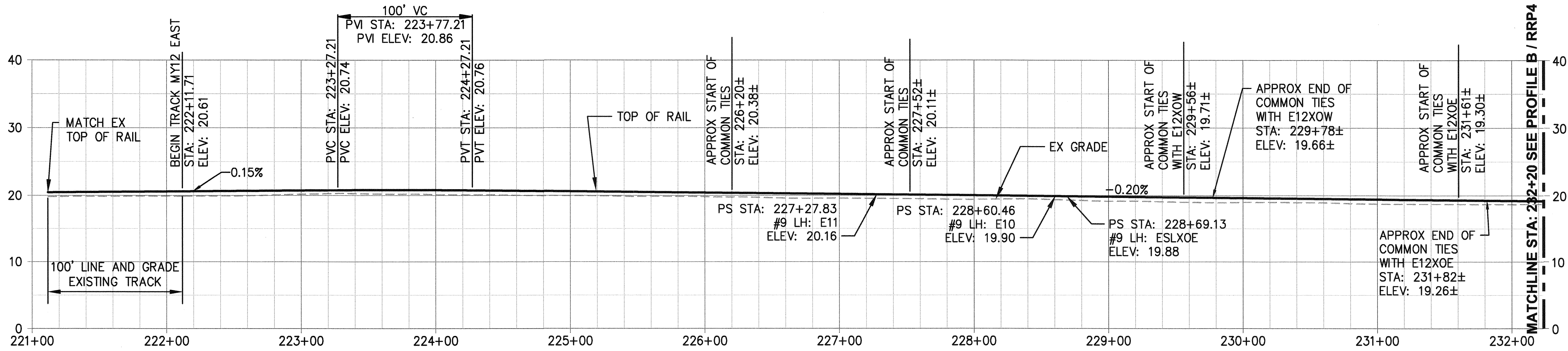
**RAILROAD PROFILES**

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3

DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

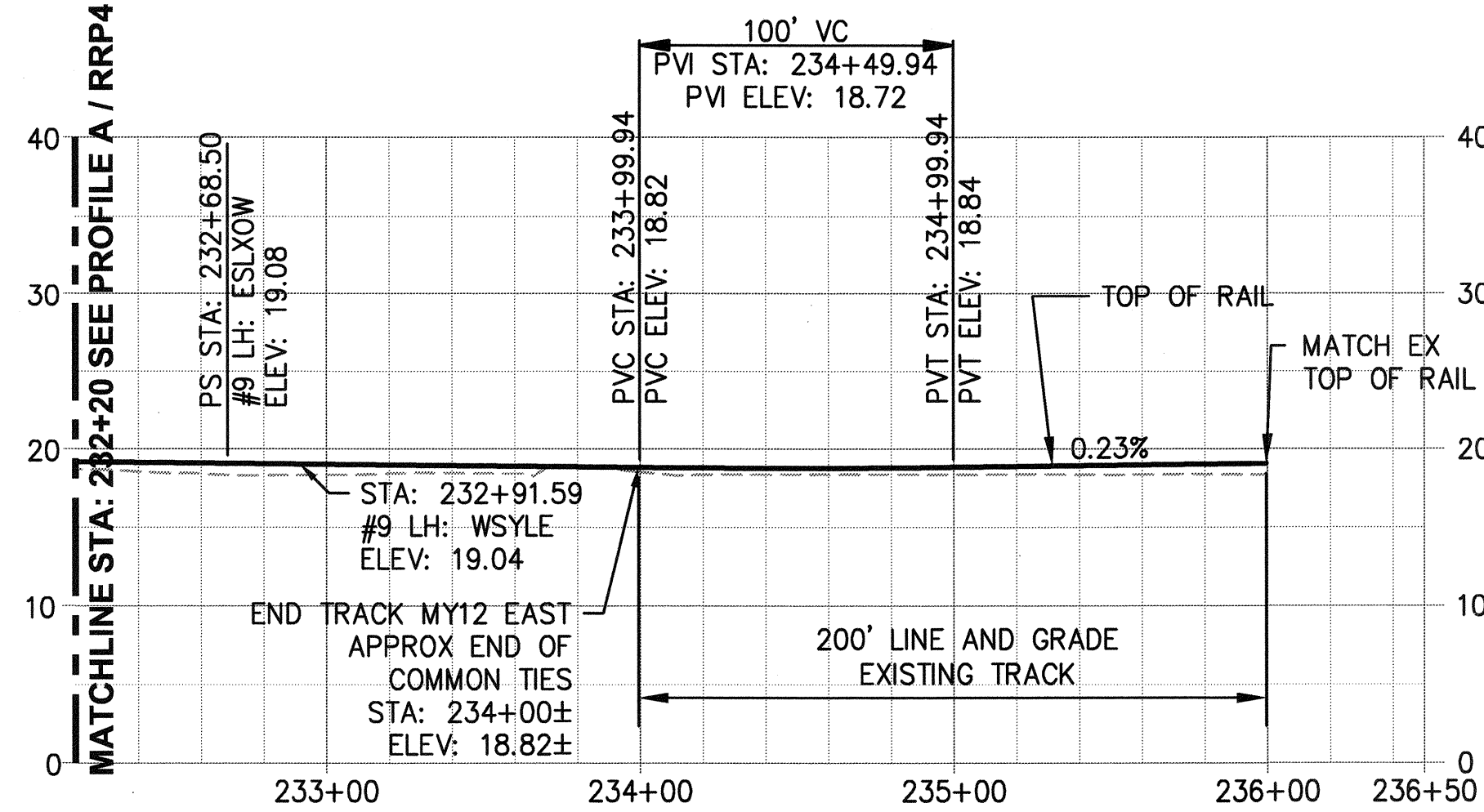
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**TRACK MY12 EAST PROFILE**  
**STA 221+00 TO 232+20**

**A**  
RRP4

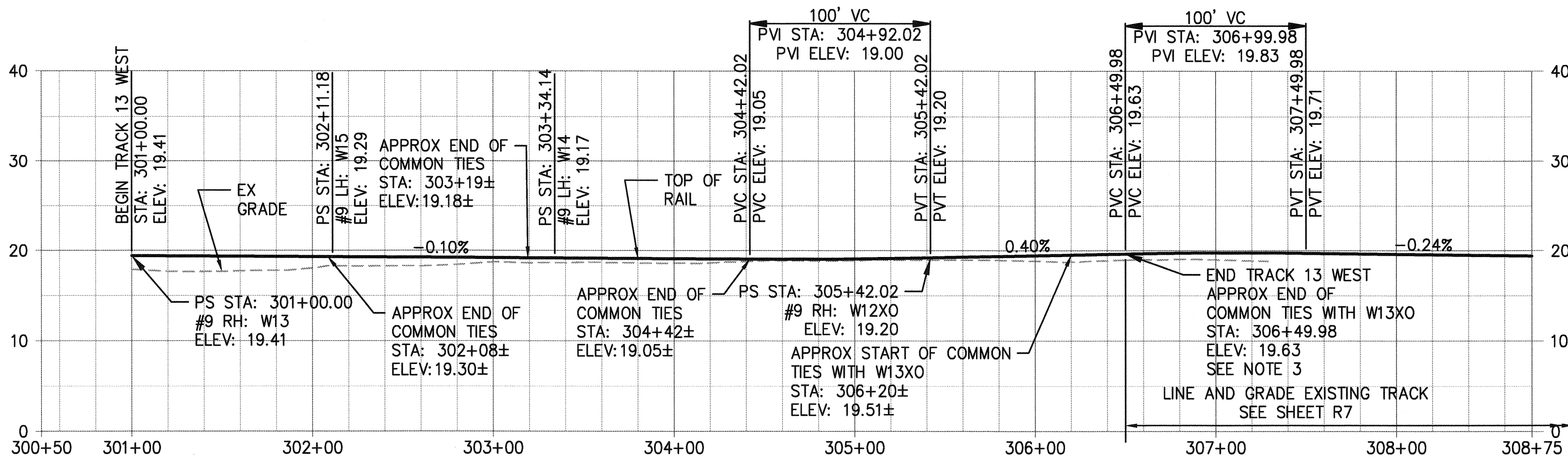
SCALE: 1"=50' HORZ 1"=10' VERT



**TRACK MY 12 EAST PROFILE**  
**STA 232+20 TO 236+50**

**B**  
RRP4

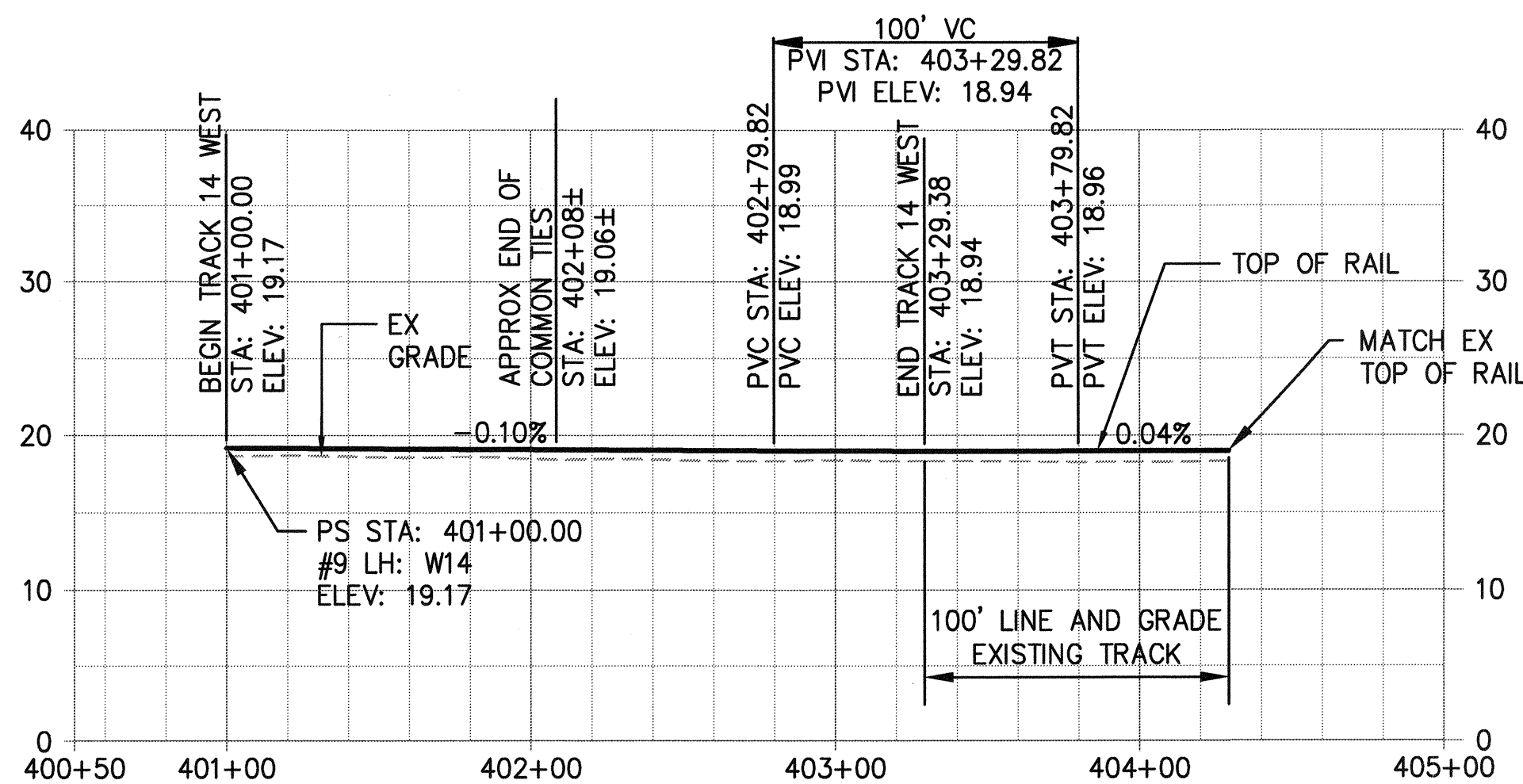
SCALE: 1"=50' HORZ 1"=10' VERT



**TRACK 13 WEST PROFILE**  
**STA 301+00 TO 308+75**

**C**  
RRP4

SCALE: 1"=50' HORZ 1"=10' VERT



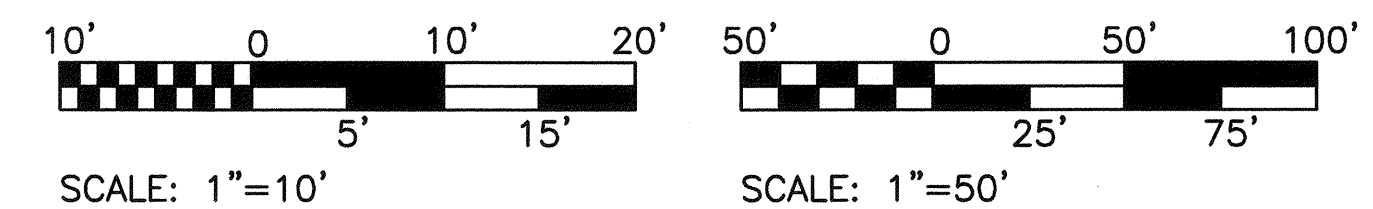
**TRACK 14 WEST PROFILE**  
**STA 401+00 TO 404+40**

**D**  
RRP4

SCALE: 1"=50' HORZ 1"=10' VERT

**NOTES :**

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- APPROXIMATE LOCATIONS OF START OR END OF COMMON TIES REFERENCES TURNOUT COMMON TIES UNLESS OTHERWISE NOTED.
- EX TOP OF RAIL AT END OF TRACK 13 WEST LOCATION IS APPROX 19.33. REPLACING 90 RE RAIL WITH SALVAGED 115 RE RAIL WILL RESULT IN A TOP OF RAIL APPROX 1-INCH HIGHER. ADJUST TRACK AS NECESSARY TO MATCH NEW RAIL THROUGH LINE AND GRADE WORK.



**kpff**

**Port of Tacoma**

2407 North 31st Street, Suite 100  
Tacoma, Washington 98407  
(253) 396-0130 Fax (253) 396-0162

DATE: \_\_\_\_\_

REVISION: \_\_\_\_\_

BY: \_\_\_\_\_

MARK: \_\_\_\_\_

APPR: \_\_\_\_\_

APPROVED: *Wade W. King*

SWK 03/17/16

CHECKED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

4-2-16

SWK 03/17/16

DIRECTOR ENGR. DATE: bosterhaus Mar 21, 2016

PROJ. ENGR. DATE: \_\_\_\_\_

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

**6555**

**RRP4**

SHEET 84 OF 134

SECTION: 1, 2, 3

CONTR/CONS: 070164

TOWNSHIP: 20N

M. ID: 092938

RANGE: 03E

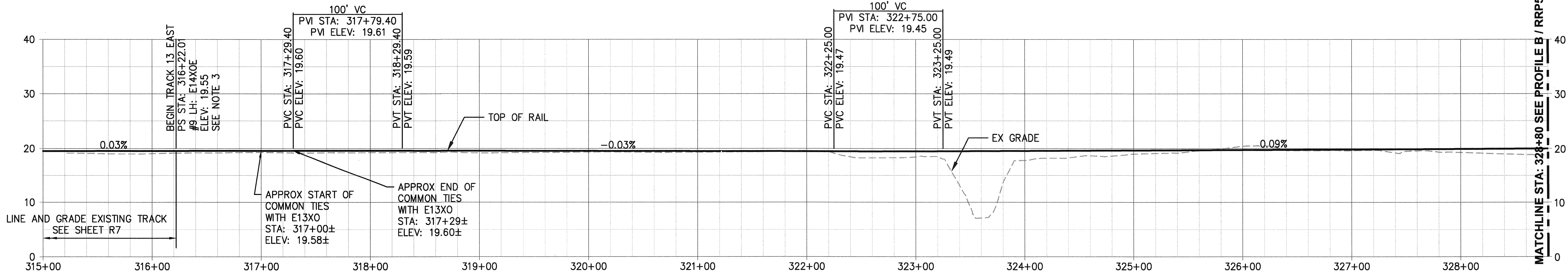
PHASE: BID

VERT: PORT OF TACOMA BM #846

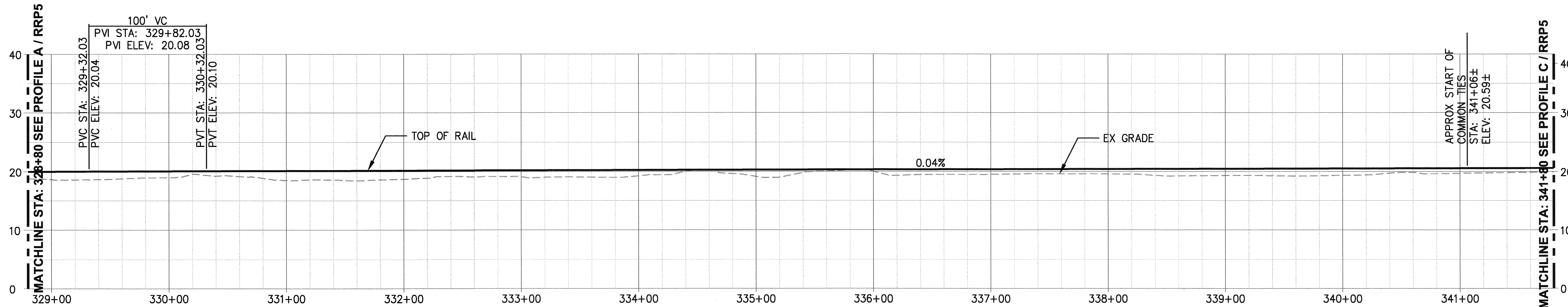
PARCEL MULTIPLE

DRAWING SCALE: AS NOTED

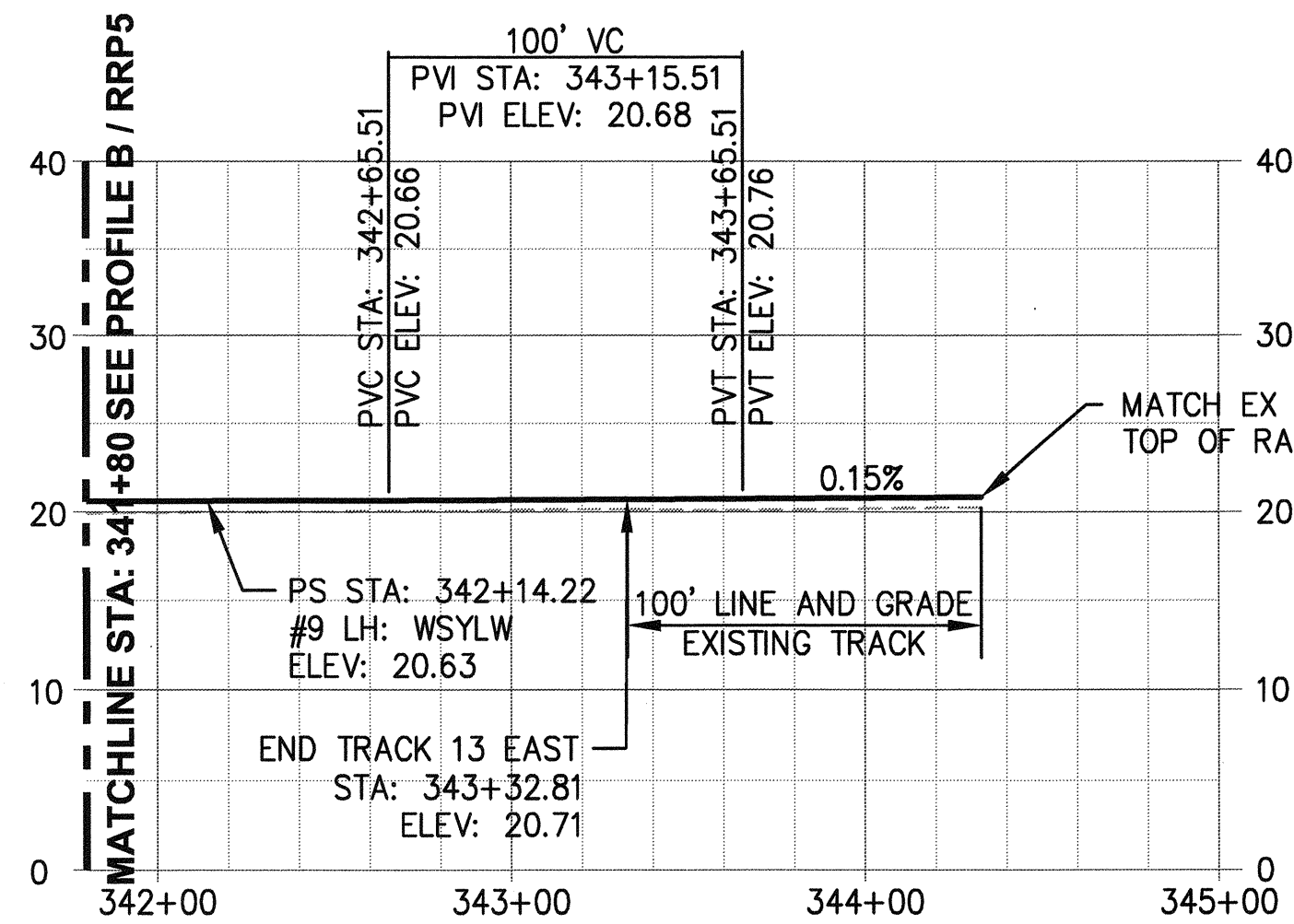
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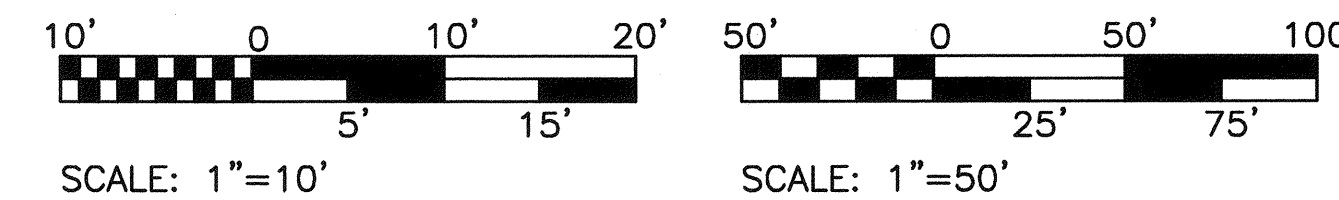
**A**  
**TRACK 13 EAST PROFILE**  
**STA 315+00 TO 328+80**  
 RRP5 SCALE: 1"=50' HORZ 1"=10' VERT



**B**  
**TRACK 13 EAST PROFILE**  
**STA 328+80 TO 341+80**  
 RRP5 SCALE: 1"=50' HORZ 1"=10' VERT



**C**  
**TRACK 13 EAST PROFILE**  
**STA 341+80 TO 344+40**  
 RRP5 SCALE: 1"=50' HORZ 1"=10' VERT

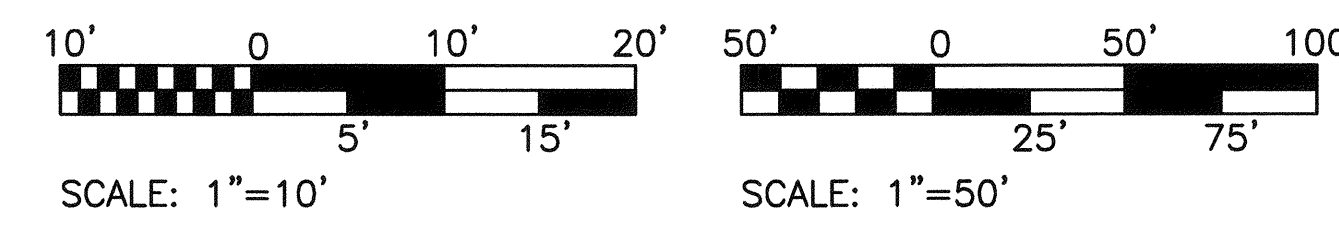
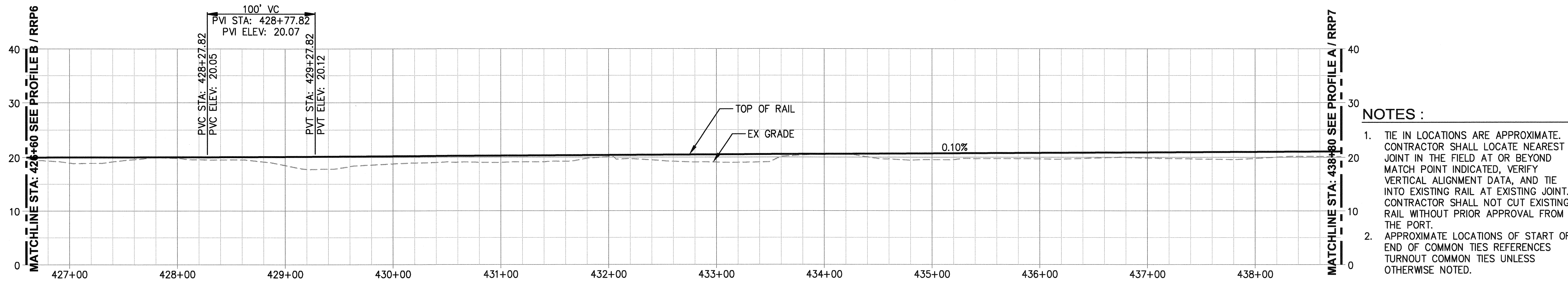
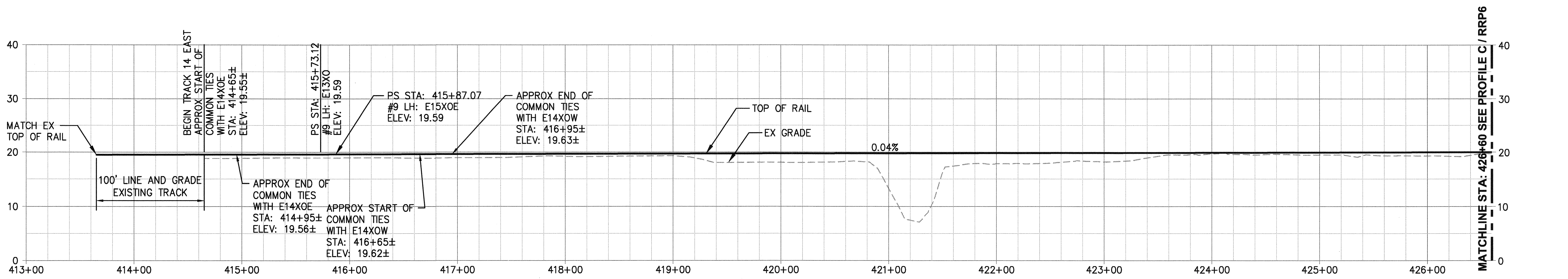
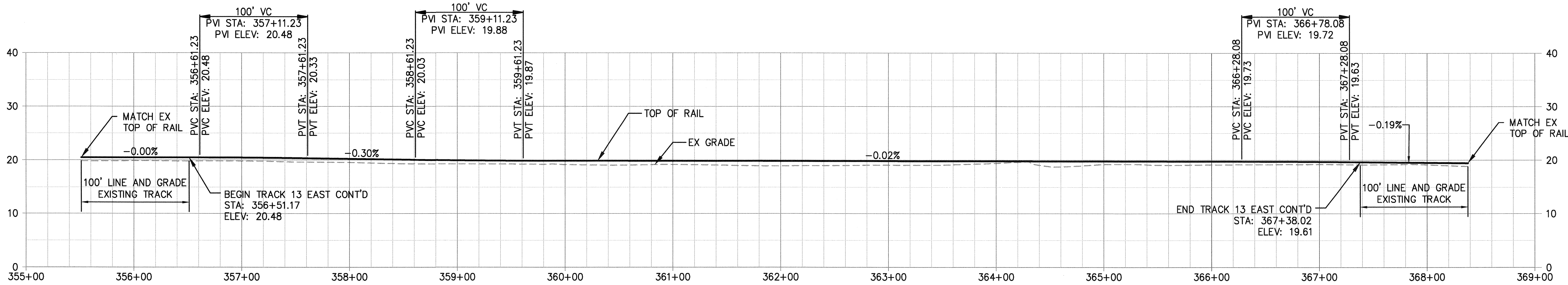


- NOTES :**
1. TIE IN LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE NEAREST JOINT IN THE FIELD AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL ALIGNMENT DATA, AND TIE INTO EXISTING RAIL AT EXISTING JOINT. CONTRACTOR SHALL NOT CUT EXISTING RAIL WITHOUT PRIOR APPROVAL FROM THE PORT.
  2. APPROXIMATE LOCATIONS OF START OR END OF COMMON TIES REFERENCES TURNOUT COMMON TIES UNLESS OTHERWISE NOTED.
  3. EX TOP OF RAIL AT START OF TRACK 13 EAST LOCATION IS APPROX 19.47. REPLACING 90 RE RAIL WITH SALVAGED 115 RE RAIL WILL RESULT IN A TOP OF RAIL APPROX 1-INCH HIGHER. ADJUST TRACK AS NECESSARY TO MATCH NEW RAIL THROUGH LINE AND GRADE WORK.

 2407 North 31st Street, Suite 100 Tacoma, Washington 98407 (253) 396-0150 Fax (253) 396-0162 P.O. BOX 187 TACOMA, WA 98401-0187	 DATE:
	BY:
MARK:	REVISION:
APPROVED: <i>J. B. Bosters</i>	SWK 03/17/16 CHECKED BY: DATE
DIRECTOR ENG. DATE: 4-2-16	SWK 03/17/16 PROJ. ENGR. DATE
PRINTED BY: bosterhaus Mar 21, 2016	PORT ADDRESS: SITCLIM PLAZA
TACOMA, WA 98401-1837	SECTION: 1, 2, 3 TOWNSHIP: 20N RANGE: 03E DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 DRAWING SCALE: AS NOTED PARCEL: MULTIPLE
<b>6555</b> <b>RRP5</b> SHEET 85 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>RAILROAD PROFILES</b>

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PORT OF TACOMA FILE: N:\Civ\114114148 Pot North Lead Rail\Part 3 - KPFF Design\3.13 Drawings\Current\092938-RRP06



- NOTES:**
- TIE IN LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE NEAREST JOINT IN THE FIELD AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL ALIGNMENT DATA, AND TIE INTO EXISTING RAIL AT EXISTING JOINT. CONTRACTOR SHALL NOT CUT EXISTING RAIL WITHOUT PRIOR APPROVAL FROM THE PORT.
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2407 North 31st Street, Suite 100  
Tacoma, Washington 98407  
(252) 396-0350 Fax (252) 396-0162

PORT OF TACOMA, WA 98401-1837

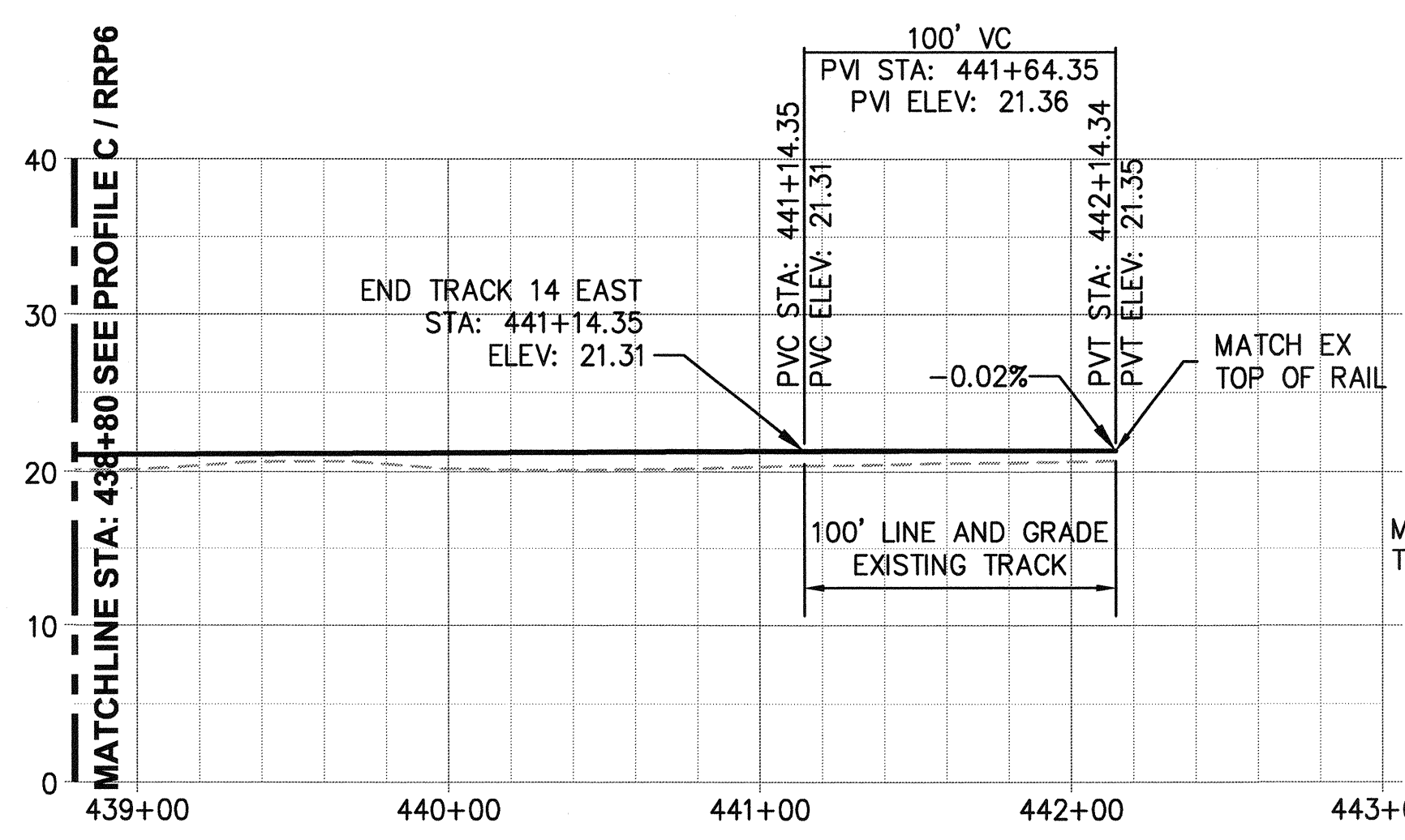
APPROVED: *J. W. Bosterman* SWK 03/17/16  
 CHECKED BY: DATE  
 4-12-16 SWK 03/17/16  
 DIRECTOR ENG. DATE: bosterman Mar 21, 2016  
 PRINTED BY: PORT ADDRESS: ONE SITCUM PLAZA  
 TACOMA, WA 98401-1837

**6555 RRP6**  
 SHEET 86 OF 134  
 CONT./CONS: 070164  
 M. ID: 092938  
 PHASE: BID

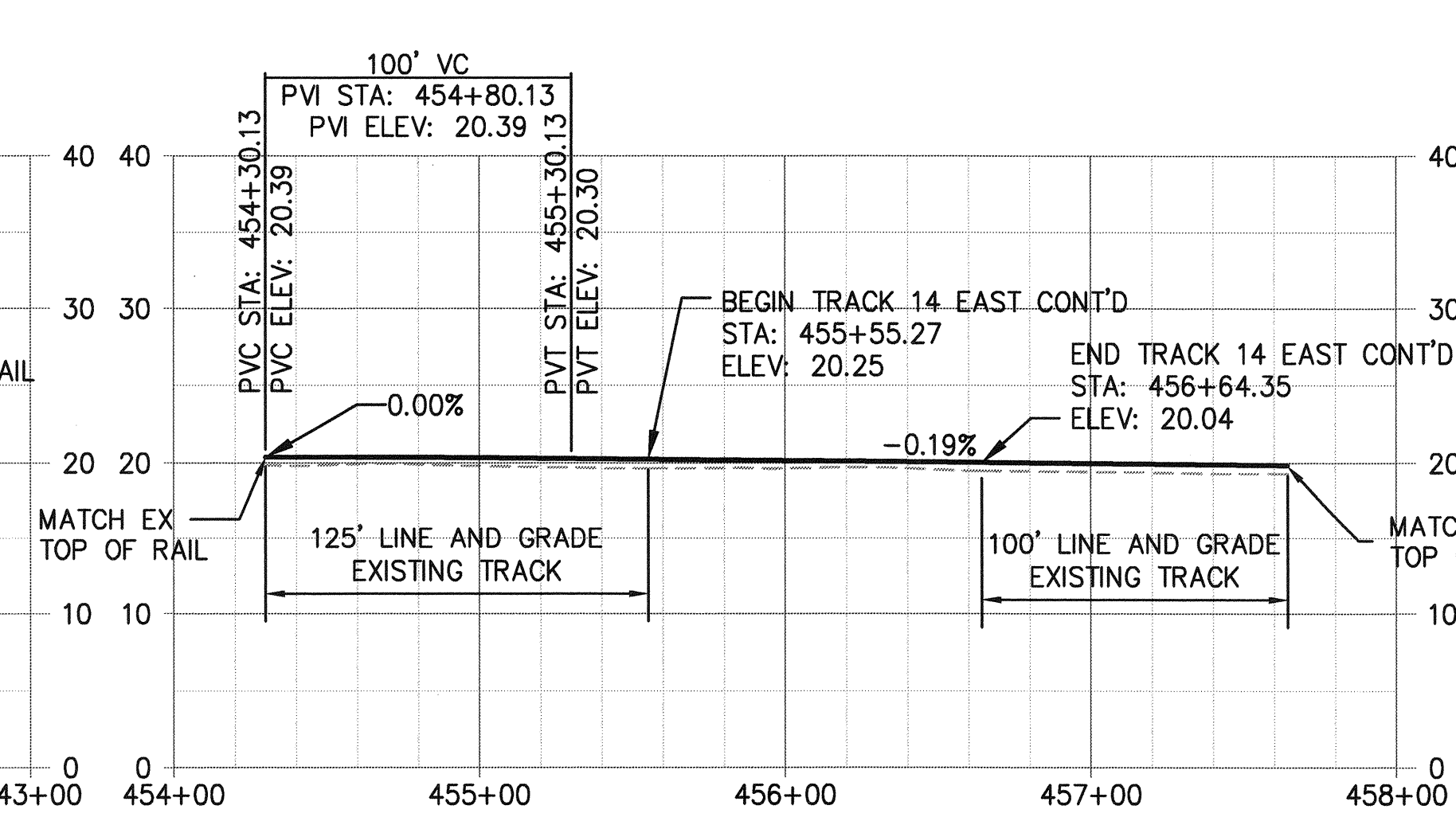
**NORTH LEAD**  
 RAILROAD PROFILES  
 RANGE: 03E SECTION: 1, 2, 3  
 TOWNSHIP: 20N VERT: PORT OF TACOMA BM #846  
 DAT-HRZ: W83-SF DRAWING SCALE: AS NOTED  
 PARCEL: MULTIPLE

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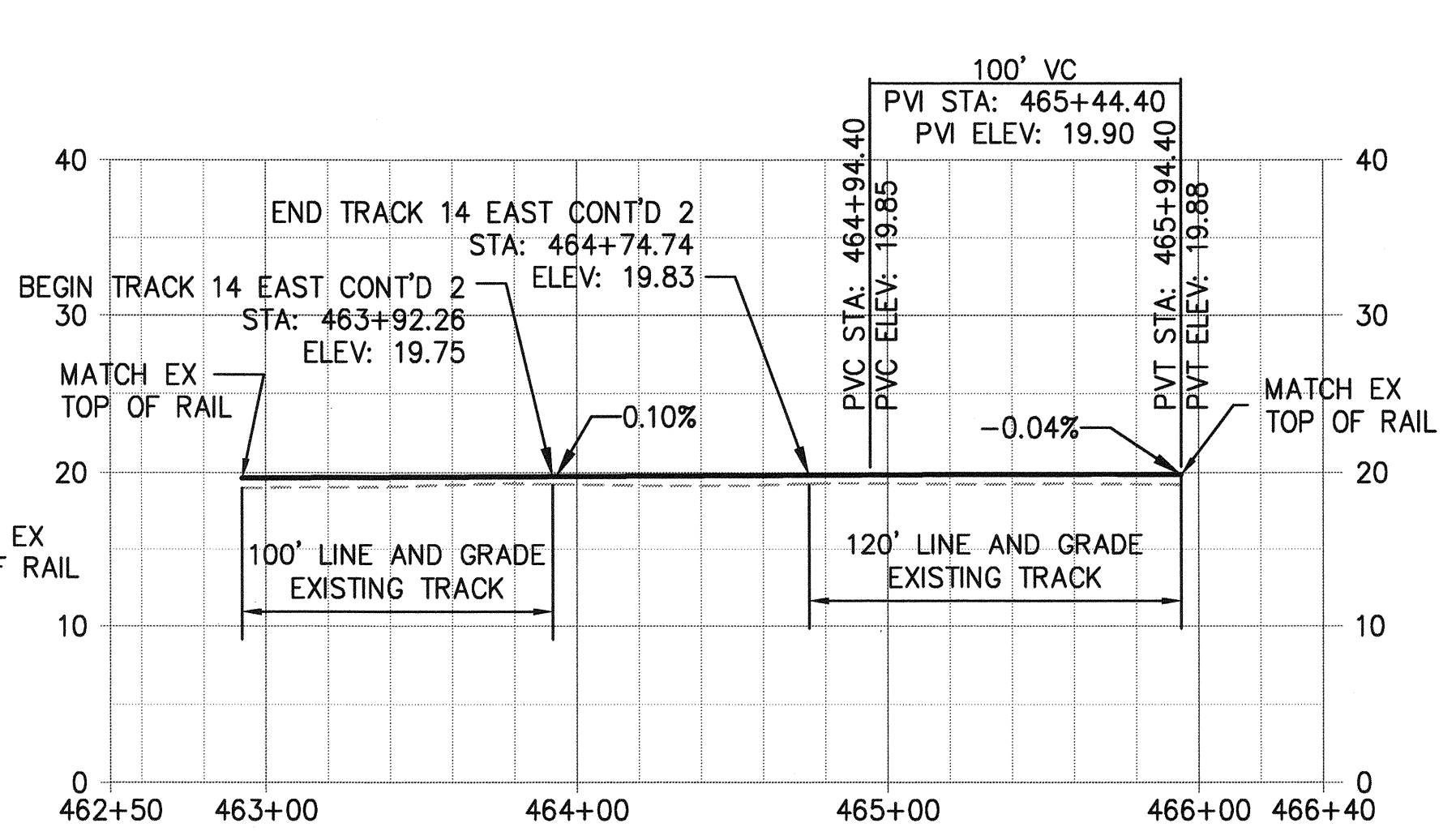
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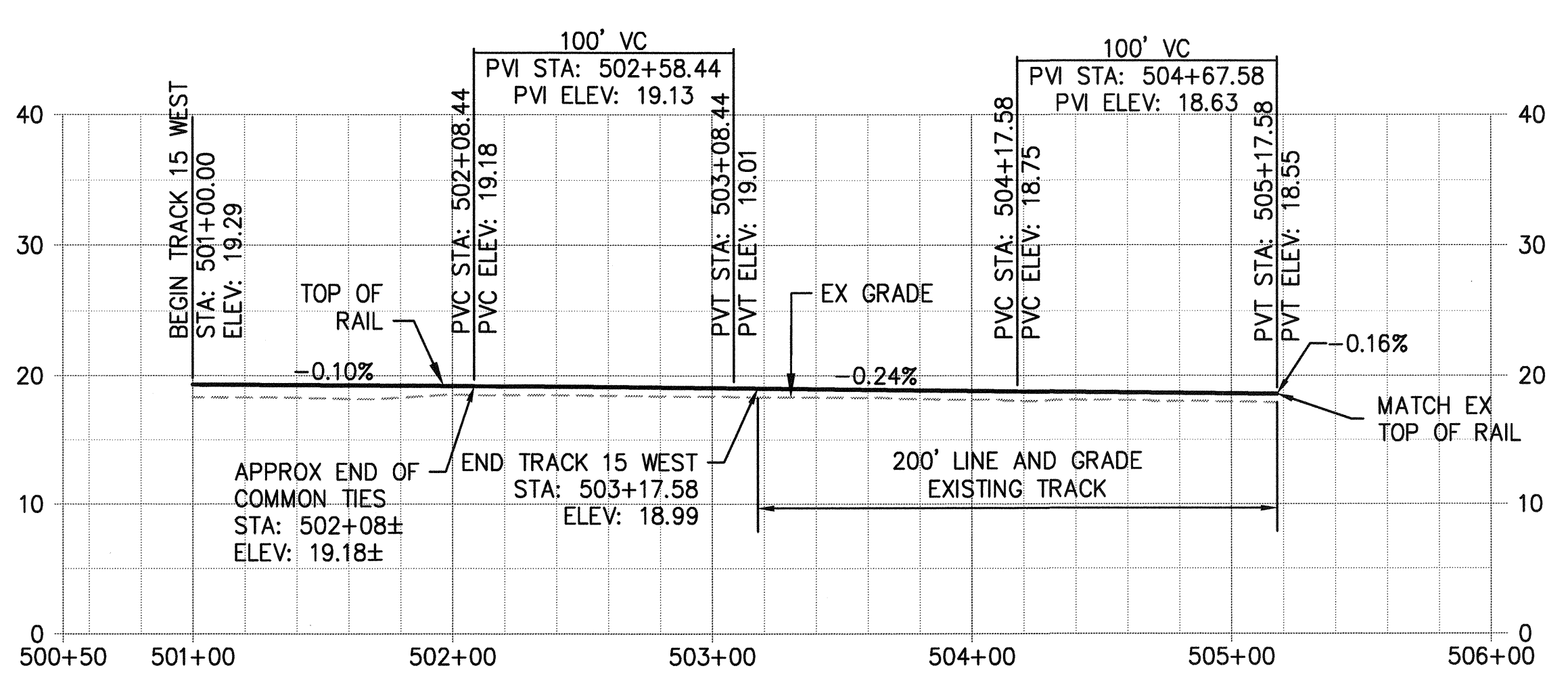
**A**  
TRACK 14 EAST PROFILE  
STA 438+80 TO 442+40  
RRP7  
SCALE: 1"=50' HORZ 1"=10' VERT



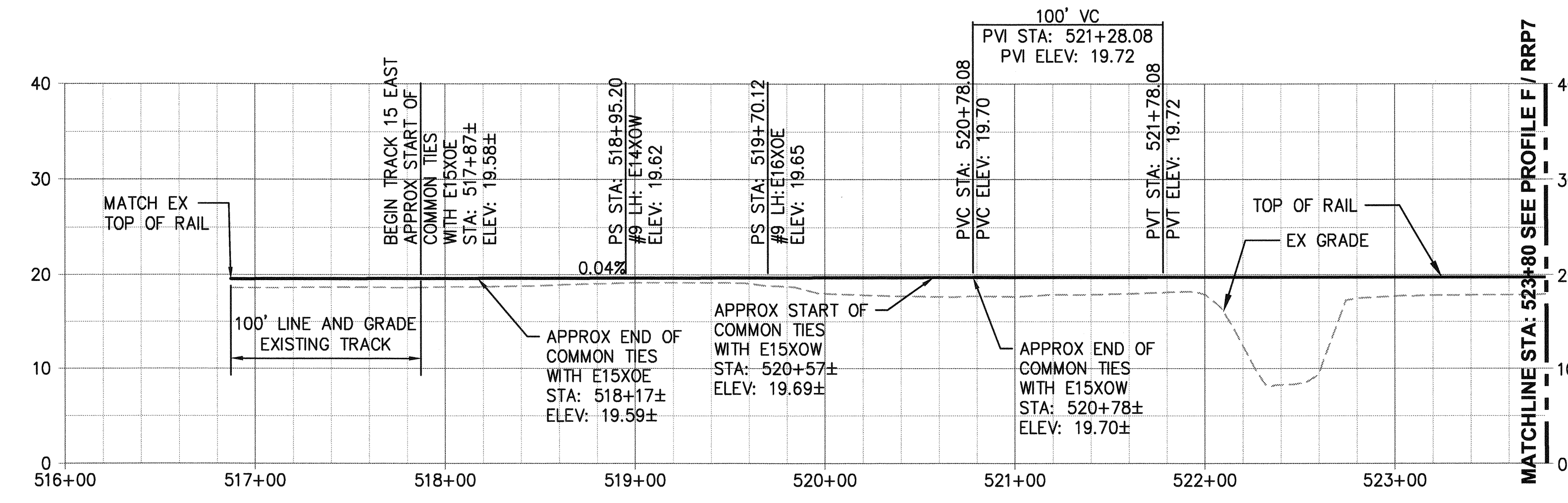
**B**  
TRACK 14 EAST PROFILE CONT'D 1  
STA 454+00 TO 458+00  
RRP7  
SCALE: 1"=50' HORZ 1"=10' VERT



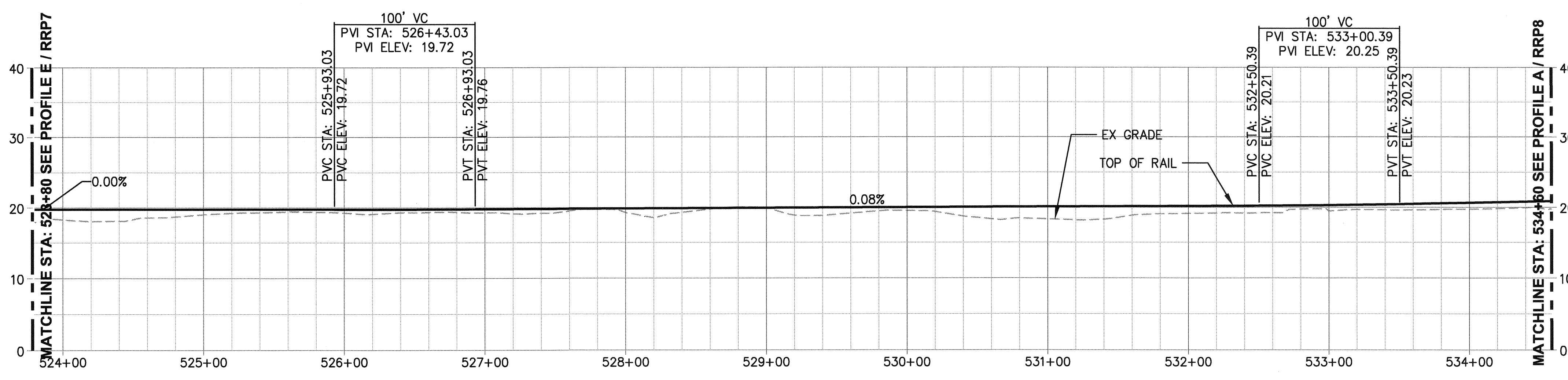
**C**  
TRACK 14 EAST CONT'D 2 PROFILE  
STA 462+50 TO 466+00  
RRP7  
SCALE: 1"=50' HORZ 1"=10' VERT



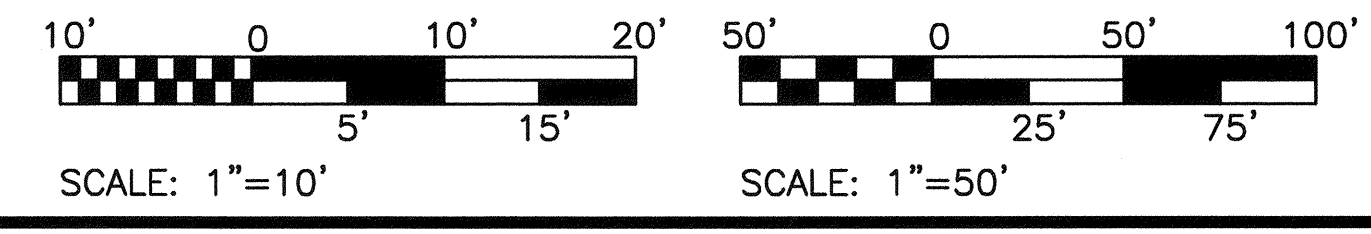
**D**  
TRACK 15 WEST PROFILE  
STA 501+00 TO 505+20  
RRP7  
SCALE: 1"=50' HORZ 1"=10' VERT



**E**  
TRACK 15 EAST PROFILE  
STA 516+80 TO 523+80  
RRP7  
SCALE: 1"=50' HORZ 1"=10' VERT



**F**  
TRACK 15 EAST PROFILE  
STA 523+80 TO 534+60  
RRP7  
SCALE: 1"=50' HORZ 1"=10' VERT



- NOTES :**
- TIE IN LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE NEAREST JOINT IN THE FIELD AT OR BEYOND MATCH POINT INDICATED, VERIFY VERTICAL ALIGNMENT DATA, AND TIE INTO EXISTING RAIL AT EXISTING JOINT. CONTRACTOR SHALL NOT CUT EXISTING RAIL WITHOUT PRIOR APPROVAL FROM THE PORT.
  - APPROXIMATE LOCATIONS OF START OR END OF COMMON TIES REFERENCES TURNOUT COMMON TIES UNLESS OTHERWISE NOTED.

6555

Part of Tacoma  
2407 North 31st Street, Suite 100  
Tacoma, Washington 98407  
(253) 396-0150 Fax (253) 396-0162

DATE: \_\_\_\_\_

APPROVED: *Julia Howard*

CHECKED BY: \_\_\_\_\_

DATE: 03/17/16

DIRECTOR ENG. DATE: 4-12-16

PROJECT ENGR DATE: 03/17/16

PRINTED BY: bosterhaus Mar 21, 2016

TOWNSHIP: 20N

RANGE: 03E

SECTION: 1, 2, 3

M. ID: 092938

DATE-HRZ: W83-SF

VERT: PORT OF TACOMA BM #846

PHASE: BID

DRAWING SCALE: AS NOTED

TACOMA, WA 98401-1837

**RRP7**

SHEET 87 OF 134

**NORTH LEAD**

**RAILROAD PROFILES**

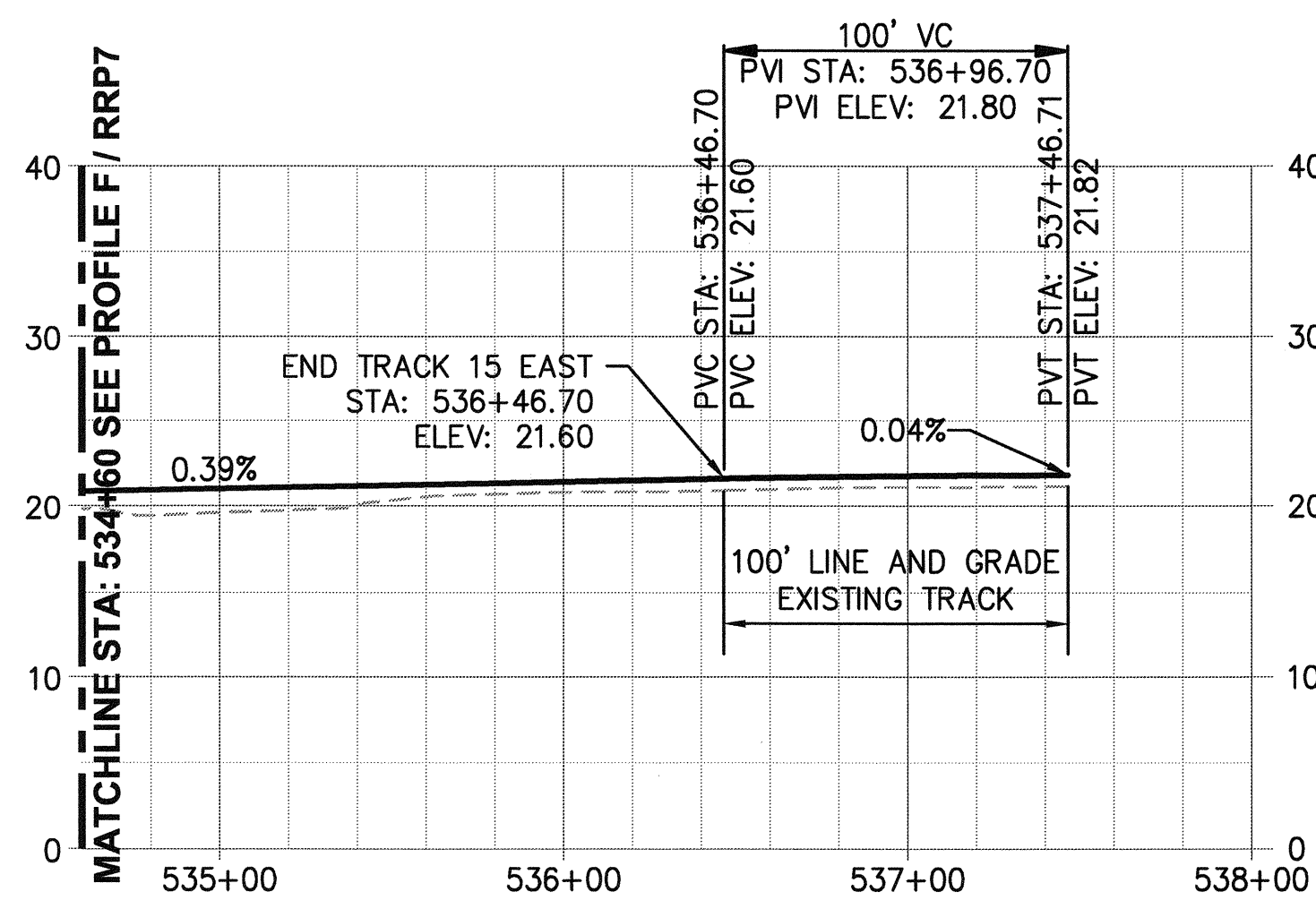
MADE IN THE U.S.A.

REGISTERED PROFESSIONAL

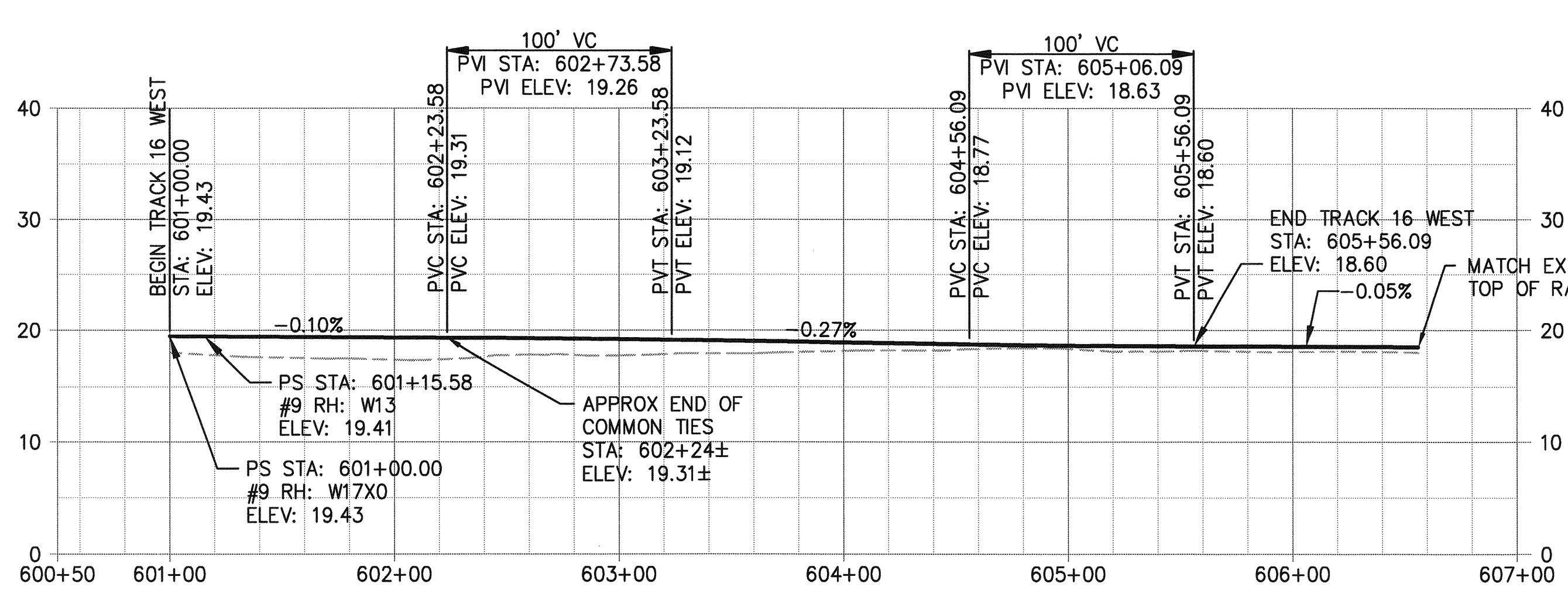
3/17/16

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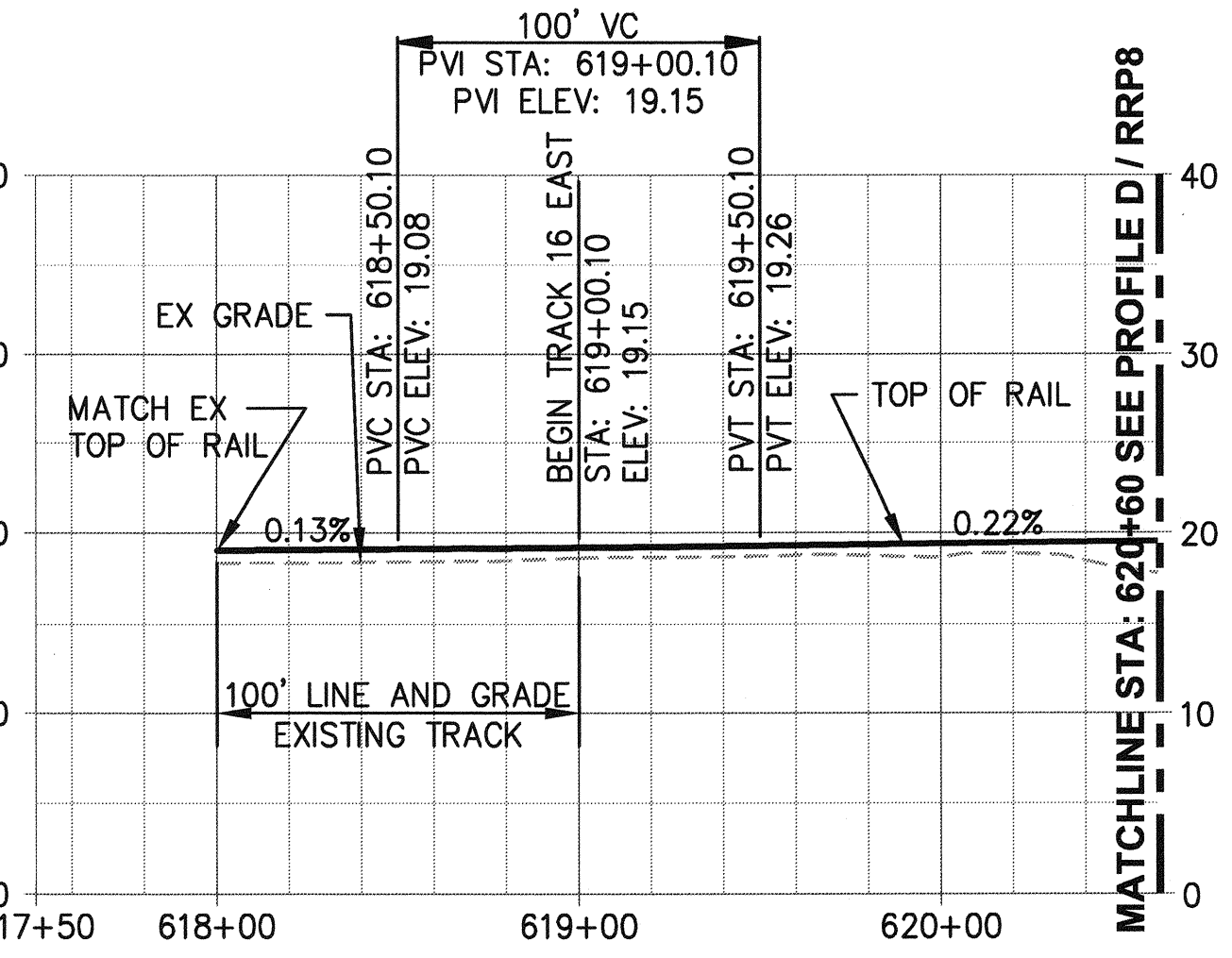
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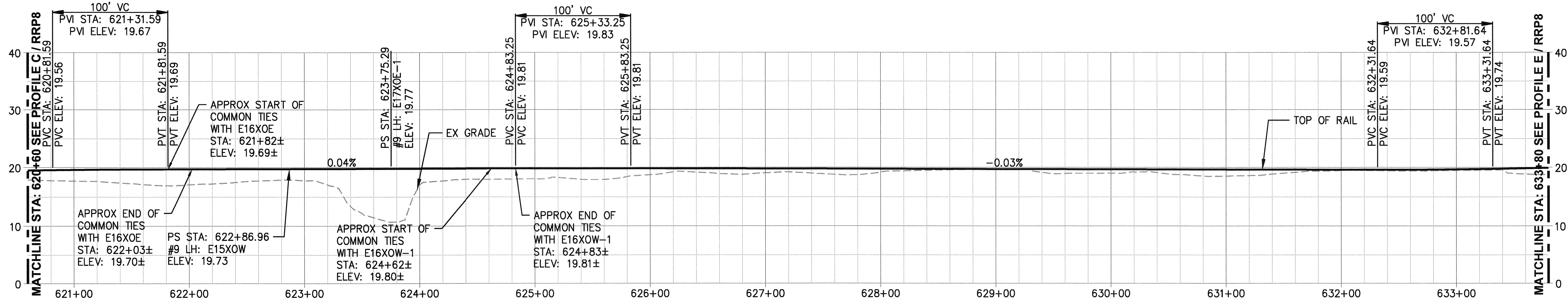
**A**  
**TRACK 15 EAST PROFILE**  
**STA 534+60 TO 537+60**  
 RRP8 SCALE: 1"=50' HORZ 1"=10' VERT



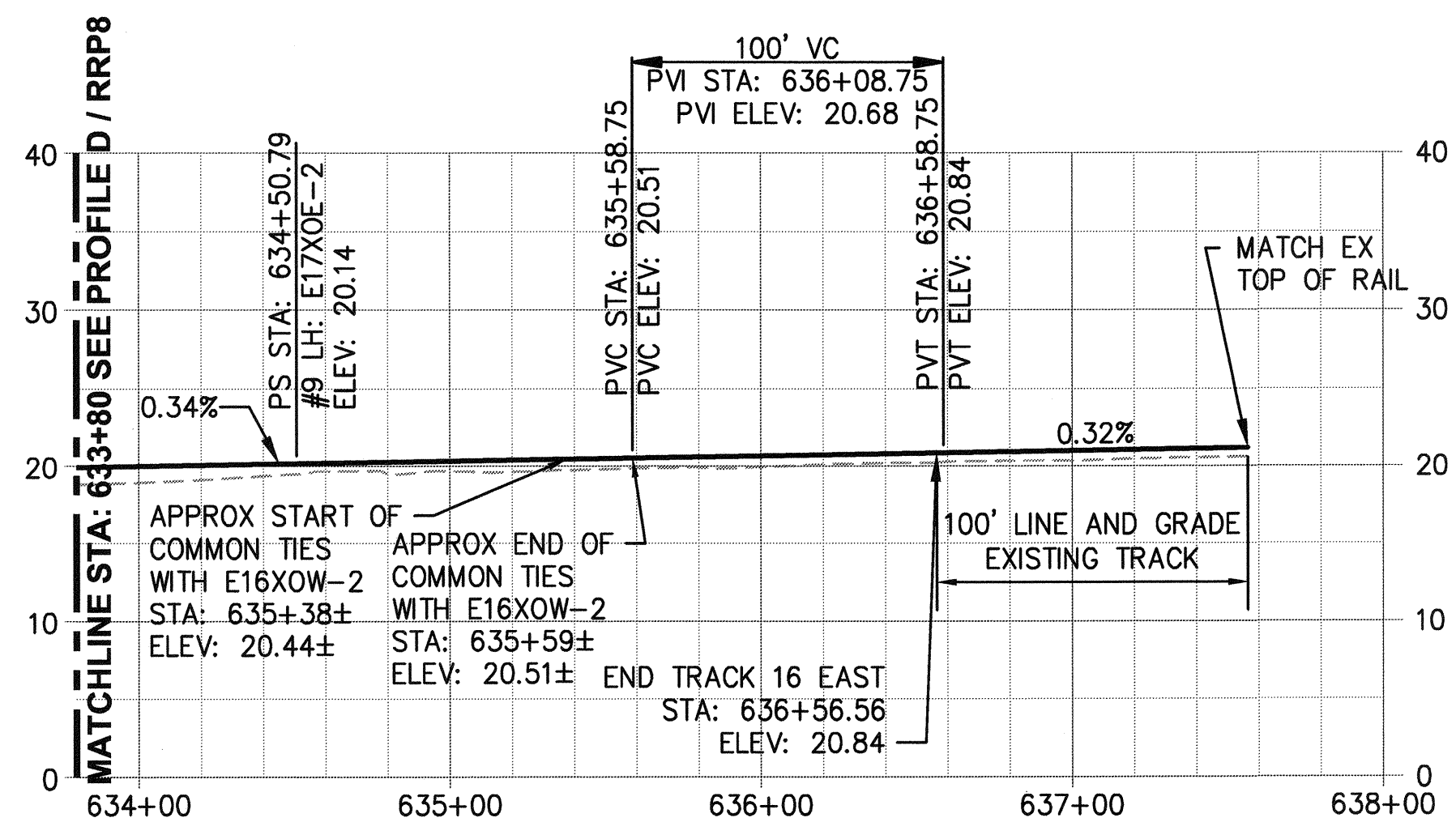
**B**  
**TRACK 16 WEST PROFILE**  
**STA 601+00 TO 606+60**  
 RRP8 SCALE: 1"=50' HORZ 1"=10' VERT



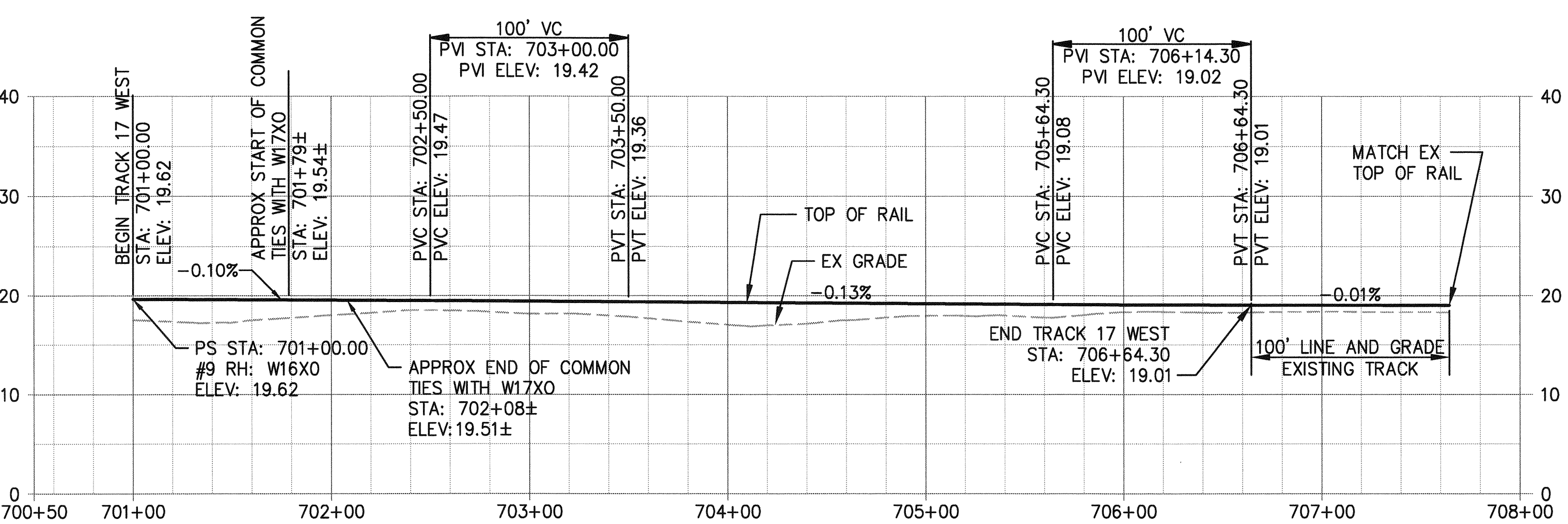
**C**  
**TRACK 16 EAST PROFILE**  
**STA 617+50 TO 620+60**  
 RRP8 SCALE: 1"=50' HORZ 1"=10' VERT



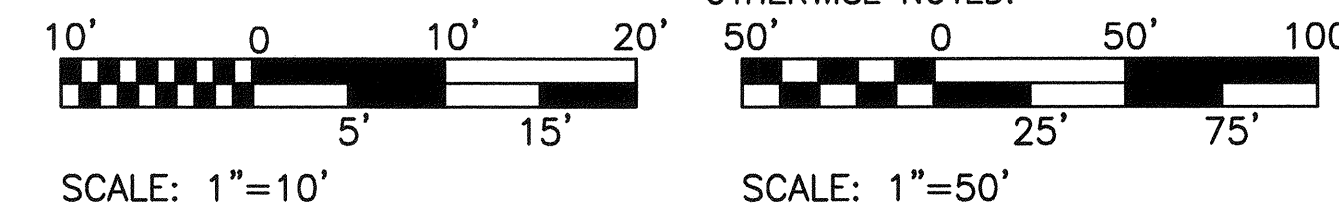
**D**  
**TRACK 16 EAST PROFILE**  
**STA 620+60 TO 633+80**  
 RRP8 SCALE: 1"=50' HORZ 1"=10' VERT



**E**  
**TRACK 16 EAST PROFILE**  
**STA 633+80 TO 637+50**  
 RRP8 SCALE: 1"=50' HORZ 1"=10' VERT



**F**  
**TRACK 17 WEST PROFILE**  
**STA 701+00 TO 707+80**  
 RRP8 SCALE: 1"=50' HORZ 1"=10' VERT



- NOTES:**
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2407 North 31st Street, Suite 100  
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(253) 996-0150 Fax: (253) 996-0162

Part of Tacoma  
P.O. BOX 887 WASHWA, WA 98401-0887

APPROVED: *[Signature]* DATE: 03/17/16

CHECKED BY: DATE: 03/17/16

DIRECTOR ENG. DATE: 4-12-16

PRINTED BY: bosterhaus Mar 21, 2016

PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

**RRP8**

SHEET 88 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**RAILROAD PROFILES**

RANGE: 03E SECTION: 1, 2, 3

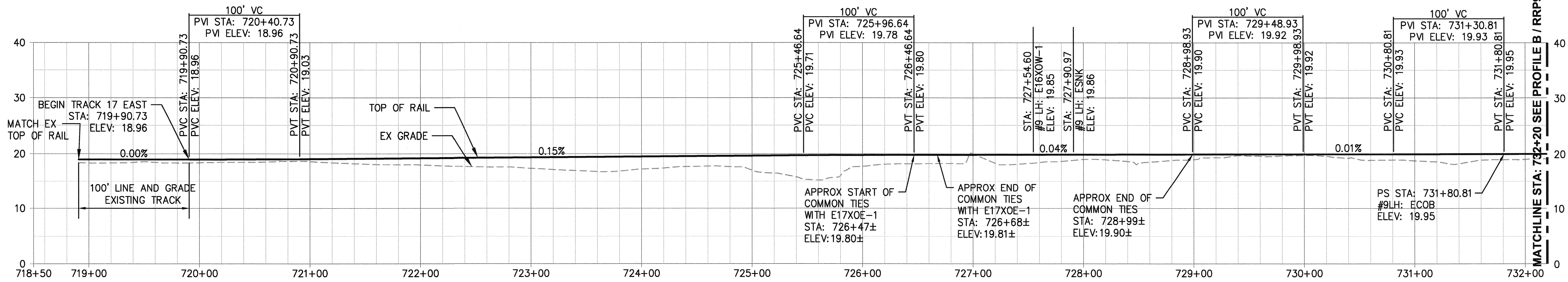
VERT: PORT OF TACOMA BM #B46

DAT-HRZ: W63-SF DRAWING SCALE: AS NOTED

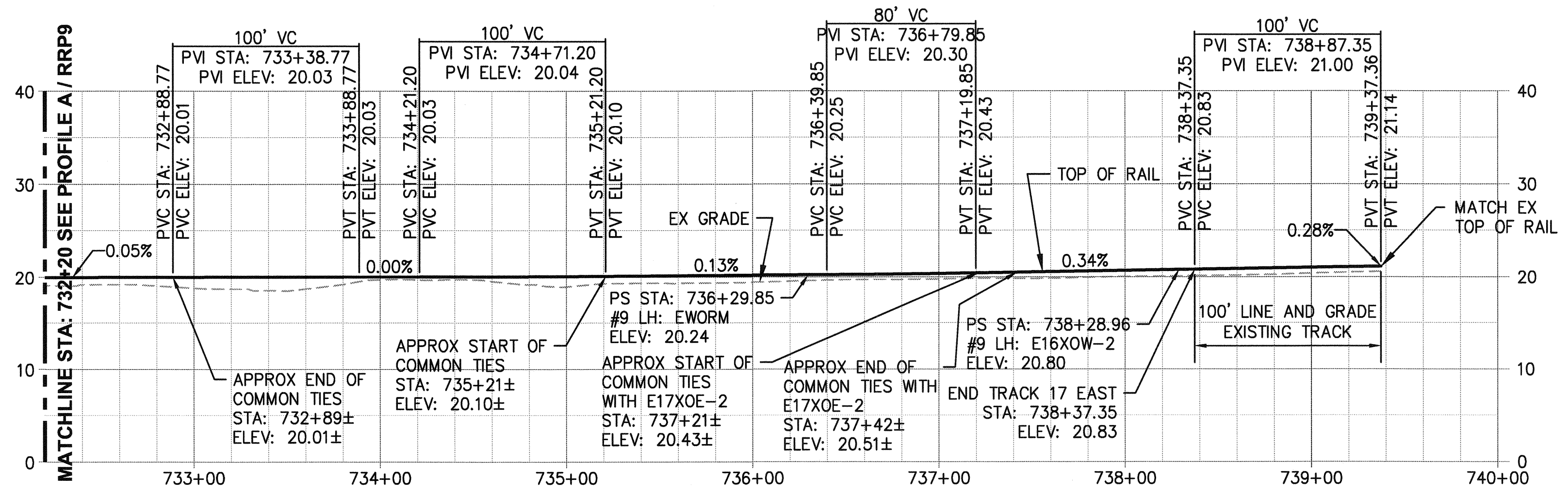
PARCEL: MULTIPLE

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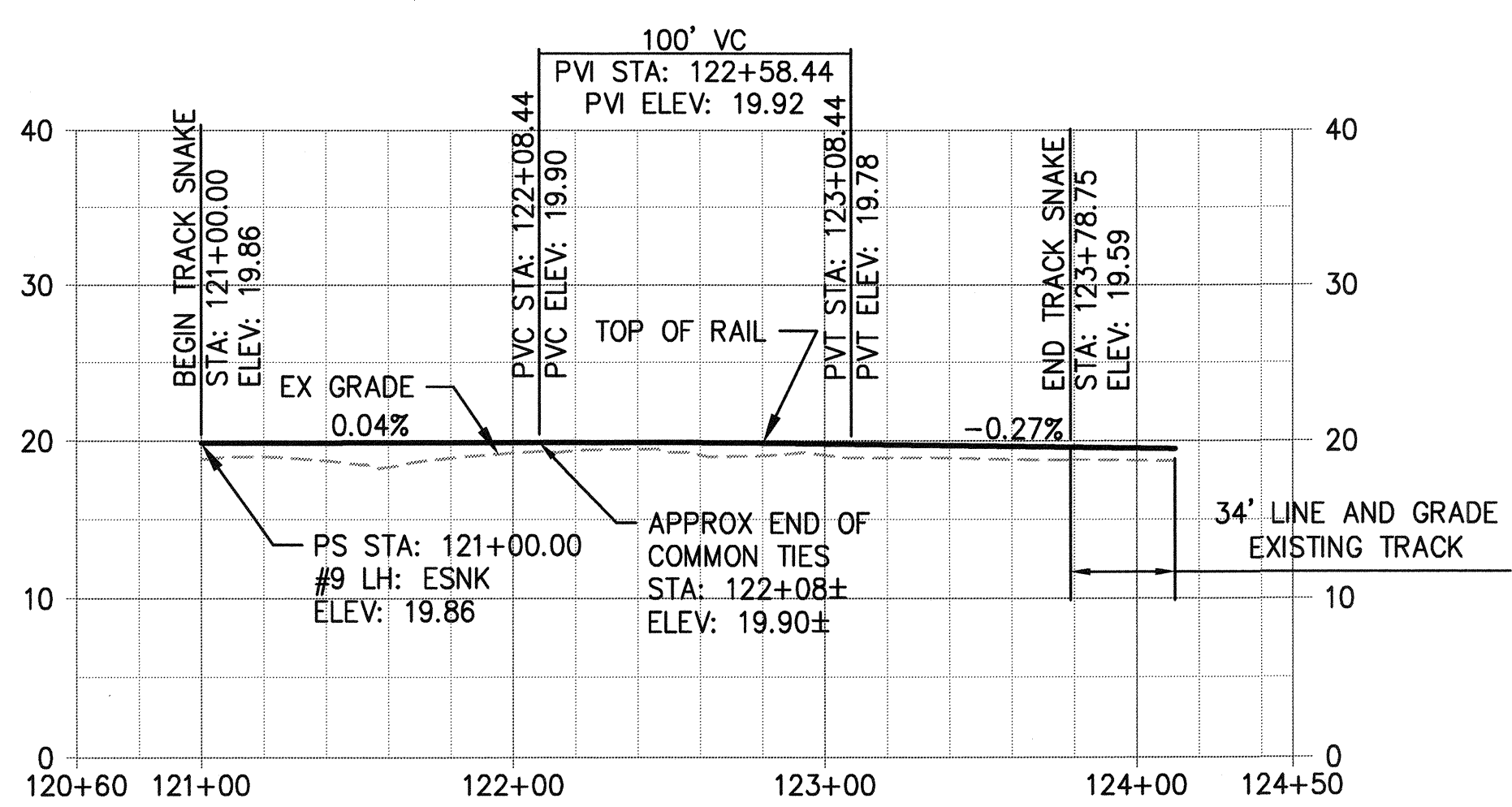
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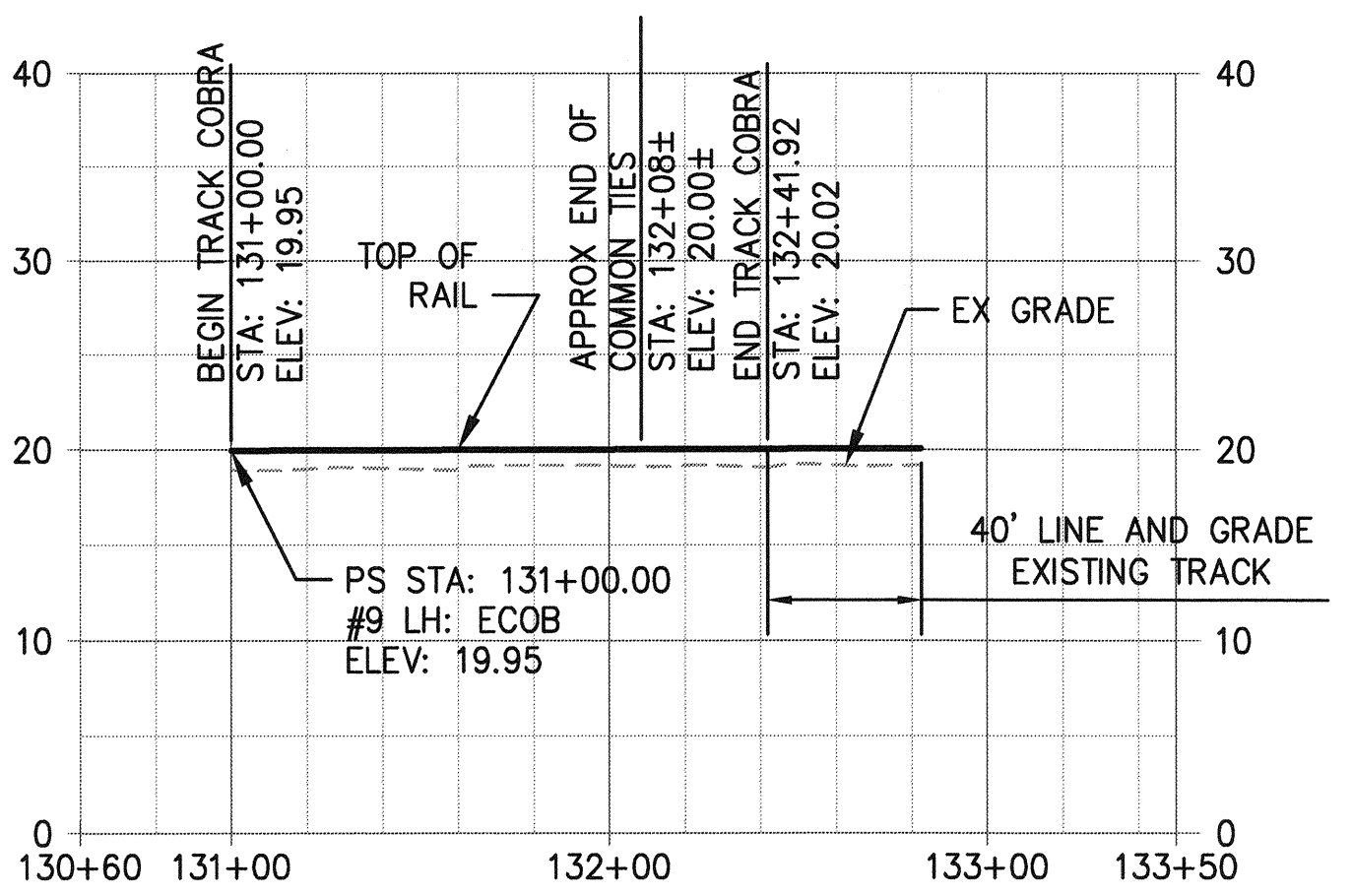
**A**  
RRP9 SCALE: 1"=50' HORZ 1"=10' VERT



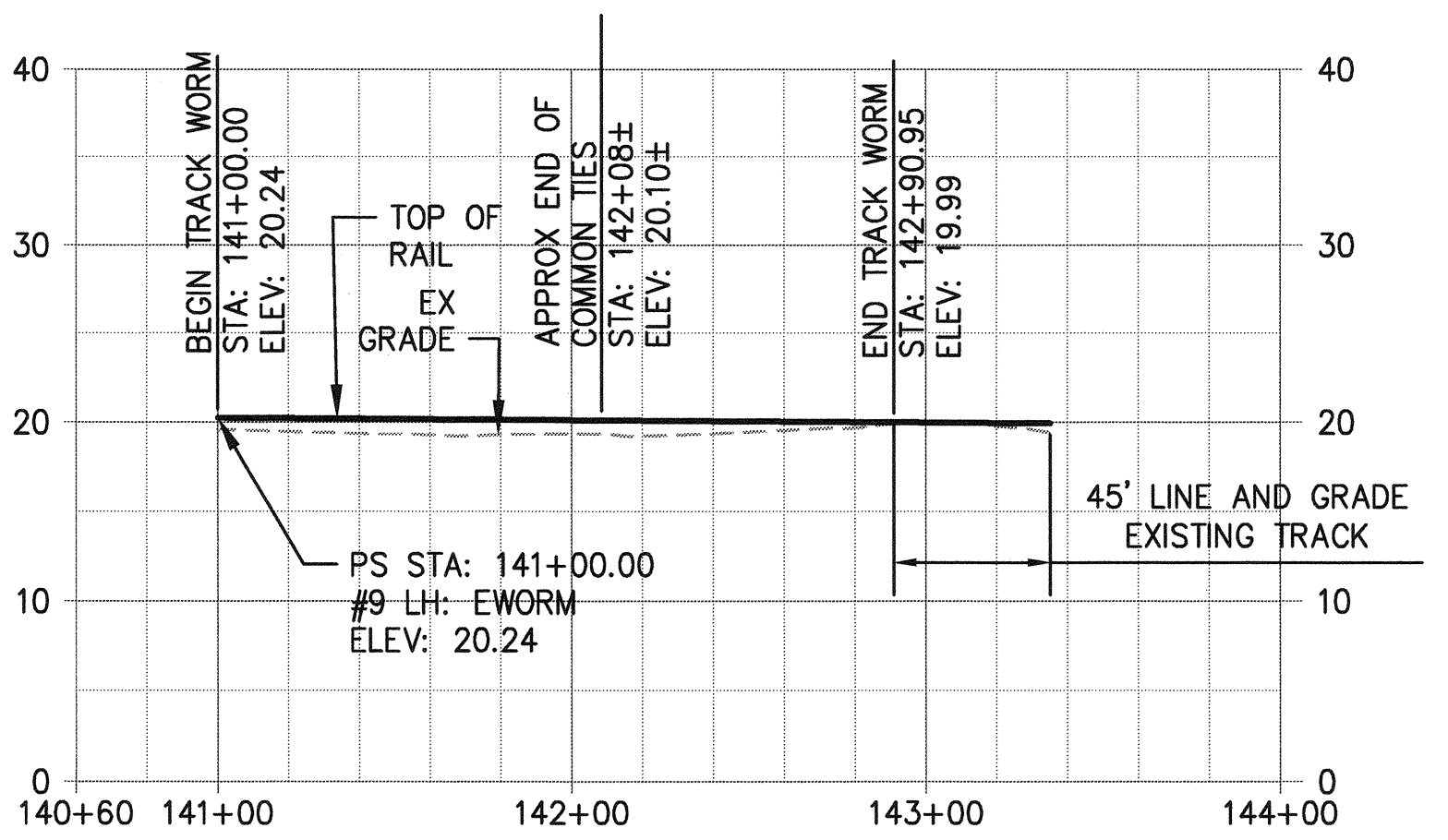
**B**  
RRP9 SCALE: 1"=50' HORZ 1"=10' VERT



**C**  
RRP9 SCALE: 1"=50' HORZ 1"=10' VERT

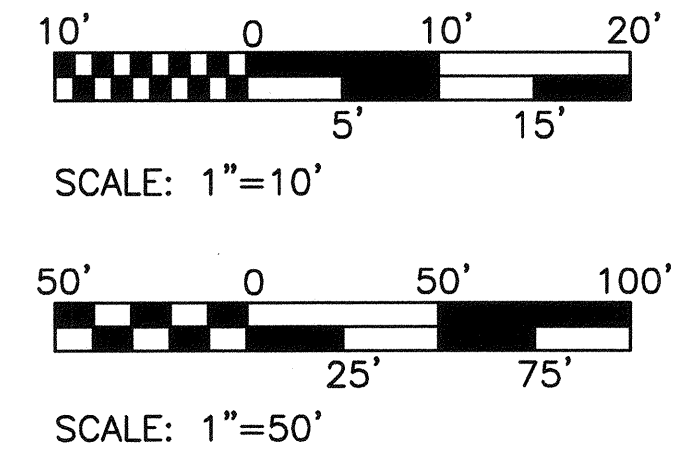


**D**  
RRP9 SCALE: 1"=50' HORZ 1"=10' VERT



**E**  
RRP9 SCALE: 1"=50' HORZ 1"=10' VERT

- NOTES :**
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  - APPROXIMATE LOCATIONS OF START OR END OF COMMON TIES REFERENCES TURNOUT COMMON TIES UNLESS OTHERWISE NOTED.



PORT OF TACOMA FILE: N:\Civil\1141148 Pot North Lead Rail\Part.3 - KPFF Design\3.13 Drawings\Current\092938-RRP09

2407 North 31st Street, Suite 100  
Tacoma, Washington 98407  
(253) 396-0150 Fax (253) 396-0162

Port of Tacoma  
P.O. Box 107 Tacoma, WA 98401

MADE IN WASHINGTON  
Professional Engineer  
No. 27781  
Civil  
Exp. 12/31/16

APPROVED: *[Signature]*  
DATE: 03/17/16

CHECKED BY: *[Signature]*  
DATE: 03/17/16

SWK 03/17/16

DIRECTOR ENG. DATE: 03/17/16

PRINTED BY: bosterhaus Mar 21, 2016

PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

MARK: REVISION:

BY:

APPR:

DATE:

**6555 RRP9**

SHEET 89 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

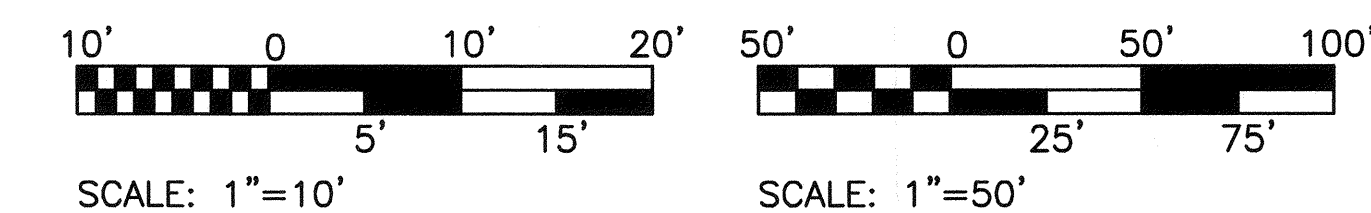
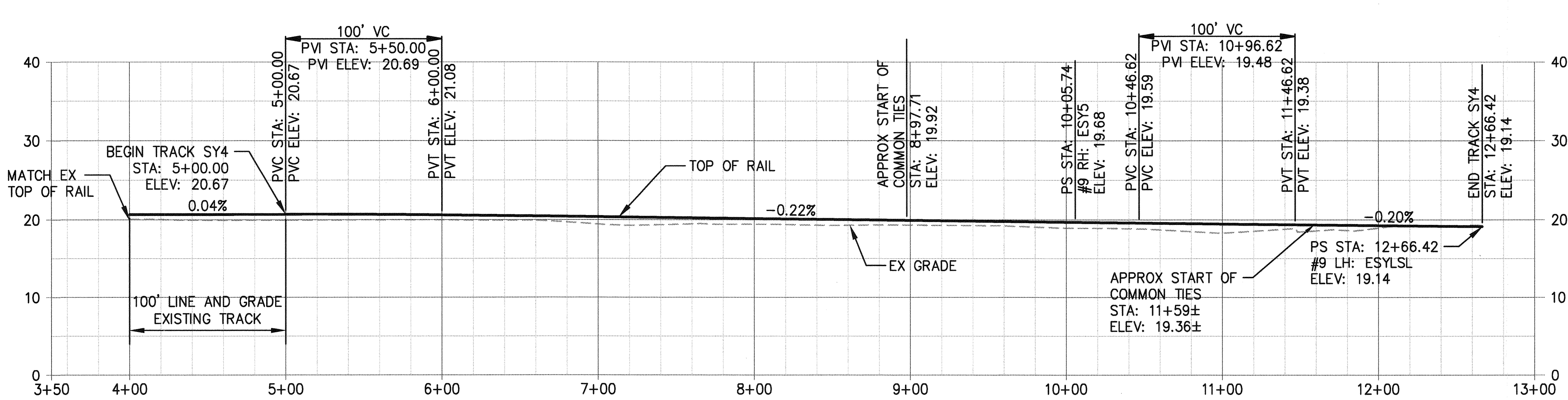
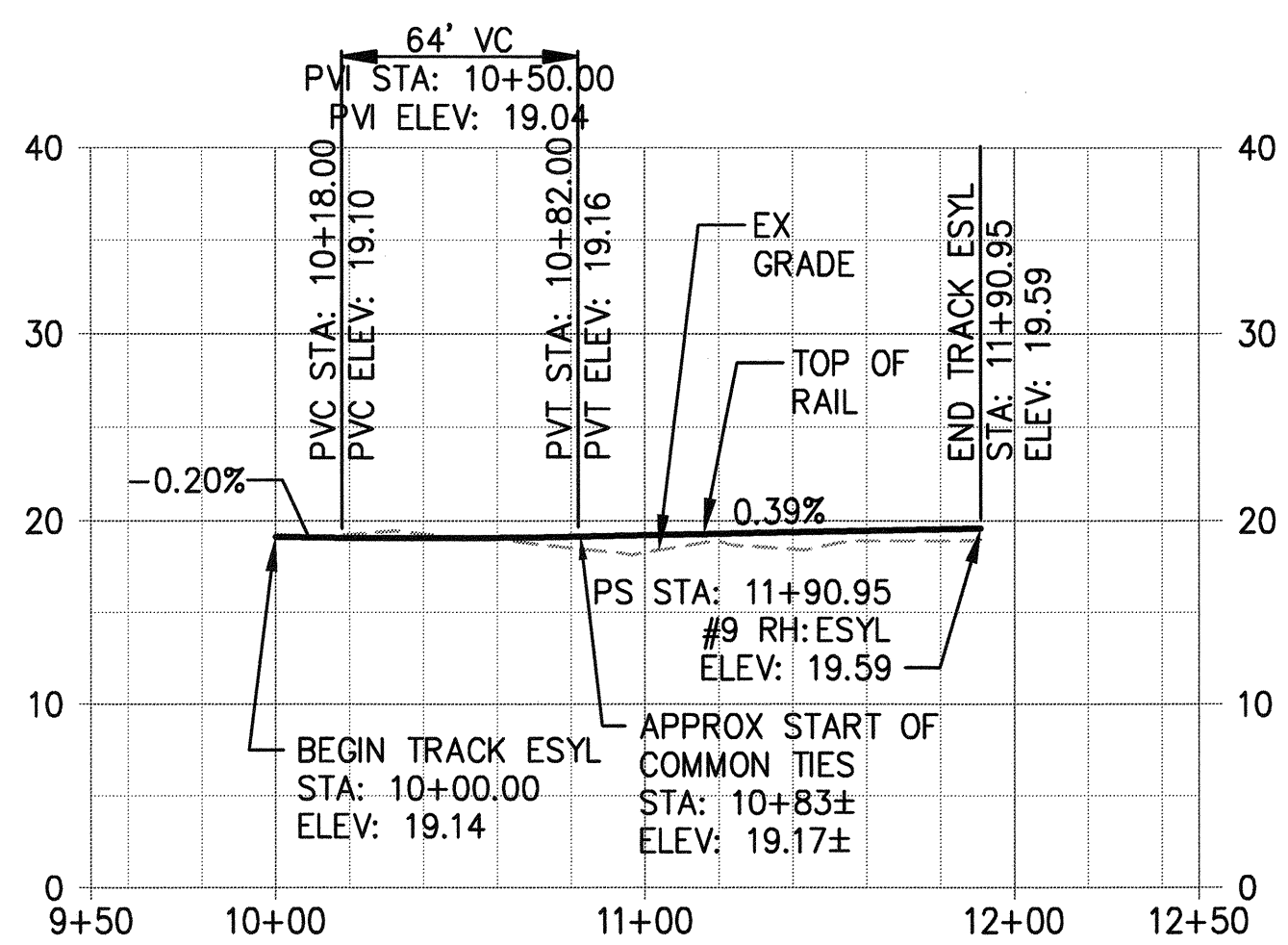
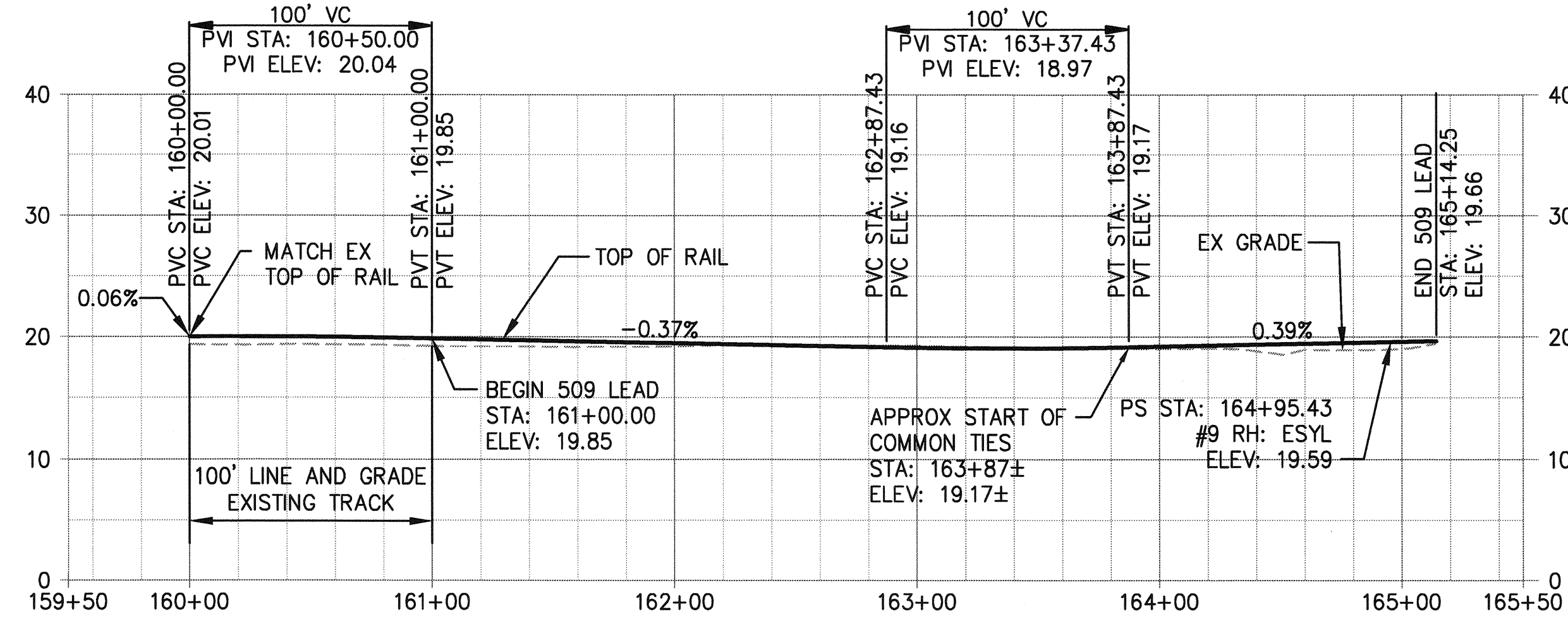
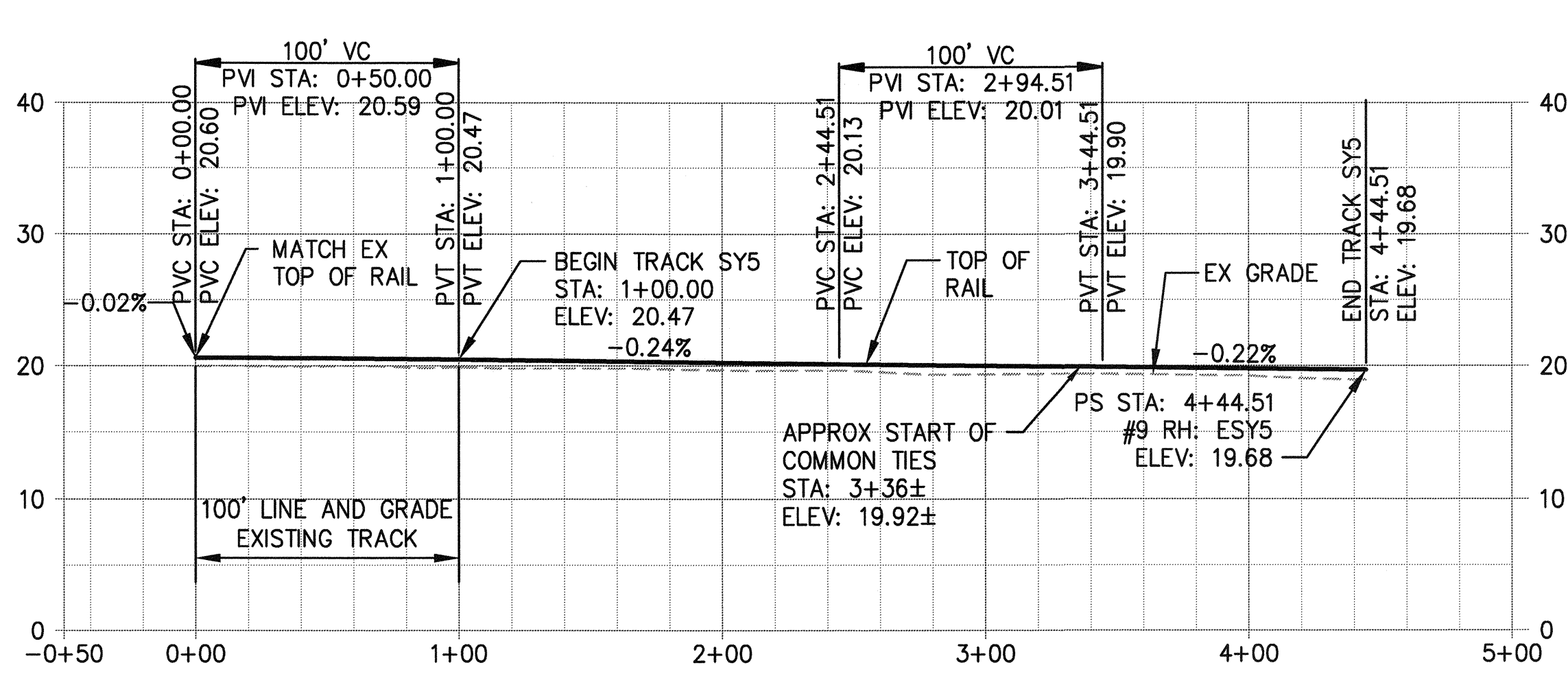
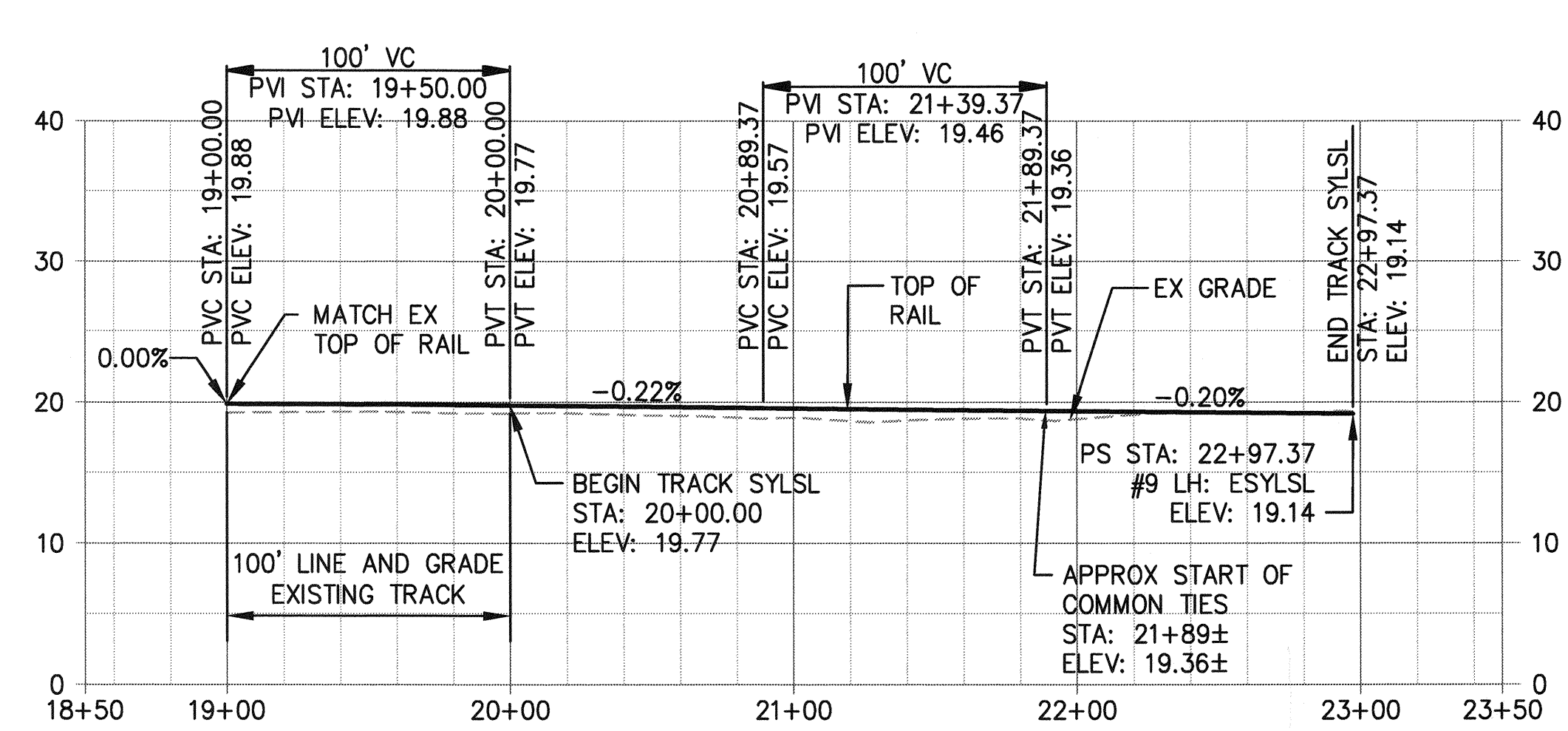
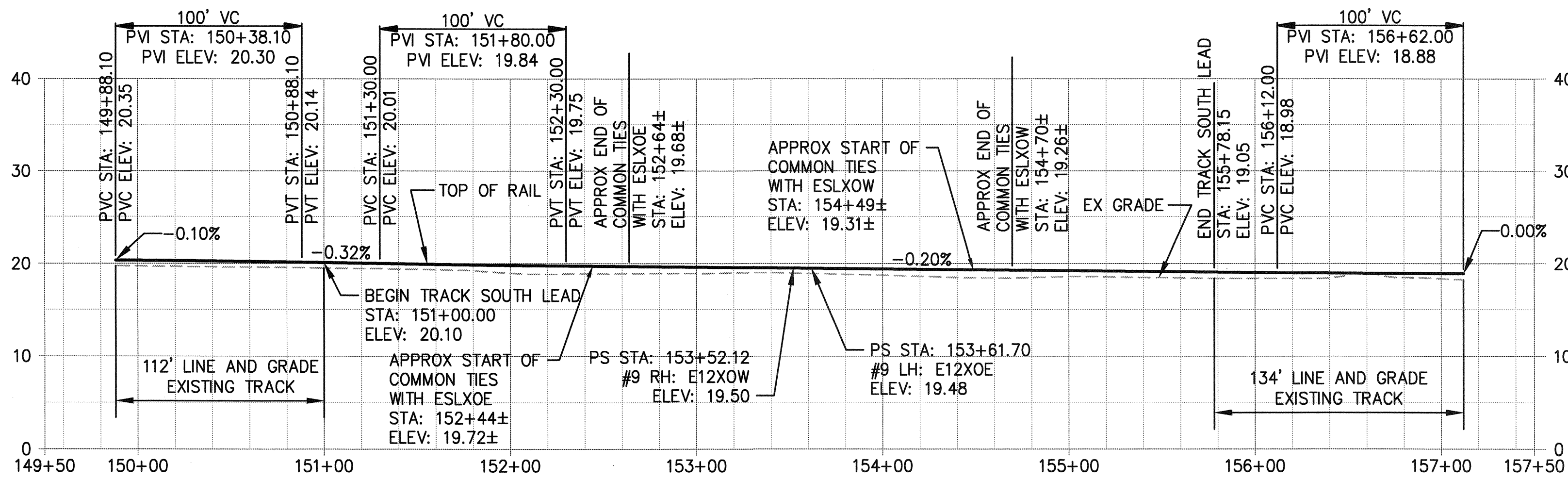
**NORTH LEAD RAILROAD PROFILES**

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3

DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

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- NOTES:**
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2407 North 31st Street, Suite 100  
Tacoma, Washington 98407  
(253) 396-0150 Fax (253) 396-0162

Port of Tacoma  
P.O. BOX 107 TACOMA, WASHINGTON 98401

APPROVED: *[Signature]*

4-12-16

SWK 03/17/16  
CHECKED BY: DATE

SWK 03/17/16  
PROJ. ENGR. DATE

PRINTED BY: bosterhaus Mar 21, 2016

PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

6555  
**RRP10**

SHEET 90 OF 134

CONT./CONS: 070164

M. ID: 092938

PHASE: BID

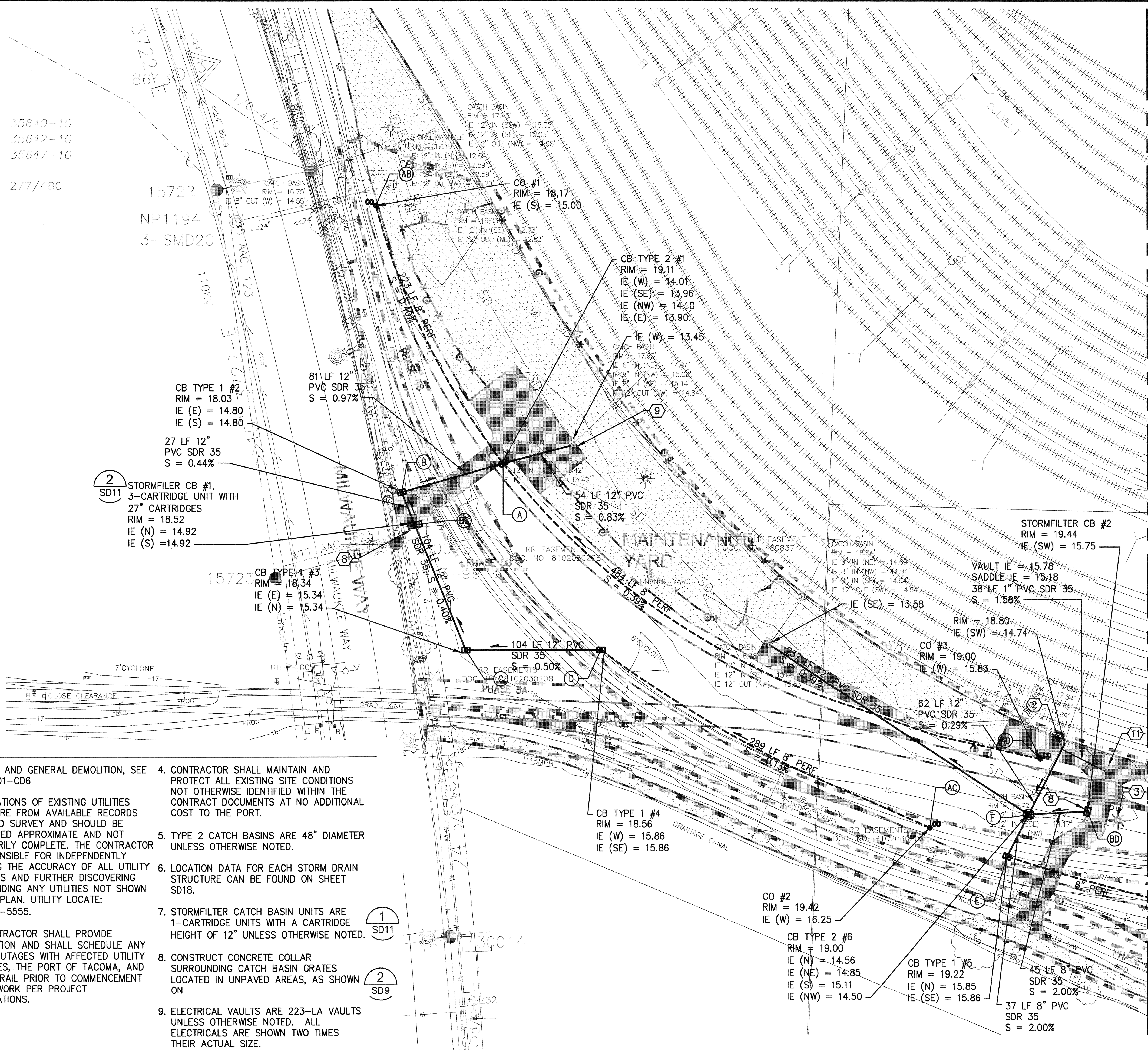
**NORTH LEAD  
RAILROAD PROFILES**

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3

DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

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**NOTES:**

- FOR RAIL AND GENERAL DEMOLITION, SEE SHEET CD1-CD6
- ALL LOCATIONS OF EXISTING UTILITIES SHOWN ARE FROM AVAILABLE RECORDS AND FIELD SURVEY AND SHOULD BE CONSIDERED APPROXIMATE AND NOT NECESSARILY COMPLETE. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY VERIFYING THE ACCURACY OF ALL UTILITY LOCATIONS AND FURTHER DISCOVERING AND AVOIDING ANY UTILITIES NOT SHOWN ON THIS PLAN. UTILITY LOCATE: (800)424-5555.
- THE CONTRACTOR SHALL PROVIDE NOTIFICATION AND SHALL SCHEDULE ANY UTILITY OUTAGES WITH AFFECTED UTILITY COMPANIES, THE PORT OF TACOMA, AND TACOMA RAIL PRIOR TO COMMENCEMENT OF THE WORK PER PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING SITE CONDITIONS NOT OTHERWISE IDENTIFIED WITHIN THE CONTRACT DOCUMENTS AT NO ADDITIONAL COST TO THE PORT.
- TYPE 2 CATCH BASINS ARE 48" DIAMETER UNLESS OTHERWISE NOTED.
- LOCATION DATA FOR EACH STORM DRAIN STRUCTURE CAN BE FOUND ON SHEET SD18.
- STORMFILTER CATCH BASIN UNITS ARE 1-CARTRIDGE UNITS WITH A CARTRIDGE HEIGHT OF 12" UNLESS OTHERWISE NOTED.
- CONSTRUCT CONCRETE COLLAR SURROUNDING CATCH BASIN GRATES LOCATED IN UNPAVED AREAS, AS SHOWN ON
- ELECTRICAL VAULTS ARE 223-LA VAULTS UNLESS OTHERWISE NOTED. ALL ELECTRICALS ARE SHOWN TWO TIMES THEIR ACTUAL SIZE.

**KEY NOTES:**

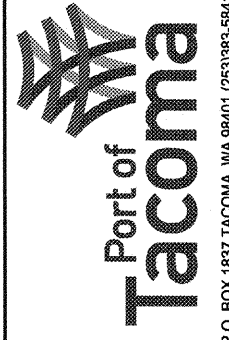
- 128"x83" ARCH PIPE W/RISERS
- ADJUST RIM/STRUCTURE TO FINAL GRADE
- NEW POLE W/ LIGHTING FIXTURE, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
- RELOCATE UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
- CONTRACTOR TO PROVIDE PIPE COUPLING TO EXTEND EXISTING PIPE, SEE SPECIFICATIONS
- RELOCATE ELECTRICAL PANEL/CABINET, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
- RELOCATE POWER POLE BY TPU, SEE C14 FOR LOCATION, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E8 AND E13
- STORMFILTER CATCH BASIN
- EXISTING STRUCTURE TO REMAIN
- RELOCATE AEI HUT, SEE C4 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED4 AND E9
- UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E1 THRU E6
- RELOCATE TPU METER AND BREAKER SERVICE, SEE C1-C6 AND C14 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED3 AND ED8
- RELOCATE TRANSFORMER, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED1 THRU ED6 AND E1 THRU E6

**LEGEND:**

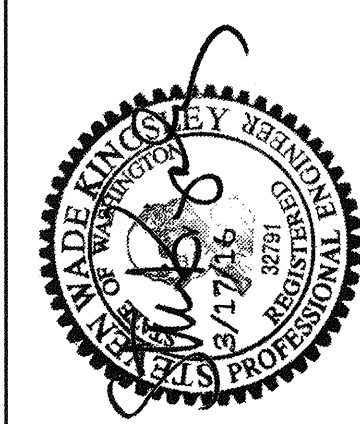
- TYPE 2 CATCH BASIN (1) SD9
- 1" PVC DRAIN LINE (2) SD8
- PVC SDR 35 (3) SD8
- 8" TRACK SUBDRAIN (3) SD8
- STORMFILTER CATCH BASIN (2) SD13
- ELECTRICAL VAULT (2) SD13
- FLOW DIRECTION ARROW
- CLEANOUT (1) SD8

MATCH LINE - SEE SHEET SD2

<b>6555</b>	<b>NORTH LEAD</b>		<b>WEST END - AREA 1</b>		<b>DRAINAGE AND UTILITY PLAN</b>	
	<b>SD1</b>					
SHEET 91 OF 134						
CONT/CONS: 070164						
M. ID: 092938						
PHASE: BID						
APPROVED: <i>[Signature]</i>		SWK: 03/17/16	CHECKED BY: DATE	DATE		
DIRECTOR ENG. DATE: 4/2/16		SWK: 03/17/16	PROJ. ENGR DATE		DATE	
PRINTED BY: nmedley Mar 16, 2016		PORT ADDRESS: ONE SITCUM PLAZA				
TOWNSHIP: 20N		RANGE: 03E		SECTION: 1, 2, 3		
PARCEL: MULTIPLE		DRAWING SCALE: AS NOTED				
TACOMA, WA 98401-1837		DATE: _____				
APPR: _____		BY: _____		DATE: _____		
MARK: _____		REVISION: _____		DATE: _____		



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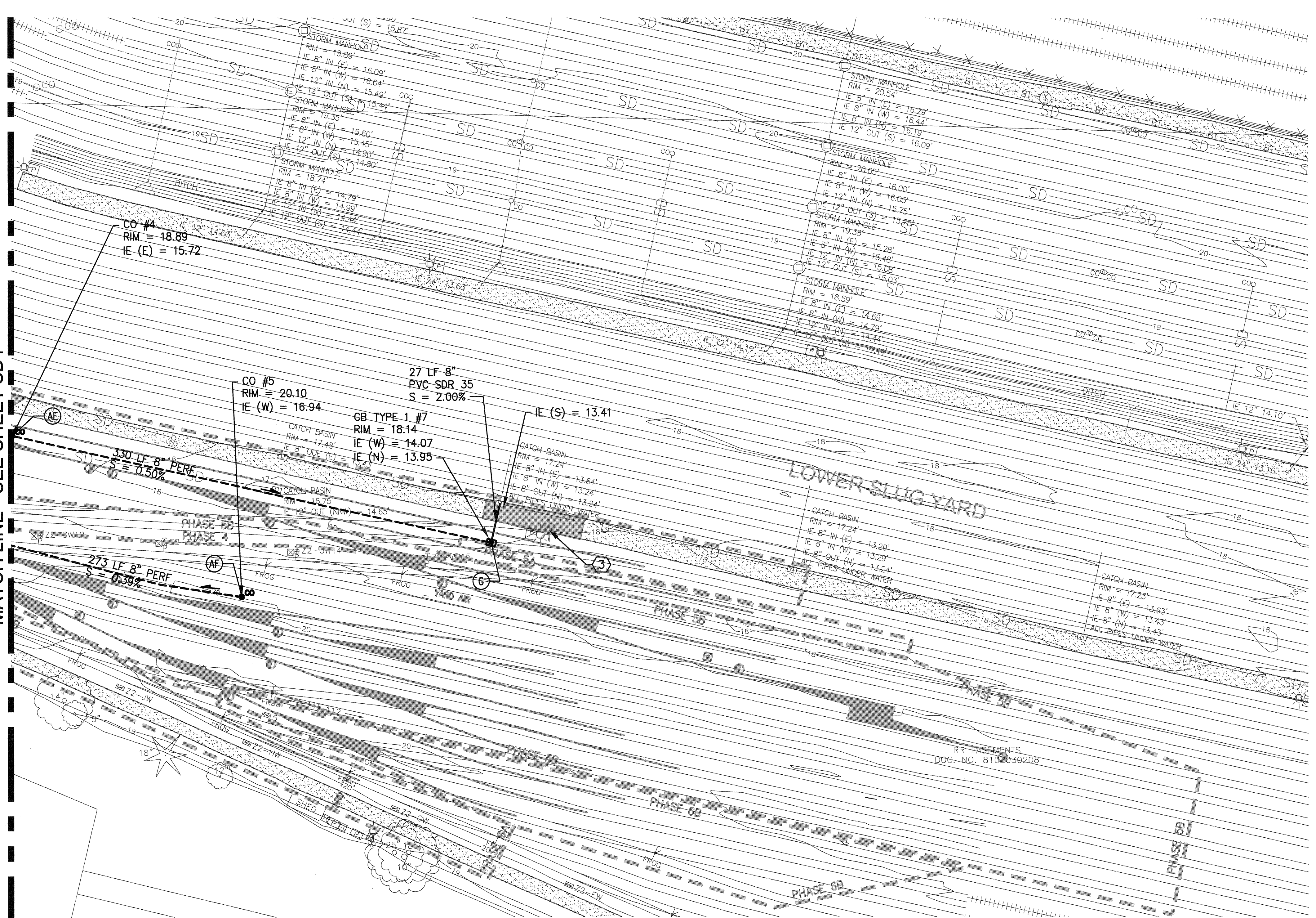


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BINDING EDGE

PORT OF TACOMA FILE: N:\Civil\114114148 Pot North Lead RailPart 3 - KPFF Design\3.13 Drawings\Current\092938-SD02

MATCH LINE - SEE SHEET SD1



**NOTES:**

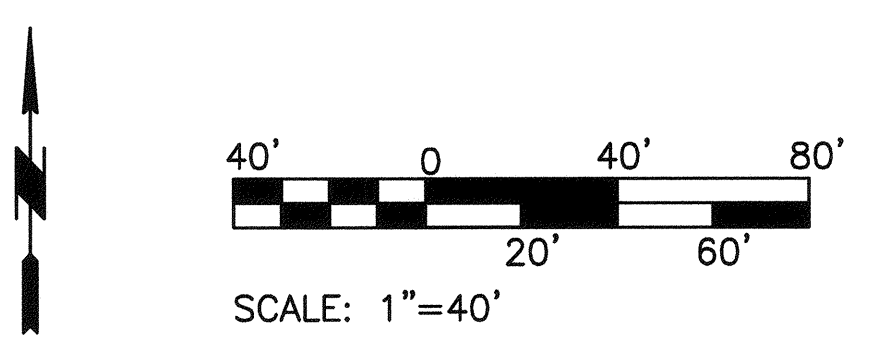
1. FOR UTILITY AND DRAINAGE NOTES, SEE SHEET SD1.

**KEY NOTES:**

- ① 128"x83" ARCH PIPE W/RISERS
- ② ADJUST RIM/STRUCTURE TO FINAL GRADE
- ③ NEW POLE W/ LIGHTING FIXTURE, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
- ④ RELOCATE UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
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- ⑦ RELOCATE POWER POLE BY TPU, SEE C14 FOR LOCATION, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E8 AND E13
- ⑧ STORMFILTER CATCH BASIN
- ⑨ EXISTING STRUCTURE TO REMAIN
- ⑩ RELOCATE AEI HUT, SEE C4 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED4 AND E9
- ⑪ UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E1 THRU E6
- ⑫ RELOCATE TPU METER AND BREAKER SERVICE, SEE C1-C6 AND C14 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED3 AND ED8
- ⑬ RELOCATE TRANSFORMER, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED1 THRU ED6 AND E1 THRU E6

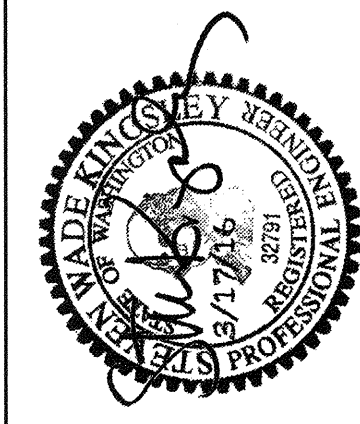
**LEGEND:**

- ⊕ TYPE 2 CATCH BASIN (1) SD9
- ⊖ TYPE 1 CATCH BASIN (2) SD8
- PVC SDR 35
- 8" PERF 8" TRACK SUBDRAIN (3) SD8
- STORMFILTER CATCH BASIN
- ELECTRICAL VAULT (2) SD13
- FLOW DIRECTION ARROW
- ⊗ CLEANOUT (1) SD8



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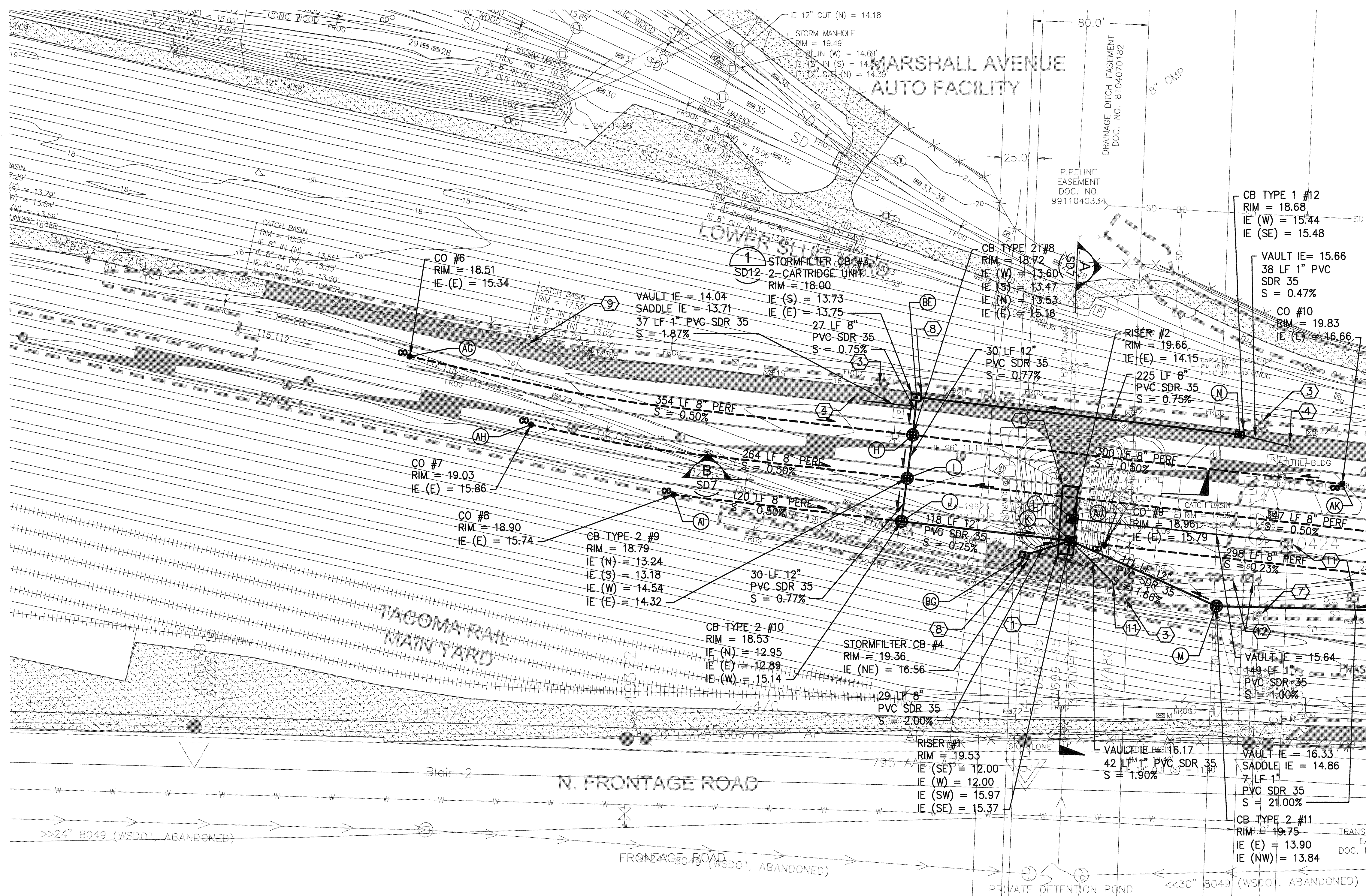
APPROVED:	SWK	03/17/16
<i>[Signature]</i>	CHECKED BY	DATE
	SWK	03/17/16
DIRECTOR ENG. DATE	PROJ. ENGR	DATE
4-12-16	nmedley	Mar 18, 2016
PORT ADDRESS: ONE SITCUM PLAZA		
TACOMA, WA 98401-1837		

**NORTH LEAD  
WEST END - AREA 2  
DRAINAGE AND UTILITY PLAN**

RANGE: 03E SECTION: 1, 2, 3  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
DRAWING SCALE: AS NOTED

6555  
**SD2**  
SHEET 92 OF 134  
CONT./CONS: 070164  
M. ID: 092938  
PHASE: BID

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NOTES:

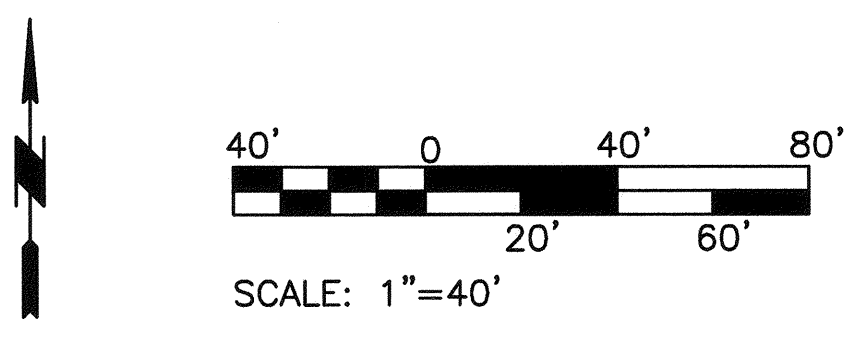
1. FOR UTILITY AND DRAINAGE NOTES, SEE SHEET SD1.

KEY NOTES:

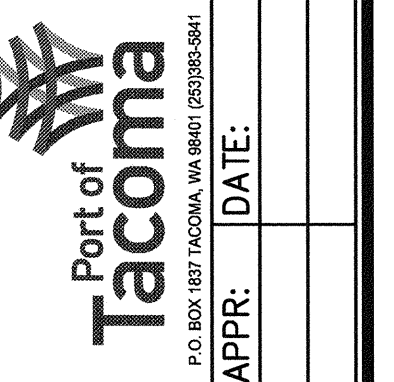
- ① 128"x83" ARCH PIPE W/RISERS
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- ③ NEW POLE W/ LIGHTING FIXTURE, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
- ④ RELOCATE UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
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- ⑦ RELOCATE POWER POLE BY TPU, SEE C14 FOR LOCATION, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E8 AND E13
- ⑧ STORMFILTER CATCH BASIN
- ⑨ EXISTING STRUCTURE TO REMAIN
- ⑩ RELOCATE AEI HUT, SEE C4 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED4 AND E9
- ⑪ UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E1 THRU E6
- ⑫ RELOCATE TPU METER AND BREAKER SERVICE, SEE C1-C6 AND C14 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED3 AND ED8
- ⑬ RELOCATE TRANSFORMER, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED1 THRU ED6 AND E1 THRU E6

LEGEND:

- ⊙ TYPE 2 CATCH BASIN (1) SD9
- 1" PVC DRAIN LINE
- ⊞ TYPE 1 CATCH BASIN (2) SD8
- PVC SDR 35
- 8" PERF 8" TRACK SUBDRAIN (3) SD8
- ⊞ STORMFILTER CATCH BASIN (2) SD13
- ⊞ ELECTRICAL VAULT (1) SD13
- FLOW DIRECTION ARROW
- ⊞ CLEANOUT (1) SD8



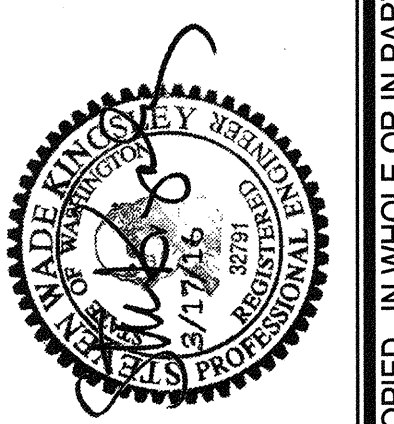
MATCH LINE - SEE SHEET SD4



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DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
REVISION: \_\_\_\_\_



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CHECKED BY:	DATE	
4-12-16	SWK	03/17/16
DIRECTOR ENG. DATE	PROJ. ENGR. DATE	
PRINTED BY: nmedley Mar 18, 2016		
PORT ADDRESS: ONE SITCUM PLAZA		
TACOMA, WA 98401-1837		

**NORTH LEAD**  
**EAST END - AREA 3**  
**DRAINAGE AND UTILITY PLAN**

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3  
 DAT-HRZ: W83-SF VERT: PORT OF TACOMA EM #846  
 PARCEL: MULTIPLE DRAWING SCALE: AS NOTED

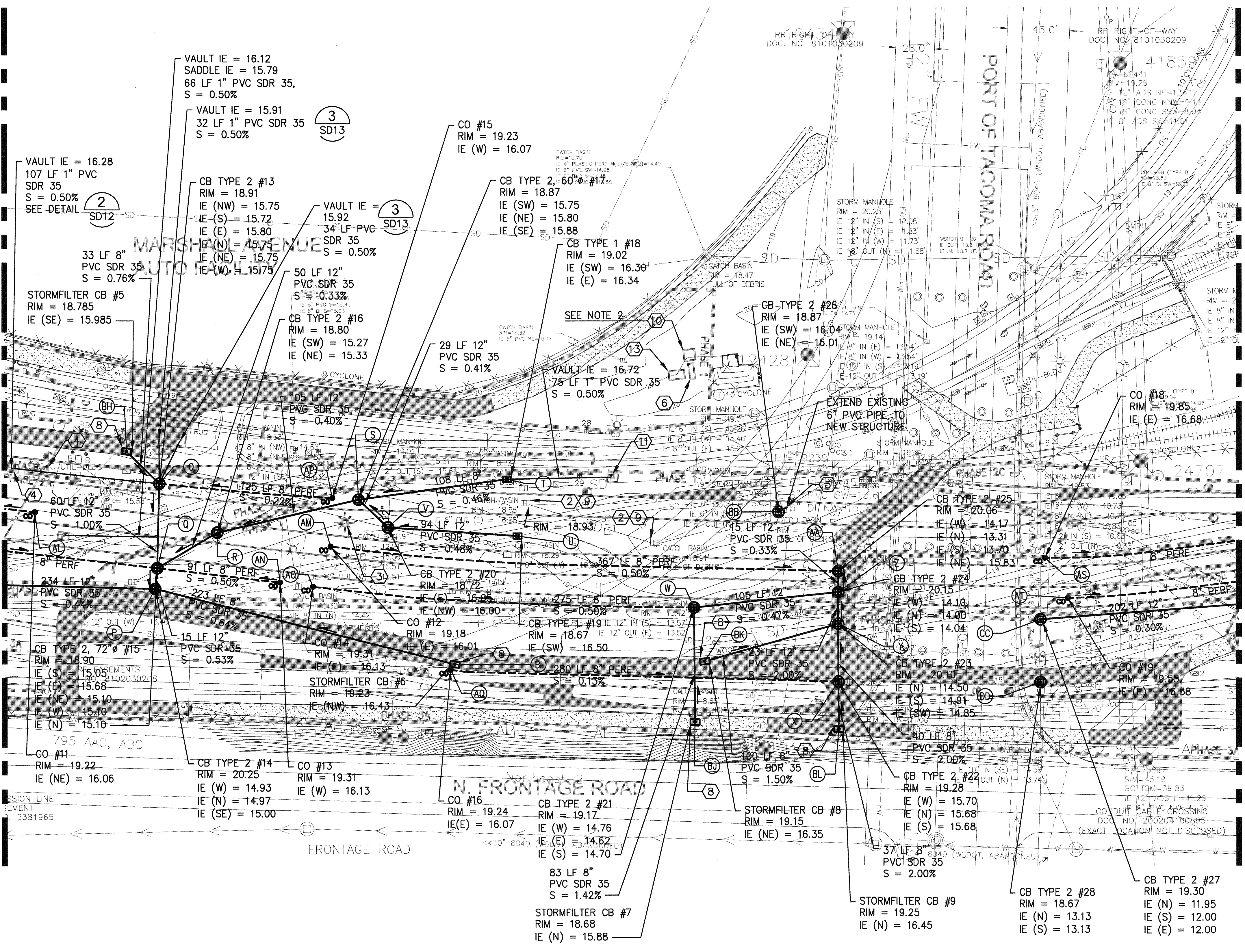
**6555**  
**SD3**

SHEET 93 OF 134  
 CONT./CONS: 070164  
 M. ID: 092938  
 PHASE: BID

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MATCH LINE - SEE SHEET SD3

MATCH LINE - SEE SHEET SD5



**NOTES:**

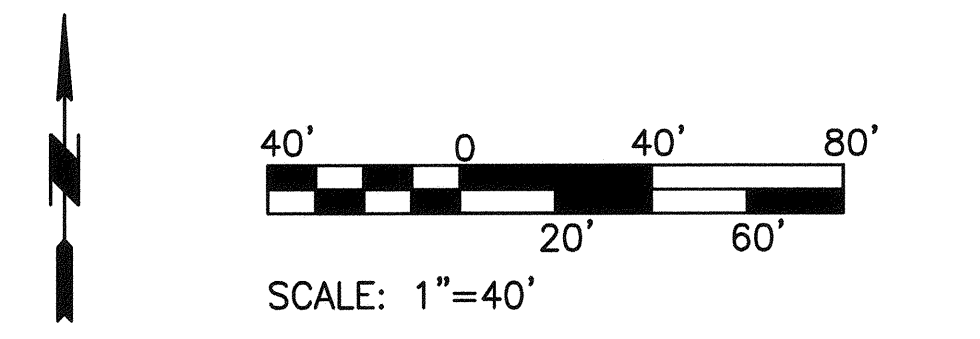
1. FOR UTILITY AND DRAINAGE NOTES, SEE SHEET SD1.
2. AEI HUT IS LOCATED WITHIN PROPOSED FEMA FLOOD ZONE - PUYALLUP RIVER, 100-YEAR FLOOD AEA. LIMITS OF FLOOD ZONE ARE BEYOND THE AREA SHOWN ON THIS DRAWING. BASE FLOOD ELEVATION 20.45 (ELEV. 17.00 NAVD88 DATUM), INSTALL HUT WITH FLOOR AT ELEVATION 20.50.

**KEY NOTES:**

- 1 128"x83" ARCH PIPE W/ RISERS
- 2 ADJUST RIM/STRUCTURE TO FINAL GRADE
- 3 NEW POLE W/ LIGHTING FIXTURE, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
- 4 RELOCATE UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS
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- 7 RELOCATE POWER POLE BY TPU, SEE C14 FOR LOCATION, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E8 AND E13
- 8 STORMFILTER CATCH BASIN
- 9 EXISTING STRUCTURE TO REMAIN
- 10 RELOCATE AEI HUT, SEE C4 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED4 AND E9
- 11 UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E1 THRU E6
- 12 RELOCATE TPU METER AND BREAKER SERVICE, SEE C1-C6 AND C14 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED3 AND ED8
- 13 RELOCATE TRANSFORMER, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED1 THRU ED6 AND E1 THRU E6

**LEGEND:**

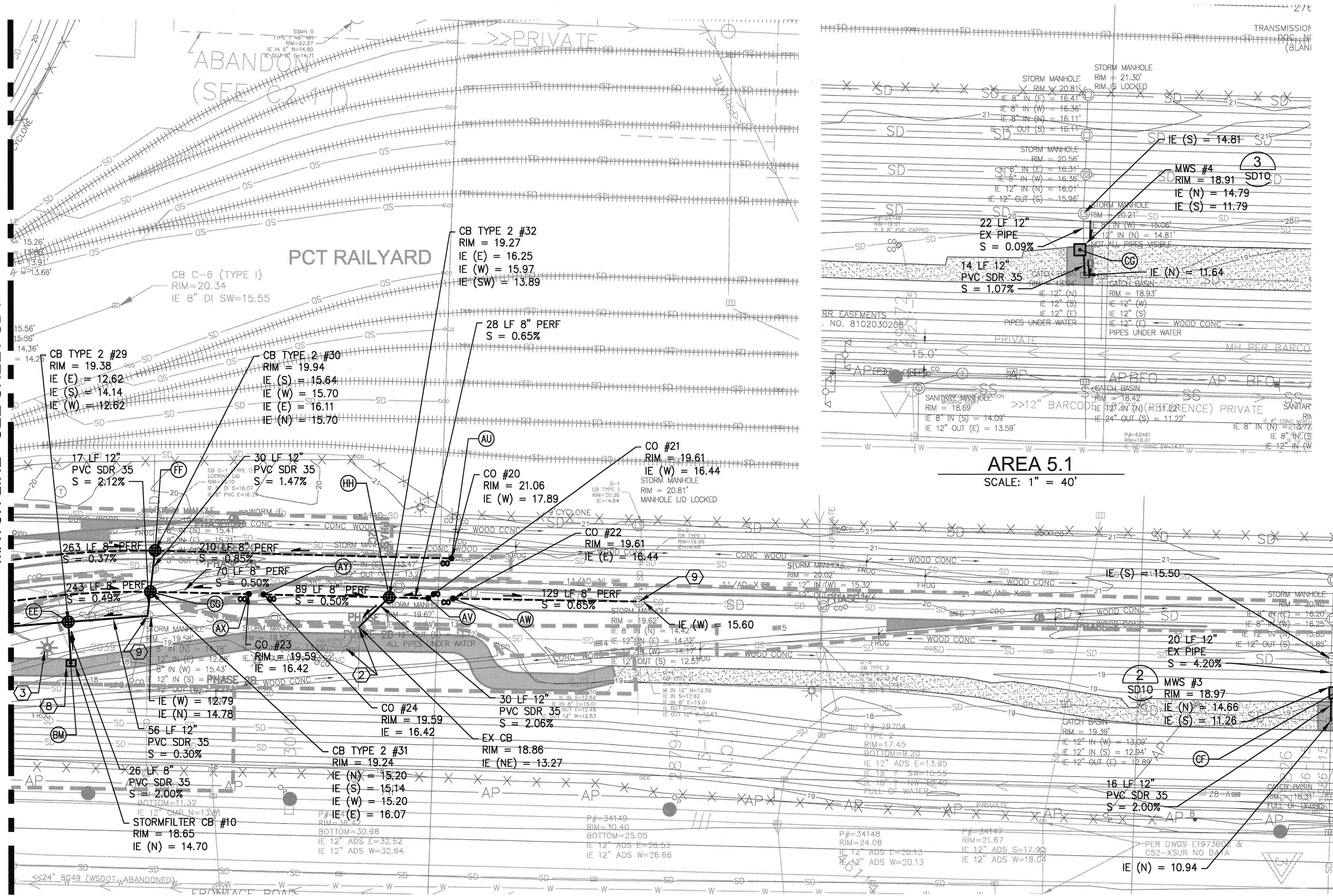
- ⊙ TYPE 2 CATCH BASIN (1) SD9
- 1" PVC DRAIN LINE
- ⊞ TYPE 1 CATCH BASIN (2) SD8
- PVC SDR 35
- 8" PERF 8" TRACK SUBDRAIN (3) SD8
- ⊞ STORMFILTER CATCH BASIN (2) SD8
- ⊞ ELECTRICAL VAULT (2) SD13
- FLOW DIRECTION ARROW
- ⊞ CLEANOUT (1) SD8



	APPROVED: <i>J. W. Jensen</i> SWK 03/17/16 CHECKED BY: <i>J. W. Jensen</i> SWK 03/17/16	DATE: _____ APPR: _____ BY: _____ REVISION: _____
<b>6555</b> <b>SD4</b> SHEET 94 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD EAST END - AREA 4 DRAINAGE AND UTILITY PLAN</b> RANGE: 03E TOWNSHIP: 20N DAT-HRZ: W83-SF PARCEL: MULTIPLE	SECTION: 1, 2, 3 VERT: PORT OF TACOMA, BM #846 DRAWING SCALE: AS NOTED TACOMA, WA 98401-1837

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MATCH LINE - SEE SHEET SD4



**AREA 5.1**  
SCALE: 1" = 40'

**NOTES:**

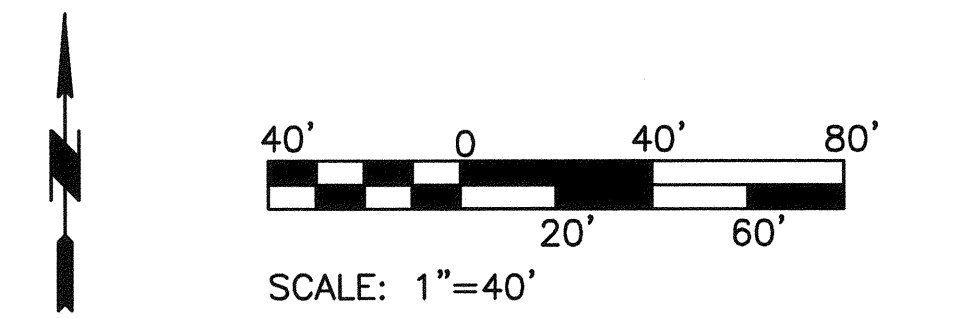
1. FOR UTILITY AND DRAINAGE NOTES, SEE SHEET SD1.

**KEY NOTES:**

- 1 128"x83" ARCH PIPE W/RISERS
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- 11 UTILITY VAULT, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS E1 THRU E6
- 12 RELOCATE TPU METER AND BREAKER SERVICE, SEE C1-C6 AND C14 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED3 AND ED8
- 13 RELOCATE TRANSFORMER, SEE C1-C6 AND C13 FOR LOCATIONS, SEE ELECTRICAL PLANS FOR WIRING REQUIREMENTS, SHEETS ED1 THRU ED6 AND E1 THRU E6

**LEGEND:**

- TYPE 2 CATCH BASIN 1 SD9
- 1" PVC DRAIN LINE 2 SD8
- TYPE 1 CATCH BASIN 2 SD8
- PVC SDR 35 3 SD8
- 8" TRACK SUBDRAIN 3 SD8
- STORMFILTER CATCH BASIN 2 SD13
- ELECTRICAL VAULT 2 SD13
- FLOW DIRECTION ARROW
- CLEANOUT 1 SD8



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DATE: \_\_\_\_\_

APPR: \_\_\_\_\_

BY: \_\_\_\_\_

REVISION: \_\_\_\_\_

APPROVED: *[Signature]* SWK 03/17/16

DIRECTOR ENG. DATE: 4-12-16

PRINTED BY: nmedley Mar 18, 2016

PORT ADDRESS: ONE SITCUM PLAZA

TACOMA, WA 98401-1837

**NORTH LEAD**

**EAST END - AREA 5**

**DRAINAGE AND UTILITY PLAN**

RANGE: 03E SECTION: 1, 2, 3

TOWNSHIP: 20N VERT: PORT OF TACOMA BM #846

DAT-HRZ: W83-SF [DRAWING SCALE: AS NOTED]

PHASE: BID

6555

**SD5**

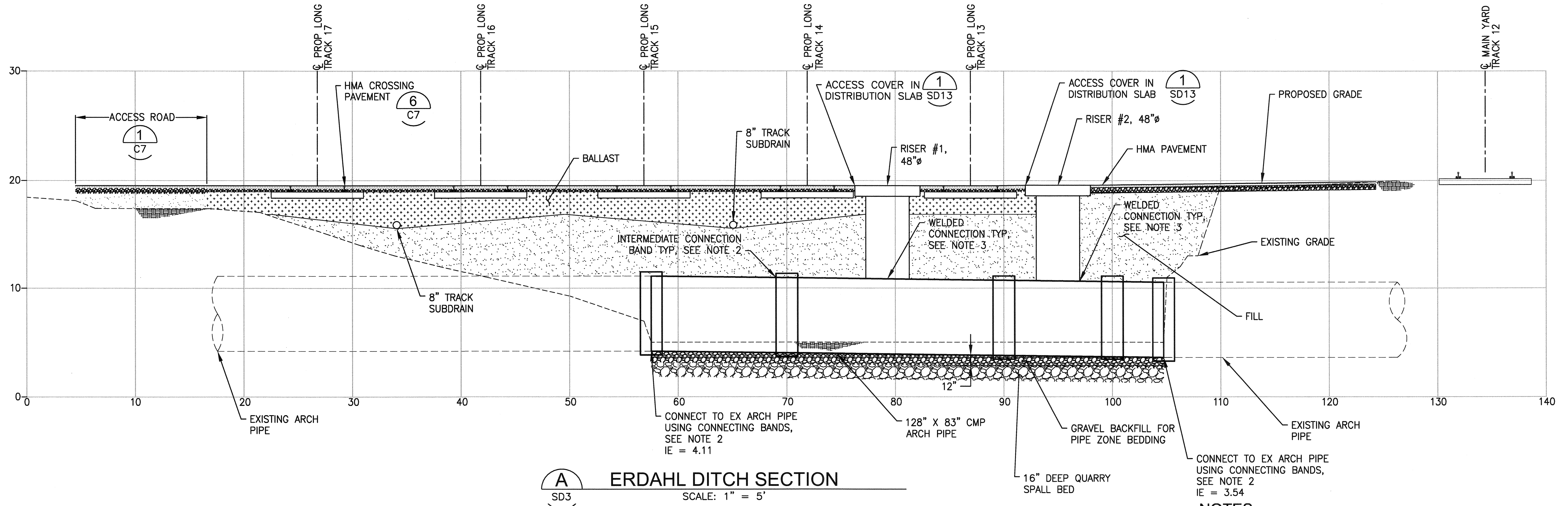
SHEET 95 OF 134

CONT/CONS: 070164

M. ID: 092938

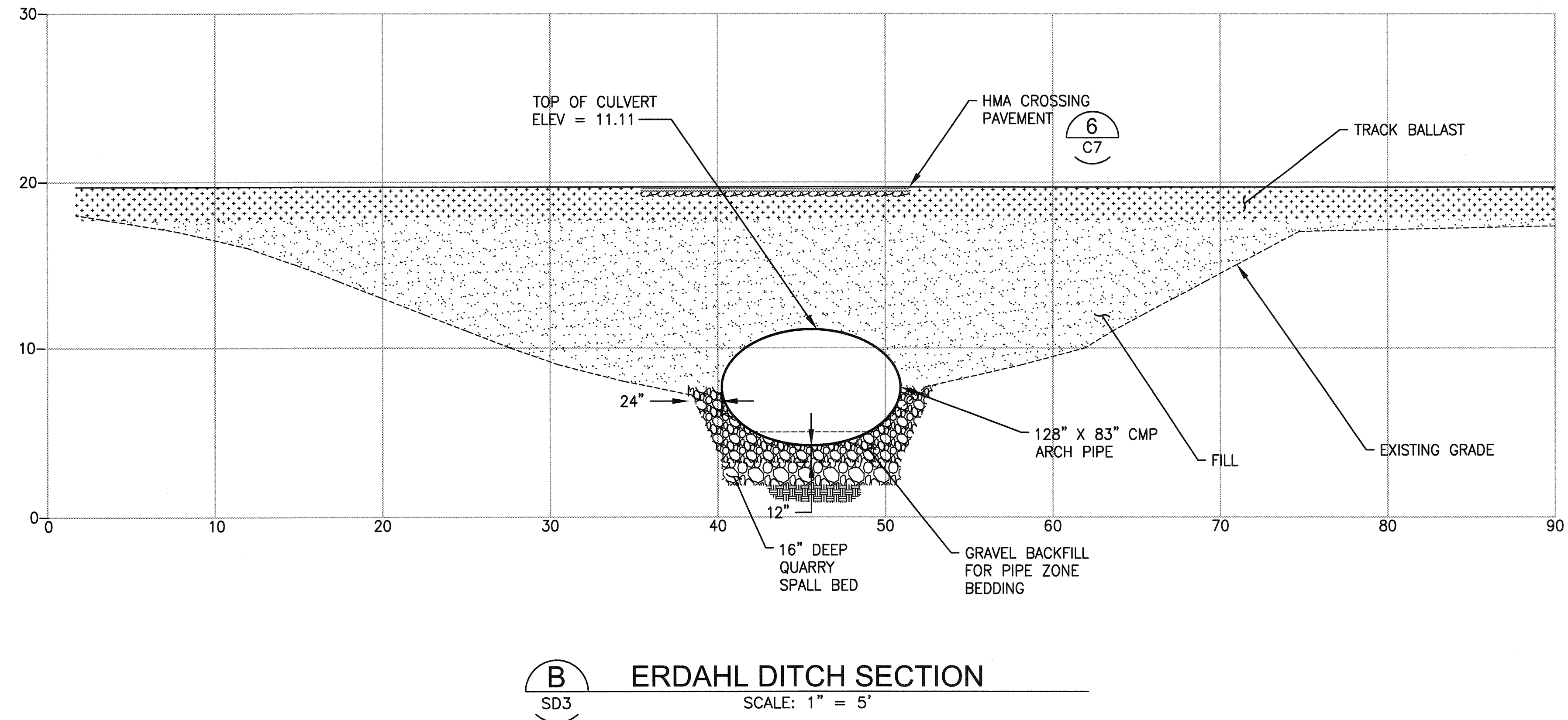
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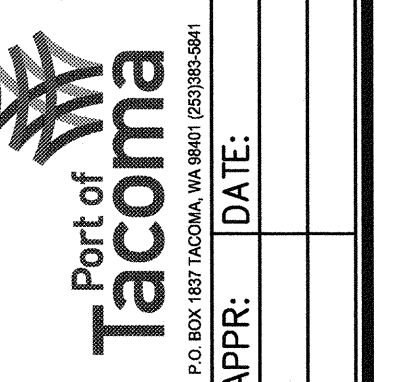


**A** ERDAHL DITCH SECTION  
SD3 SCALE: 1" = 5'

- NOTES:**
1. CONTRACTOR TO SCHEDULE PRE-CONSTRUCTION SITE VISIT AND INSPECTION WITH THE PORT AND CULVERT SUPPLIER, PER SPECIFICATIONS.
  2. ALL CONNECTIONS SHALL BE FLAT BANDS WITH GASKETED CONNECTION PER MANUFACTURER RECOMMENDATION. BAND SPACING SHALL BE AS REQUIRED PER MANUFACTURER, MINIMUM 3 CONNECTING BANDS FOR NEW PIPE.
  3. ACCESS RISERS SHALL BE WELDED TO THE PIPE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO ACHIEVE A WATER TIGHT SEAL.

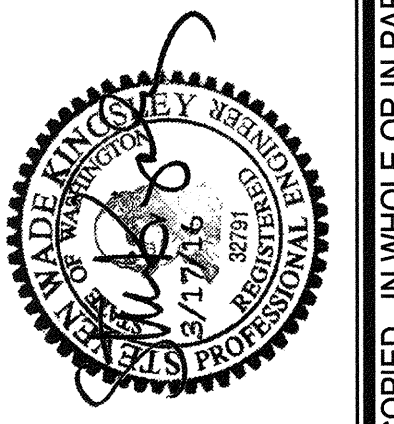


**B** ERDAHL DITCH SECTION  
SD3 SCALE: 1" = 5'



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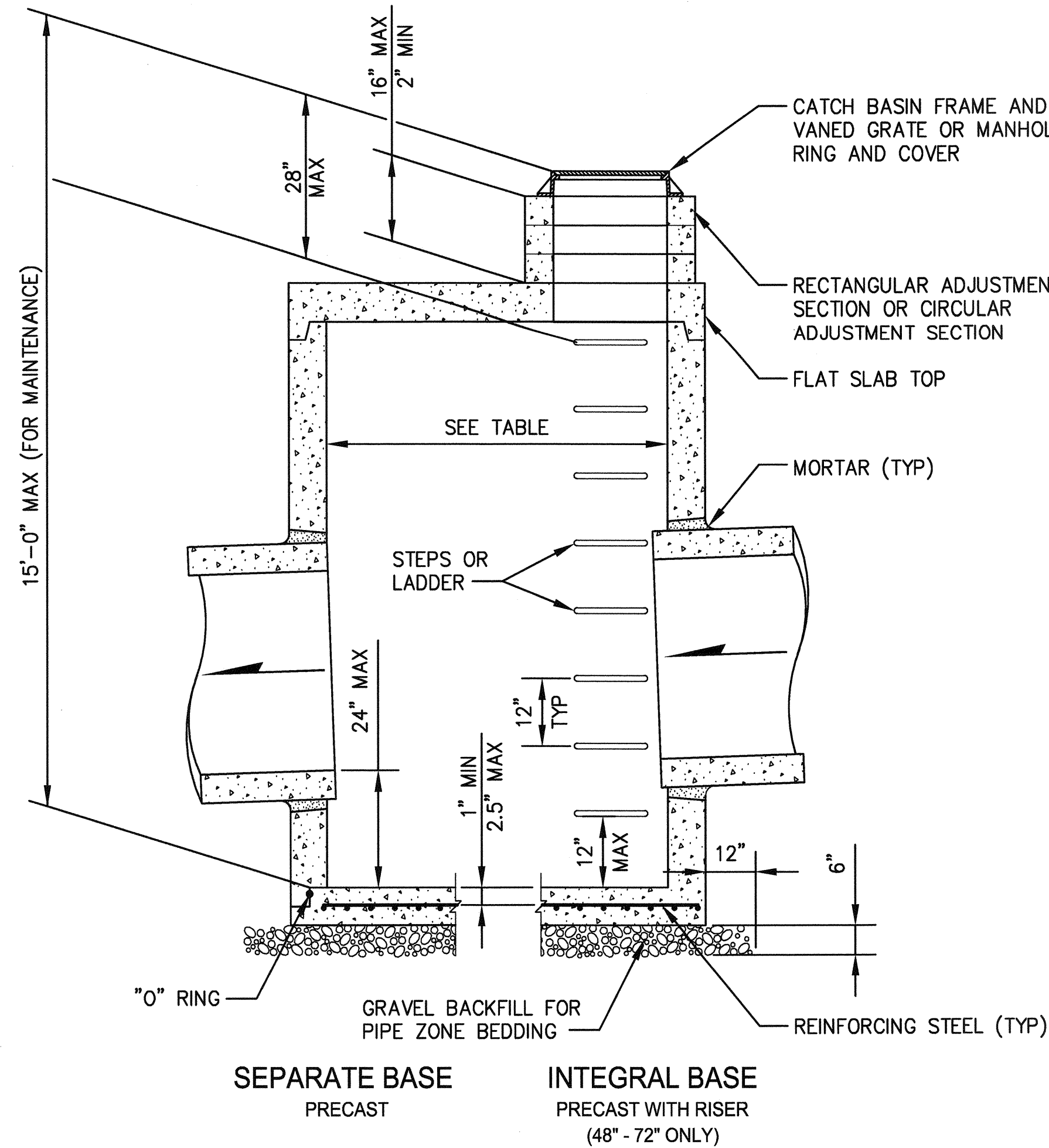
**kpff**



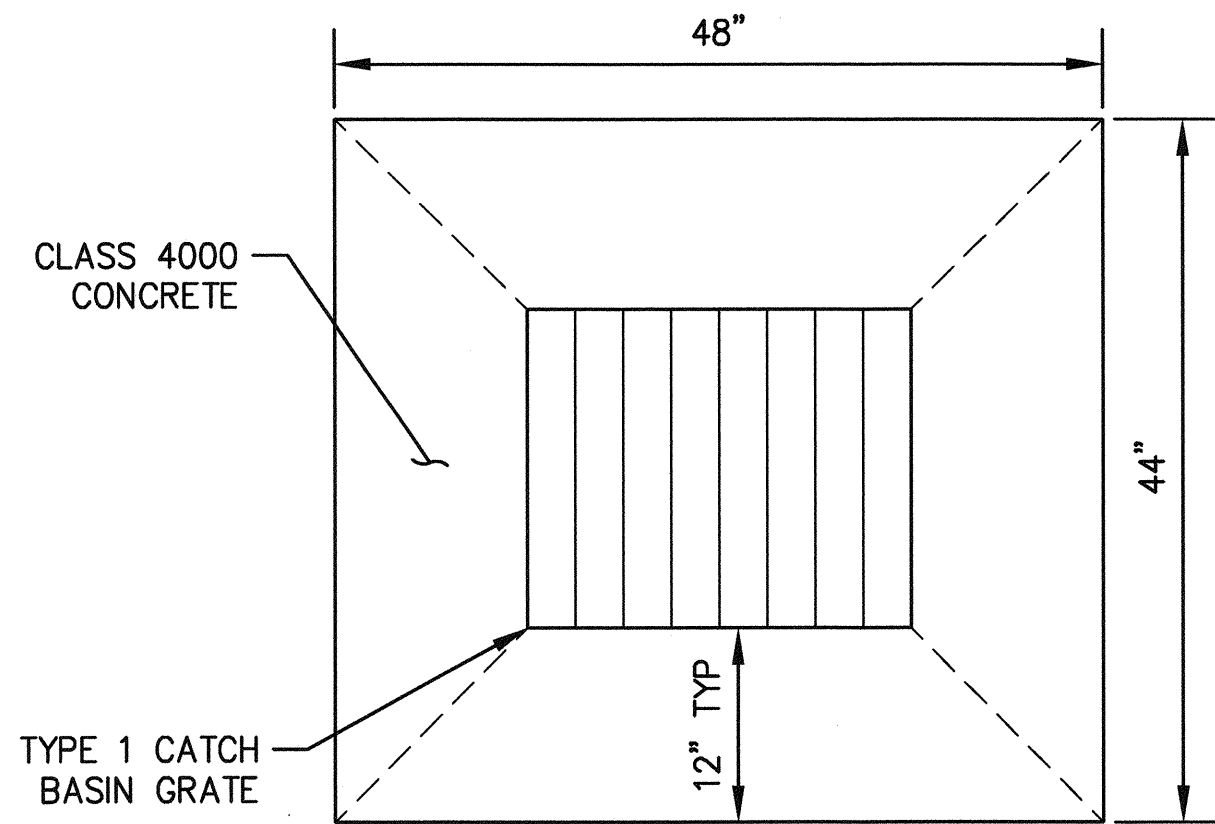
APPROVED:	SWK	03/17/16	CHECKED BY:	DATE
<i>Michael J. Koval</i>				
DIRECTOR	SWK	03/17/16	PROJ. ENGR	DATE
4-12-16				
PRINTED BY:	DATE	PROJECT	DATE	
nmedley	Mar 18, 2016			
PORT ADDRESS: ONE SITCUM PLAZA				
TACOMA, WA 98401-1837				

<b>6555</b> <b>SD7</b>	<b>NORTH LEAD</b>		<b>ERDAHL DITCH SECTIONS</b>	
	SHEET 97 OF 134	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
	CONT./CONS: 070164	DAT-HRZ: W83-SF	VERT: PORT OF TACOMA	BM #846
	M. ID: 092938	PARCEL: MULTIPLE	DRAWING SCALE: AS NOTED	
PHASE: BID				

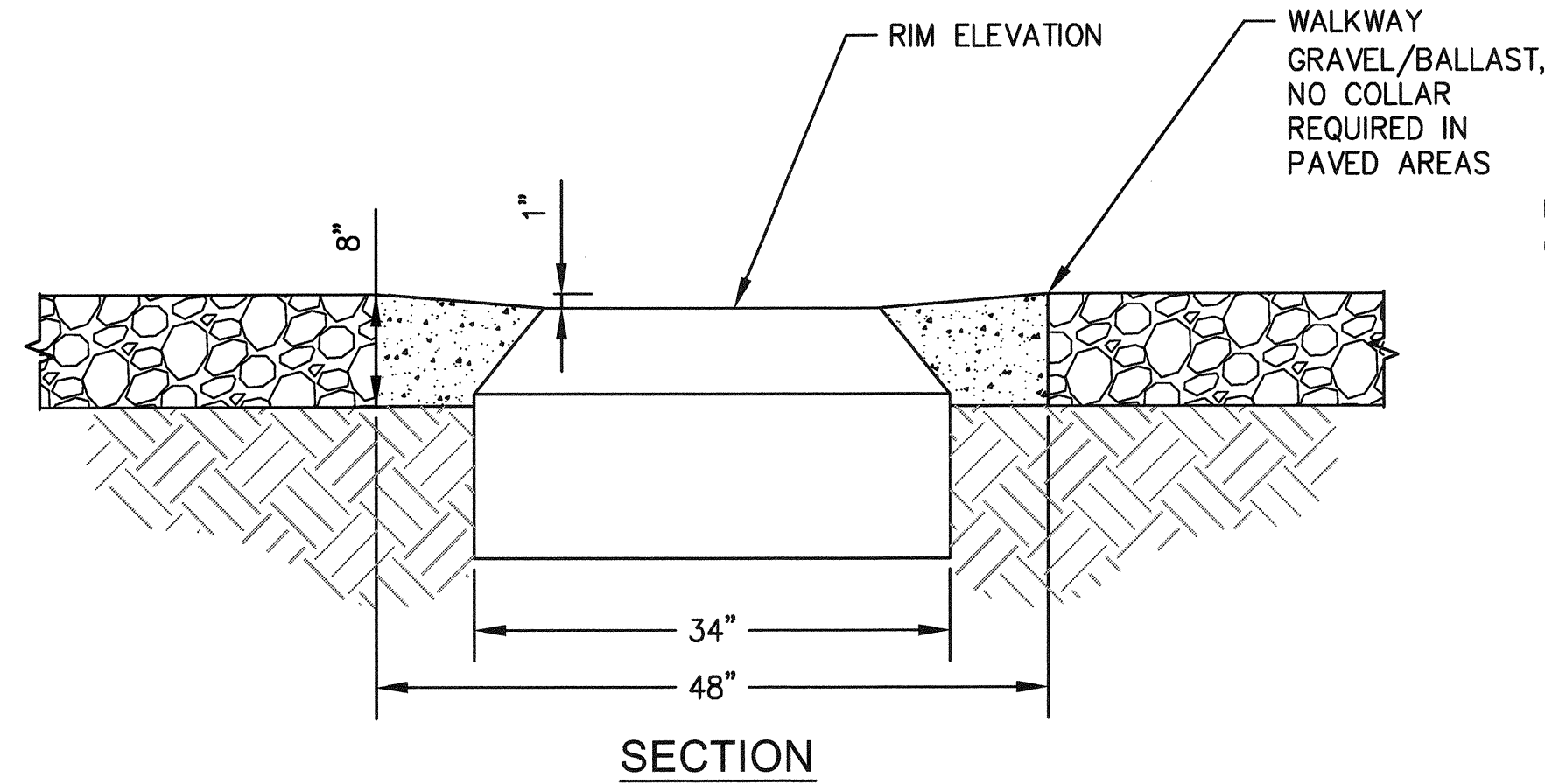




**1**  
CATCH BASIN  
TYPE 2 DETAIL  
SD1-6 NTS



**2**  
CONCRETE COLLAR  
DETAIL  
SD1-6 SCALE: 1" = 1'

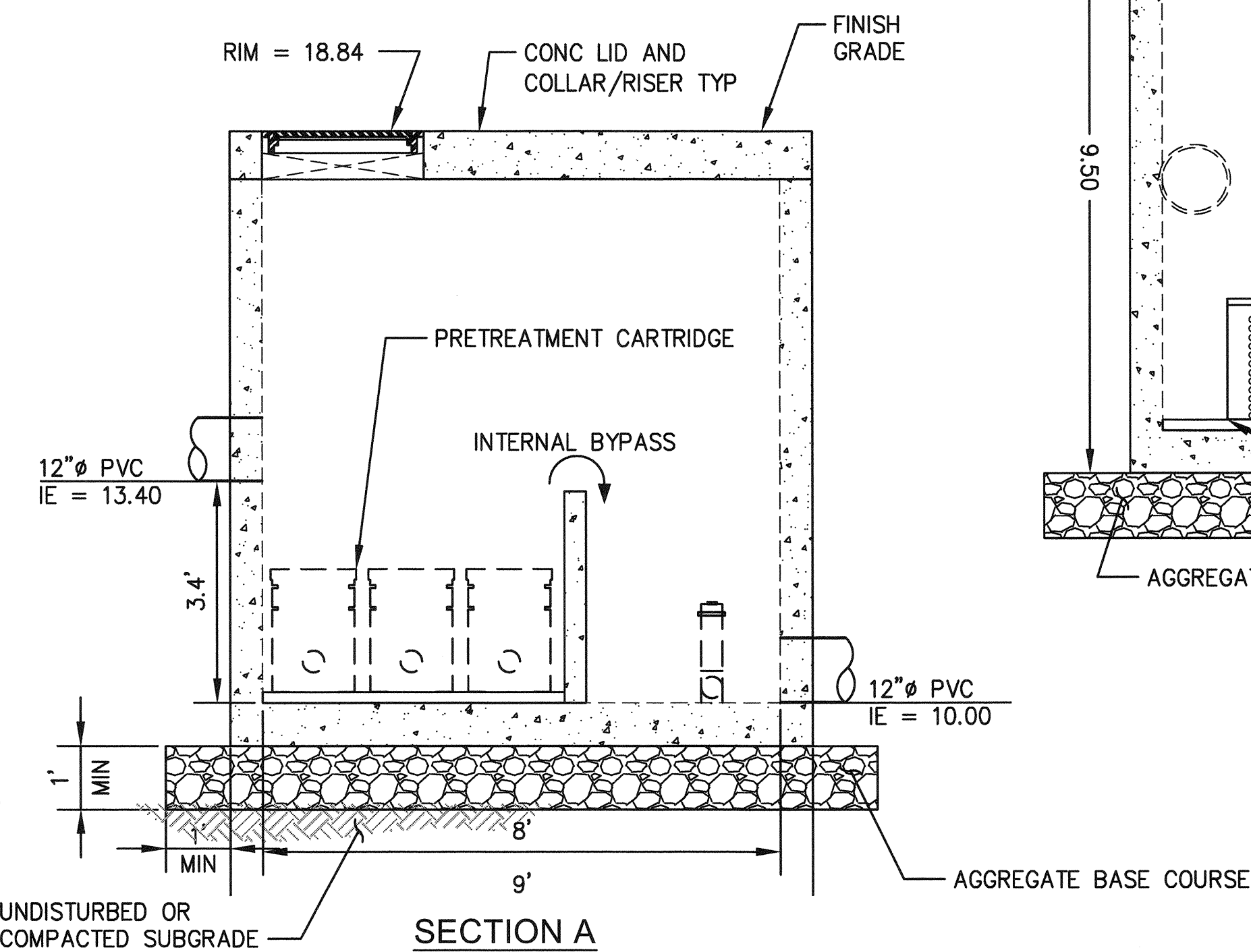
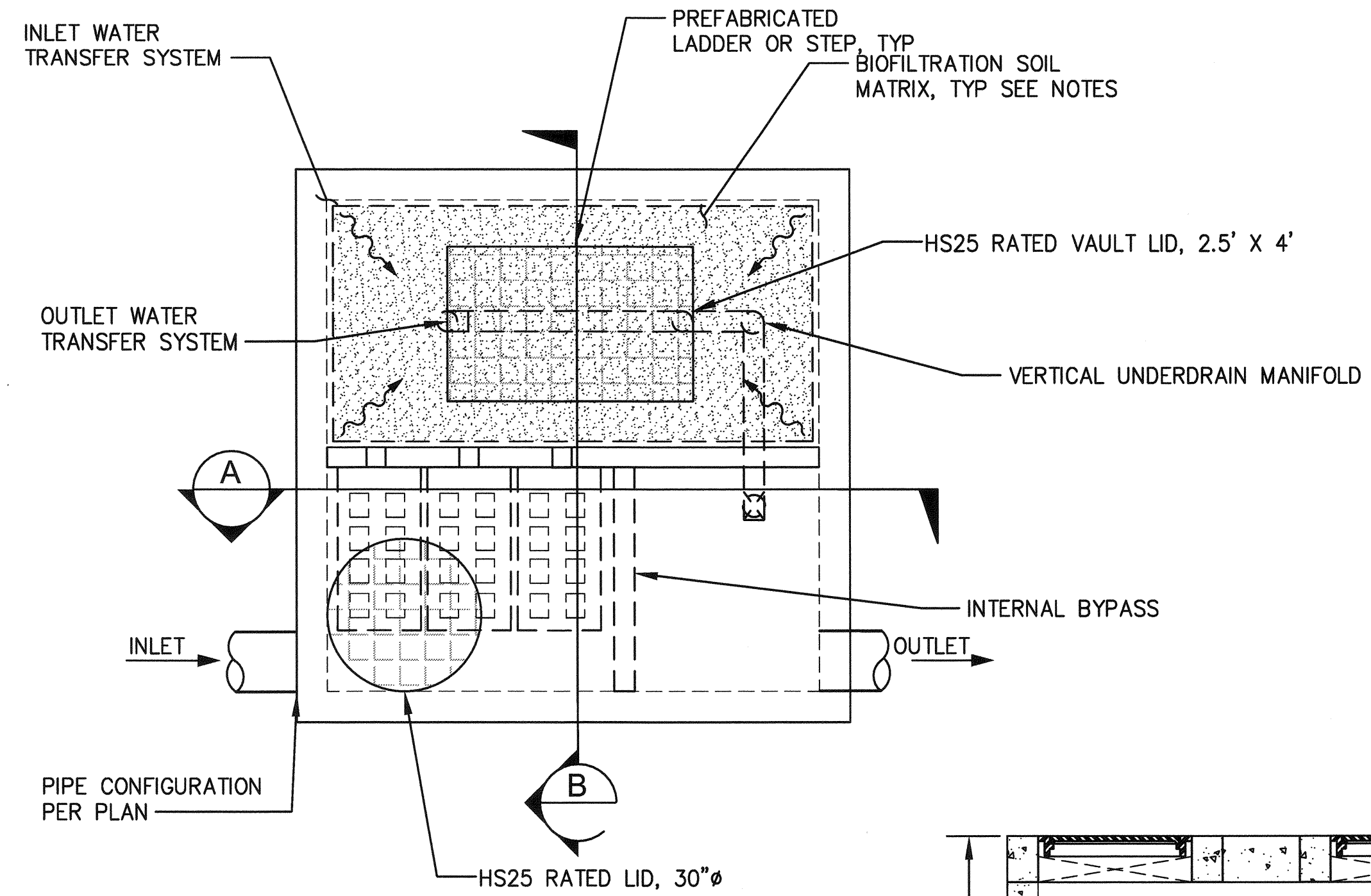


**NOTES:**

1. NO STEPS ARE REQUIRED WHEN HEIGHT IS 4' OR LESS.
2. THE BOTTOM OF THE PRECAST CATCH BASIN MAY BE SLOPED TO FACILITATE CLEANING.
3. THE RECTANGULAR FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE UP OR DOWN.
4. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 9-04.3.

CATCH BASIN DIMENSIONS				
CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER			
	CONCRETE	ALL METAL	CORRUGATED POLYETHYLENE	SOLID WALL PVC
48"	24"	30"	24"	30"
54"	30"	36"	30"	36"
60"	36"	42"	36"	42"
72"	42"	54"	42"	48"



MODULAR WETLANDS TREATMENT REQUIREMENTS	
<b>FLOW RATES</b>	
PEAK TREATMENT FLOW RATE = 0.33 CFS OR 151 GPM	
<b>BIOFILTRATION CHAMBER SURFACE AREA CALCS</b>	
WETLAND MEDIA LOADING RATE 151 GPM / 150.96 SF = 1.00 GPM/SF	
<b>PRETREATMENT FILTER SURFACE AREA CALCS</b>	
PRETREATMENT FILTER LOADING RATE 151 GPM / 75 SF = 2.1 GPM/SF	

**NOTES:**

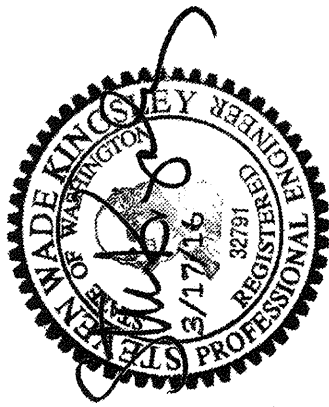
1. INSTALL UNIT ON LEVEL BED OF AGGREGATE BASE COURSE OF AT LEAST 1' IN DEPTH ON COMPACTED SUBGRADE WITH 1' MINIMUM OVER EXCAVATION AROUND ENTIRE UNIT.
2. MODULAR WETLAND STRUCTURE SHALL BE CONTRACTOR DESIGNED TO THE INTERIOR DIMENSIONS SHOWN.
3. ALL INTERNAL COMPONENTS INCLUDING PRETREATMENT CARTRIDGE, WATER TRANSFER SYSTEM, AND BIOFILTRATION CHAMBER SORPTIVE MEDIA SHALL BE DESIGNED BY THE MANUFACTURER PER THE TREATMENT REQUIREMENTS INDICATED.

**MWS 1**  
**MODULAR WETLAND**  
**MWS-L-8-8-UG-V**  
SCALE: NTS

**3**  
SD6



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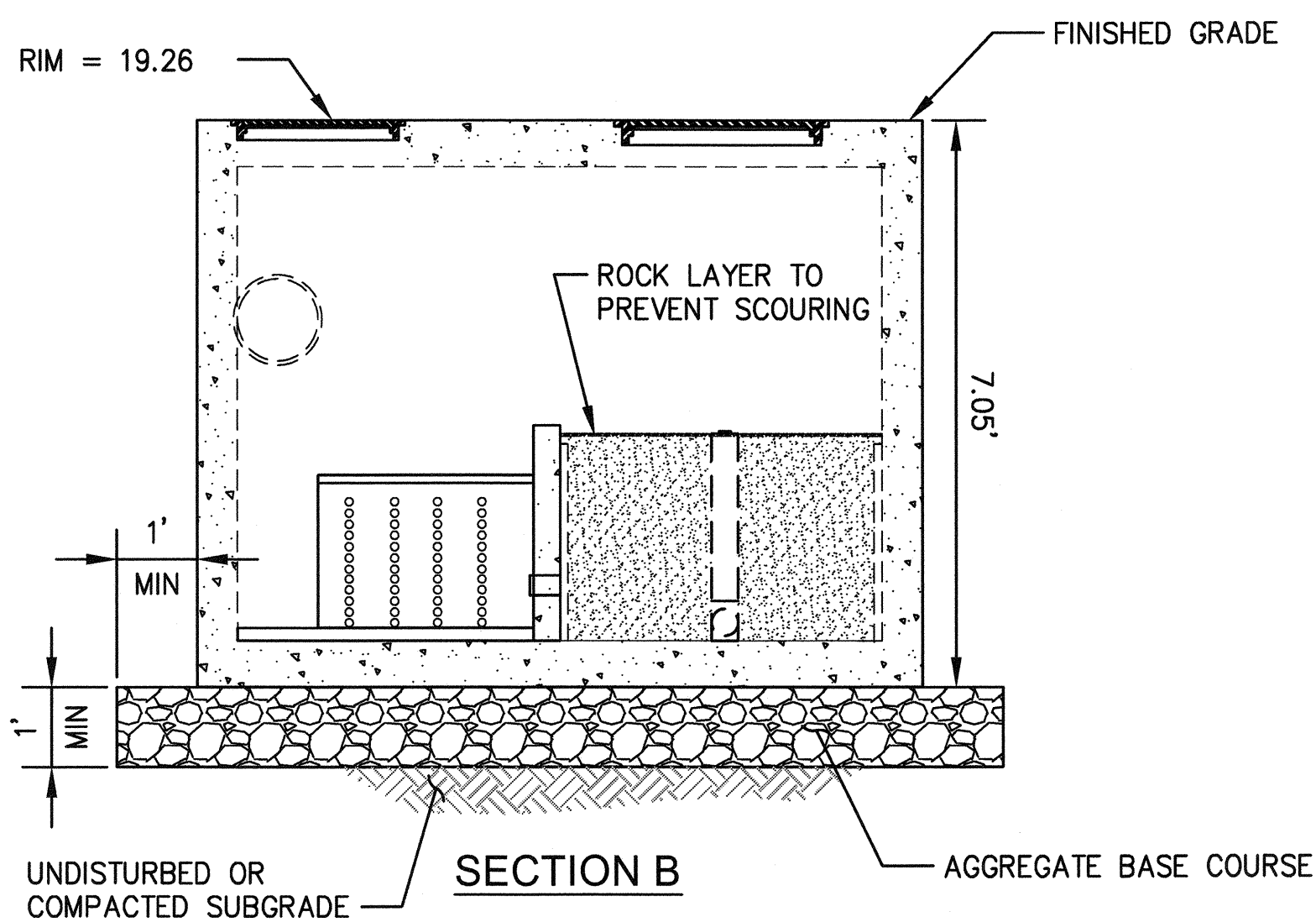
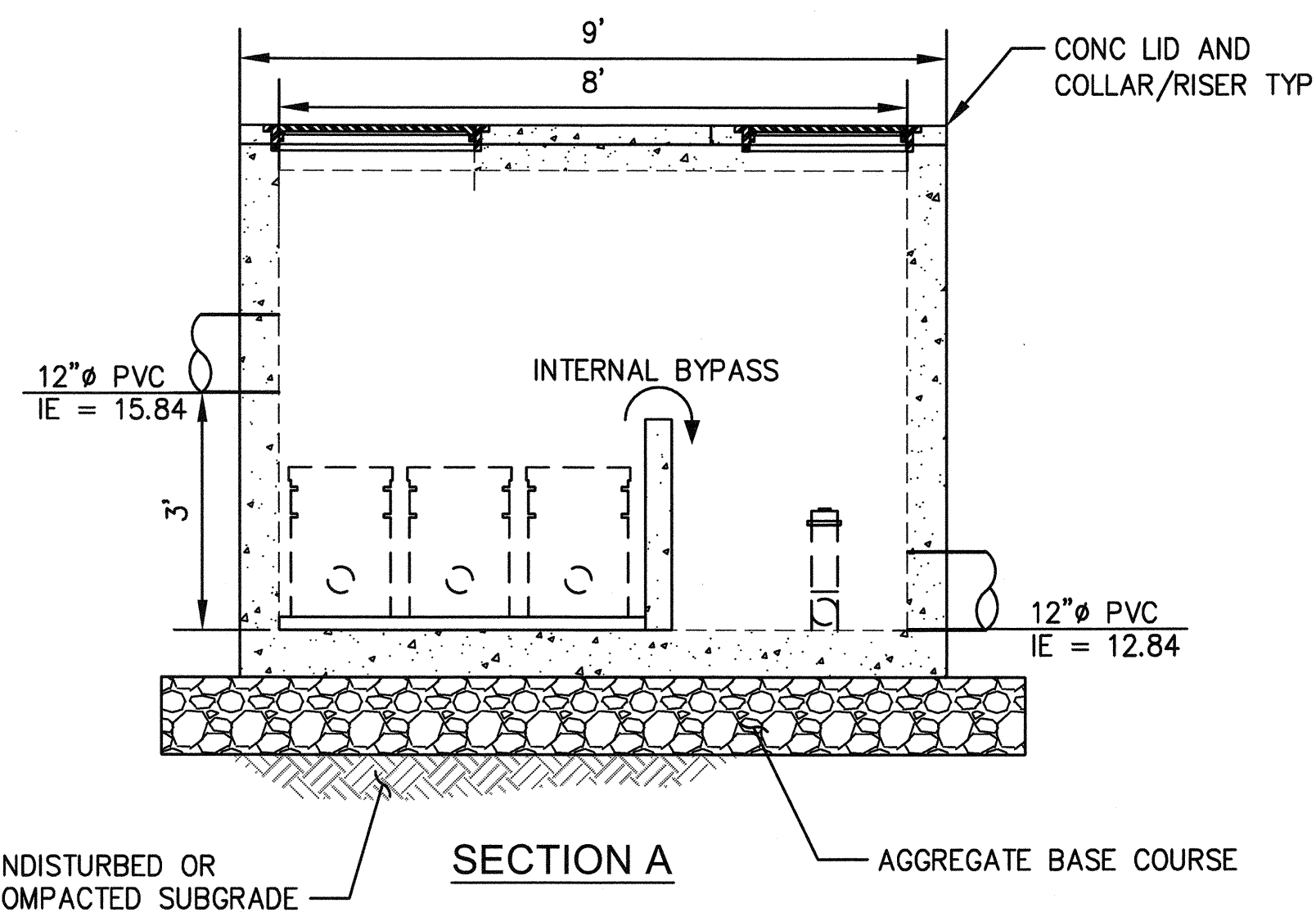
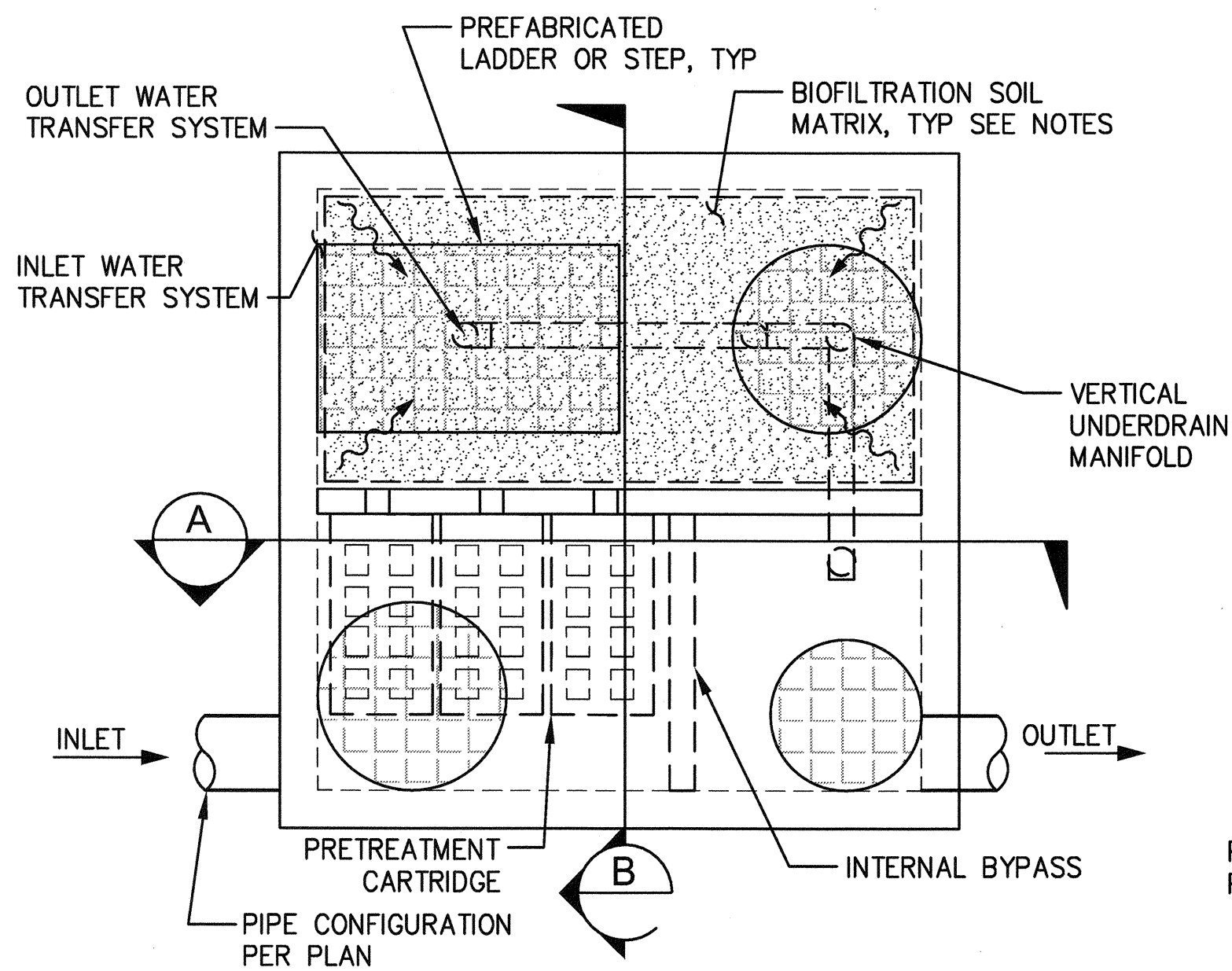


APPROVED: *[Signature]* SWK 03/17/16  
CHECKED BY: DATE  
4-12-16 SWK 03/17/16  
DIRECTOR ENG. DATE: nmedley Mar 18, 2016  
PRINTED BY: nmedley  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

**6555**  
**SD9**  
SHEET 99 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

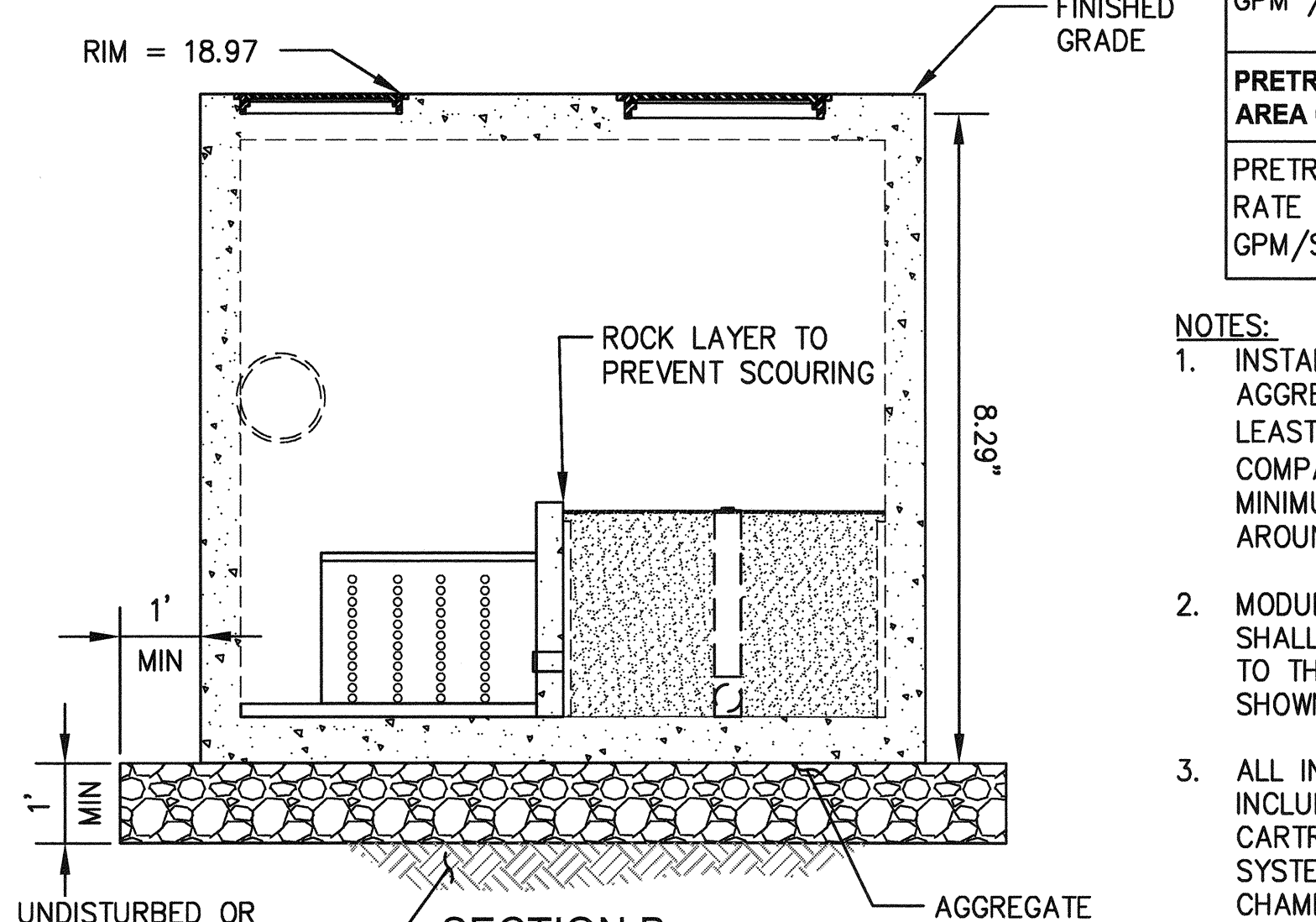
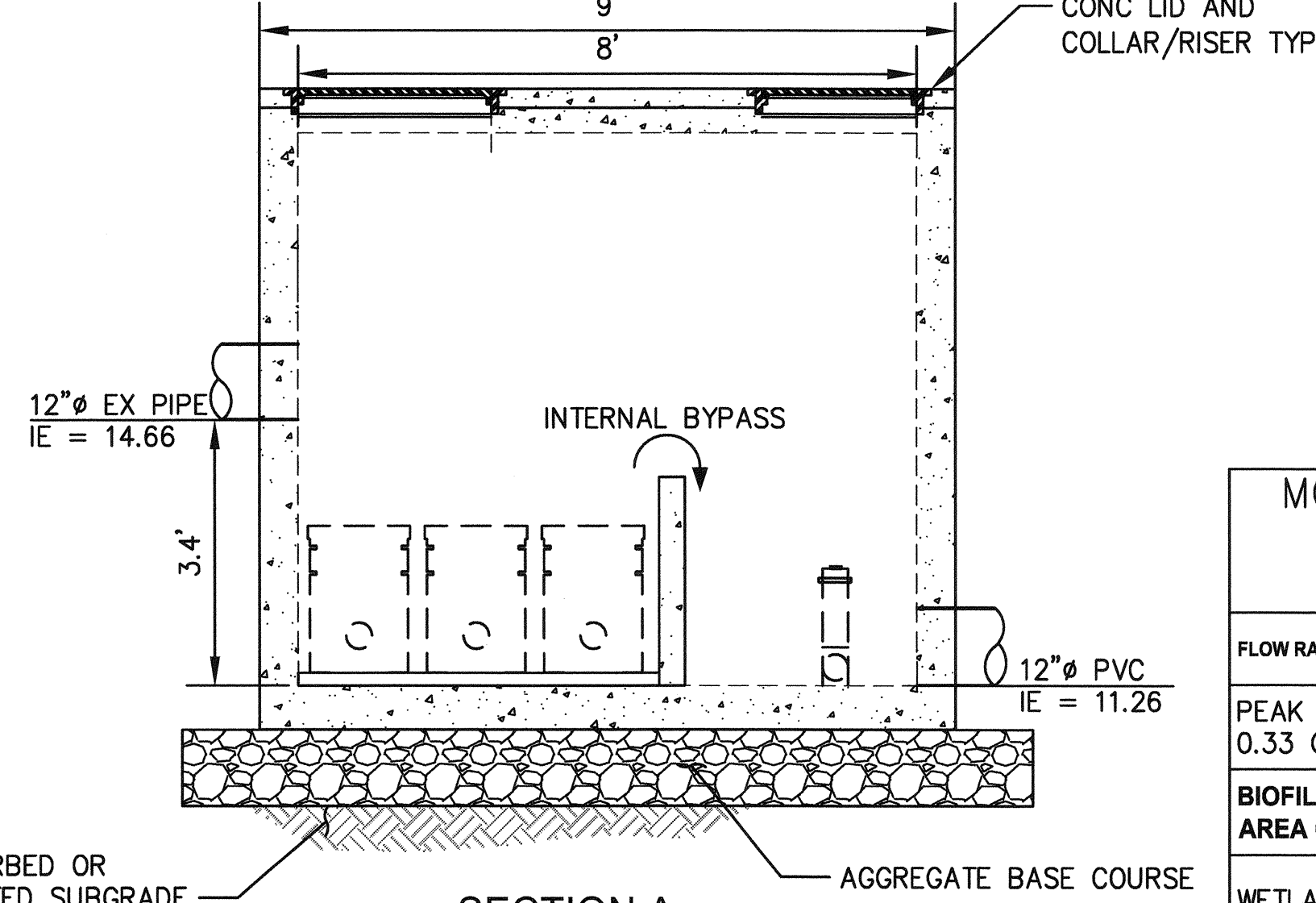
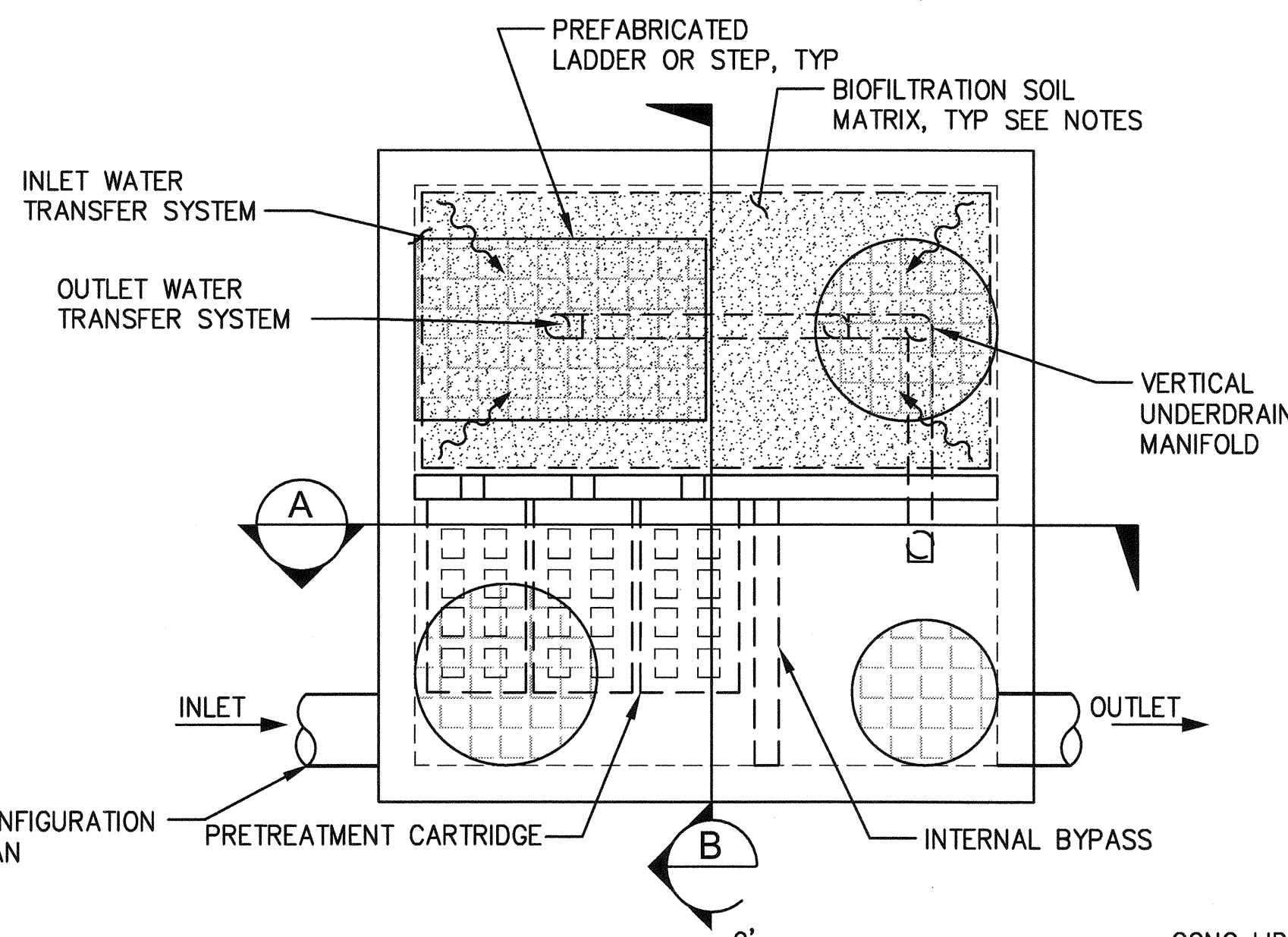
**NORTH LEAD**  
**STORM DRAINAGE DETAILS**

RANGE: 03E SECTION: 1, 2, 3  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
DRAWING SCALE: AS NOTED



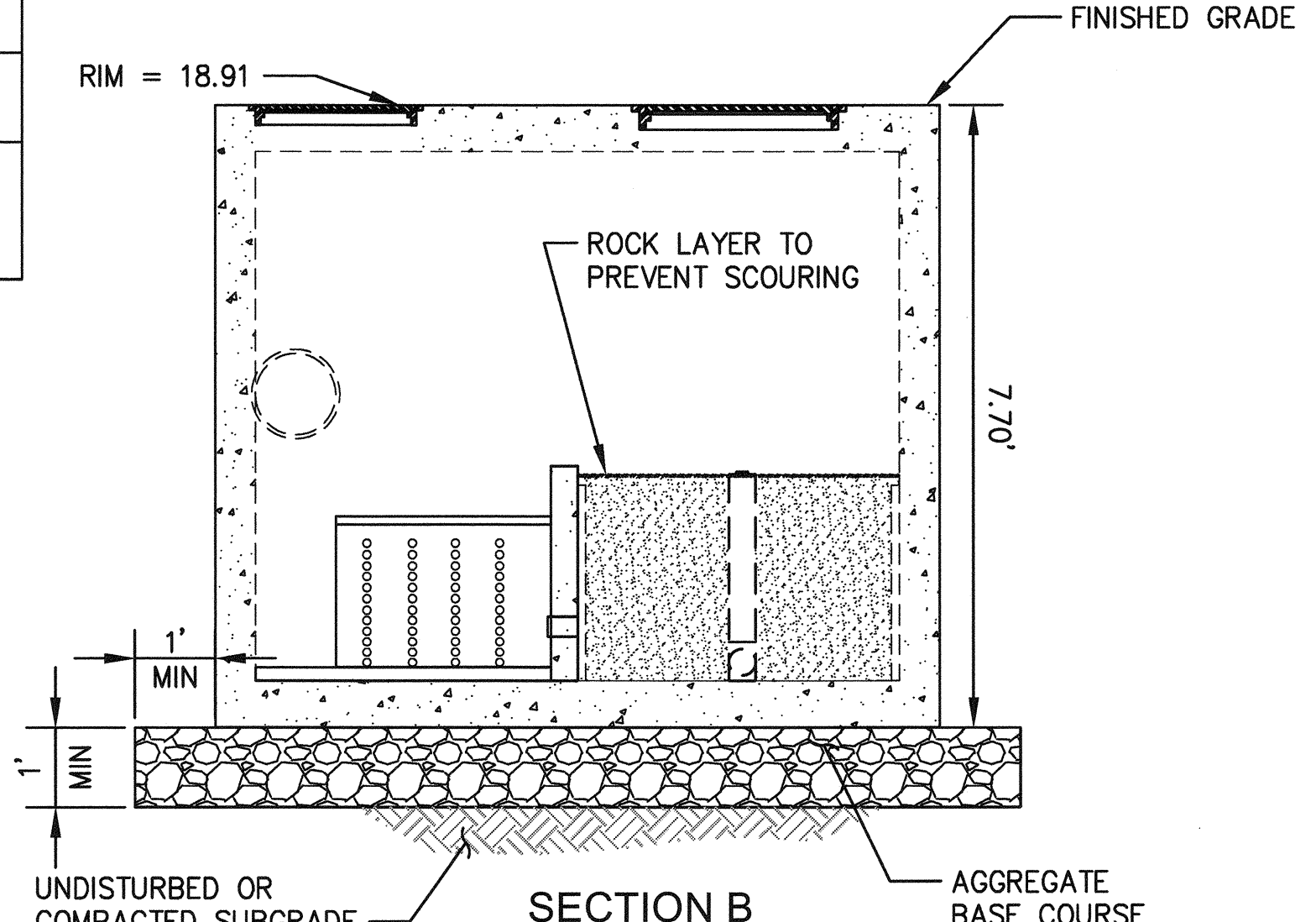
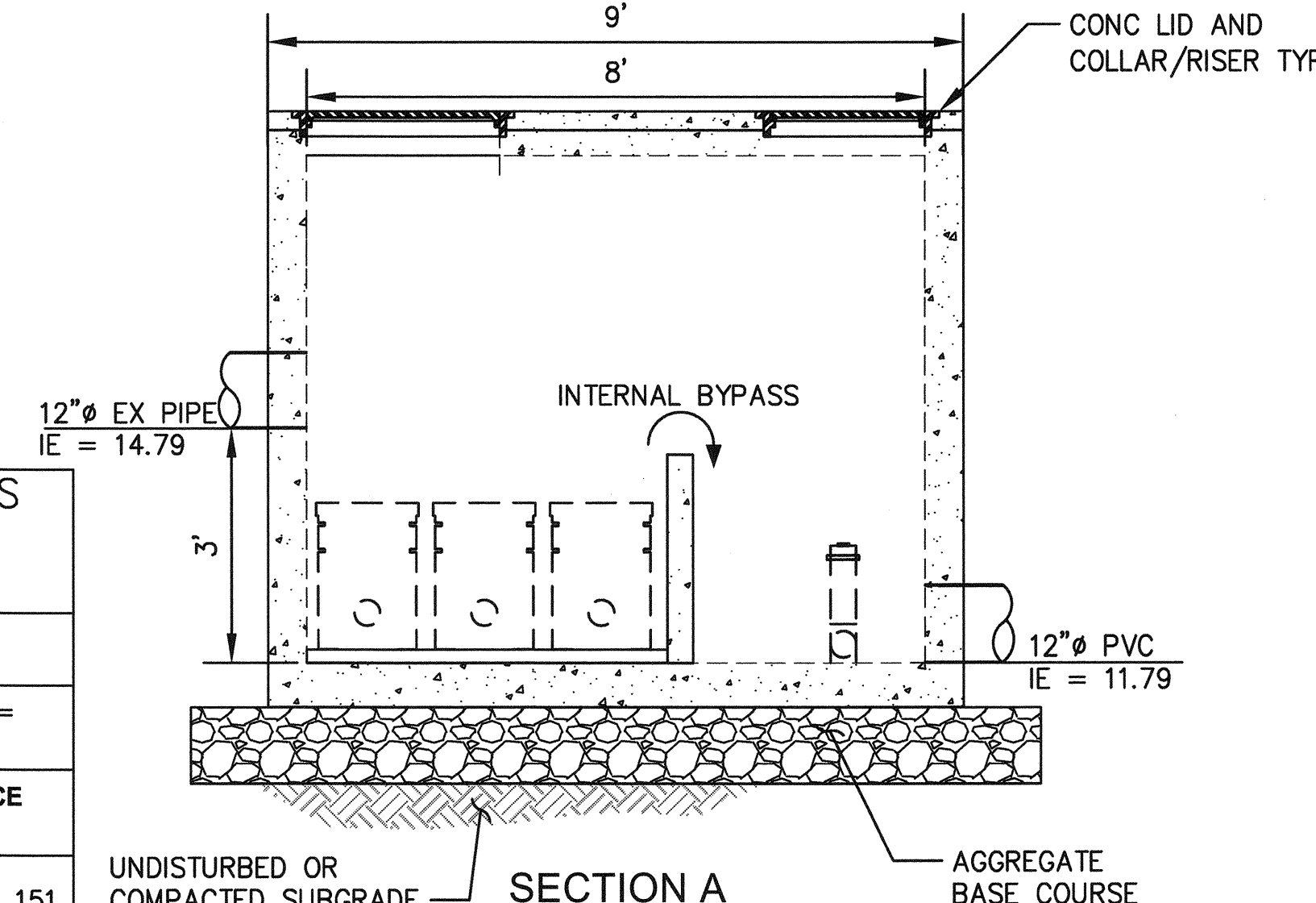
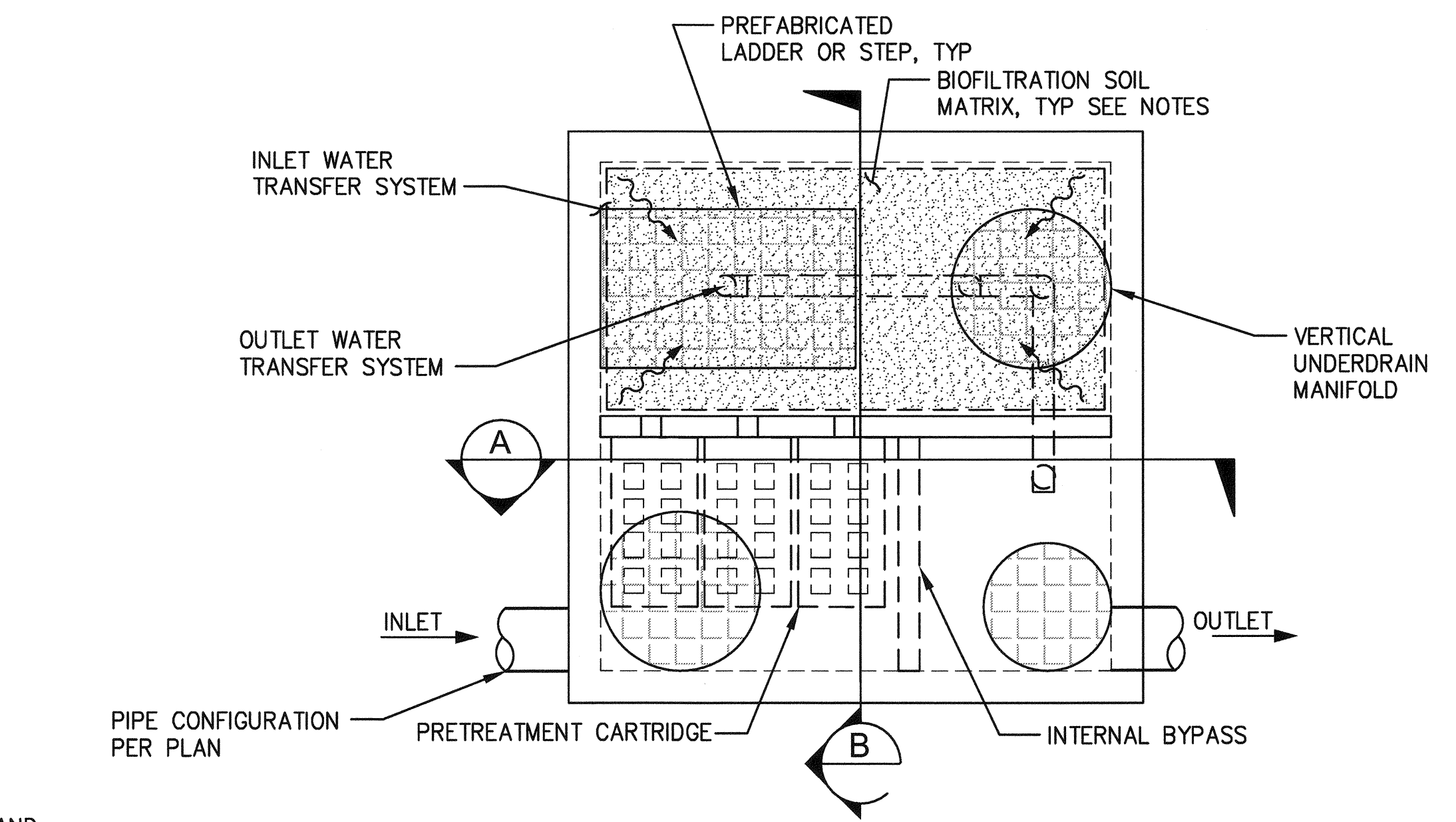
**MWS 2  
MODULAR WETLAND  
MWS-L-8-8-UG-V**  
SCALE: NTS

1  
SD6



**MWS 3  
MODULAR WETLAND  
MWS-L-8-8-UG-V**  
SCALE: NTS

2  
SD5



**MWS 4  
MODULAR WETLAND  
MWS-L-8-8-UG-V**  
SCALE: NTS

3  
SD5

MODULAR WETLANDS TREATMENT REQUIREMENTS	
<b>FLOW RATES</b>	
PEAK TREATMENT FLOW RATE = 0.33 CFS OR 151 GPM	
<b>BIOFILTRATION CHAMBER SURFACE AREA CALCS</b>	
WETLAND MEDIA LOADING RATE 151 GPM / 150.96 SF = 1.00 GPM/SF	
<b>PRETREATMENT FILTER SURFACE AREA CALCS</b>	
PRETREATMENT FILTER LOADING RATE 151 GPM / 75 SF = 2.1 GPM/SF	

- NOTES:**
- INSTALL UNIT ON LEVEL BED OF AGGREGATE BASE COURSE OF AT LEAST 1' IN DEPTH ON COMPACTED SUBGRADE WITH 1' MINIMUM OVER EXCAVATION AROUND ENTIRE UNIT.
  - MODULAR WETLAND STRUCTURE SHALL BE CONTRACTOR DESIGNED TO THE INTERIOR DIMENSIONS SHOWN.
  - ALL INTERNAL COMPONENTS INCLUDING PRETREATMENT CARTRIDGE, WATER TRANSFER SYSTEM, AND BIOFILTRATION CHAMBER SORPTIVE MEDIA SHALL BE DESIGNED BY THE MANUFACTURER PER THE TREATMENT REQUIREMENTS INDICATED.
  - ALL LIDS AND HATCHES SHALL BE HS-25 RATED LIDS.

Port of Tacoma  
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kpff  
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Tacoma, Washington 98407  
(253) 396-0150 Fax (253) 396-0162

Professional Engineer  
No. 10000  
State of Washington  
Exp. 12/31/2016

APPROVED: *[Signature]*

CHECKED BY: DATE

SWK 03/17/16

PROJECT: MWS

DATE: 03/17/16

DATE: 03/17/16

TOWNSHIP: 20N

RANGE: 03E

SECTION: 1, 2, 3

VERT: PORT OF TACOMA BM #846

DRAWING SCALE: AS NOTED

CONTRACT: 070164

M. ID: 092938

PARCEL: MULTIPLE

TACOMA, WA 98401-1837

PHASE: BID

6555

**SD10**

SHEET 100 OF 134

DATE: 09/29/16

PHASE: BID

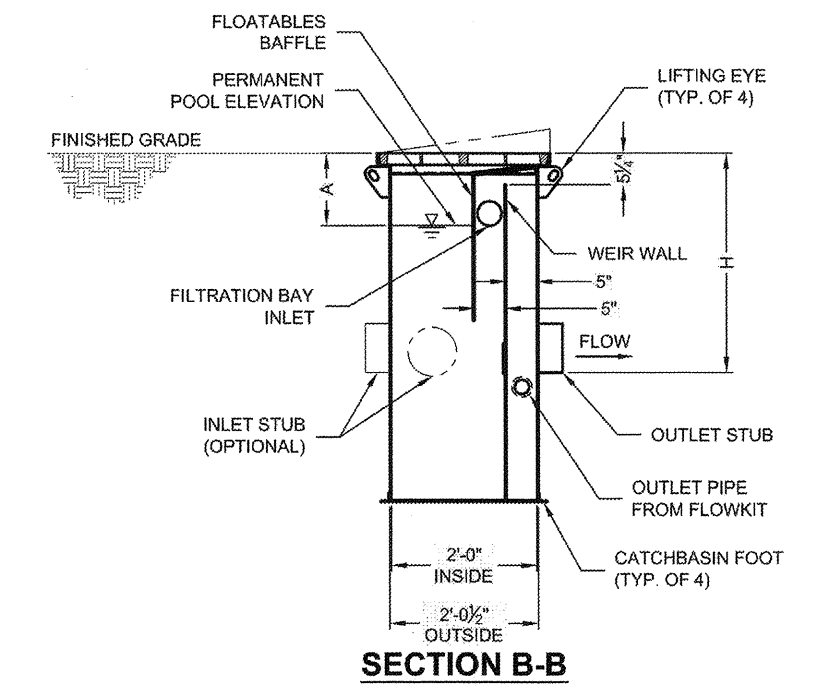
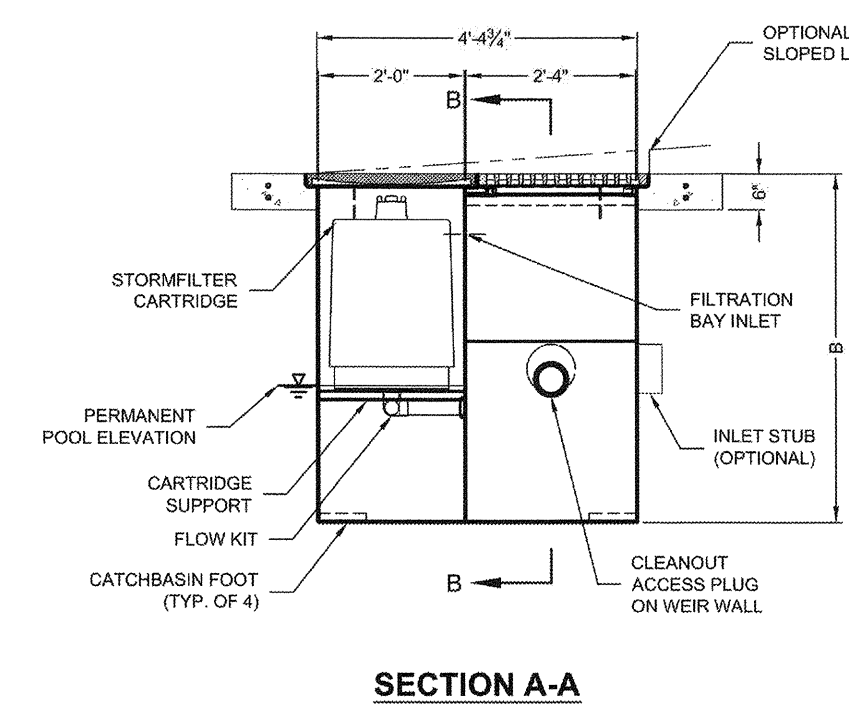
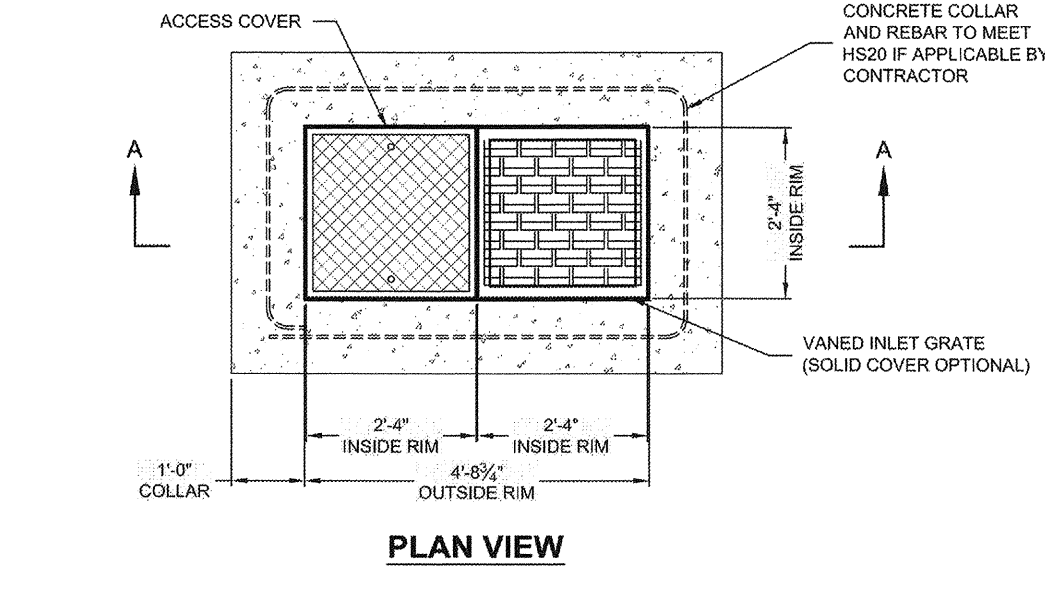
DATE: 09/29/16

DATE: 09/29/16

DATE: 09/29/16

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**1**  
SD1-5  
**STORMFILTER 1-CARTRIDGE  
CATCH BASIN DETAIL**  
NTS  
**FOR REFERENCE ONLY**



**STORMFILTER CATCHBASIN DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 1 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF ONE CARTRIDGE. SYSTEM IS SHOWN WITH A 27\"/>

CARTRIDGE SELECTION	27"	18"	18" DEEP
MINIMUM HYDRAULIC DROP (ft)	3.05'	2.3'	3.3'
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1 gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	7.5
PEAK HYDRAULIC CAPACITY	1.0	1.0	1.8
INLET PERMANENT POOL LEVEL (A)	1'-0"	1'-0"	2'-0"
OVERALL STRUCTURE HEIGHT (B)	4'-9"	3'-9"	4'-9"

- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.conteches.com](http://www.conteches.com)
  - STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  - INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
  - STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
  - STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH QUANTITY (2) #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
  - FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.
  - SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

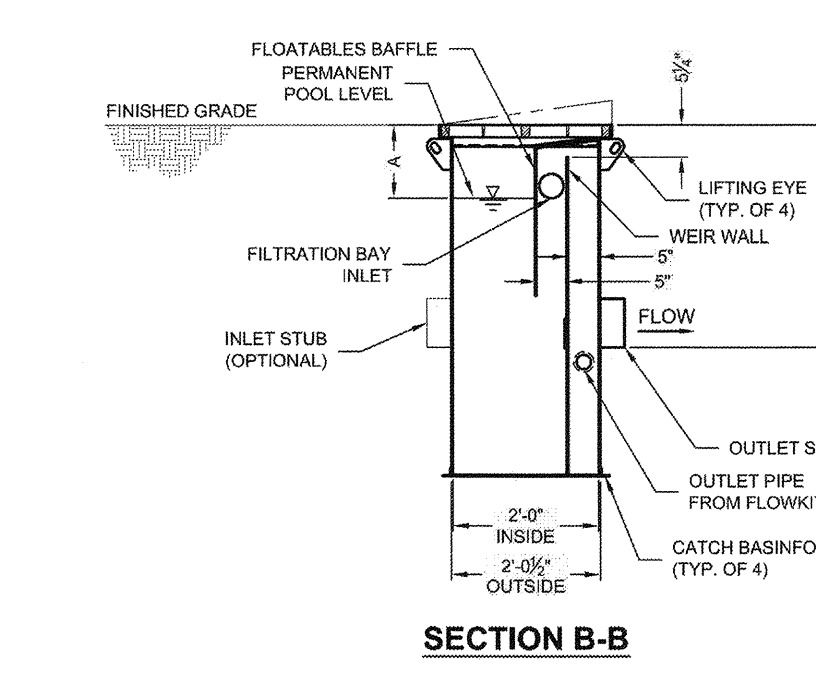
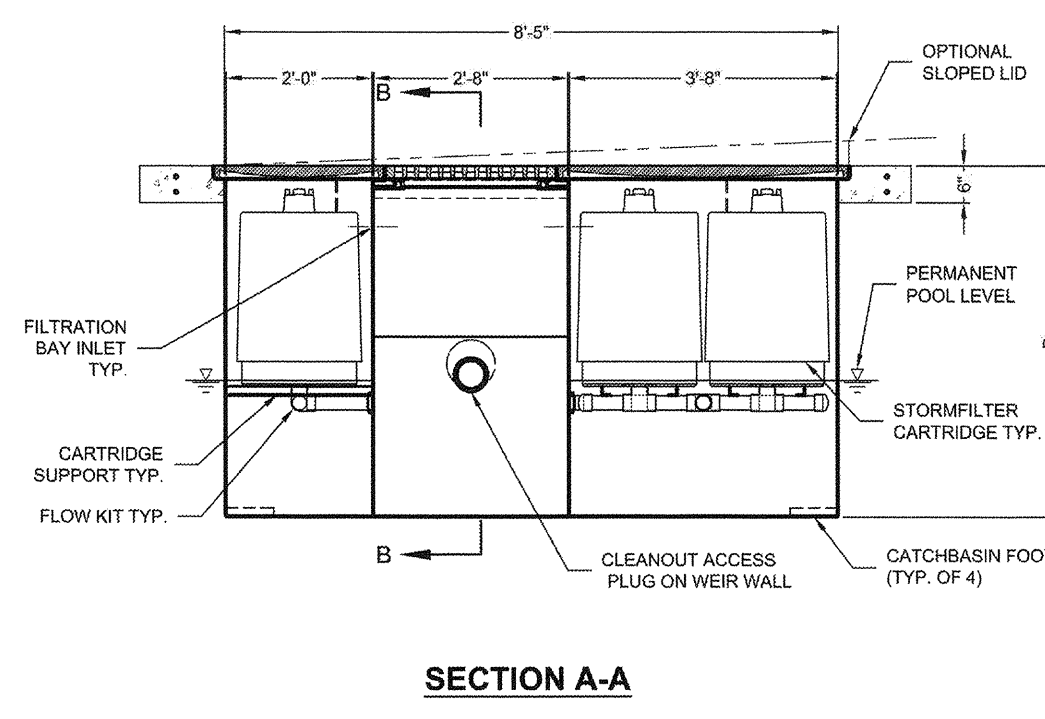
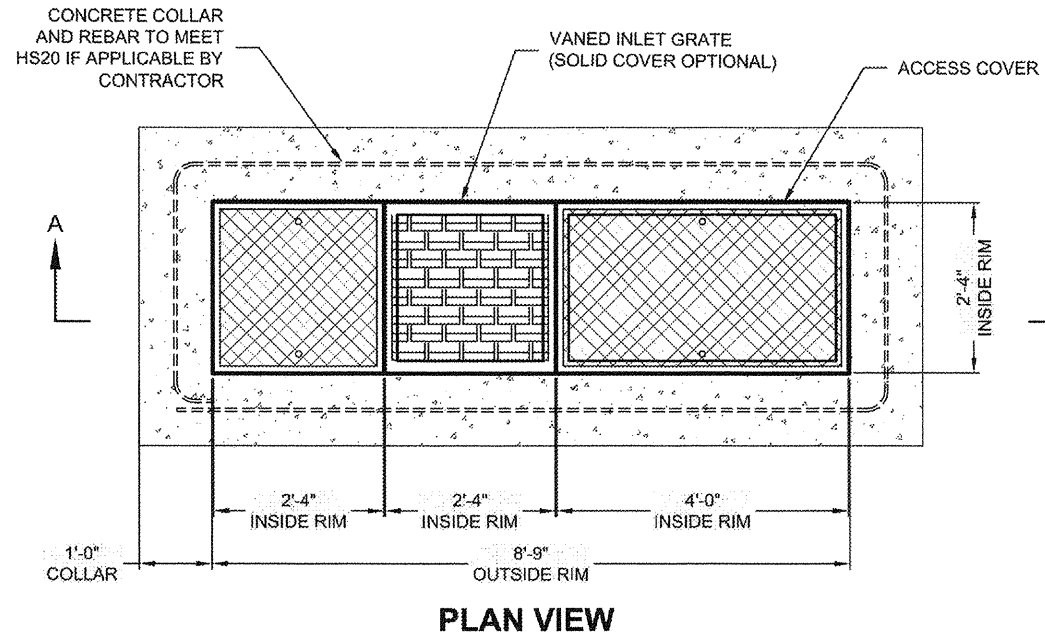
**1-CARTRIDGE CATCHBASIN  
STORMFILTER DATA**

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	XXX
PEAK FLOW RATE (<1 cfs)	XXX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	XXXXX
RIM ELEVATION	XXXXXX
PIPE DATA:	I/E DIAMETER
INLET STUB	XXX'XX" XX"
OUTLET STUB	XXX'XX" XX"
CONFIGURATION	OUTLET INLET
SLOPED LID	YES/NO
SOLID COVER	YES/NO
NOTES/SPECIAL REQUIREMENTS:	



**1 CARTRIDGE CATCHBASIN  
STORMFILTER  
STANDARD DETAIL**

**2**  
SD1  
**STORMFILTER 3-CARTRIDGE  
CATCH BASIN DETAIL**  
NTS  
**FOR REFERENCE ONLY**



**STORMFILTER CATCHBASIN DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 3 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF THREE CARTRIDGES. SYSTEM IS SHOWN WITH A 27\"/>

CARTRIDGE SELECTION	27"	18"	18" DEEP
MINIMUM HYDRAULIC DROP (ft)	3.05'	2.3'	3.3'
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1 gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	7.5
PEAK HYDRAULIC CAPACITY	1.0	1.0	1.8
INLET PERMANENT POOL LEVEL (A)	1'-0"	1'-0"	2'-0"
OVERALL STRUCTURE HEIGHT (B)	4'-9"	3'-9"	4'-9"

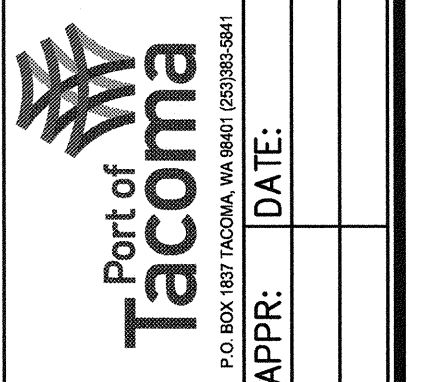
- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.conteches.com](http://www.conteches.com)
  - STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
  - INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
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  - STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH QUANTITY (2) #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
  - FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.
  - SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

**3-CARTRIDGE CATCHBASIN  
STORMFILTER DATA**

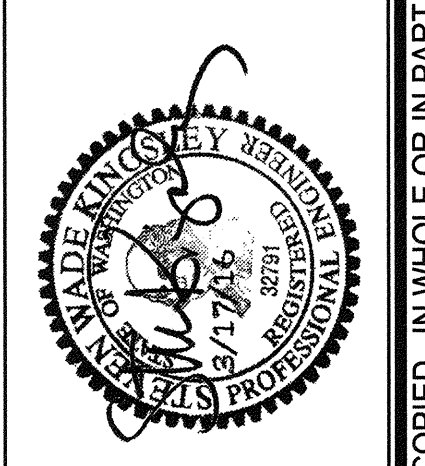
STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	XXX
PEAK FLOW RATE (<1 cfs)	XXX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	XXXXX
RIM ELEVATION	XXXXXX
PIPE DATA:	I/E DIAMETER
INLET STUB	XXX'XX" XX"
OUTLET STUB	XXX'XX" XX"
CONFIGURATION	OUTLET INLET
SLOPED LID	YES/NO
SOLID COVER	YES/NO
NOTES/SPECIAL REQUIREMENTS:	



**3 CARTRIDGE CATCHBASIN  
STORMFILTER  
STANDARD DETAIL**



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Tacoma, Washington 98407  
(253) 396-0130 Fax (253) 396-0152



APPROVED: *David M. Jones*  
SWK 03/17/16  
CHECKED BY: *David M. Jones*  
DATE: 03/17/16  
DIRECTOR ENG. DATE: 03/17/16  
PRINTED BY: nmedley Mar 18, 2016  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

**NORTH LEAD  
STORM DRAINAGE DETAILS**

6555  
**SD11**  
SHEET 101 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

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### STORMFILTER CATCHBASIN DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 2 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF TWO CARTRIDGES. SYSTEM IS SHOWN WITH A 2" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL.

PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION	2"	3"	18" DEEP
CARTRIDGE HEIGHT	27"	18"	18" DEEP
MINIMUM HYDRAULIC DROP (H)	3.0'	2.3'	3.3'
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1 gpm/sf	2 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15
PEAK HYDRAULIC CAPACITY	1.0	1.0	1.8
INLET PERMANENT POOL LEVEL (A)	1'-0"	1'-0"	2'-0"
OVERALL STRUCTURE HEIGHT (B)	4'-9"	3'-9"	4'-9"

**GENERAL NOTES**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
- STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
- STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLINGS BY CONTRACTOR.
- STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M308 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH QUANTITY (2) #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

**INSTALLATION NOTES**

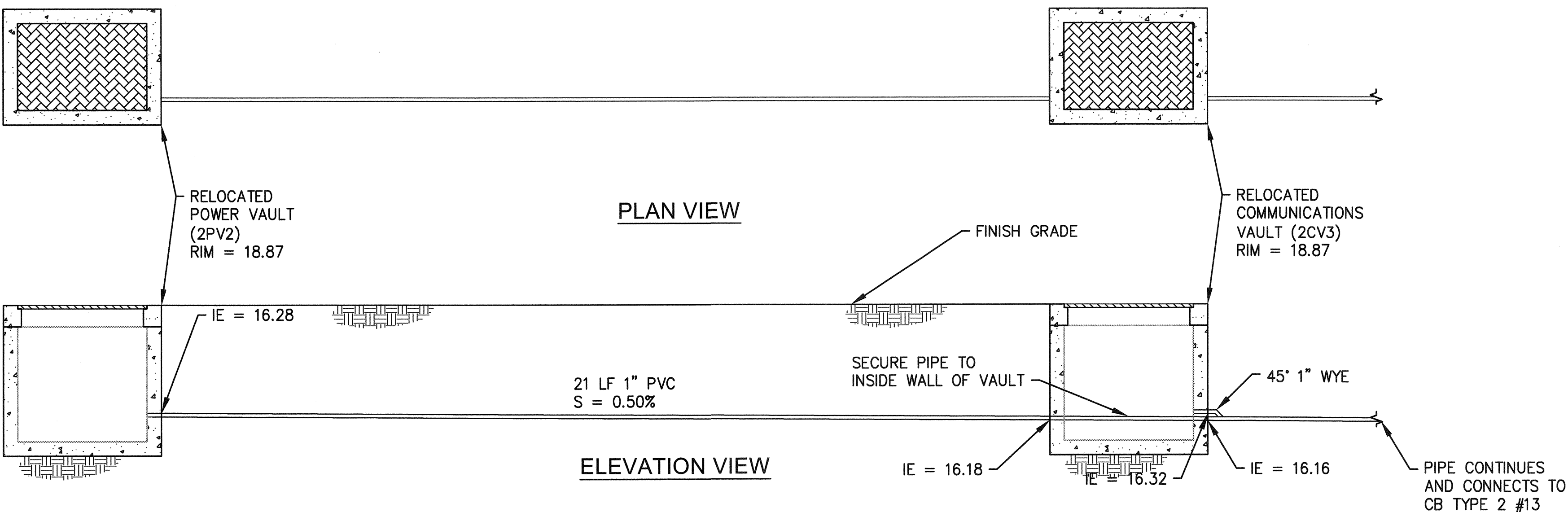
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

### STORMFILTER DATA TABLE

STRUCTURE ID	SF CB #1	SF CB #2	SF CB #3	SF CB #4	SF CB #5	SF CB #6	SF CB #7	SF CB #8	SF CB #9	SF CB #10
WATER QUALITY FLOW RATE (CFS)	0.0622	0.0042	0.0207	0.0065	0.0054	0.0122	0.0128	0.0053	0.006	0.0148
PEAK FLOW RATE (<1.8 CFS)	0.2843	0.0196	0.0948	0.0298	0.025	0.0562	0.0589	0.0244	0.0278	0.0677
RETURN PERIOD FLOW RATE (YRS)	25	25	25	25	25	25	25	25	25	25
CARTRIDGE FLOW RATE (GPM)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
MEDIA TYPE	METALRX	METALRX	METALRX	METALRX	METALRX	METALRX	METALRX	METALRX	METALRX	METALRX
RIM ELEVATION	18.52	19.44	18.00	19.36	18.79	19.23	18.68	19.15	19.25	18.65
PIPE DATA:										
INLET DIAMETER (IN)	8	N/A	8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OUTLET DIAMETER (IN)	12	8	8	8	8	8	8	8	8	8
INLET STUB ELEV (FT)	14.92	N/A	13.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OUTLET STUB ELEV (FT)	14.92	15.75	13.73	16.56	15.99	16.43	15.88	16.35	16.45	14.70
SLOPED LID	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SOLID COVER	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

FOR REFERENCE ONLY

**1**  
SD3 NTS  
STORMFILTER 2-CARTRIDGE CATCH BASIN DETAIL



**2**  
SD4 NTS  
ELECTRICAL VAULT DRAIN LINE DETAIL

**Part of Tacoma**  
2407 North 31st Street, Suite 100  
Tacoma, Washington 98407  
(253) 396-0150 Fax (253) 396-0162

**kpff**

MADE IN WASHINGTON  
REGISTERED PROFESSIONAL ENGINEER  
No. 17175  
12/15

DATE: \_\_\_\_\_  
APPR: \_\_\_\_\_  
BY: \_\_\_\_\_  
REVISION: \_\_\_\_\_

SWK 03/17/16  
CHECKED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
SWK 03/17/16  
DATE: \_\_\_\_\_

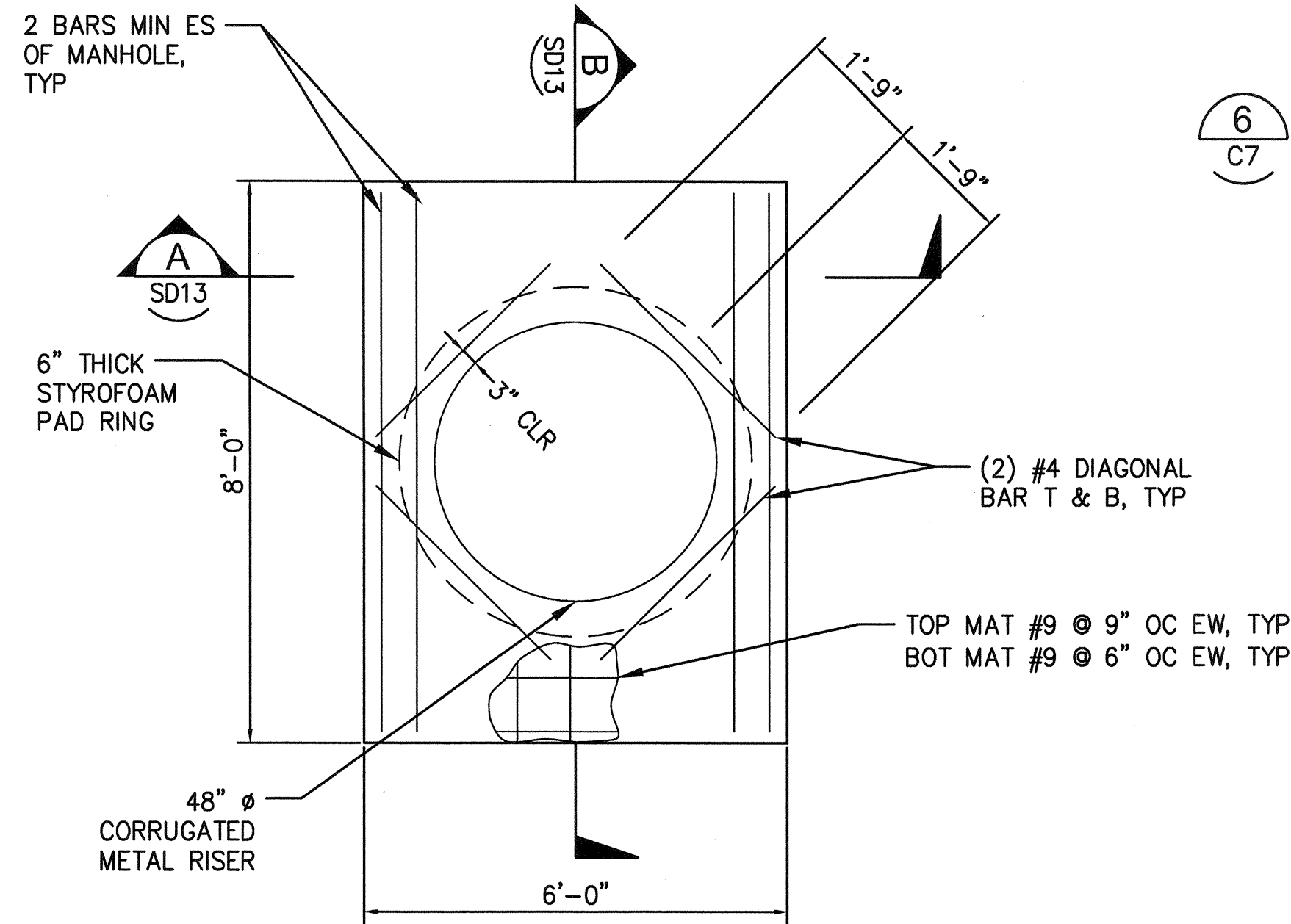
APPROVED: *Justin Gray*  
4-12-16  
DIRECTOR ENG. DATE: nmedley Mar 18, 2016  
PRINTED BY: nmedley Mar 18, 2016  
PORT ADDRESS: ONE SITCOM PLAZA  
TACOMA, WA 98401-1837

**NORTH LEAD**  
STORM DRAINAGE DETAILS

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3  
DATE-HRZ: W83-SF VERT: PORT OF TACOMA BM #846  
PARCEL: MUL TIPLE DRAWING SCALE: AS NOTED

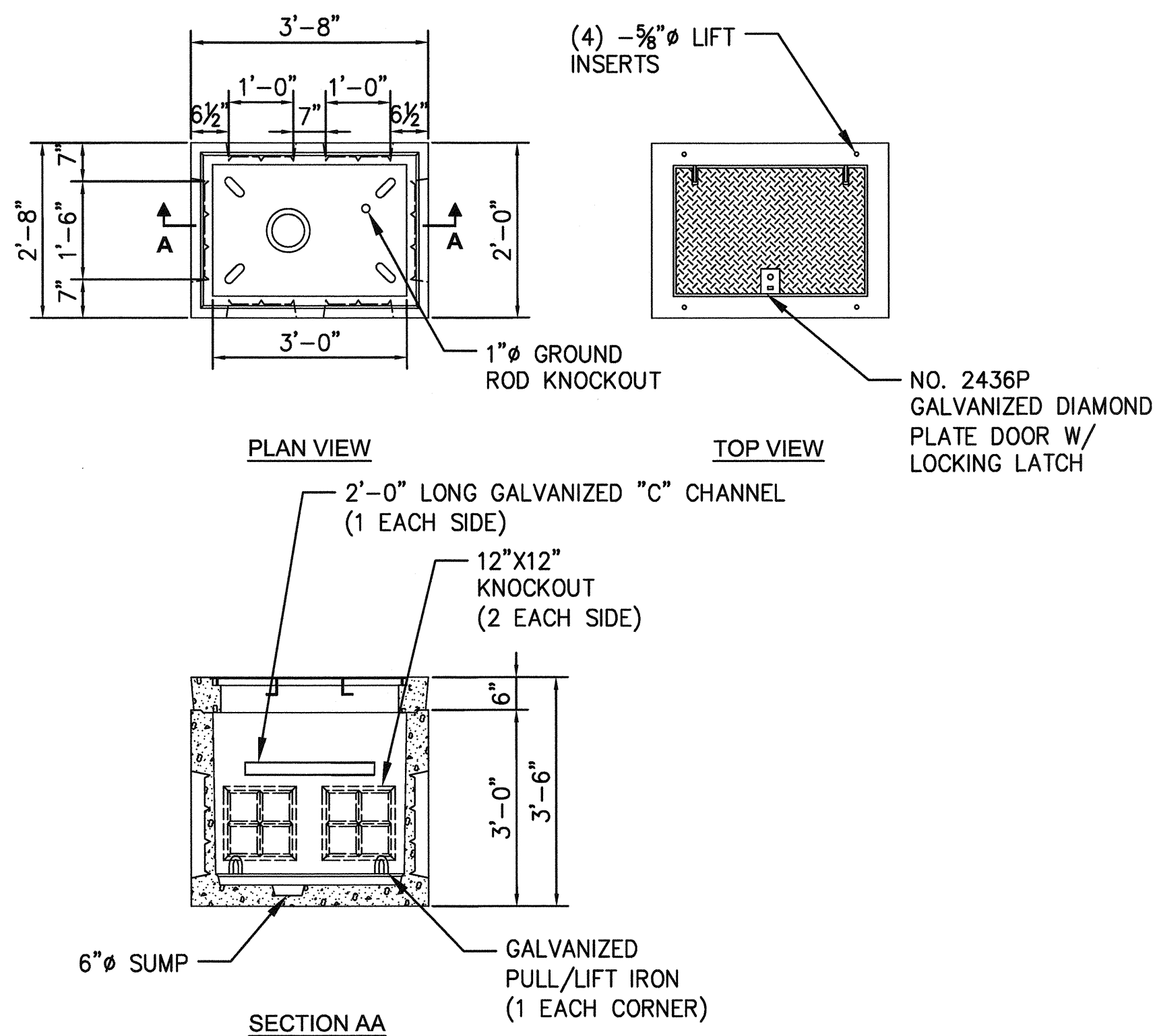
6555  
**SD12**  
SHEET 102 OF 134  
CONT./CONS: 070164  
M. ID: 092938  
PHASE: BID

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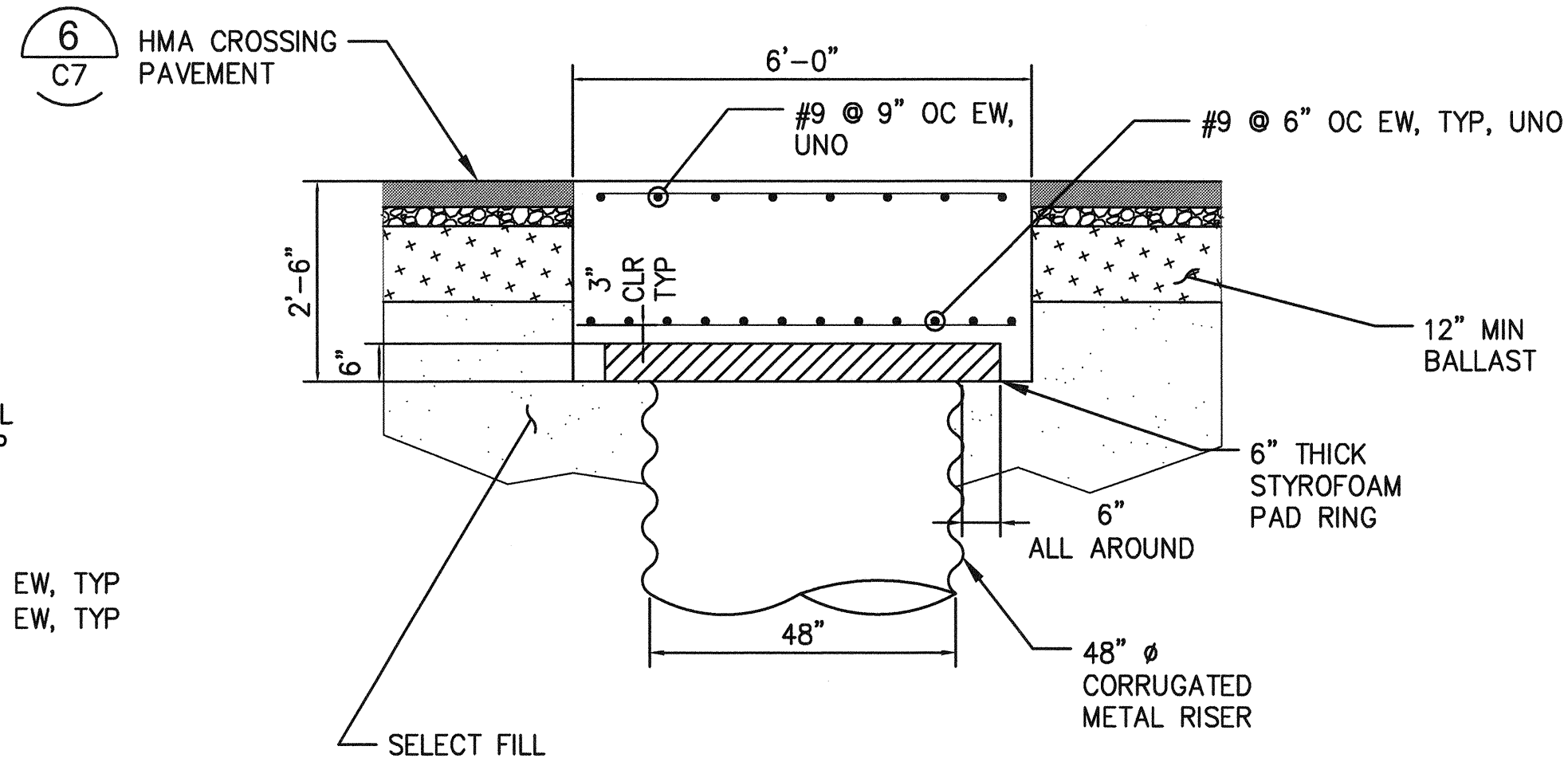
**1** REINFORCED RISER SLAB DETAIL

SD7 SCALE: 1/2" = 1'-0"



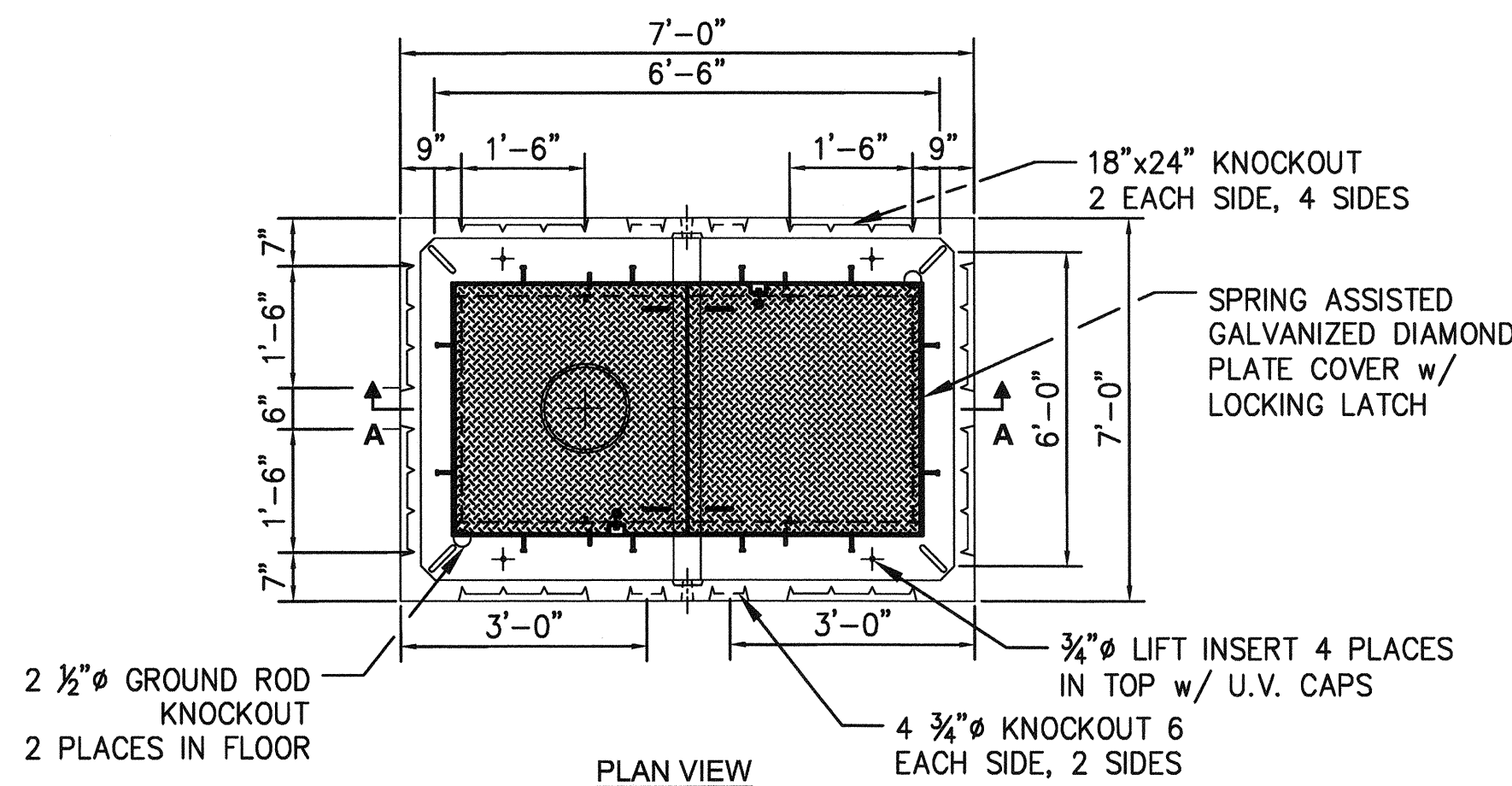
**2** 223-LA ELECTRICAL VAULT DETAIL

SD1-6 SCALE: 1/2" = 1'-0"

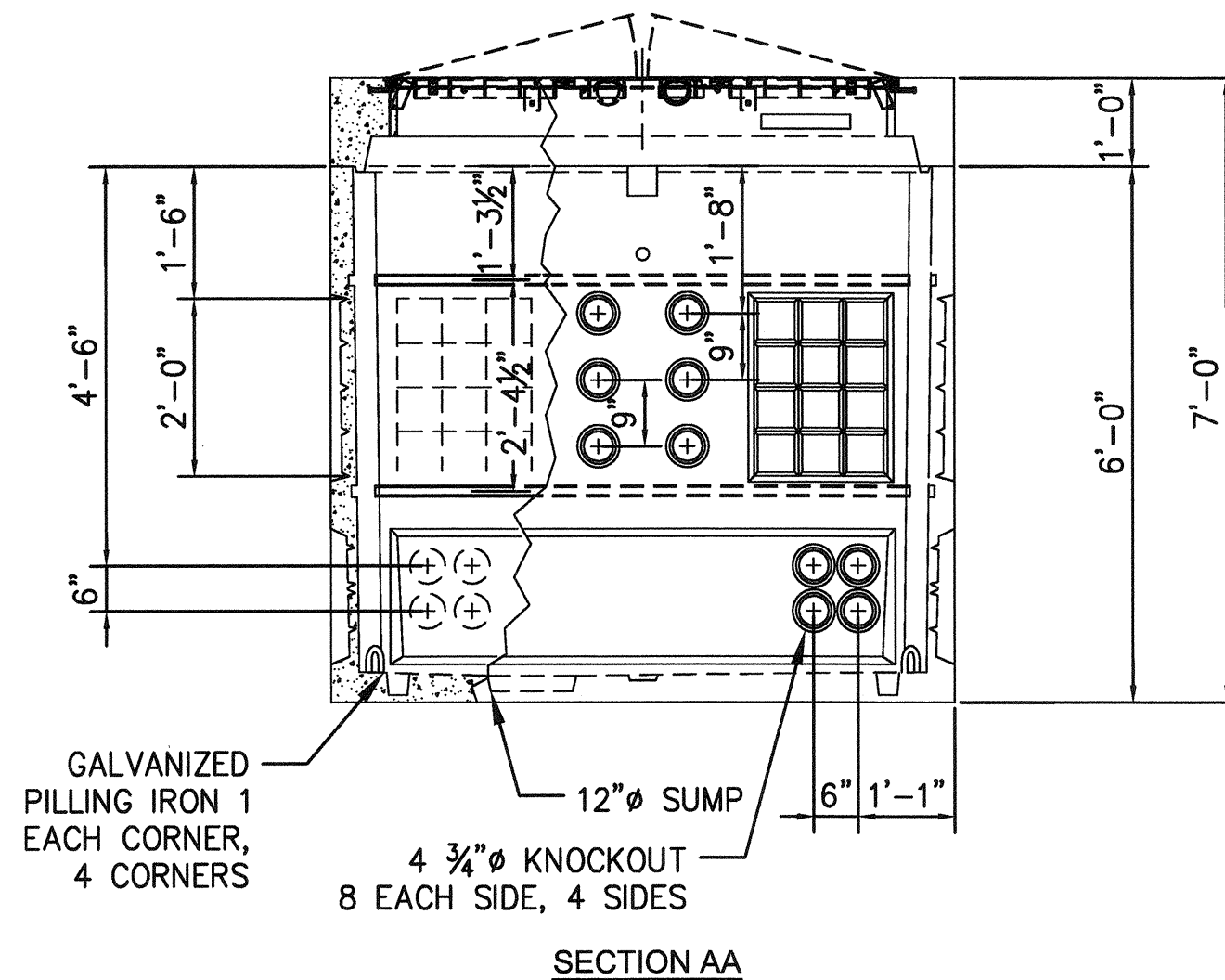


**A** SECTION

SD13 SCALE: 1/2" = 1'-0"



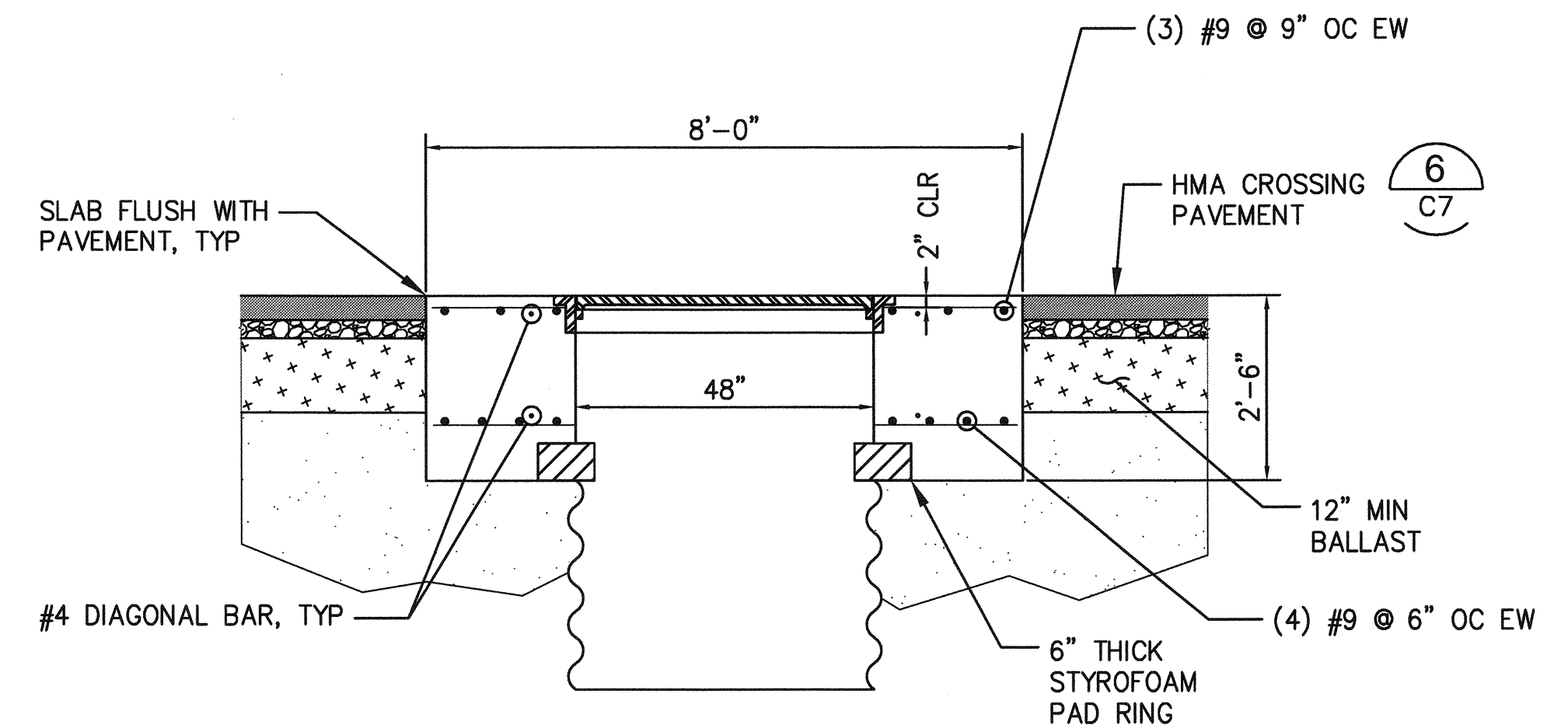
PLAN VIEW



SECTION AA

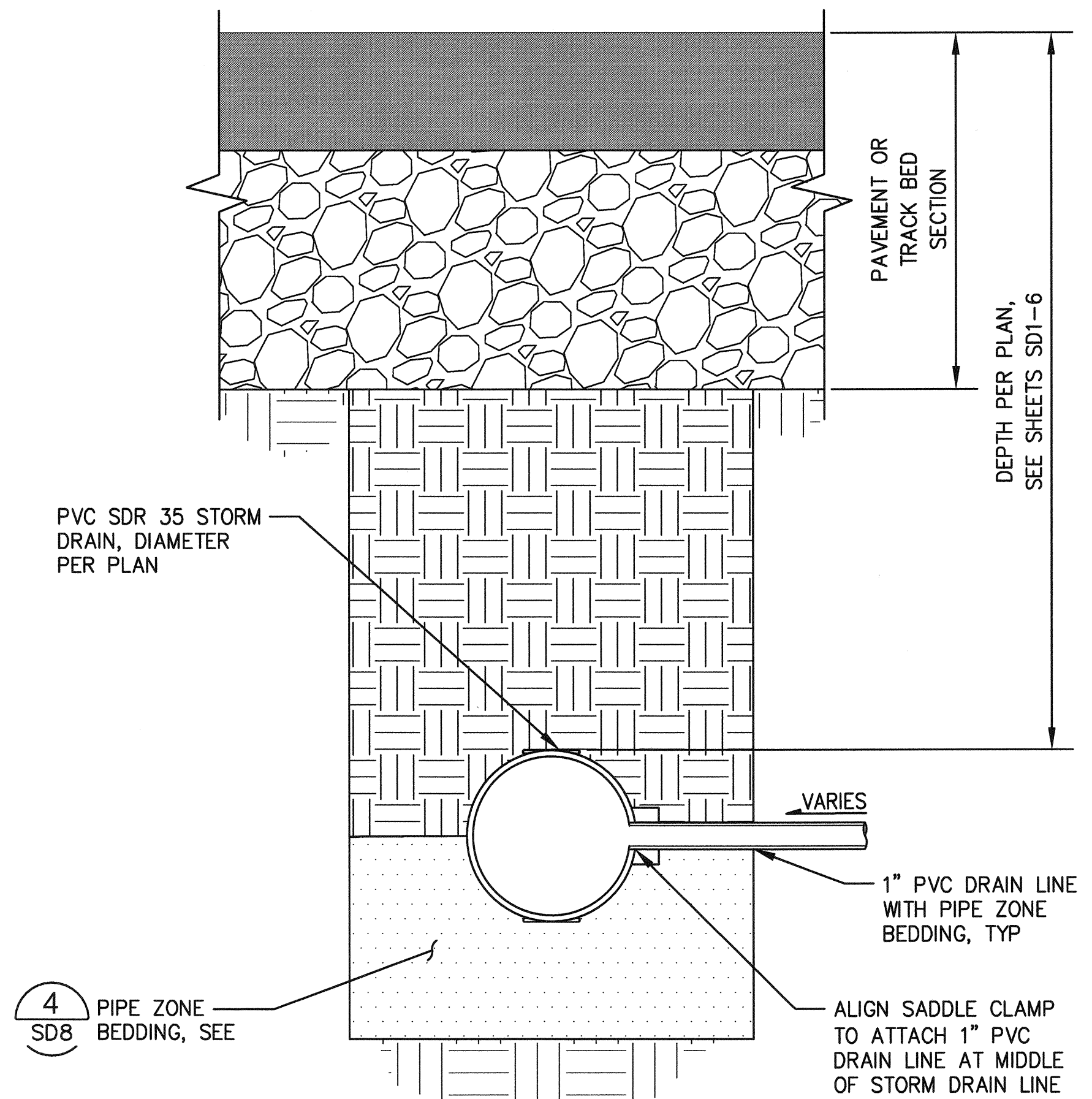
**3** 577-LA ELECTRICAL VAULT DETAIL

SD4 SCALE: 1/2" = 1'-0"



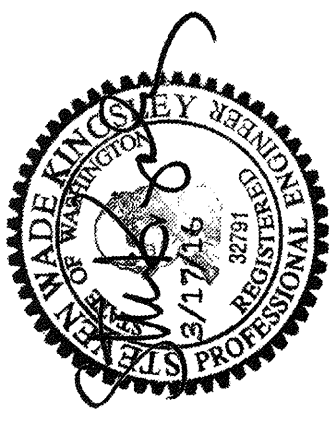
**B** SECTION

SD13 SCALE: 1/2" = 1'-0"



**4** SADDLE CLAMP DETAIL

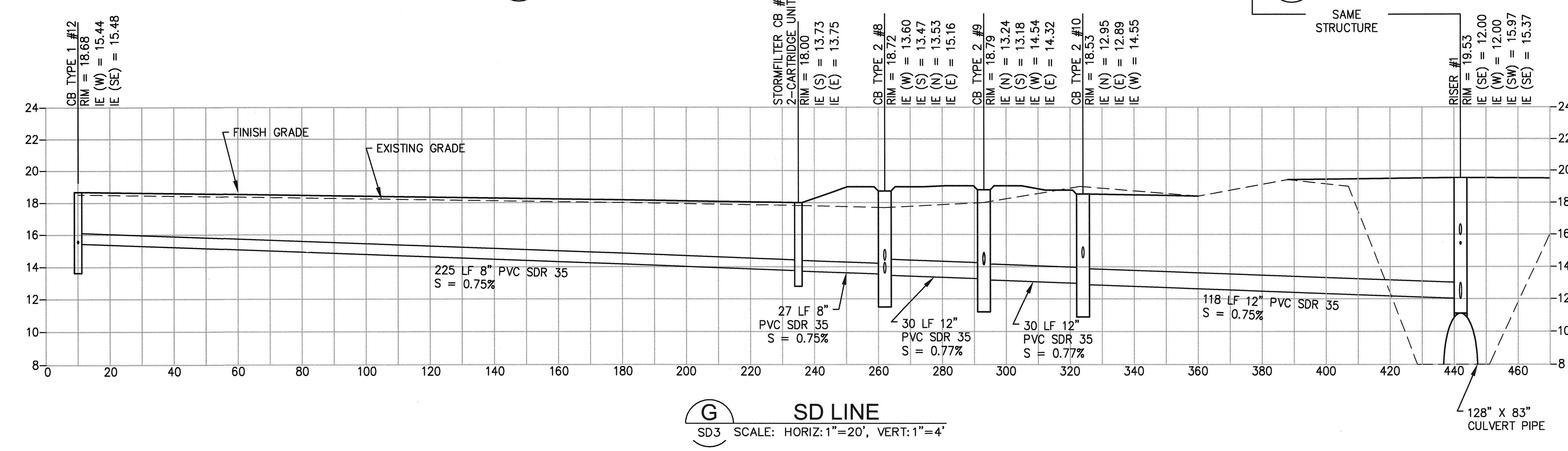
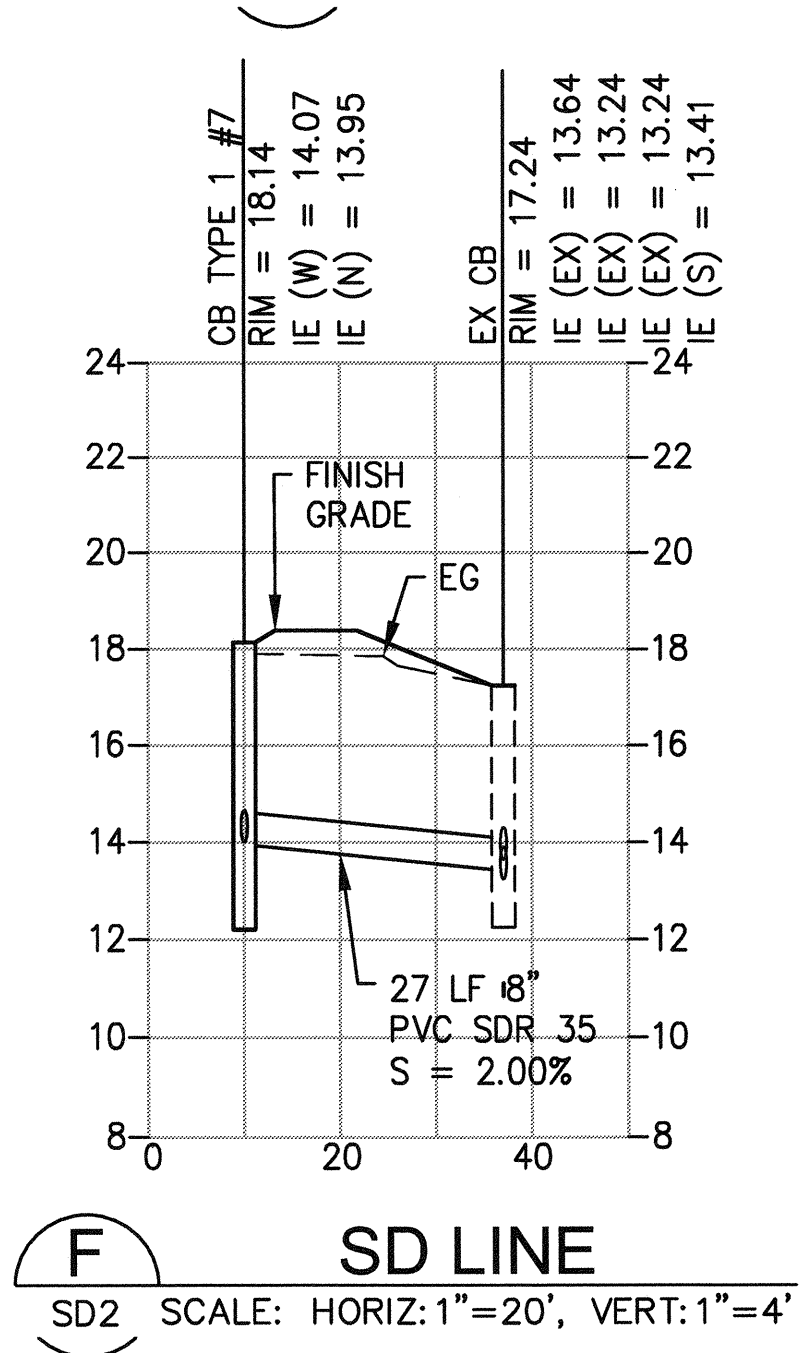
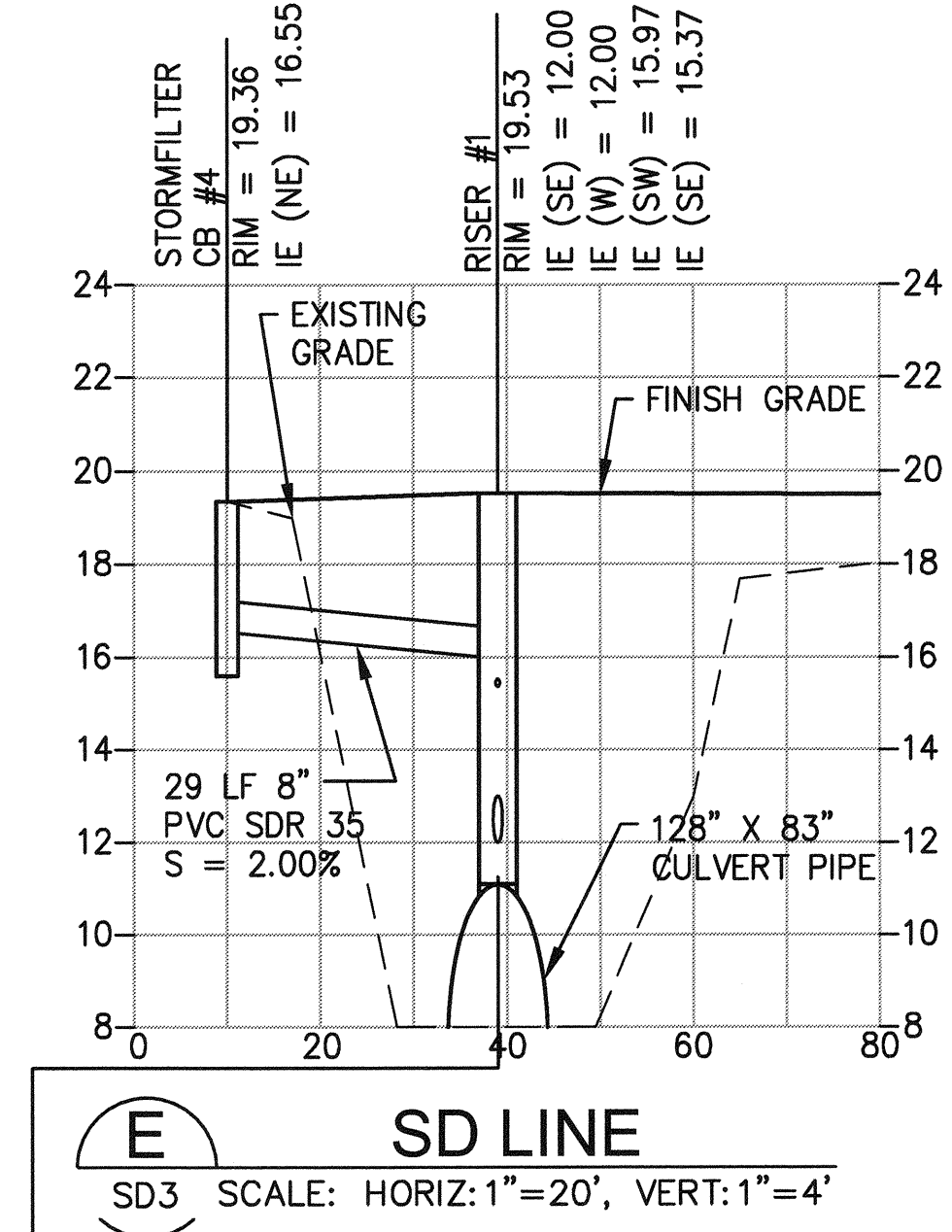
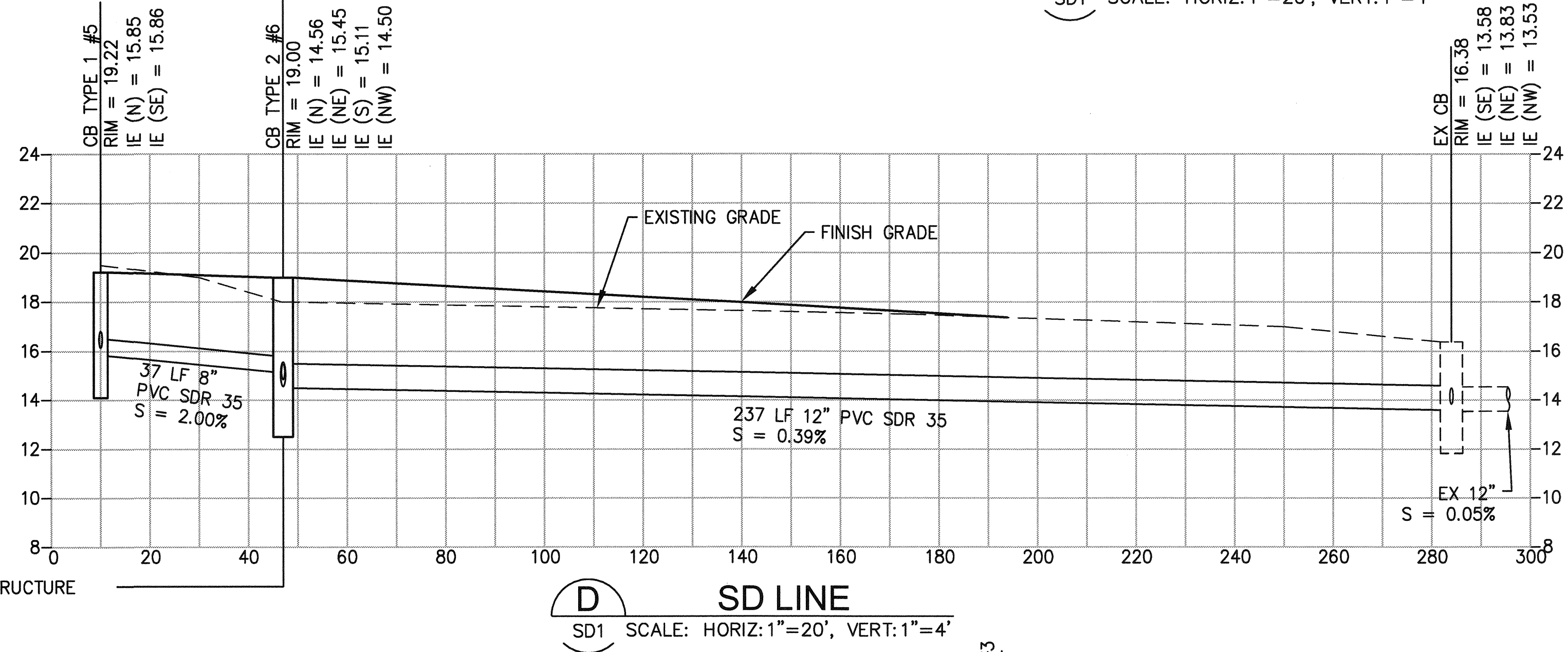
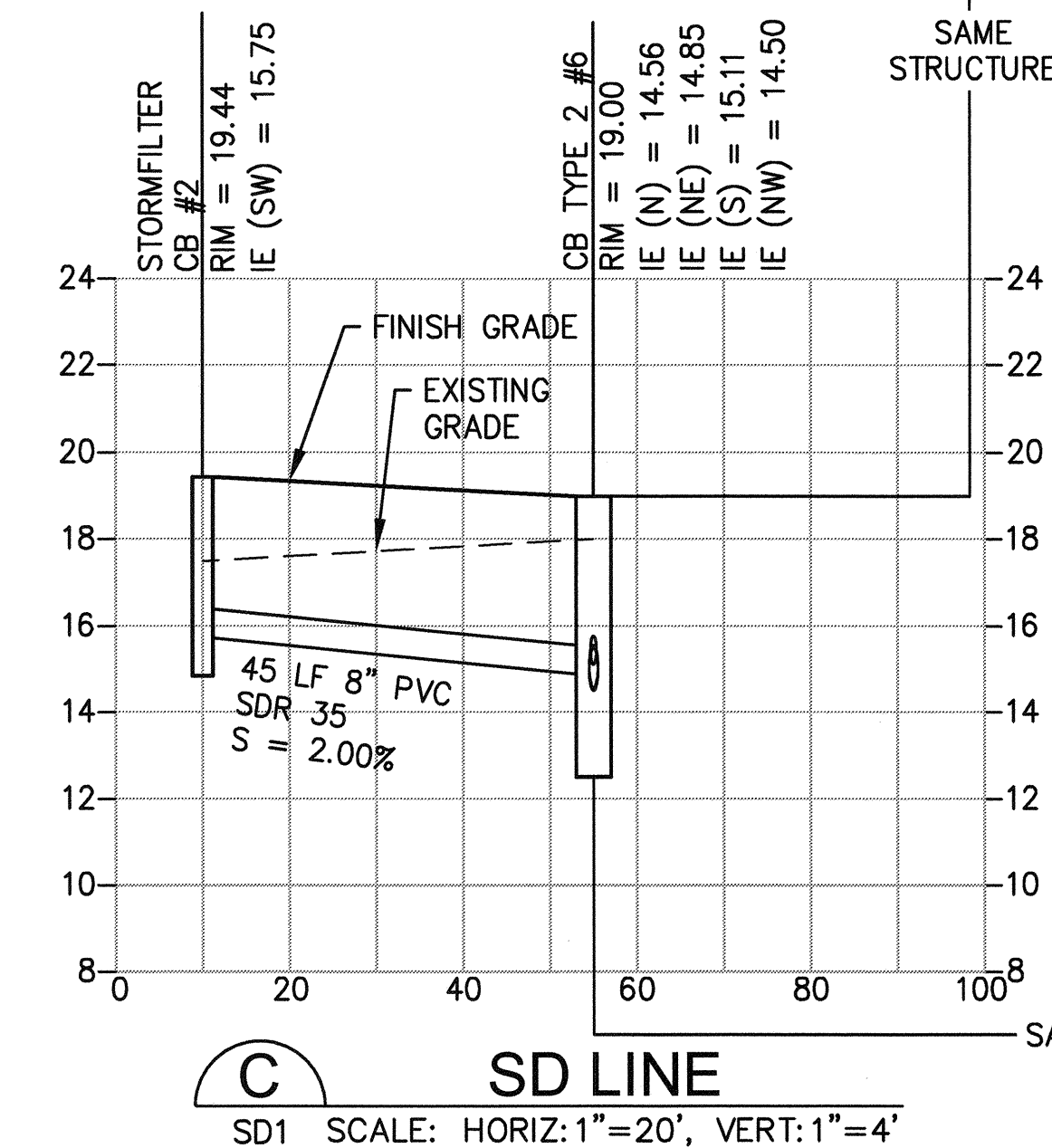
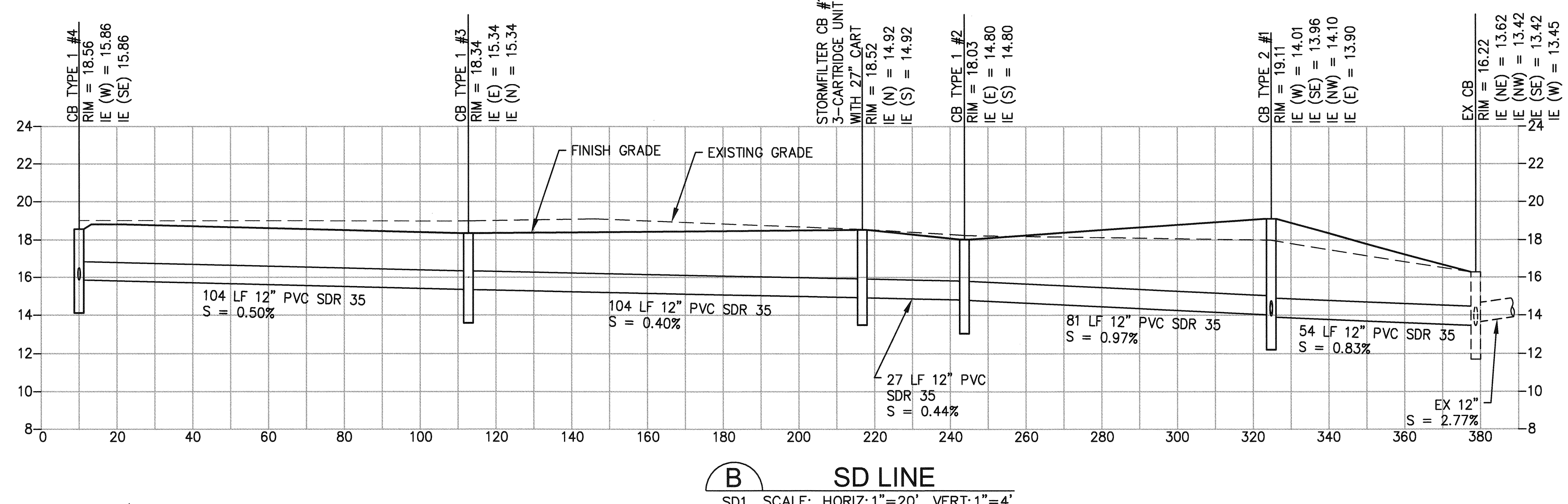
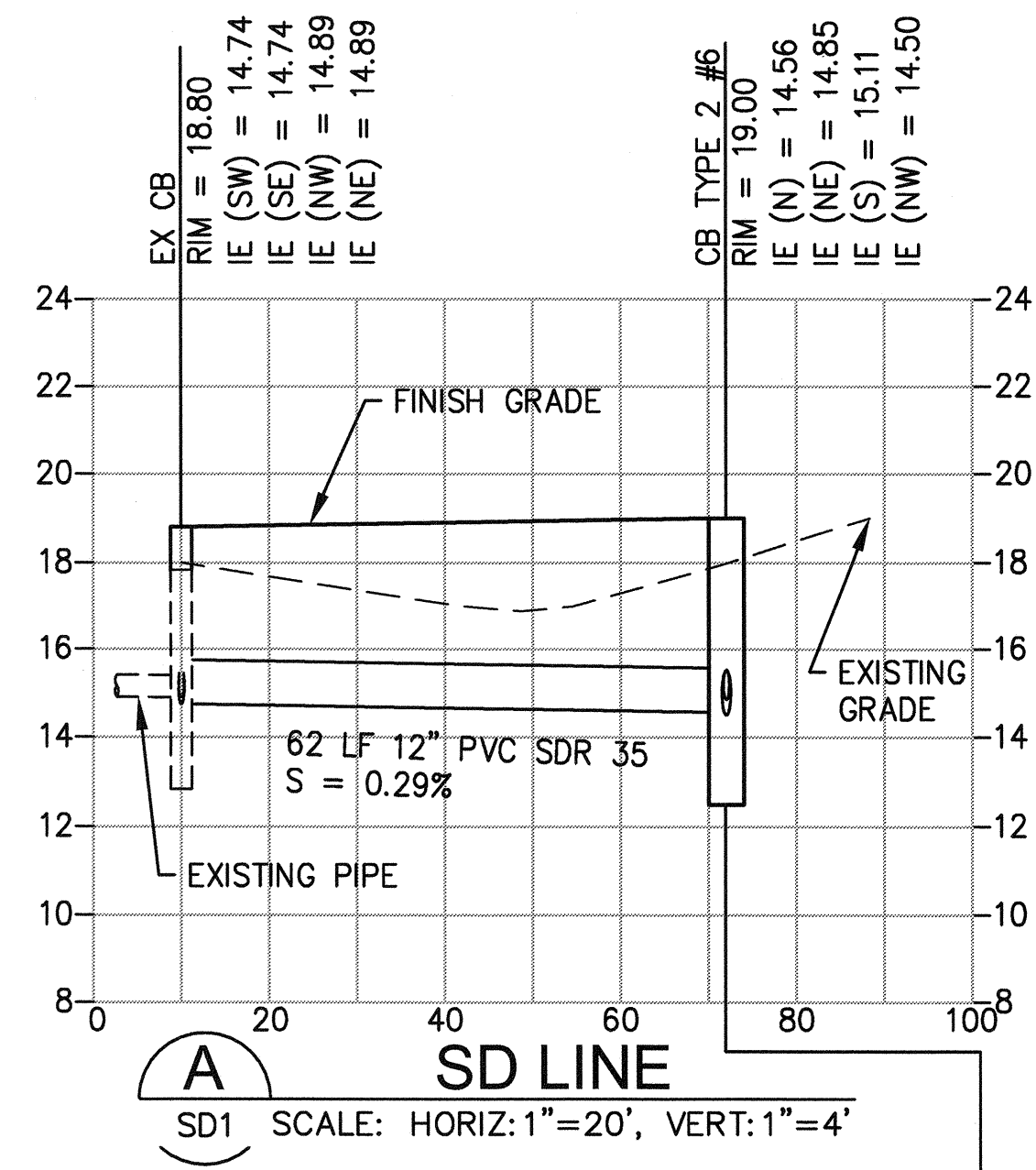
SD1-6 SCALE: NTS



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			PRINTED BY:	PROJECT ADDRESS: ONE SITCUM PLAZA
				TACOMA, WA 98401-1837

NORTH LEAD	
STORM DRAINAGE DETAILS	
TOWNSHIP: 20N	SECTION: 1, 2, 3
RANGE: 03E	VERT: PORT OF TACOMA BM #846
DAT-HRZ: W83-SF	PARCEL: MULTIPLE
M. ID: 092938	DRAWING SCALE: AS NOTED

6555	SD13
SHEET 103 OF 134	
CONT/CONS: 070164	
PHASE: BID	



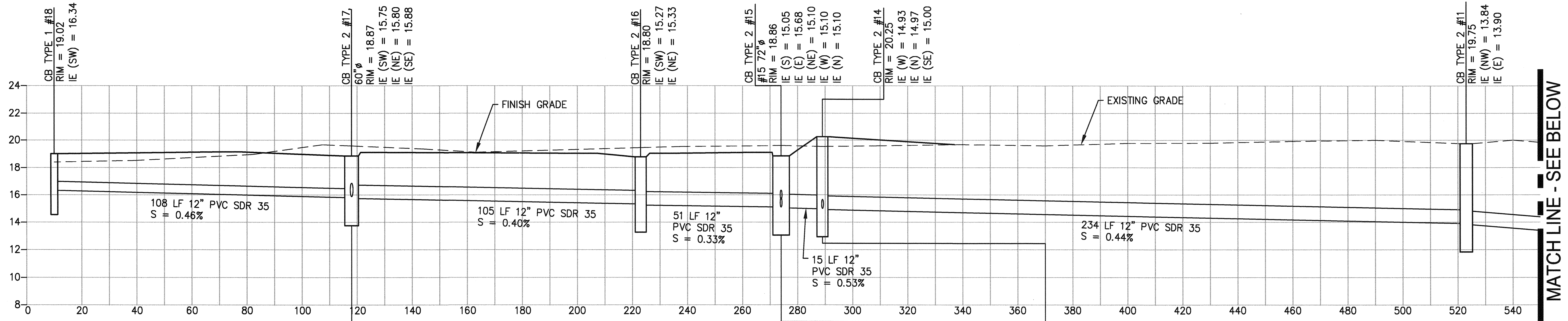
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SHEET 104 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
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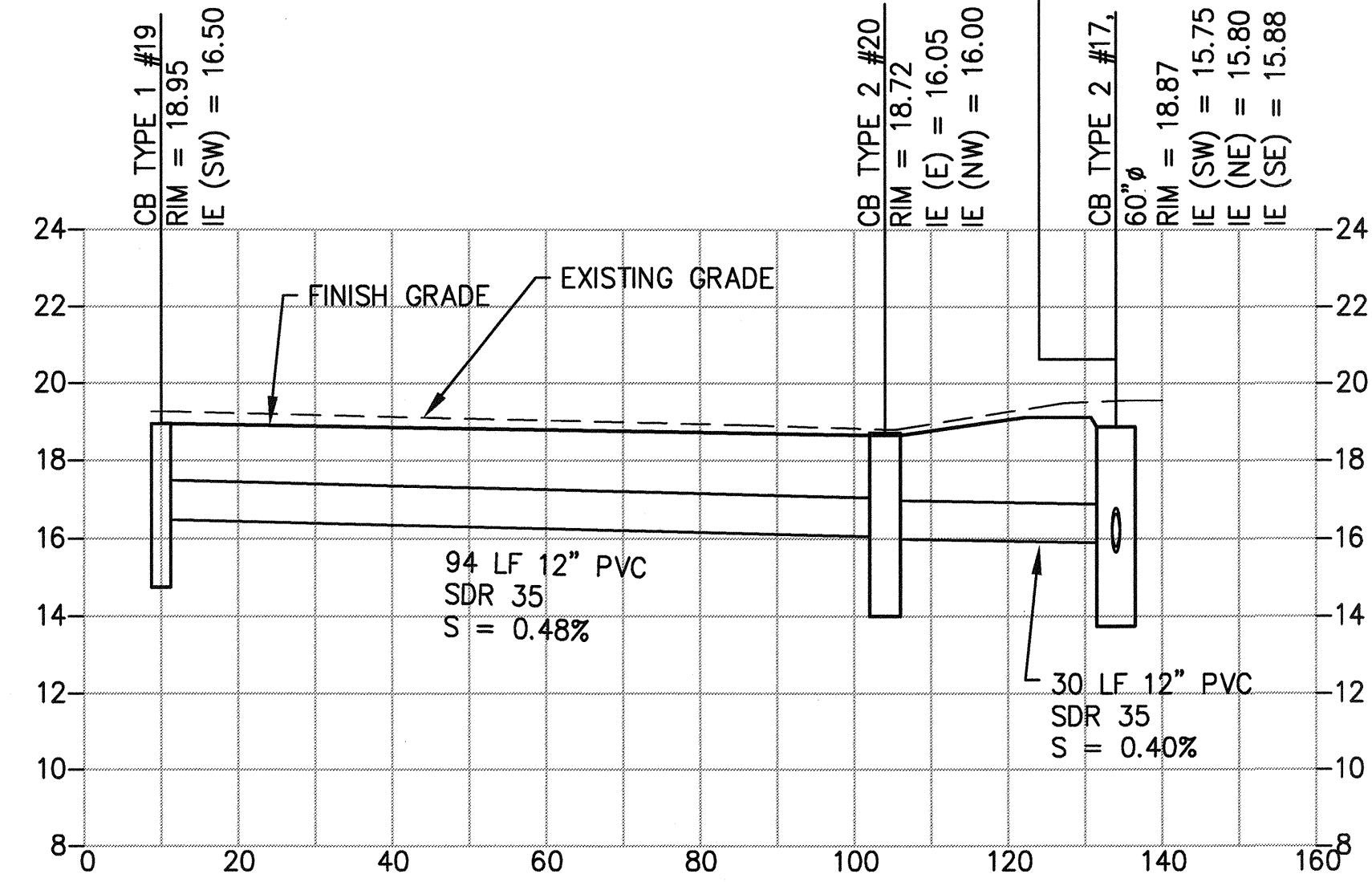
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DIRECTOR: <i>[Signature]</i>	SWK: 03/17/16	PROJ. ENGR DATE
PRINTED BY: nmedley Mar 18, 2016	TACOMA, WA 98401-1837	
PORT ADDRESS: ONE SITCUM PLAZA	DRAWING SCALE: AS NOTED	
TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
DAT-HRZ: W83-SF	VERT: PORT OF TACOMA	BM #B46
PARCEL: MULTIPLE	AS NOTED	

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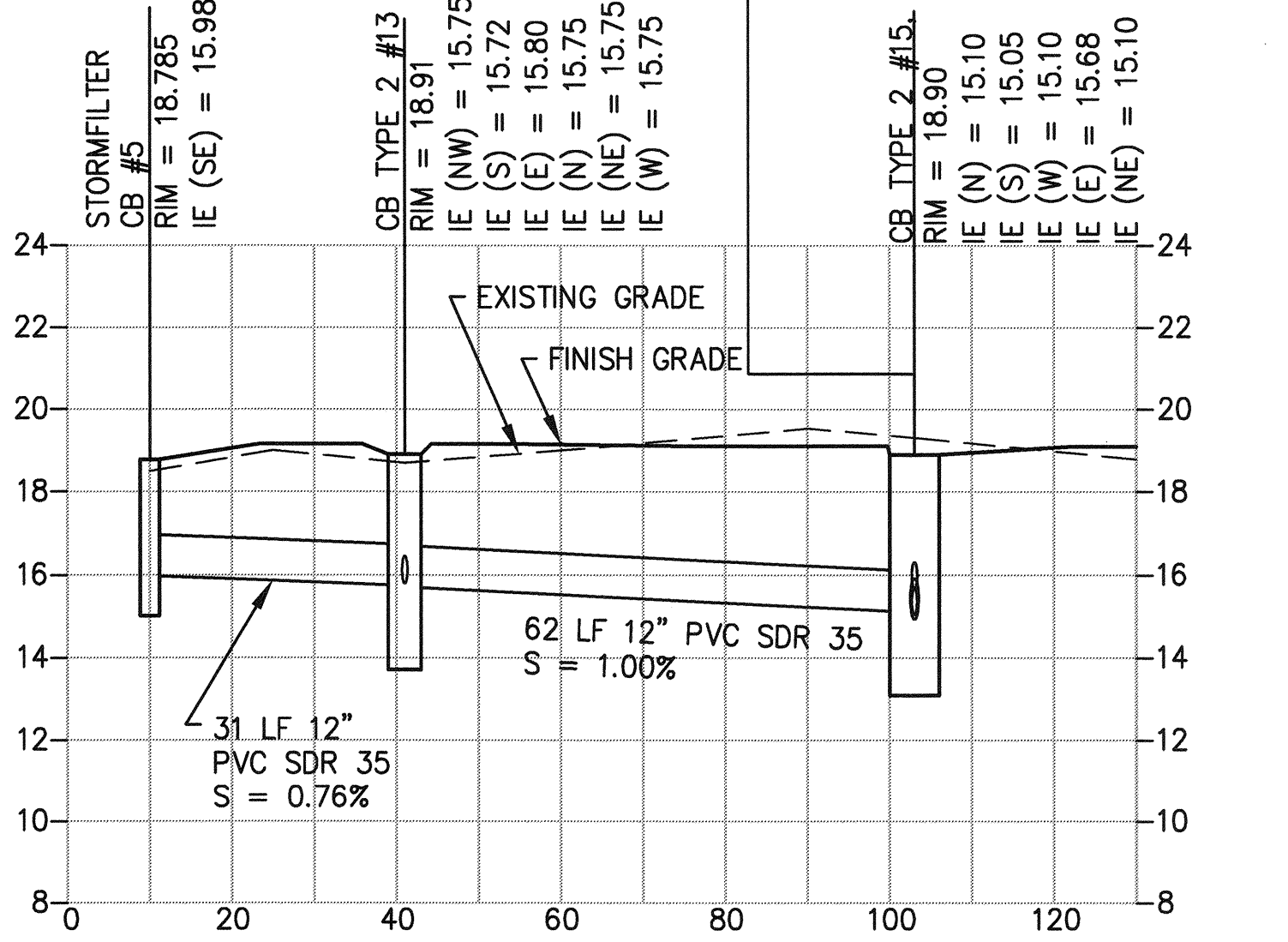


MATCH LINE - SEE BELOW

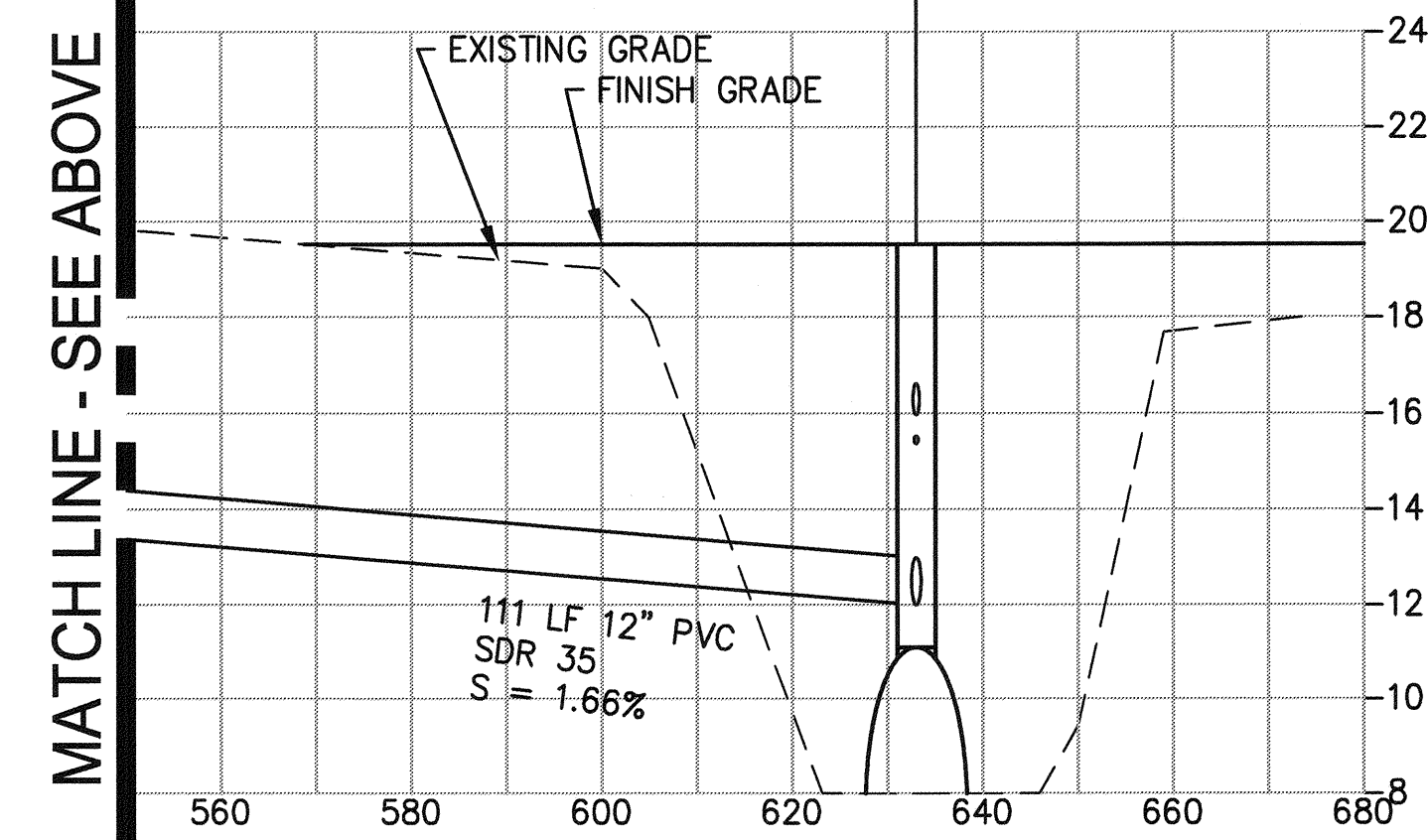
**A** SD LINE  
SD3-4 SCALE: HORIZ: 1"=20', VERT: 1"=4'



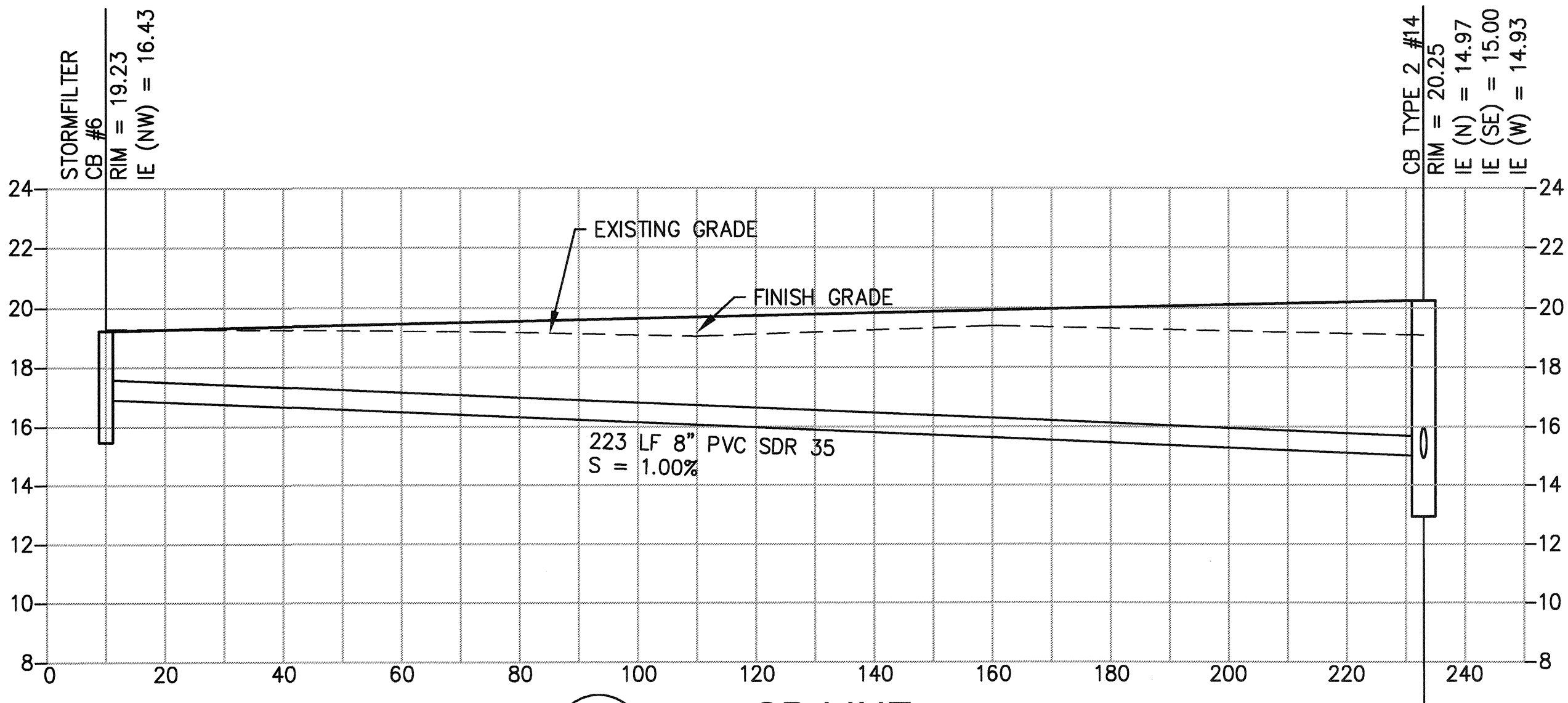
**B** SD LINE  
SD4 SCALE: HORIZ: 1"=20', VERT: 1"=4'



**C** SD LINE  
SD4 SCALE: HORIZ: 1"=20', VERT: 1"=4'



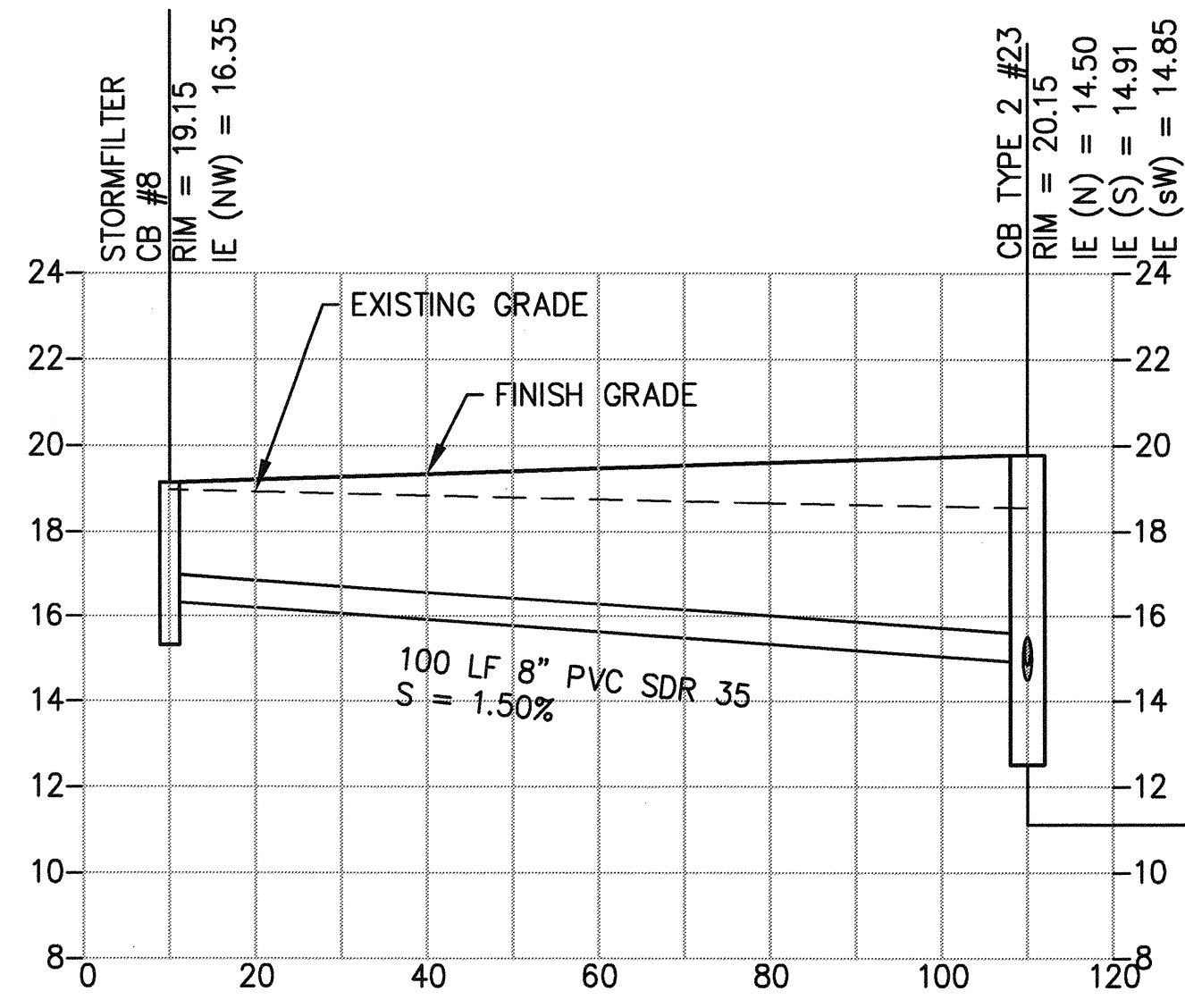
**A** SD LINE CONT  
SD3-4 SCALE: HORIZ: 1"=20', VERT: 1"=4'



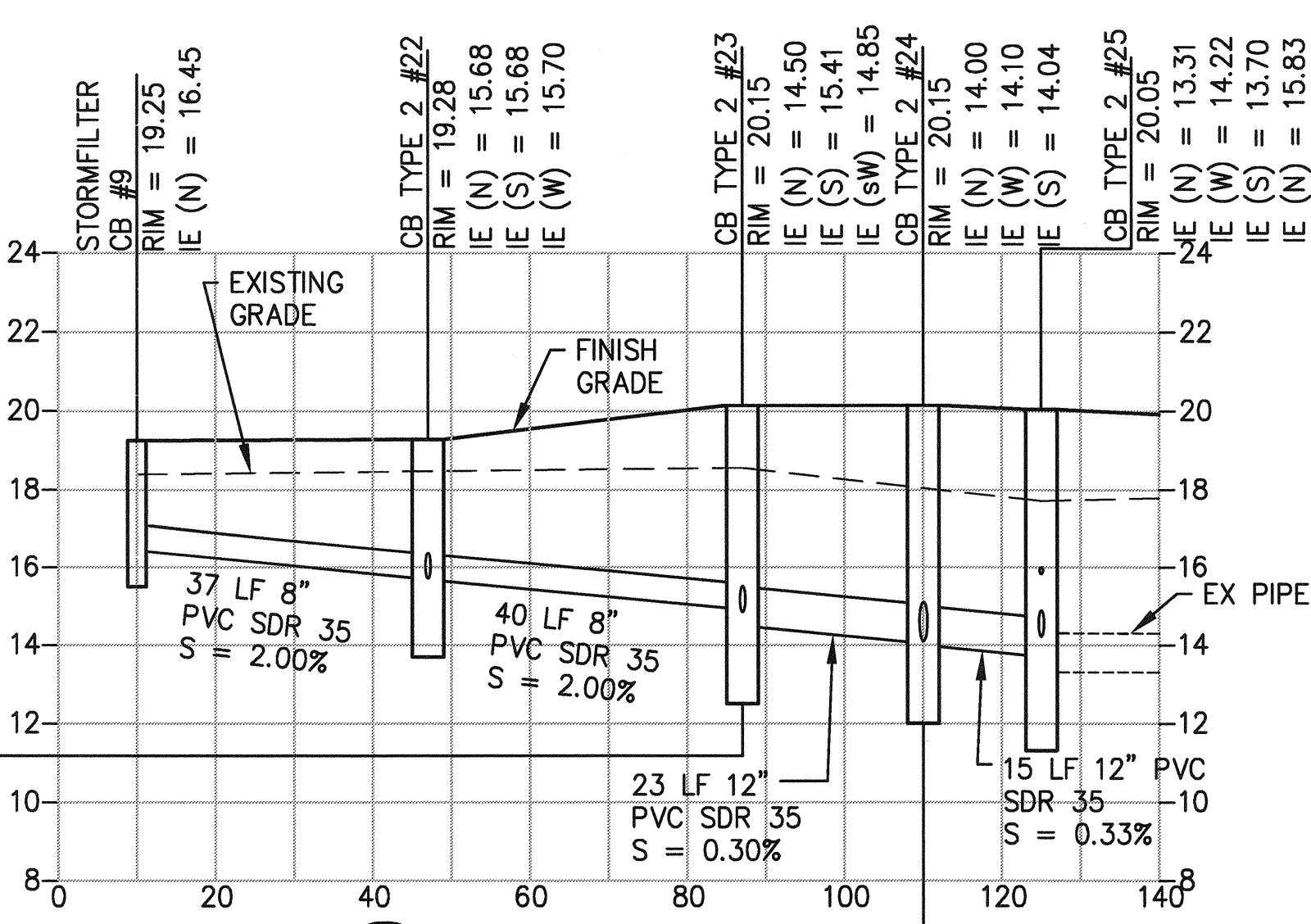
**D** SD LINE  
SD4 SCALE: HORIZ: 1"=20', VERT: 1"=4'

<p><b>6555</b> <b>SD15</b> SHEET 105 OF 134</p>	<p><b>NORTH LEAD</b> STORM DRAIN PROFILES</p>		<p>APPROVED: <i>[Signature]</i> 4-2-16</p>	<p>SWK 03/17/16 CHECKED BY: DATE</p>
	<p>CONTR/CONS: 070164 M. ID: 092938 PHASE: BID</p>	<p>TOWNSHIP: 20N DAT-HRZ: W83-SF PARCEL: MUL TIPLE</p>	<p>RANGE: 03E VERT: PORT OF TACOMA BM #846 DRAWING SCALE: AS NOTED</p>	<p>DIRECTOR ENGR. DATE: 4-2-16 PRINTED BY: nmedley Mar 18, 2016 PORT ADDRESS: ONE SITCLIM PLAZA TACOMA, WA 98401-1837</p>
<p>6555 SD15 SHEET 105 OF 134</p>		<p>PORT OF TACOMA</p>		<p>DATE: _____ APPR: _____ BY: _____ REVISION: _____</p>

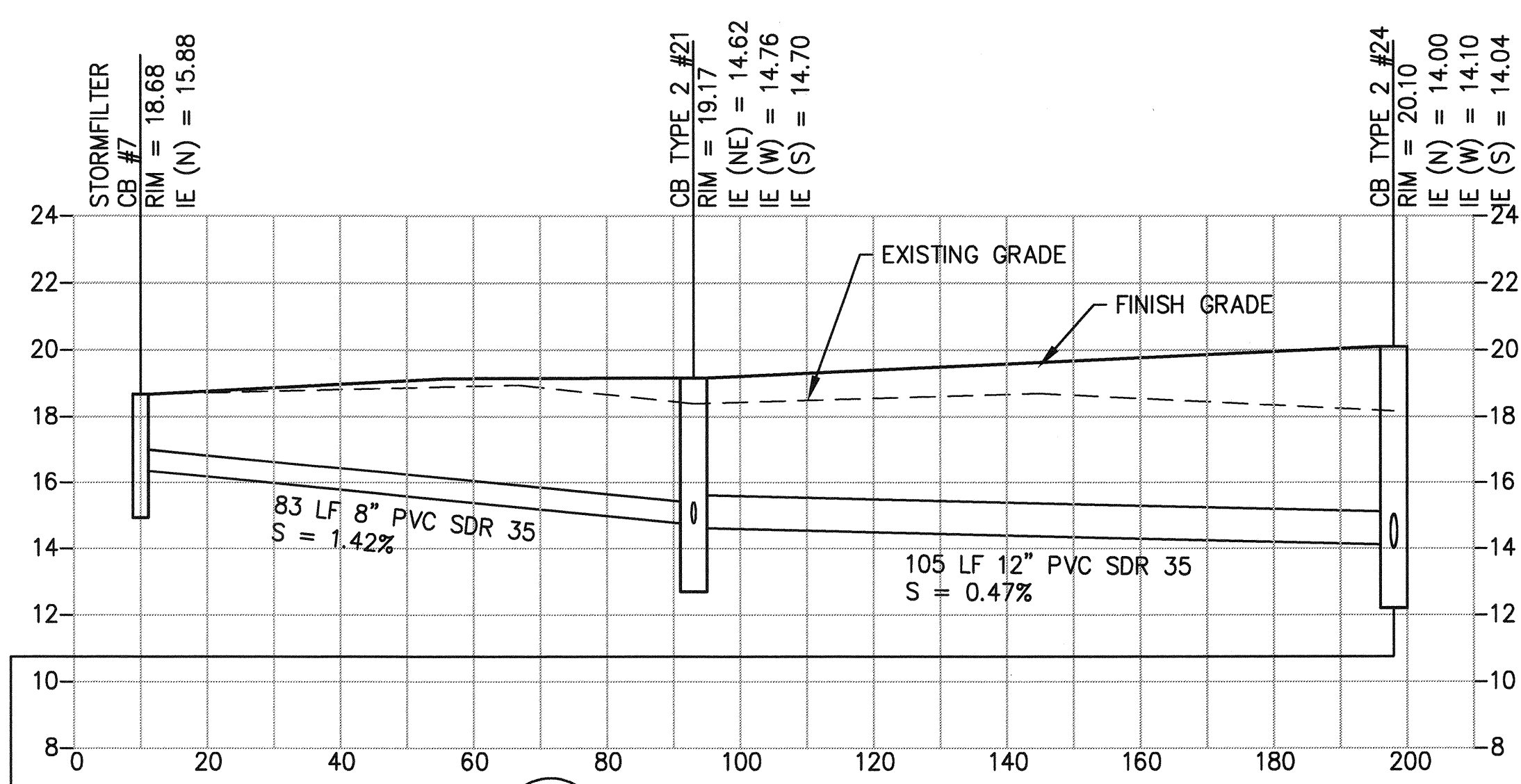
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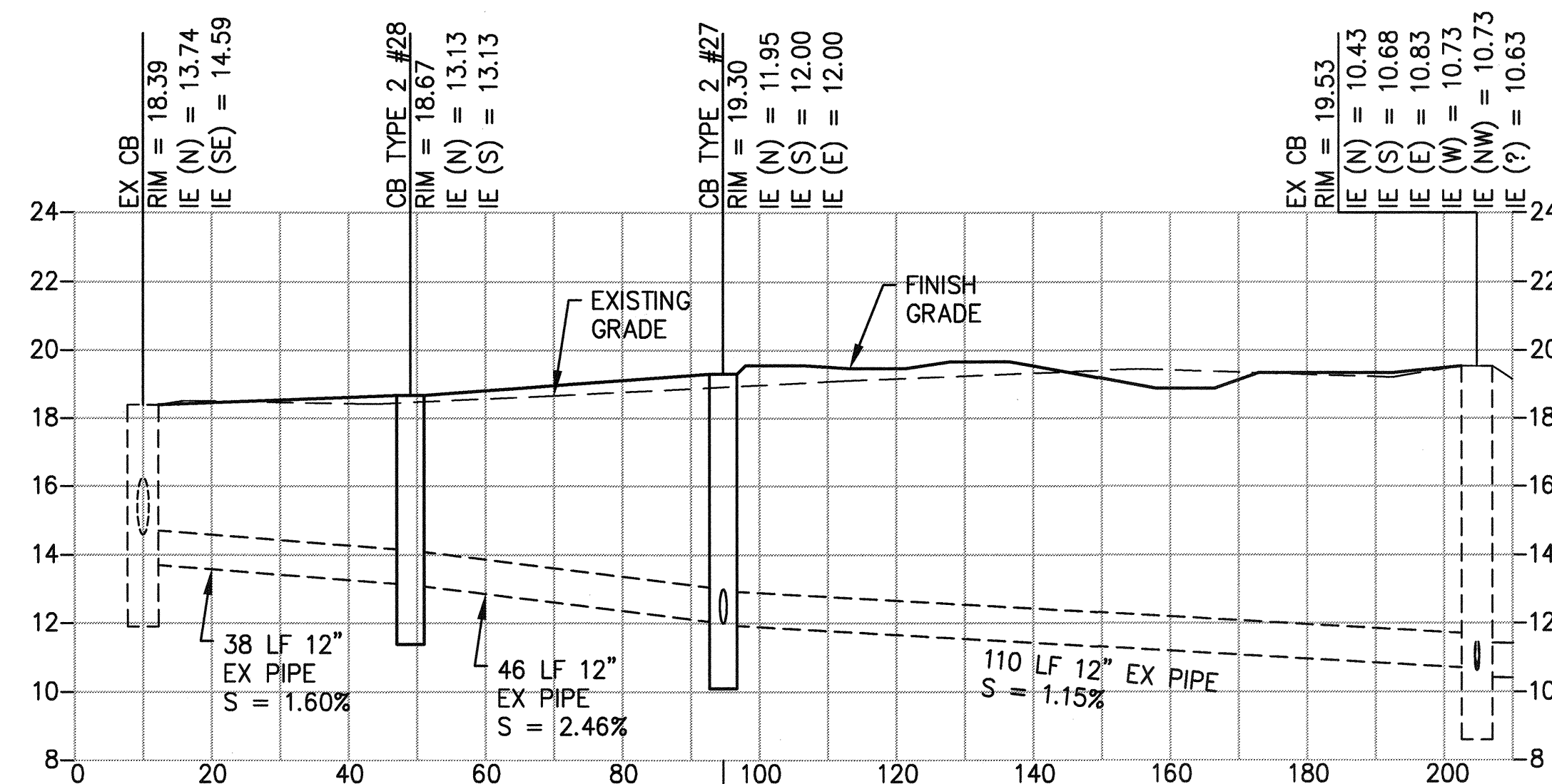
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SD4 SCALE: HORIZ: 1"=20', VERT: 1"=4'



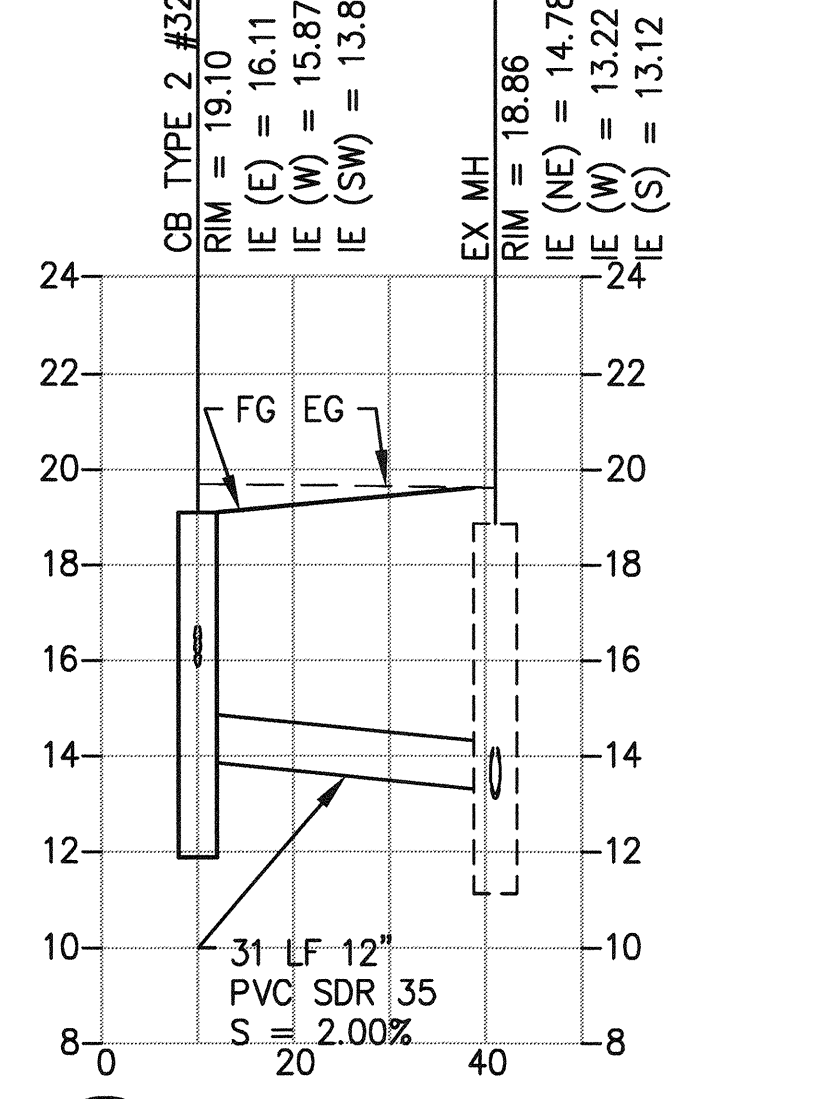
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SD4 SCALE: HORIZ: 1"=20', VERT: 1"=4'



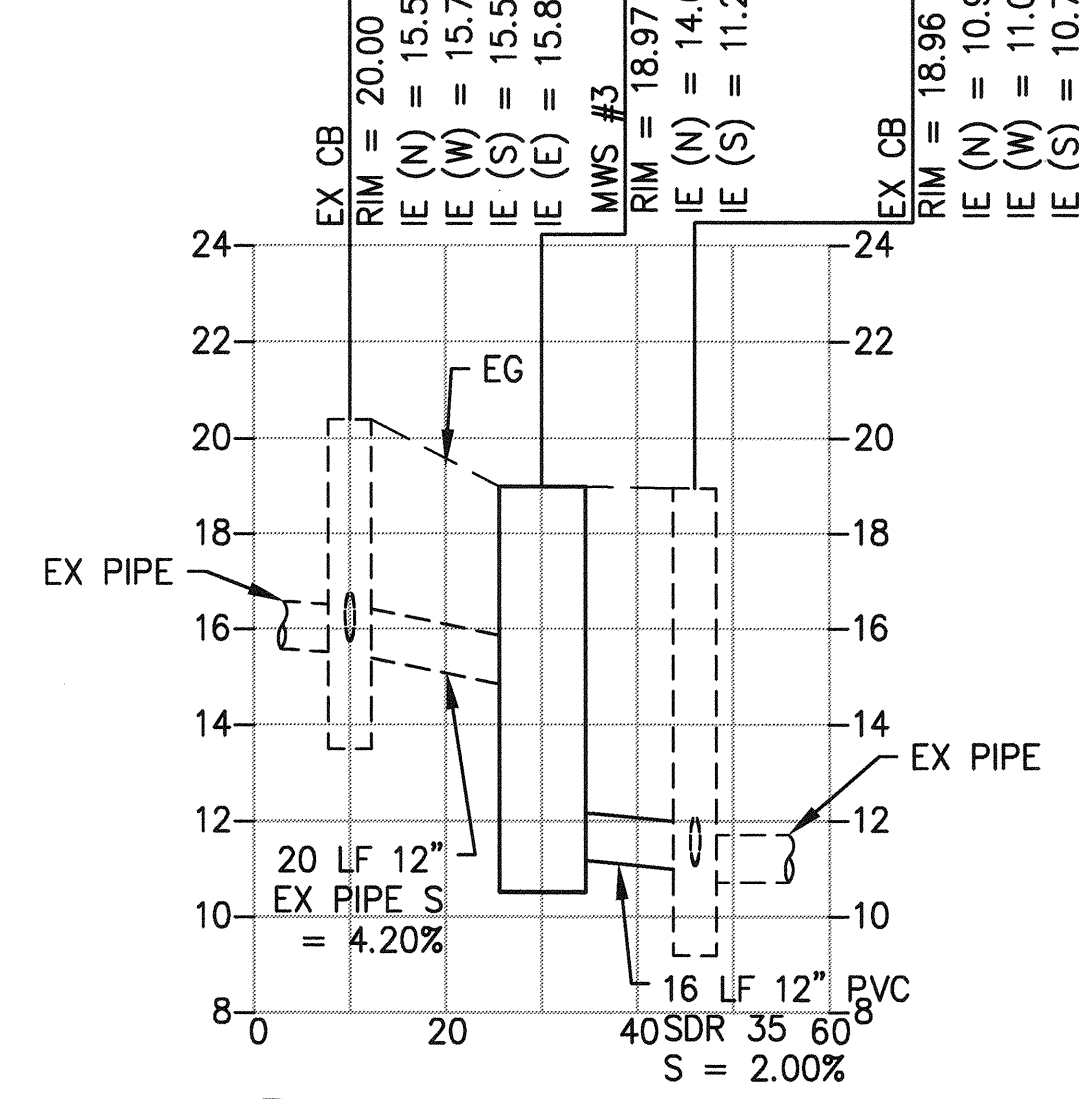
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SD4 SCALE: HORIZ: 1"=20', VERT: 1"=4'



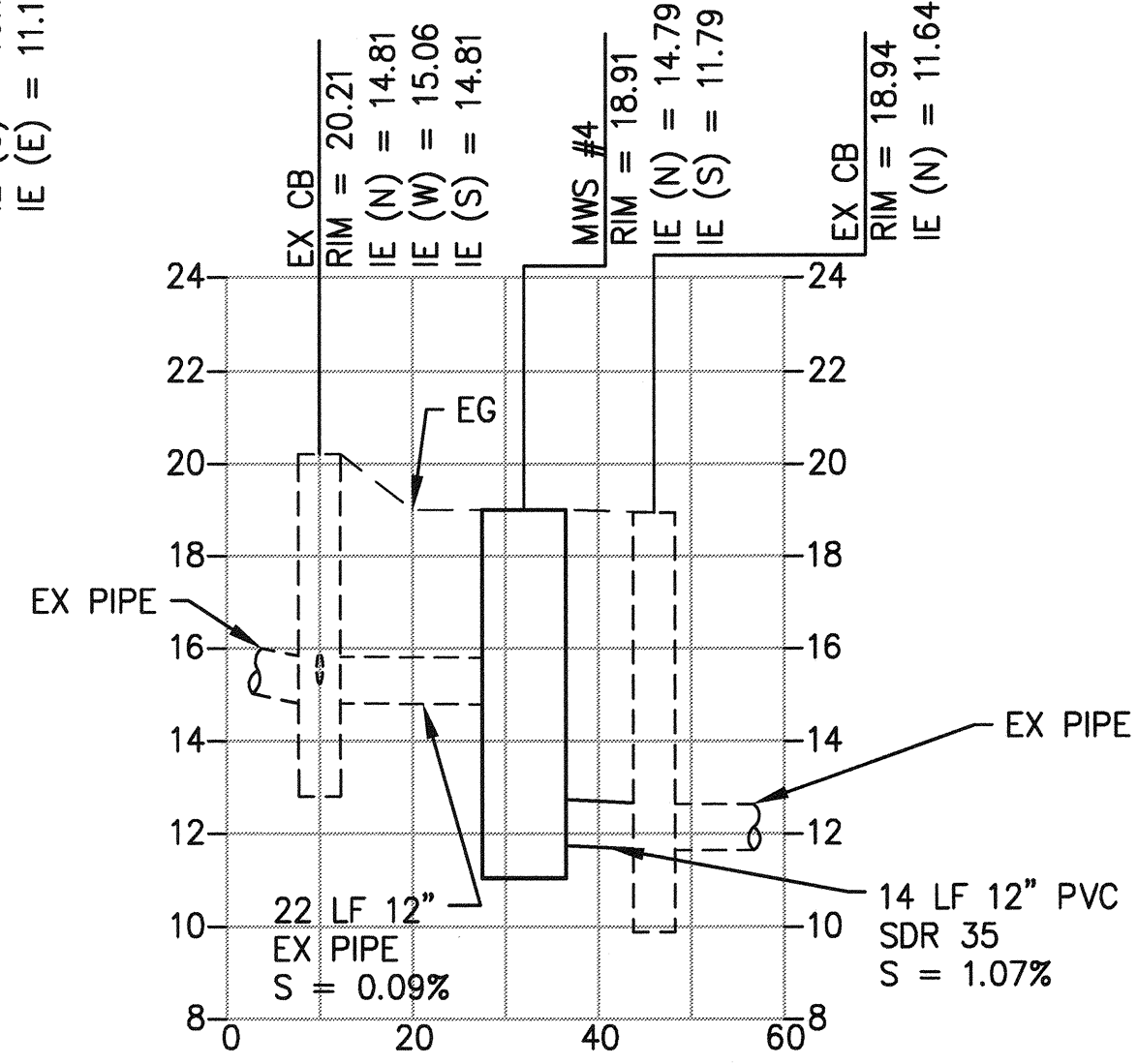
**C** SD LINE  
SD4 SCALE: HORIZ: 1"=20', VERT: 1"=4'



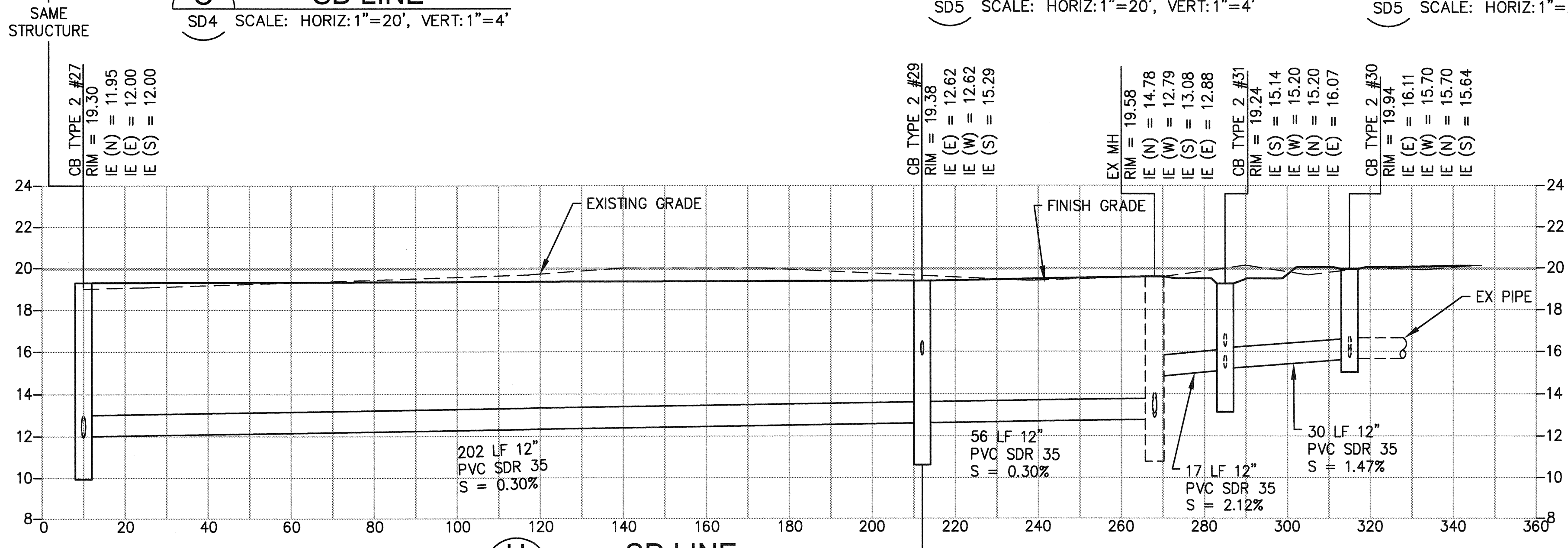
**E** SD LINE  
SD5 SCALE: HORIZ: 1"=20', VERT: 1"=4'



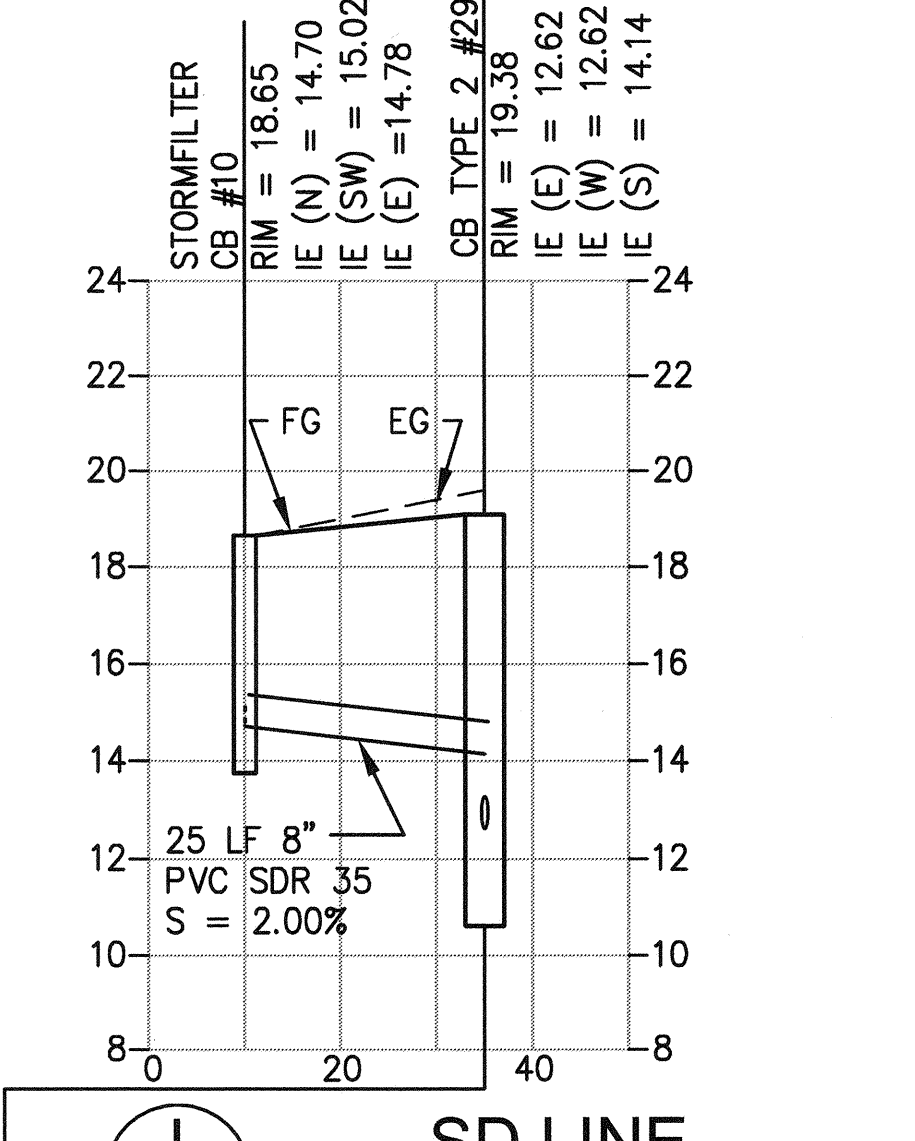
**F** SD LINE  
SD5 SCALE: HORIZ: 1"=20', VERT: 1"=4'



**G** SD LINE  
SD5 SCALE: HORIZ: 1"=20', VERT: 1"=4'



**H** SD LINE  
SD4-5 SCALE: HORIZ: 1"=20', VERT: 1"=4'



**I** SD LINE  
SD5 SCALE: HORIZ: 1"=20', VERT: 1"=4'

**6555 SD16**  
SHEET 106 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

**NORTH LEAD**  
STORM DRAIN PROFILES

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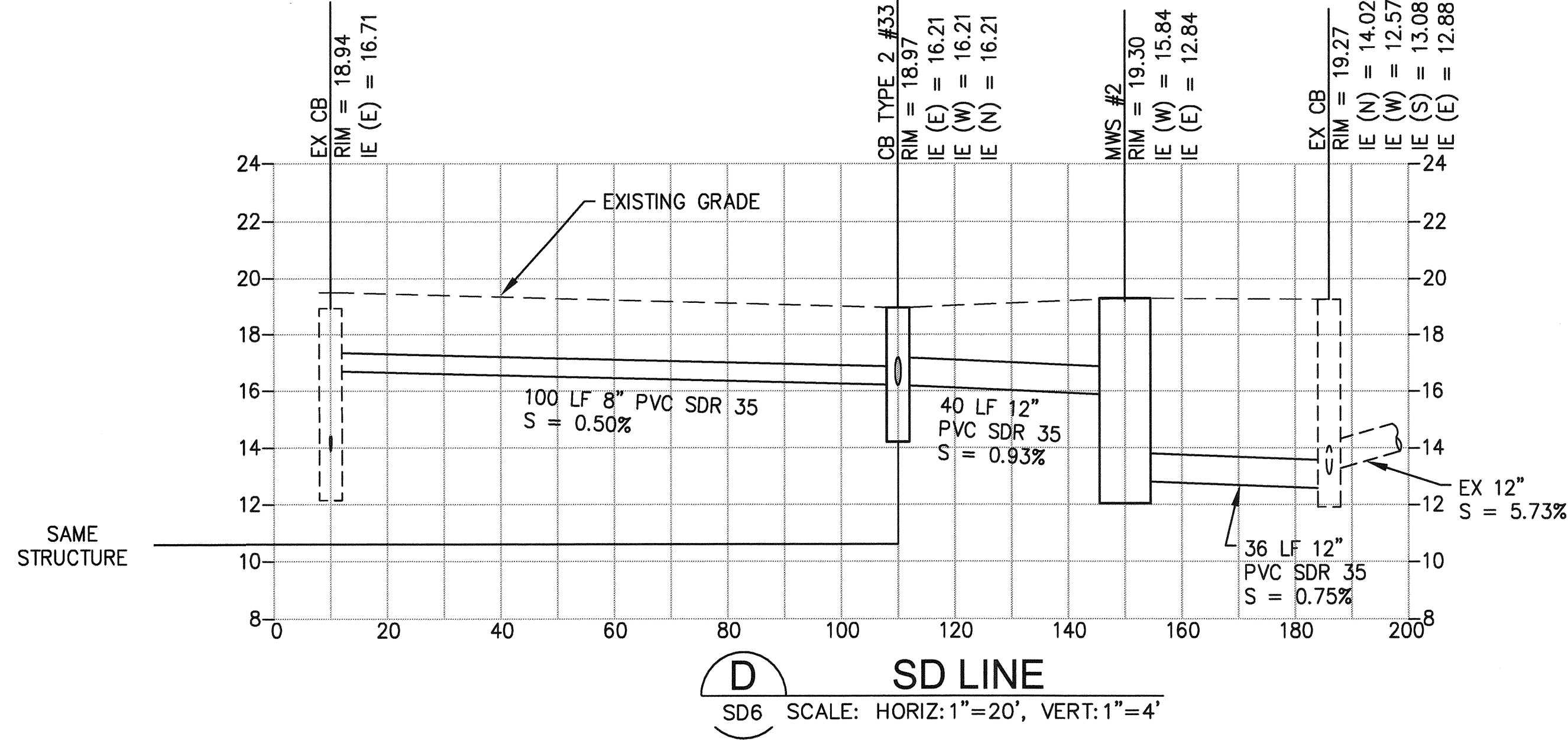
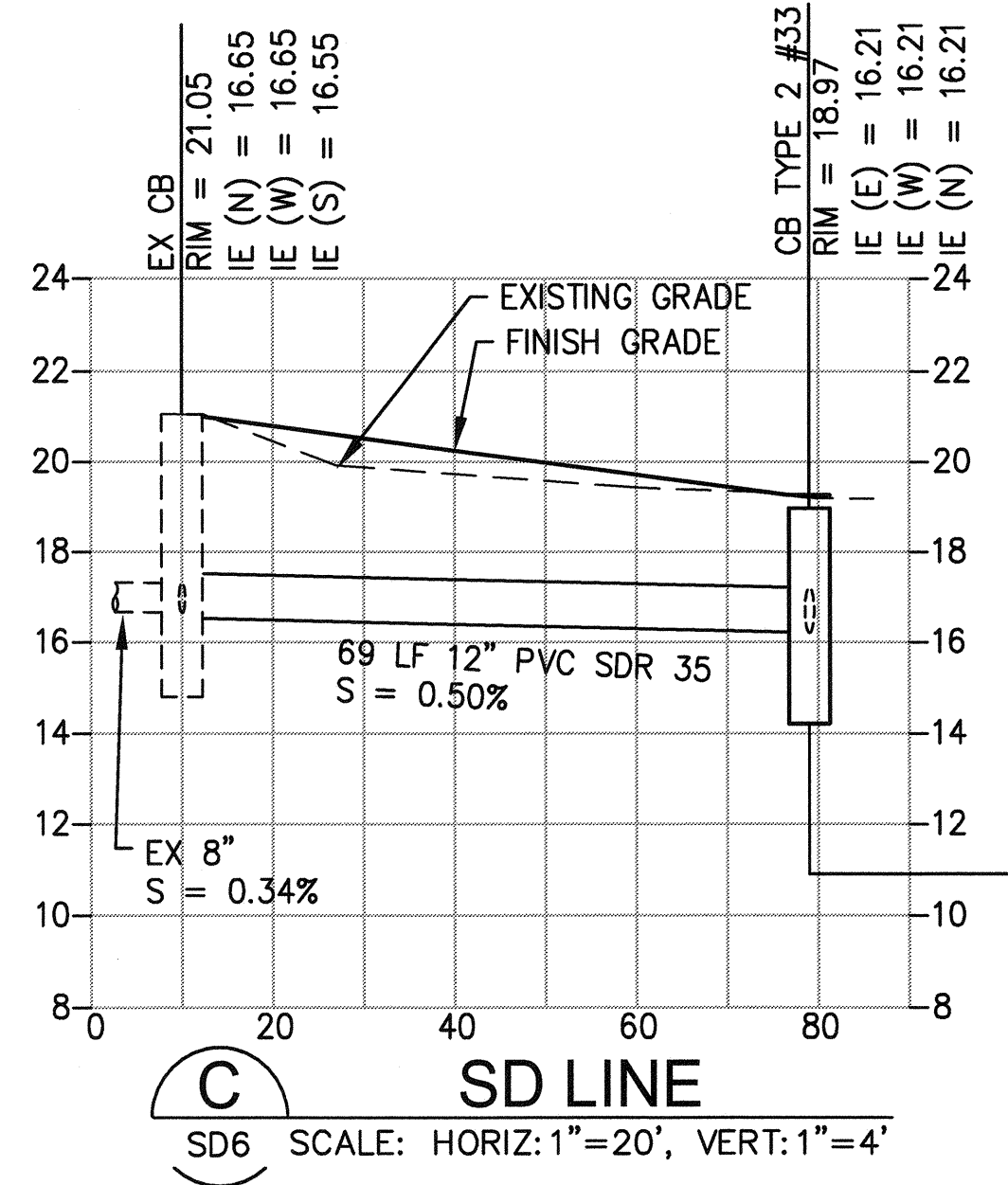
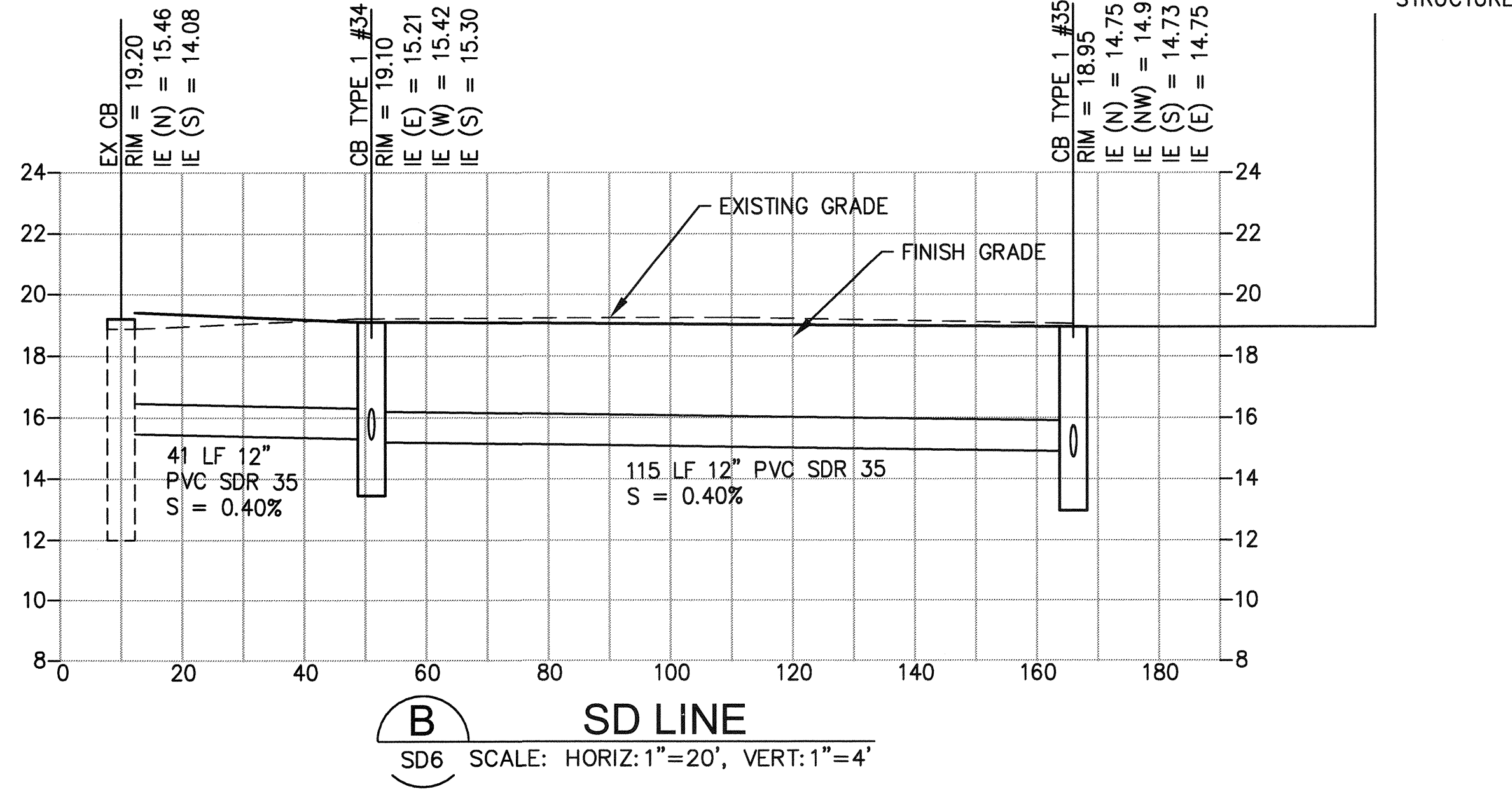
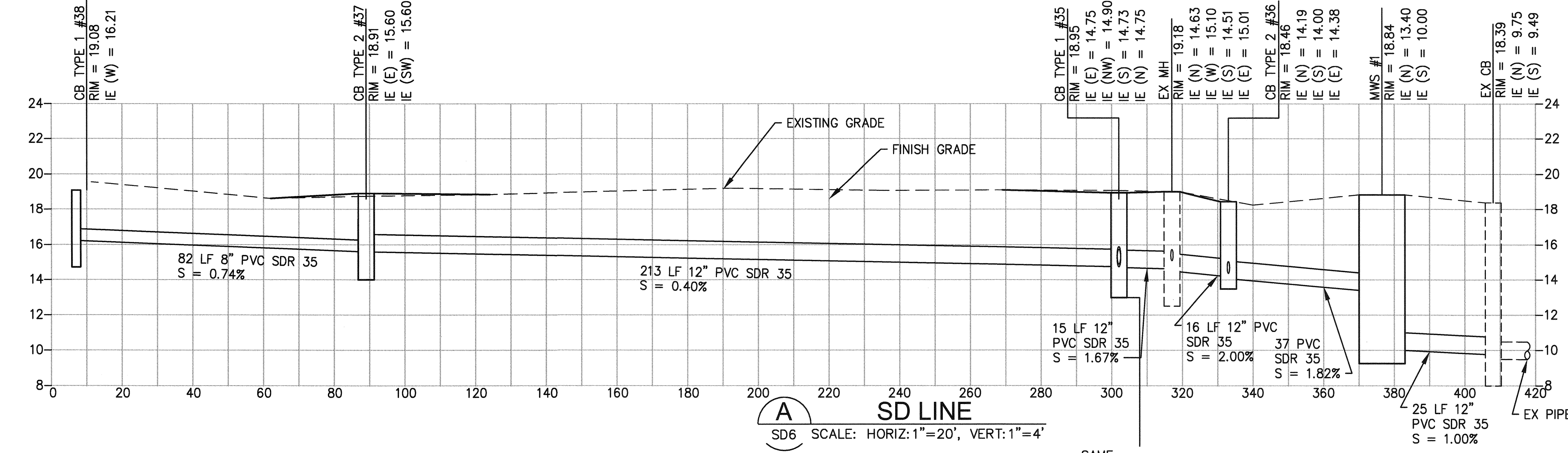
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APPR: [Signature]  
BY: [Signature]  
REVISION: [Signature]

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<p><b>6555</b> <b>SD17</b> SHEET 107 OF 134</p>	<p><b>NORTH LEAD</b> STORM DRAIN PROFILES</p>		<p>APPROVED: <i>[Signature]</i> 4-12-16</p>	<p>SWK 03/17/16 CHECKED BY DATE</p>
	<p>CONTRACT: 070164 M. ID: 092938 PHASE: BID</p>	<p>TOWNSHIP: 20N DAT-HRZ: W83-SF PARCEL: MULTIPLE</p>	<p>RANGE: 03E VERT: PORT OF TACOMA BM #B46 DRAWING SCALE: AS NOTED</p>	<p>DIRECTOR ENG. DATE PRINTED BY: nmedley Mar 18, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837</p>
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STORM DRAIN HORIZONTAL CONTROL POINTS				
POINT	NORTHING	EASTING	DESCRIPTION	SHEET
(A)	704672.01	1168474.08	CB TYPE 2 #1	SD1
(B)	704649.63	1168395.91	CB TYPE 1 #2	SD1
(C)	704527.70	1168445.08	CB TYPE 1 #3	SD1
(D)	704527.70	1168549.33	CB TYPE 1 #4	SD1
(E)	704367.92	1168862.41	CB TYPE 1 #5	SD1
(F)	704400.49	1168879.03	CB TYPE 2 #6	SD1
(G)	704337.96	1169294.54	CB TYPE 2 #7	SD2
(H)	703948.55	1171132.42	CB TYPE 2 #8	SD3
(I)	703918.58	1171128.41	CB TYPE 2 #9	SD3
(J)	703888.53	1171124.55	CB TYPE 2 #10	SD3
(K)	703875.07	1171241.98	RISER #1	SD3
(L)	703890.37	1171243.05	RISER #2	SD3
(M)	703829.53	1171343.10	CB TYPE 2 #11	SD3
(N)	703948.91	1171359.50	CB TYPE 2 #12	SD3
(O)	703899.43	1171563.18	CB TYPE 2 #13	SD4
(P)	703823.92	1171560.14	CB TYPE 2 #14	SD4
(Q)	703838.98	1171561.64	CB TYPE 2 #15	SD4
(R)	703864.50	1171604.94	CB TYPE 1 #16	SD4
(S)	703887.78	1171706.84	CB TYPE 2 #17	SD4
(T)	703902.52	1171814.04	CB TYPE 1 #18	SD4
(U)	703861.86	1171821.57	CB TYPE 1 #19	SD4
(V)	703868.11	1171728.10	CB TYPE 2 #20	SD4
(W)	703809.97	1171948.79	CB TYPE 2 #21	SD4
(X)	703756.17	1172052.96	CB TYPE 2 #22	SD4
(Y)	703798.33	1172052.75	CB TYPE 2 #23	SD4
(Z)	703821.31	1172052.84	CB TYPE 2 #24	SD4
(AA)	703836.64	1172052.90	CB TYPE 2 #25	SD4
(BB)	703878.77	1172009.79	CB TYPE 2 #26	SD4
(CC)	703801.54	1172198.74	CB TYPE 2 #27	SD4
(DD)	703755.88	1172198.78	CB TYPE 2 #28	SD4
(EE)	703817.06	1172402.15	CB TYPE 2 #29	SD5
(FF)	703868.00	1172463.54	CB TYPE 2 #30	SD5
(GG)	703838.63	1172460.19	CB TYPE 2 #31	SD5
(HH)	703834.68	1172629.15	CB TYPE 2 #32	SD5
(II)	703721.51	1174408.22	CB TYPE 2 #33	SD6
(JJ)	703769.20	1174752.23	CB TYPE 1 #34	SD6
(KK)	703787.06	1174865.25	CB TYPE 1 #35	SD6
(LL)	703756.90	1174874.16	CB TYPE 2 #36	SD6
(MM)	703885.53	1175054.12	CB TYPE 2 #37	SD6
(NN)	703885.29	1175136.06	CB TYPE 1 #38	SD6

STORM DRAIN HORIZONTAL CONTROL POINTS				
POINT	NORTHING	EASTING	DESCRIPTION	SHEET
(AB)	704870.58	1168376.21	CO #1	SD1
(AC)	704390.27	1168802.82	CO #2	SD1
(AD)	704443.71	1168888.12	CO #3	SD1
(AE)	704409.95	1168972.66	CO #4	SD2
(AF)	704302.26	1169126.87	CO #5	SD2
(AG)	704003.19	1170783.21	CO #6	SD3
(AH)	703956.66	1170867.34	CO #7	SD3
(AI)	703907.24	1170966.24	CO #8	SD3
(AJ)	703872.36	1171265.17	CO #9	SD3
(AK)	703914.69	1171430.72	CO #10	SD3
(AL)	703878.73	1171473.41	CO #11	SD4
(AM)	703854.51	1171686.68	CO #12	SD4
(AN)	703828.80	1171650.19	CO #13	SD4
(AO)	703825.47	1171673.94	CO #14	SD4
(AP)	703888.99	1171687.96	CO #15	SD4
(AQ)	703761.71	1171773.30	CO #16	SD4
(AR)	NOT USED	NOT USED	CO #17	N/A
(AS)	703846.35	1172201.94	CO #18	SD4
(AT)	703816.10	1172218.62	CO #19	SD4
(AU)	703862.13	1172673.21	CO #20	SD5
(AV)	703834.02	1172656.80	CO #21	SD5
(AW)	703833.60	1172674.33	CO #22	SD5
(AX)	703837.07	1172529.83	CO #23	SD5
(AY)	703836.82	1172540.34	CO #24	SD5
(AZ)	703772.20	1174525.58	CO #25	SD6
(PP)	703758.79	1175099.22	CO #26	SD6

STORM DRAIN HORIZONTAL CONTROL POINTS				
POINT	NORTHING	EASTING	DESCRIPTION	SHEET
(BC)	704624.53	1168406.05	SF CB #1	SD1
(BD)	704402.87	1168924.46	SF CB #2	SD1
(BE)	703974.48	1171134.88	SF CB #3	SD3
(BG)	703865.03	1171209.74	SF CB #4	SD3
(BH)	703922.86	1171539.59	SF CB #5	SD4
(BI)	703768.80	1171776.26	SF CB #6	SD4
(BJ)	703726.79	1171949.47	SF CB #7	SD4
(BK)	703770.80	1171956.59	SF CB #8	SD4
(BL)	703721.94	1172053.13	SF CB #9	SD4
(BM)	703788.03	1172404.10	SF CB #10	SD5

STORM DRAIN HORIZONTAL CONTROL POINTS				
POINT	NORTHING	EASTING	DESCRIPTION	SHEET
(CD)	703717.02	1174884.98	MWS #1	SD6
(CE)	703724.54	1174451.88	MWS #2	SD6
(CF)	703766.73	1173298.49	MWS #3	SD5
(CG)	703755.48	1173691.38	MWS #4	SD5

**6555**

**SD18**

SHEET 108 OF 134

CONT./CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**STORM DRAIN DATA TABLES**

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4-12-16 SWK 03/17/16

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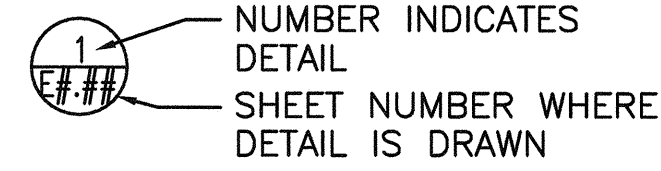
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GENERAL SYMBOLS

Table with 2 columns: Symbol and Description. Includes symbols for sheet note, light line indicates background, light line indicates existing work, heavy line indicates new work, and matchline or property line.

DETAILS

DETAIL IDENTIFICATION



NUMBER INDICATES DETAIL SHEET NUMBER WHERE DETAIL IS DRAWN

RACEWAYS

Table with 2 columns: Symbol and Description. Shows symbols for conduit underground.

RACEWAYS - INDICATORS

Table with 2 columns: Symbol and Description. Shows symbols for conduit stub, conduit turning up, and conduit turning down.

2" 4#1 + 1#6 GND INDICATES TRADE SIZE 2" CONDUIT WITH (4) #1 AWG AND (1) #6 AWG GROUND

(2) 2" 4#1 + 1#6 GND INDICATES (2) TRADE SIZE 2" CONDUITS WITH (4) #1 AWG AND (1) #6 AWG GROUND CONDUCTORS IN EACH CONDUIT

L211/1,3 HOMERUN TO PANELBOARD. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. (EXAMPLE: HOMERUN TO PANEL L211 CKTS. #1 AND #3)

GENERAL NOTES:

- A. ELECTRICAL SYMBOLS ARE DIAGRAMMATIC IN NATURE. REFER TO CIVIL DRAWINGS FOR EXACT LOCATION OF VAULTS, HANDHOLES, AND LIGHTS.
B. CONTRACTOR TO FIELD RECORD ORIENTATION OF ALL LIGHT POLE LUMINAIRE HEADS.
C. FIELD SURVEY AND RECORD PHASE CIRCUIT OF EACH LIGHT POLE BEING REMOVED. NEW LIGHT POLES SHALL BE CONNECTED TO THE SAME PHASE TO REPLICATE LOAD BALANCE.
D. EACH HANDHOLE SHALL HAVE MINIMUM OF ONE GROUND ROD. EACH VAULT SHALL HAVE A MINIMUM OF TWO GROUND RODS. BOND ALL NON CURRENT CARRYING METAL PARTS WITH MINIMUM #4 AWG CONDUCTOR.

ELECTRICAL

Table with 2 columns: Symbol and Description. Lists electrical symbols such as junction box, equipment connection, motor connection, combination motor starter disconnect, fused disconnect switch, unfused disconnect switch, panelboard, transformer, handhole, electrical manhole, electrical meter, electrical riser, electrical handhole, electrical vault, transformer, guy anchor, guy pole, ground flood light, light junction box, overhead pole light, power pole/overhead light, power pole w/drop, power pole, telecommunications manhole, telecommunications vault, telecommunications riser, vault, photocell, N.C. contactor, circuit breaker, meter, and ground.

ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Lists abbreviations such as AC, ADA, AEI, AIC, AF, AFF, AFG, AP, AWG, BFG, BLDG, BRKR, C, CB, CCTV, CKT, C.O., COMM, CONC, CONTR, CT, CTL, CU, DC, DET, DIA, DIAG, DISC, DWG, EA, EF, EL, ELEC, EOL, EXP, EXIST., FDR, FIN, FIO, FIXT, FL, FLEX, FOIC, FT, FU, FUT, GALV, GFI, G.GND, GRC, H, HH, HOA, HP, HPS, HZ, IC, ID, IN, INST, J-BOX, KAIC, KCMIL, KVA, KW, L, LAN, LC, LTG, MH, MIN, MLO, MTD, MTG, MVA, N, N.C., NE, NEUT, NIC, N.O., NO., NTS, NW, OCR, OD, P, PAR, PC, PF, PH, PNL, POC, PT, PVC, PWR, QTY, R, RGS, RQMTS, S, SCHDL, SE, SECT, SER, SHLD, SHT, SM, SPEC, SQ, STD, STL, STR, SURF, SW, SWA, T, TEL, TEMP, TP, TPU, TR, TSP, TYP, UG, UON, V, VA, VS, W, W/O, WP, WT, XFER, XFMR, XMTR, Z, #.

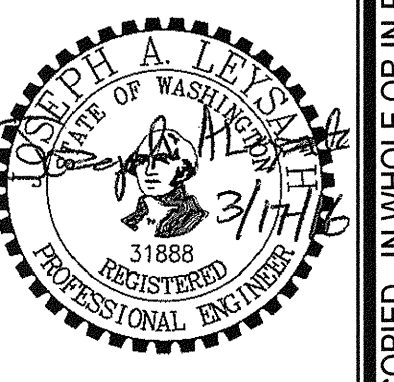
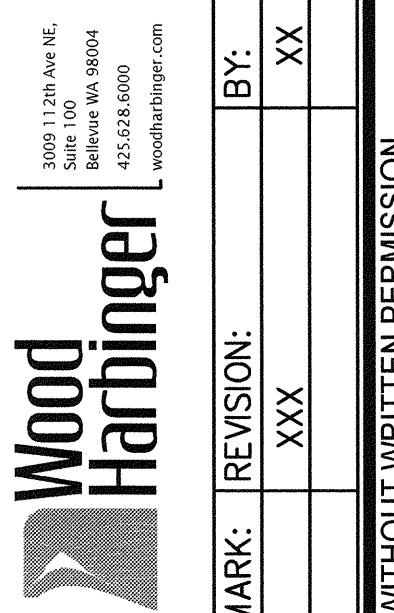
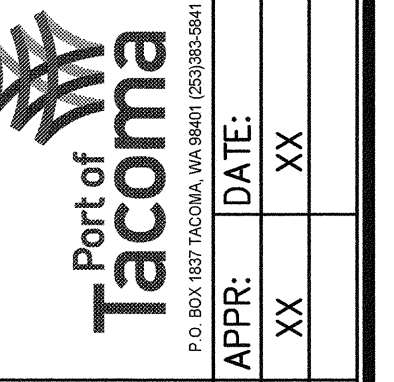
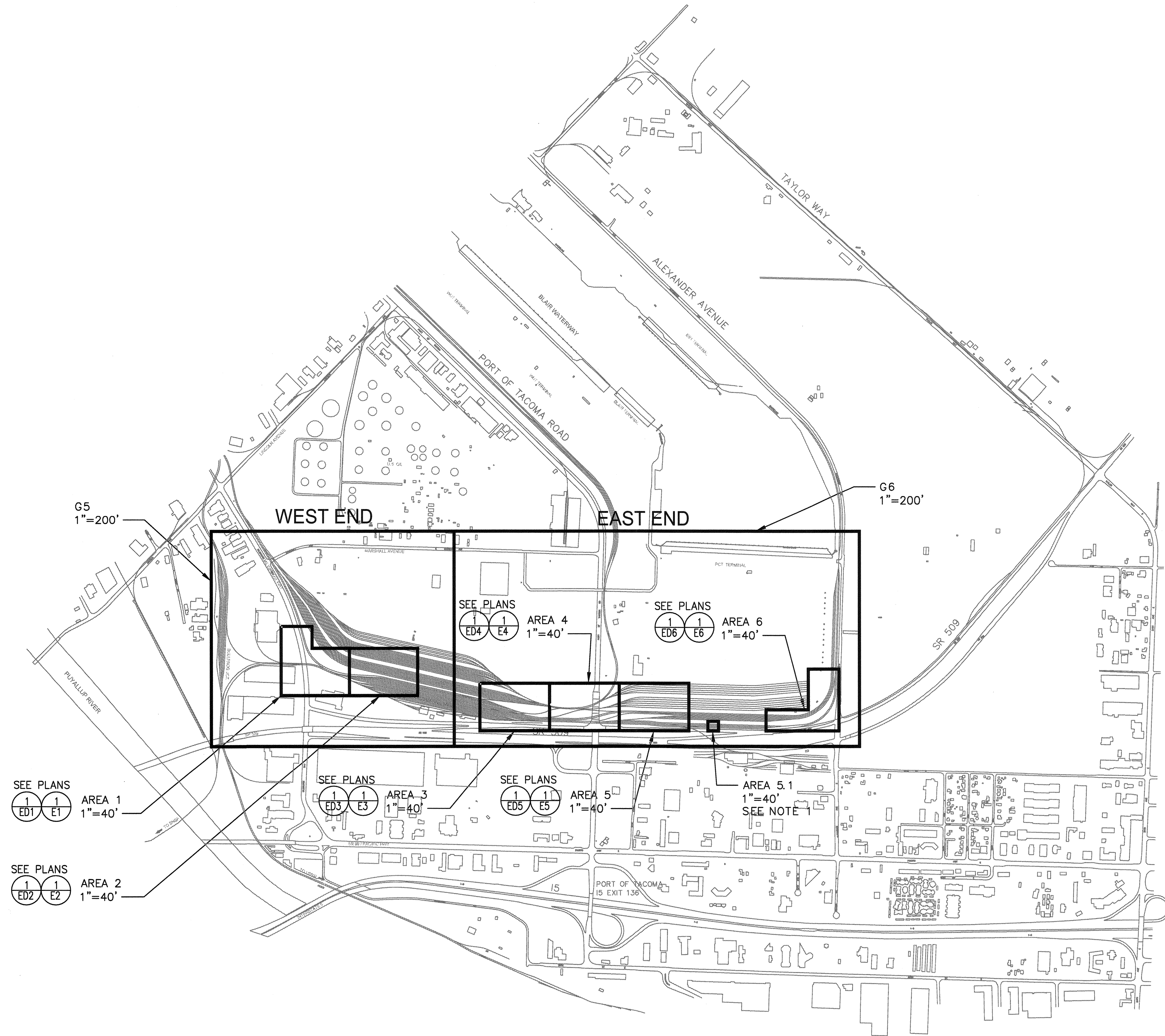


Table with 4 columns: SWK, CHECKED BY, DATE, and PROJECT. Includes dates 03/17/16 and 03/17/16, and project name 'WOODS MAR 16, 2016'.

Table with 4 columns: APPROVED, DIRECTOR ENG. DATE, PRINTED BY, and PORT ADDRESS. Includes name 'Joseph A. Latis' and date '4-12-16'.

Table with 4 columns: NORTH LEAD, ELEC. SYMBOLS AND ABBREVIATIONS LIST, SECTION, and DRAWING SCALE. Includes '6555 GE1' and 'SHEET 109 OF 134'.

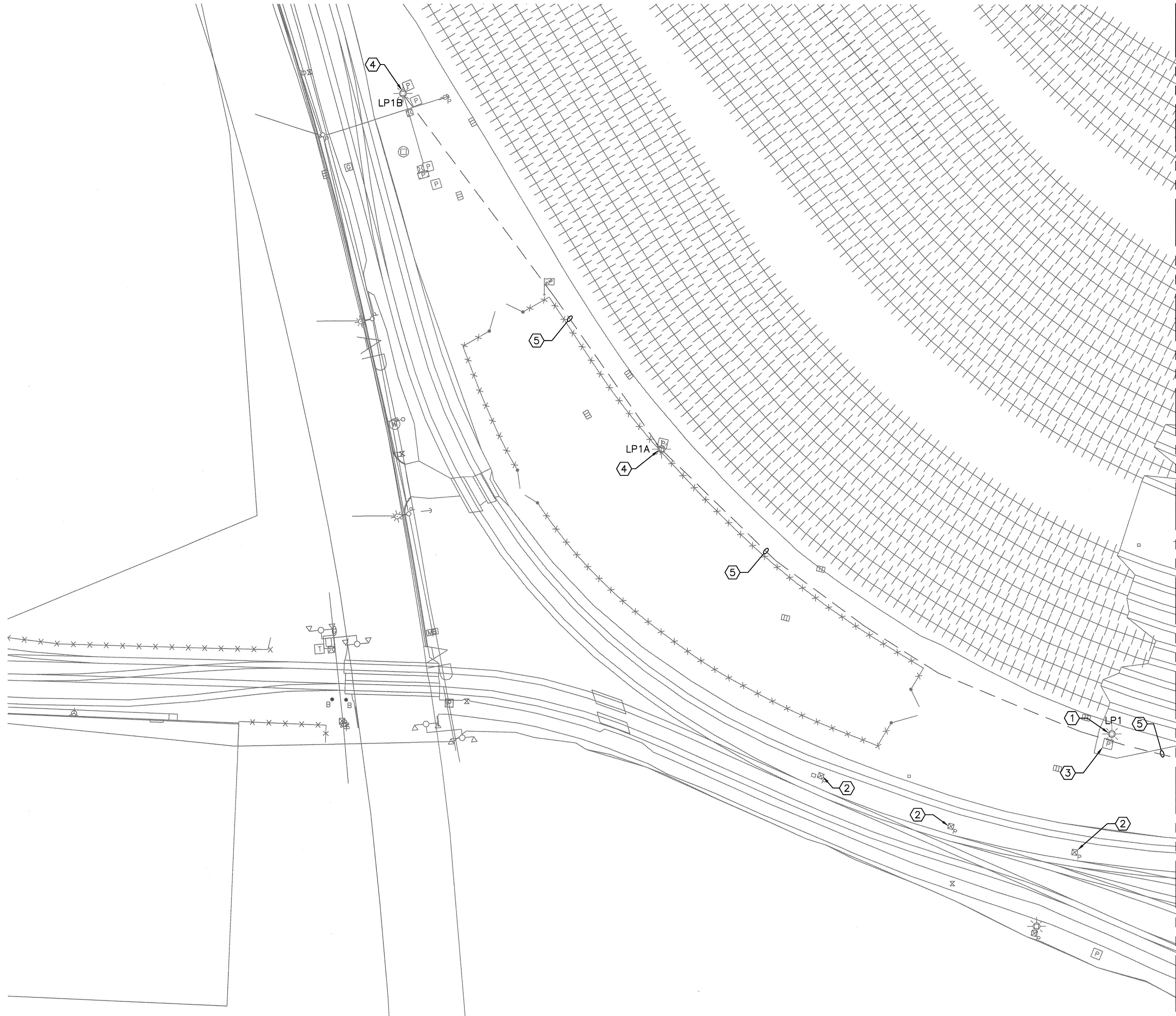


KEY PLAN  
NTS

- NOTES :**
1. AREA 5.1 VIEWABLE ON SHEETS C5 AND SD5 ONLY. NO ELECTRICAL SITE WORK TO BE PERFORMED IN THIS AREA.

<b>6555</b> <b>GE2</b> SHEET 110 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> KEY PLAN - ELECTRICAL TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3 DAT-HRZ: W83-SF PARCEL: MULTIPLE	APPROVED: <i>[Signature]</i> DIRECTOR ENG. DATE: 4-2-16 PRINTED BY: dwoods PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SWK: 03/17/16 CHECKED BY: JAL DATE: 03/17/16 PROJ. ENGR: dwoods DATE: Mar 16, 2016 SITCUM PLAZA		 3008 112th Ave NE, Suite 100 Bellevue WA 98004 425.426.6000 woodharbinger.com	 P.O. BOX 1837 TACOMA, WA 98401 (206)385-9841
		MARK: _____ REVISION: _____ BY: _____ DATE: _____				

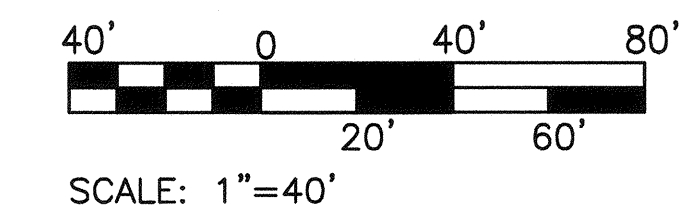
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MATCH LINE - SEE SHEET ED2

KEY NOTES:

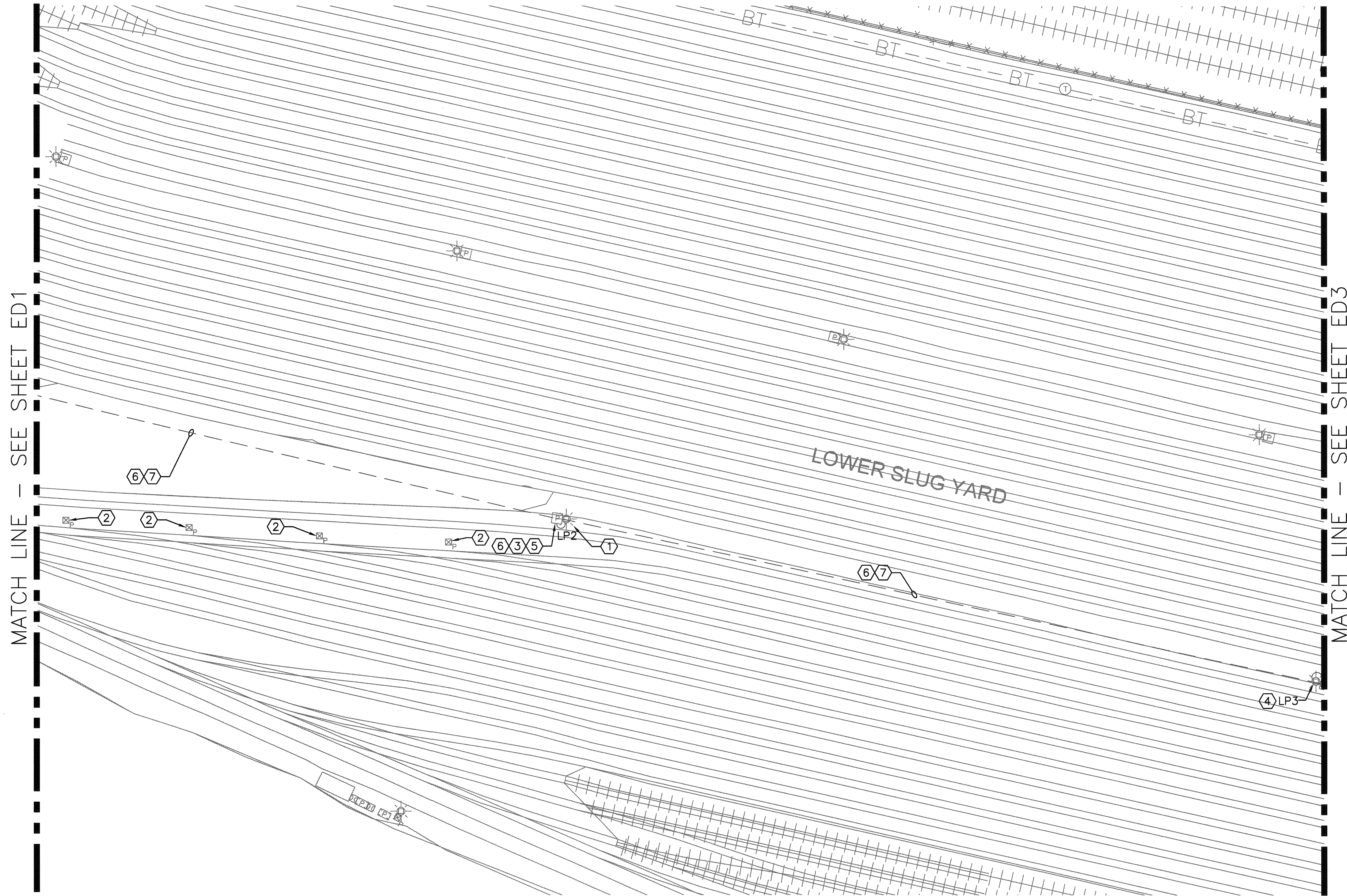
- ① REMOVE EXISTING LIGHT POLE.
- ② REMOVE EXISTING ELECTRICAL RISER, HANDHOLE, RACEWAYS, AND CONDUCTORS SERVING 120V RAIL SWITCH OPERATOR. REMOVE BATTERIES AND RETURN TO PORT. ABANDON BELOW GRADE RACEWAY IN PLACE. SEE DETAIL 4/E12.
- ③ REMOVE EXISTING HANDHOLE (YARD LIGHTING).
- ④ EXISTING LIGHT POLE TO REMAIN.
- ⑤ EXISTING (1)2" C, 3#6 & 1#8G (YARD LIGHTING) TO REMAIN.



**ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE: 1"=40'-0"

<b>6555</b> <b>ED1</b> SHEET 111 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>WEST END - AREA 1</b> ELECTRICAL DEMOLITION SITE PLAN	SWK 03/17/16 CHECKED BY DATE JAL 03/17/16 PROJ. ENGR DATE DIRECTOR ENG. DATE 4-12-16 PRINTED BY: dwoods Mar. 16, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	APPROVED: 4-12-16		 Wood Harbinger 3000 17th Ave NE Suite 100 Bellevue WA, 98004 425.836.6000 woodharbinger.com	 Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401-1837
	TOWNSHIP: 20N    RANGE: 03E    SECTION: 1, 2, 3 DAT-HRZ: W83-SF    VERT: PORT OF TACOMA BM #846 PARCEL: MULTIPLE    DRAWING SCALE:		MARK:    REVISION:    BY:    DATE:    APPR:    DATE:			

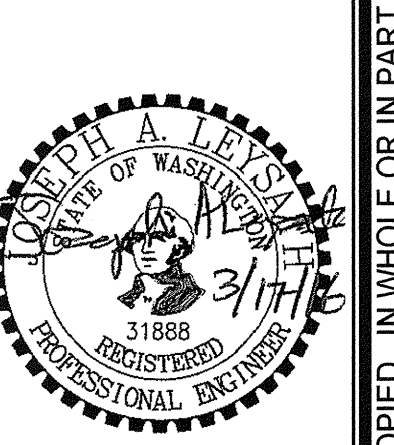
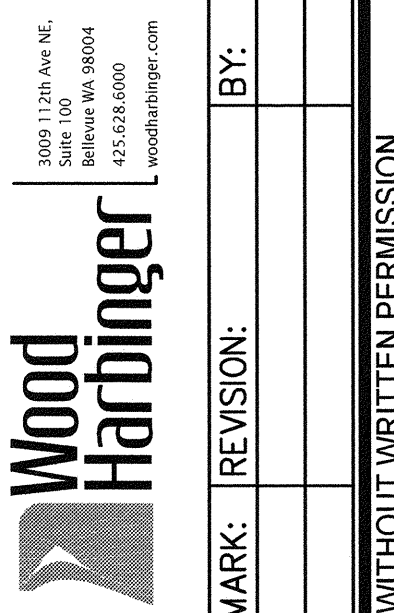
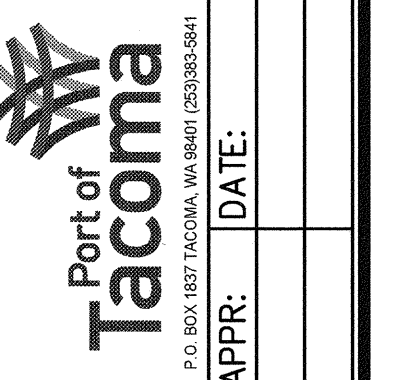
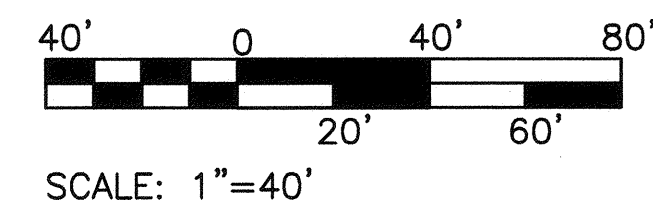
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**ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE: 1"=40'-0"

**KEY NOTES:**

- ① REMOVE EXISTING LIGHT POLE.
- ② REMOVE EXISTING ELECTRICAL RISER, HANDHOLE, AND CONDUCTORS SERVING 120V RAIL SWITCH OPERATOR. REMOVE BATTERIES AND RETURN TO PORT. ABANDON BELOW GRADE RACEWAY IN PLACE. SEE DETAIL 4/E12.
- ③ REMOVE ELECTRICAL HANDHOLE (YARD LIGHTING).
- ④ EXISTING LIGHT POLE TO REMAIN.
- ⑤ REMOVE 2" C CONDUIT BACK TO FACILITATE NEW VAULT LOCATION (YARD LIGHTING).
- ⑥ REMOVE EXISTING 3#6 & 1#8G (YARD LIGHTING) BACK TO LIGHT POLES LP1 & LP3.
- ⑦ EXISTING (1)2" C (YARD LIGHTING) TO REMAIN.



APPROVED:	SWK	03/17/16
<i>Joseph Lewis</i>	CHECKED BY	DATE
	JAL	03/17/16
DIRECTOR ENG. DATE	PROJ. ENGR	DATE
4-2-16	dwoods	Mar 16, 2016
PRINTED BY:	PORT ADDRESS: ONE SITCUM PLAZA	
	TACOMA, WA 98401-1837	

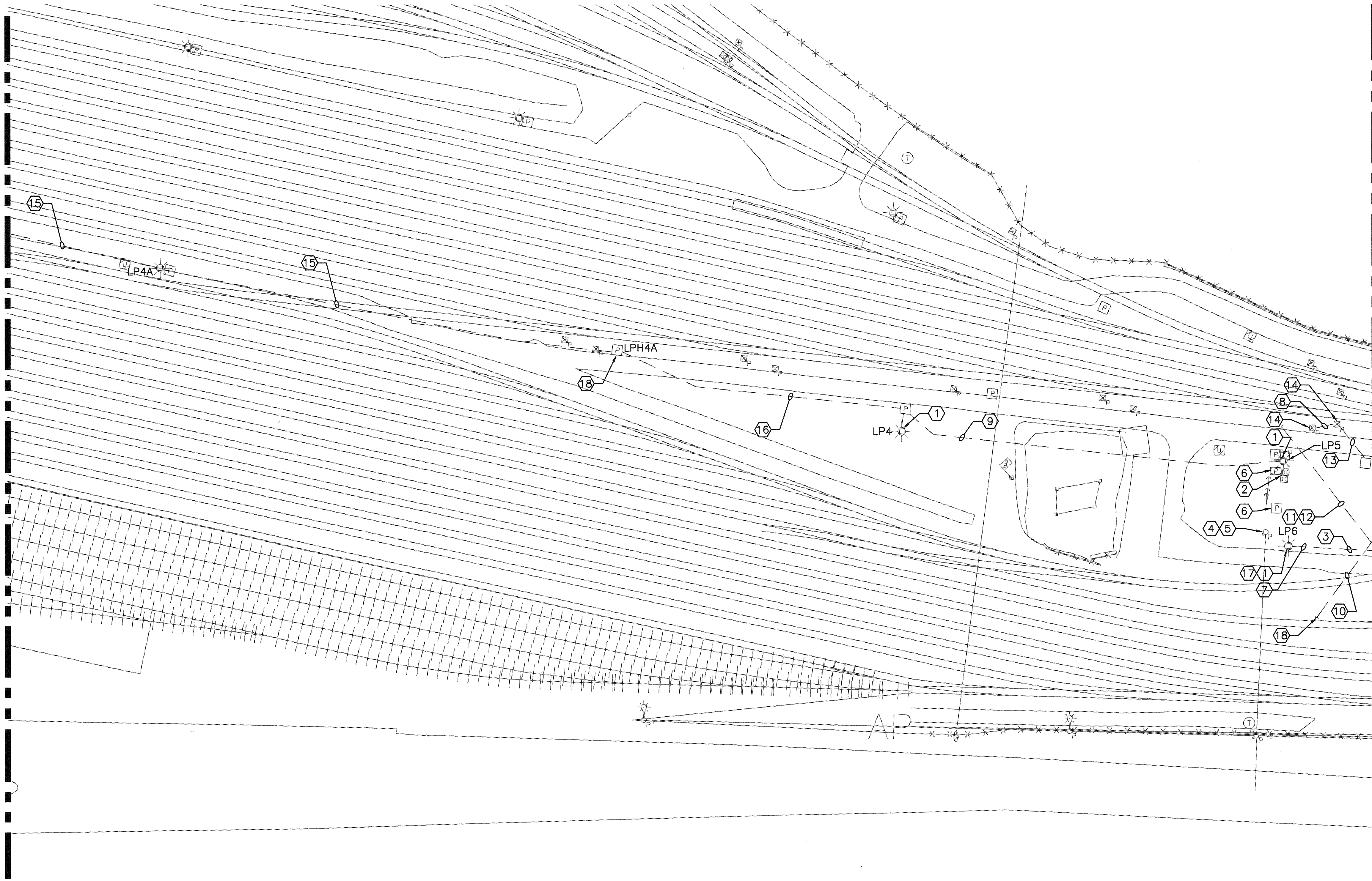
NORTH LEAD		
WEST END - AREA 2		
ELECTRICAL DEMOLITION SITE PLAN		
TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
DAT-HRZ: W83-SF	VERT: PORT OF TACOMA	BM #846
PARCEL: MULTIPLE	DRAWING SCALE:	

6555	ED2
SHEET 112 OF 134	
CONT/CONS: 070164	
M ID: 092938	
PHASE: BID	

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MATCH LINE - SEE SHEET ED2

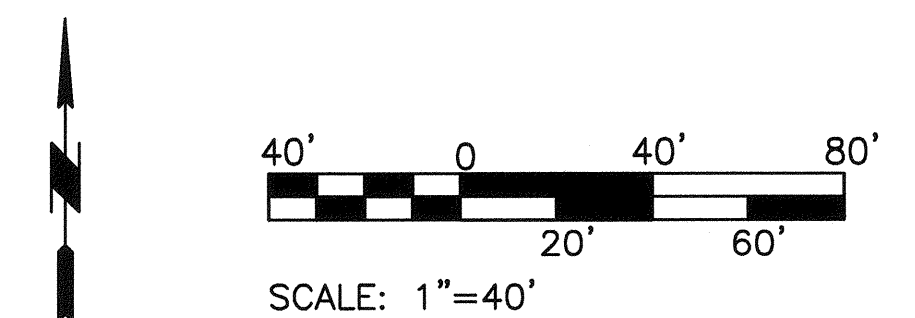
MATCH LINE - SEE SHEET ED4



**ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE: 1"=40'-0"

**KEY NOTES:**

- ① REMOVE EXISTING LIGHT POLE.
- ② REMOVE (2) METERS, ASSOCIATED 200A/3P CIRCUIT BREAKER DISCONNECT, 60A/3P CIRCUIT BREAKER DISCONNECT, AND TR YARD LIGHTING CONTACTOR. SALVAGE FOR NEW WORK. REMOVE RACEWAY AND CONDUCTORS PER DETAIL 2/E13
- ③ REMOVE ASSOCIATED 2"C, 3#6 AND 1#8 YARD LIGHTING BRANCH CIRCUIT BACK TO LP7.
- ④ REMOVE 4#3/0 AND ASSOCIATED 4" CONDUIT FROM TPU POLE BACK TO METERS.
- ⑤ CONTRACTOR TO COORDINATE REMOVAL OF EXISTING POLE WITH TPU, SEE SHEET C14 AND E8.
- ⑥ REMOVE TPU HANDHOLE.
- ⑦ UTILITY POTHOLE EXISTING CONDUIT. REFERENCE SPECIFICATION SECTION 011400 AND CD3 FOR LOCATION OF POTHOLE.
- ⑧ EXISTING CONDUIT TO POWER RAIL SWITCH TO REMAIN. REMOVE CONDUCTORS BACK TO PANEL A1.
- ⑨ REMOVE 2"C, 3#6, AND 1#8G YARD LIGHTING BRANCH CIRCUIT BACK TO YARD CONTACTOR.
- ⑩ REMOVE (2)4"C (COMM.) BACK TO VAULT 2CV3 TO FACILITATE NEW TRACK WORK.
- ⑪ REMOVE (2)4"C (AEI) FROM VAULT 2CV3 BACK TO NORTH OF EXISTING PAVING. CAP AND MARK LOCATION FOR FUTURE.
- ⑫ REMOVE CONDUCTORS (AEI) FROM CONDUIT SERVING SENSORS BACK TO VAULT 2CV3. SEE SHEET E8 FOR SENSORS LOCATION.
- ⑬ REMOVE 120V CIRCUITS A1/14,16. (SERVING BATTERY CHARGERS ON TRACK RAIL SWITCHES) FROM PANEL A1 TO FIRST SWITCH TO REMAIN.
- ⑭ EXISTING POWER RAIL SWITCH TO REMAIN.
- ⑮ EXISTING (1)2"C, 3#6 & 1#8G (YARD LIGHTING TO REMAIN).
- ⑯ REMOVE (1)2"C, 3#6 & 1#8G.
- ⑰ REFER TO SHEET E8 FOR TEMPORARY CIRCUITING OF THIS POLE.
- ⑱ STOP CONDUIT REMOVAL HERE TO FACILITATE NEW WORK.

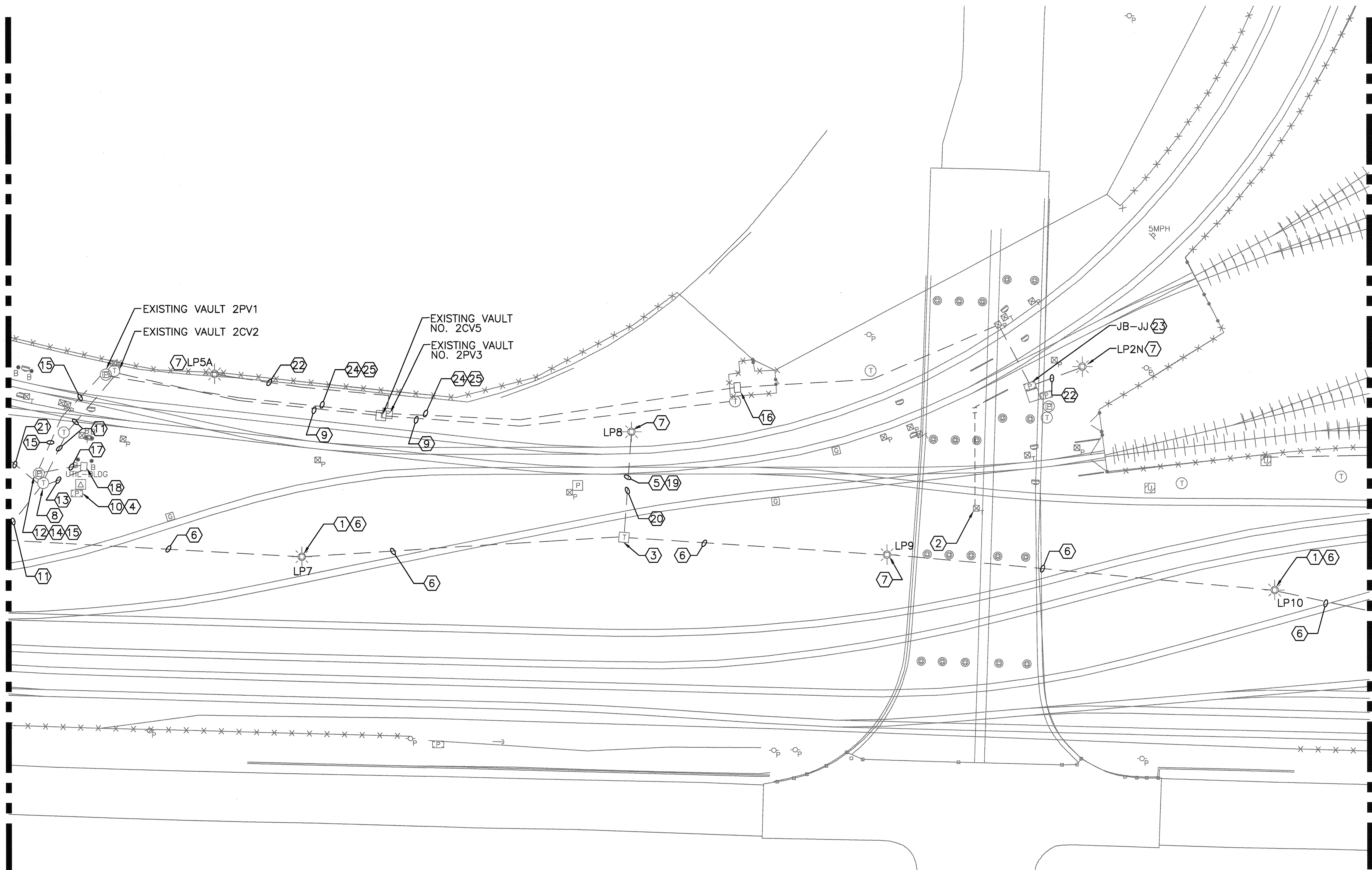


 3000 12th Ave NE Suite 100 Bellevue, WA 98004 425.454.8000 woodharbinger.com	 P.O. BOX 8827 TACOMA, WA 98401 (206)383-3441	APPR: _____ DATE: _____
	BY: _____	REVISION: _____
 JOSEPH A. LEVENS STATE OF WASHINGTON 31888 REGISTRATION PROFESSIONAL ENGINEER		
APPROVED: <i>[Signature]</i> SWK 03/17/16 CHECKED BY: JAL DATE: 03/17/16	DIRECTOR ENG. DATE: 4-7-16 PRINTED BY: dwoods DATE: Mar 16, 2016	PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837
<b>6555</b> <b>ED3</b> SHEET 113 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>EAST END - AREA 3</b> <b>ELECTRICAL DEMOLITION SITE PLAN</b>	SECTION: 1, 2, 3 RANGE: 03E TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA EM #846 DRAWING SCALE:

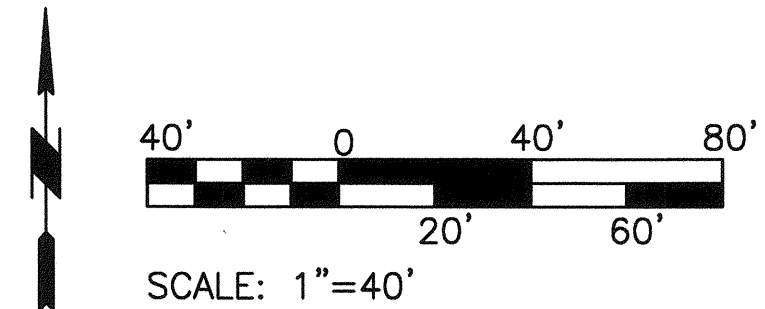
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MATCH LINE - SEE SHEET ED3

MATCH LINE - SEE SHEET ED5



**ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE: 1"=40'-0"



- ① REMOVE (2) 4"C & CONDUCTORS (AEI) FROM SENSORS BACK TO VAULT 2CV3.
- ② EXISTING 2"C, 3#2 AND 1#6G (YARD LIGHTING WEST) TO REMAIN.
- ③ EXISTING TO REMAIN.
- ④ REMOVE 3#3/0 AND 1#4G FROM PANEL DPA TO 70A/3P ENCLOSURE BREAKER/DISCONNECT FROM 4"C. 3"C TO REMAIN.
- ⑤ EXISTING 3"C, 3#2 AND 1#6G (YARD LIGHTING WEST) TO REMAIN.

**GENERAL NOTES:**

A. REFER TO MANHOLE BUTTERFLY FOR ADDITIONAL INFORMATION ON SHEET E15.

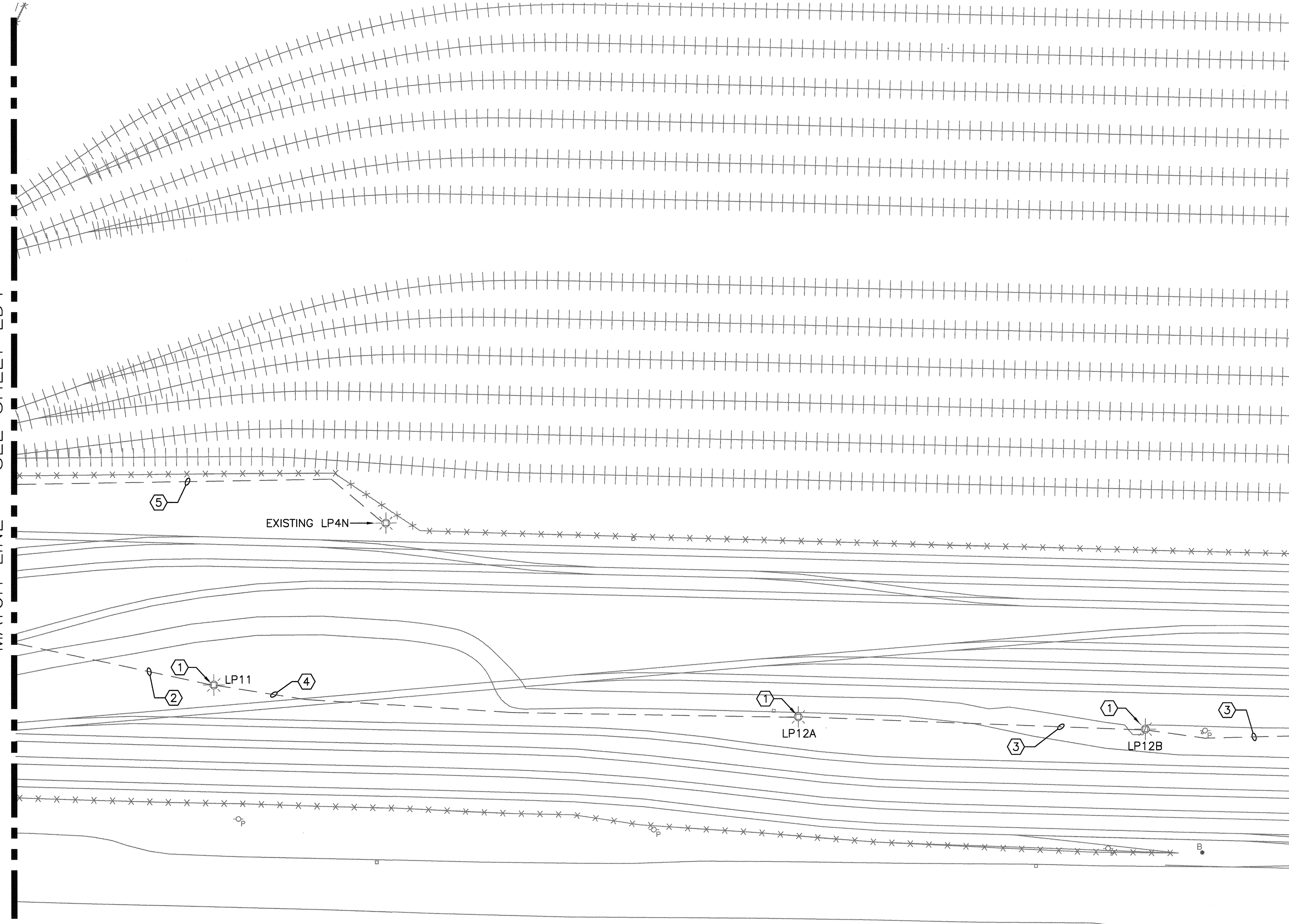
**KEY NOTES:**

- ① REMOVE EXISTING LIGHT POLE.
- ② REMOVE AB 3" SPARE CONDUIT, PEDESTAL AND ASSOCIATE CONDUITS BACK TO BELOW GRADE CONTINUE SHEET E9.
- ③ REMOVE ELECTRICAL HANDHOLE (YARD LIGHTING).
- ④ REMOVE SERVICE FEEDER DPA FROM METER AND ASSOCIATED BRANCH CIRCUITS SERVING 45KVA TRANSFORMER AND PANEL A1.
- ⑤ REMOVE 3#6 AND 1#8G FROM LIGHT POLE BACK TO HANDHOLE.
- ⑥ REMOVE 2"C, 3#6 AND 1#8G (YARD LIGHTING).
- ⑦ EXISTING LIGHT POLE TO REMAIN.
- ⑧ REMOVE COMMUNICATION VAULT 2CV3. SALVAGE FOR NEW WORK.
- ⑨ (3)4"C. WITH CONDUCTORS (COMM) TO REMAIN.
- ⑩ EXISTING PANELS DPA, A1, 45 KVA TRANSFORMER, AND POT YARD LIGHTING CONTACTOR TO BE REMOVED. SALVAGE FOR NEW WORK.
- ⑪ REMOVE (2)4"C (COMM.) BACK TO FACILITATE NEW TRACK WORK.
- ⑫ REMOVE POWER VAULT 2VP.2 SALVAGE FOR NEW WORK.
- ⑬ REMOVE ALL AB CONDUCTORS AND (2)4"C FROM SENSORS BACK TO AB HUT2.
- ⑭ REMOVE (3)#3/0 AND 1#6G (DPA CKT 2) BACK TO COMM HUT1.4 70A/3P ENCLOSED BREAKER/DISCONNECT.
- ⑮ REMOVE (2)4"C AND CONDUCTORS (POWER) BACK TO FACILITATE NEW TRACK WORK.
- ⑯ EXISTING 70A/3P ENCLOSURE BREAKER/DISCONNECT, 150KVA TRANSFORMER AND PANEL "WEST YARD" SERVING COMM HUT1.4 TO REMAIN.
- ⑰ REMOVE 3" RACEWAY AND CONDUCTORS SERVING AB HUT2 BACK TO PANEL A1 (100A SERVICE). REMOVE (2) GROUND RODS AND BONDING CONDUCTORS.
- ⑱ REMOVE AB HUT2 AND ASSOCIATE LEGS THAT ARE BURIED APPROXIMATELY 48" BFG. SEAL OFF CONDUIT PORTS TO FACILITATE MOVE AB HUT2 TO BE SALVAGE FOR NEW WORK.
- ⑲ REMOVE CONDUIT FROM HANDHOLE TO EDGE OF TRACK. CAP AND MARK PHASED WORK.
- ⑳ UTILITY POTHOLE EXISTING CONDUIT. REFERENCE SPECIFICATION SECTION 011400. REFER TO DRAWING CD4 FOR POTHOLE LOCATIONS.

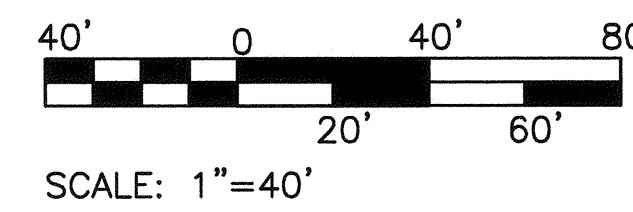
 3000 17th Ave. NE Suite 100 Bellevue, WA 98004 425.454.0000 woodharbinger.com	 JOSEPH A. LEVENS STATE OF WASHINGTON 31888 REGISTERED PROFESSIONAL ENGINEER
	SWK 03/17/16 CHECKED BY DATE JAL 03/17/16 DIRECTOR ENG. DATE 4-2-16 PRINTED BY: dwoods Mar 16, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837
6555 <b>ED4</b> SHEET 114 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	NORTH LEAD EAST END - AREA 4 ELECTRICAL DEMOLITION SITE PLAN RANGE: 03E TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 SECTION: 1, 2, 3 DRAWING SCALE:

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MATCH LINE - SEE SHEET ED4



**ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE: 1"=40'-0"



**KEY NOTES:**

- ① EXISTING LIGHT POLE TO REMAIN.
- ② REMOVE 1.5" C, 3#6 & 1#8G (YARD LIGHTING) BACK TO LIGHT POLE LP 10.
- ③ EXISTING (1) 2" C, 3#6 & 1#8G (YARD LIGHTING) TO REMAIN.
- ④ REMOVE 3#6 & 1#8G IN EXISTING 1.5" C FROM LP11 TO LP12A. EXISTING 1.5" C TO REMAIN.
- ⑤ EXISTING (1) 2" C, 3#2 & 1#6G TO REMAIN.

6555

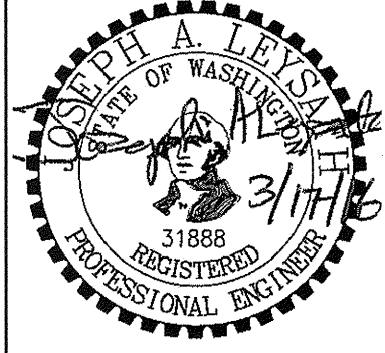
**ED5**

SHEET 115 OF 134  
 CONT./CONS: 070164  
 M. ID: 092938  
 PHASE: BID

**NORTH LEAD  
 EAST END - AREA 5  
 ELECTRICAL DEMOLITION SITE PLAN**

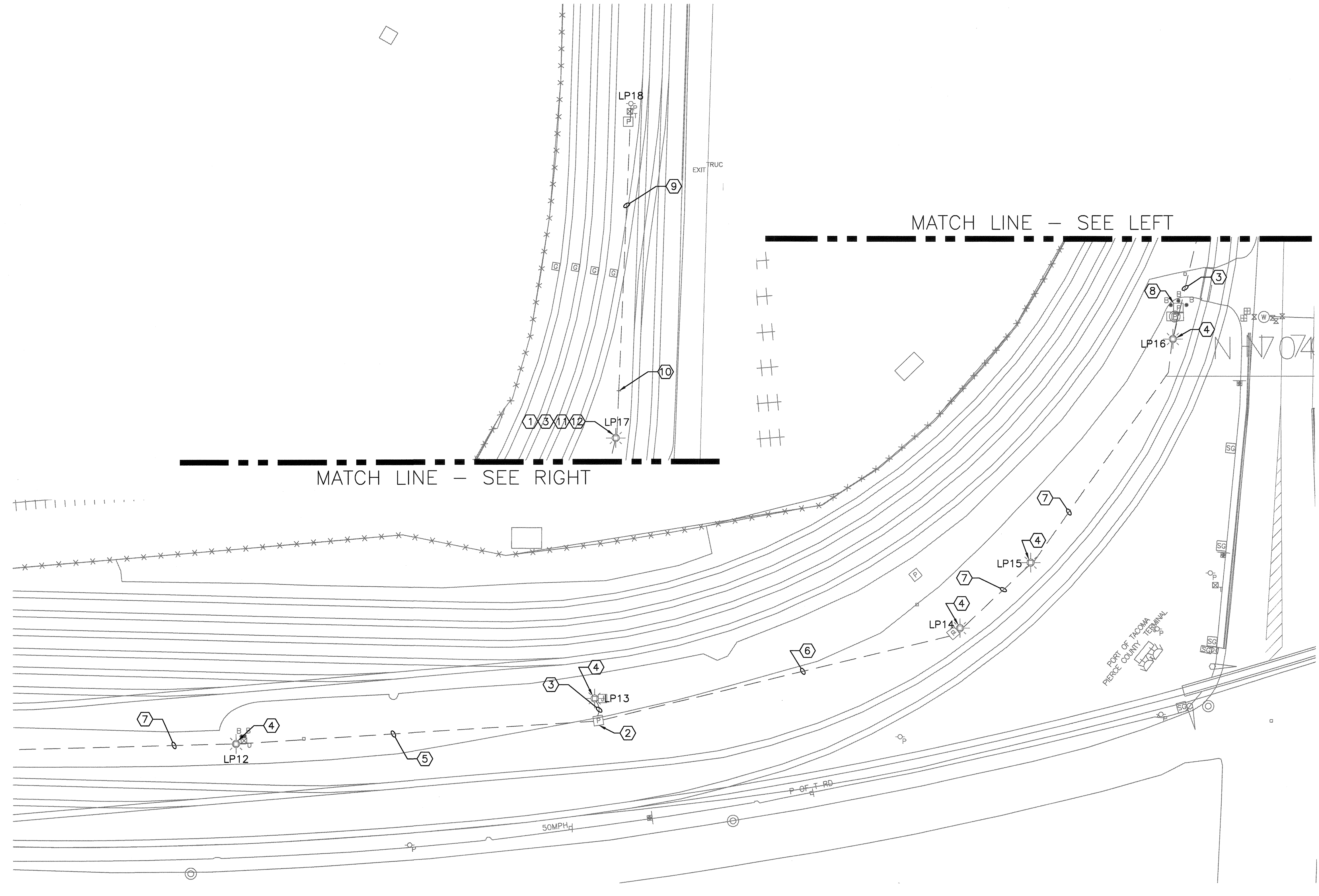
TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3  
 DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846  
 PARCEL: MULTIPLE DRAWING SCALE:

APPROVED: *[Signature]* SWK 03/17/16  
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 PRINTED BY: dwoods Mgr 16, 2016  
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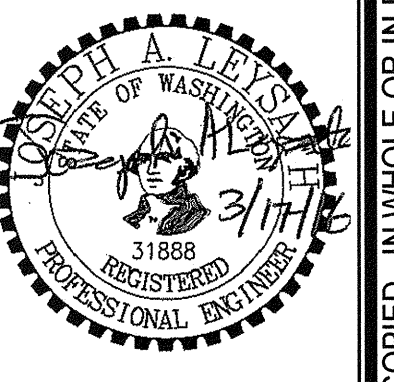
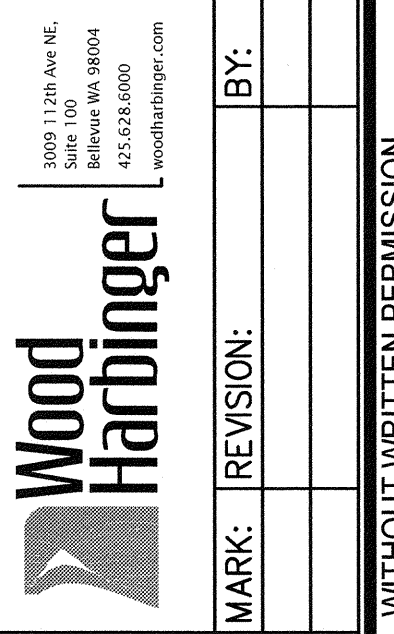
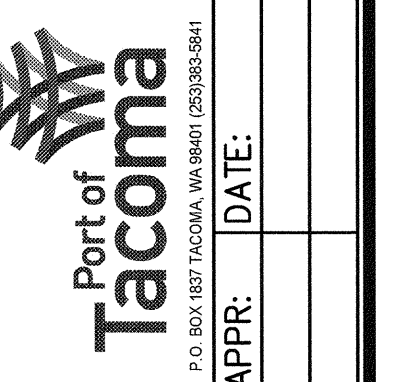
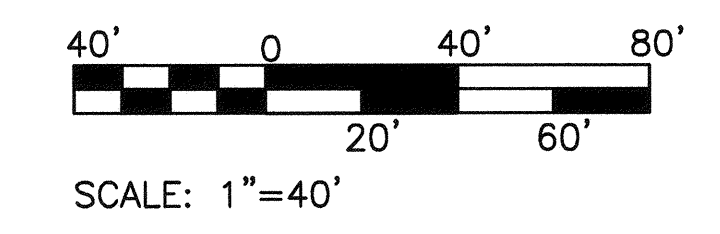
**Port of Tacoma**  
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**ELECTRICAL DEMOLITION SITE PLAN**  
 SCALE: 1"=40'-0"

**KEY NOTES:**

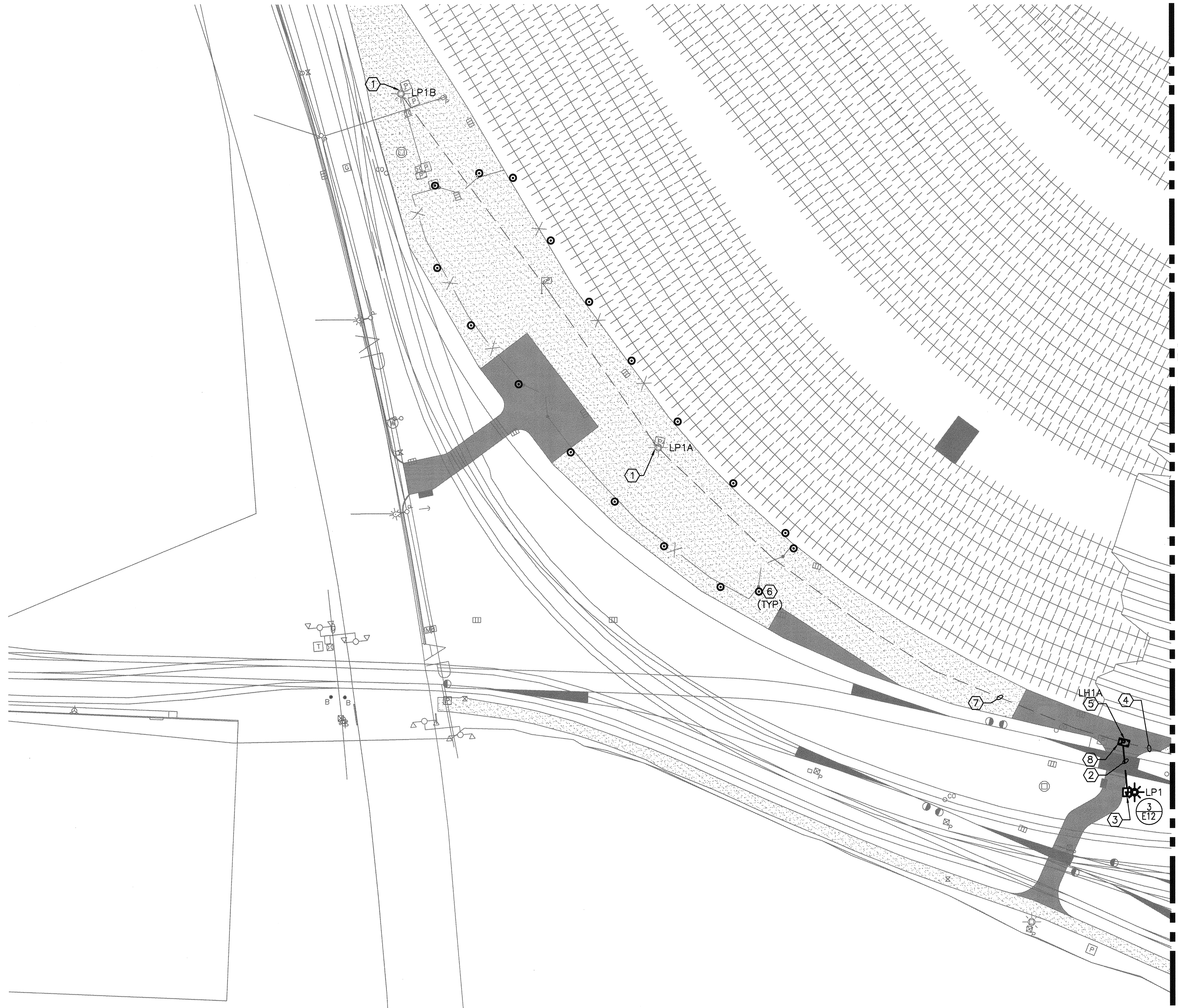
- ① REMOVE EXISTING LIGHT POLE.
- ② REMOVE EXISTING YARD LIGHTING HAND HOLE LH13A
- ③ REMOVE 2"C, 3#6 AND 1#8G BACK TO HAND HOLE TO FACILITATE NEW TRACK WORK.
- ④ EXISTING LIGHT POLE TO REMAIN.
- ⑤ REMOVE 3#6 AND 1#8G (YARD LIGHTING) FROM LIGHT POLE LP12 TO LP13.
- ⑥ REMOVE 3#6 AND 1#8G (YARD LIGHTING) FROM LIGHT POLE LP13 BACK TO LP14.
- ⑦ EXISTING (1)2"C, 3#6 AND 1#8G (YARD LIGHTING) TO REMAIN.
- ⑧ EXISTING HANDHOLE (YARD LIGHTING) TO REMAIN.
- ⑨ REMOVE 3#6 AND 1#8G FROM LP17 BACK TO LP18.
- ⑩ REMOVE 2"C FROM HERE BACK TO LP17.
- ⑪ REMOVE AND SALVAGE COBRA HEAD, ARMS AND SUPPORT. REUSE FOR NEW WORK.
- ⑫ FIELD VERIFY POWER SOURCE AND SUBMIT FINDINGS TO ENGINEER.



APPROVED:	SWK	03/17/16
<i>J. Woods</i>	CHECKED BY	DATE
	JAL	03/17/16
	DATE	03/17/16
	PROJ. ENGR	DATE
	4-12-16	dwoods Mgr 16, 2016
	PRINTED BY:	PORT ADDRESS: ONE SITCUM PLAZA
		TACOMA, WA 98401-1837

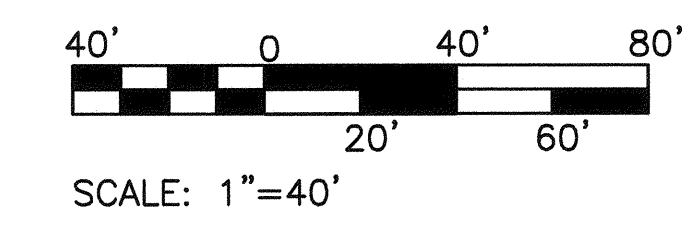
<b>6555</b> <b>ED6</b>	<b>NORTH LEAD</b>		
	<b>EAST END - AREA 6</b>		
	<b>ELECTRICAL DEMOLITION SITE PLAN</b>		
	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
CONT./CONS: 070164	VERT: PORT OF TACOMA BM #846		
M. ID: 092938	PARCEL: MULTIPLE		
PHASE: BID	DRAWING SCALE:		

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MATCH LINE - SEE SHEET E2

ELECTRICAL SITE PLAN  
SCALE: 1"=40'-0"



GENERAL NOTES:

- A. REFER TO VAULT TABLE ON SHEET E14 FOR VAULT SIZES.
- B. REFER TO LIGHT POLE TABLE ON SHEET E12 FOR LIGHT POLE INFORMATION.
- C. REFER TO C1 - C6 FOR LOCATIONS OF VAULTS AND LIGHTPOLES

KEY NOTES:

- ① EXISTING LIGHT POLE TO REMAIN.
- ② (1) 2"C, 3#2 AND 1#6G  
(1) 2"C SPARE.
- ③ PULLBOX ON POLE.
- ④ PROVIDE 3#2 AND 1#6G IN EXISTING 2"C BACK TO HANDHOLE LH2A (YARD LIGHTING).
- ⑤ INTERCEPT EXISTING LIGHTING RACEWAY AND 480V, 3Ø BRANCH CIRCUIT AND PROVIDE NEW HAND HOLE.
- ⑥ GROUND ROD WITH #6 BOND TO FENCE POST.
- ⑦ EXISTING (1) 2"C, 3#6 AND 1#8G (YARD LIGHTING) TO REMAIN.
- ⑧ RECONNECT EXISTING BRANCH CIRCUIT SERVING EXISTING POLES LP1A AND LP1B.

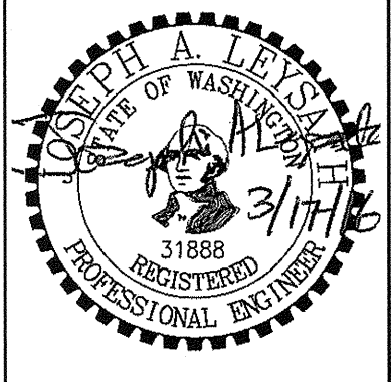
6555  
**E1**  
SHEET 117 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

NORTH LEAD  
WEST END - AREA 1  
ELECTRICAL SITE PLAN

RANGE: 03E SECTION: 1, 2, 3  
TOWNSHIP: 20N  
DATE-HRZ: W83-SF  
VERT: PORT OF TACOMA BM #846  
PARCEL: MUL TIPLE  
DRAWING SCALE:

APPROVED: *[Signature]*  
DIRECTOR ENG. DATE: 4-2-16  
PRINTED BY: dwoods  
PORT ADDRESS: ONE SITCUM PLAZA  
TACOMA, WA 98401-1837

SWK 03/17/16  
CHECKED BY DATE  
JAL 03/17/16  
PROJ. ENGR DATE  
dwoods Mar 16, 2016



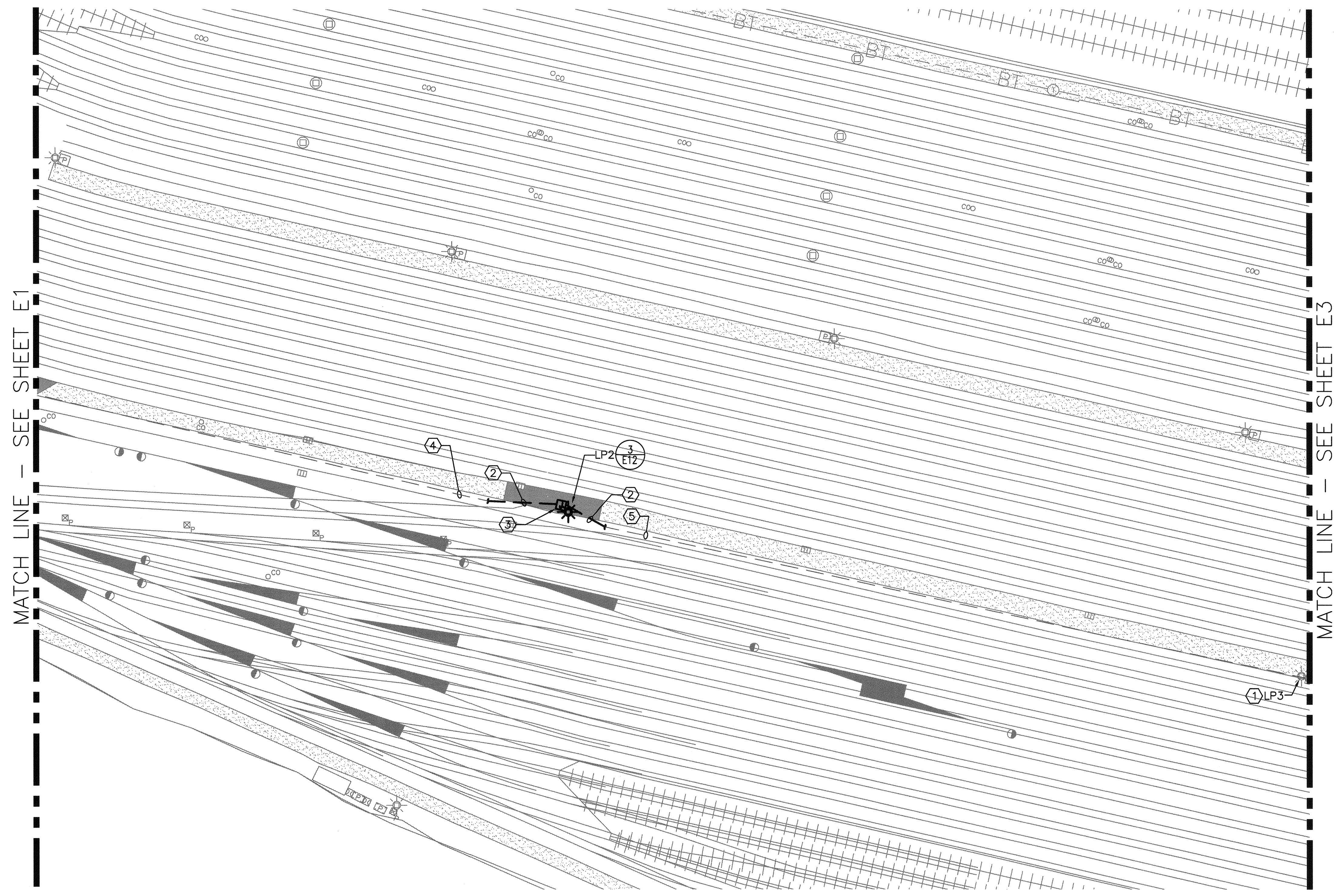
**Wood Harbinger**  
3001 12th Ave NE  
Suite 100  
Bellevue WA 98004  
425.452.8000  
woodharbinger.com

**Port of Tacoma**  
P.O. BOX 887 TACOMA, WA 98401

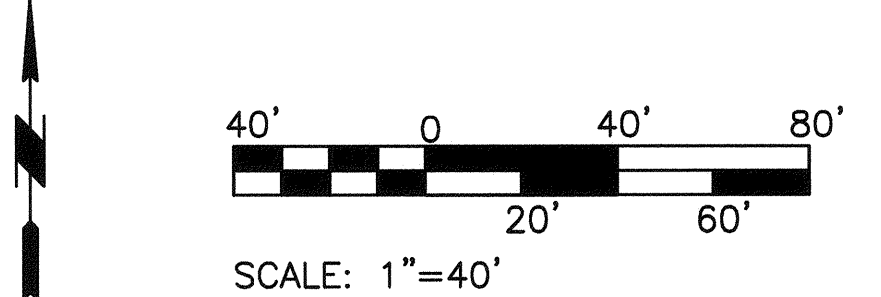
MARK:	REVISION:	BY:	DATE:

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PORT OF TACOMA FILE: G:\2015\15023\00\DWG\E12



**ELECTRICAL SITE PLAN**  
SCALE: 1"=40'-0"



**GENERAL NOTES:**

- A. REFER TO VAULT TABLE ON SHEET E14 FOR VAULT SIZES.
- B. REFER TO LIGHT POLE TABLE ON SHEET E12 FOR LIGHT POLE INFORMATION.
- C. REFER TO C1 - C6 FOR LOCATIONS OF VAULTS AND LIGHTPOLES

**KEY NOTES:**

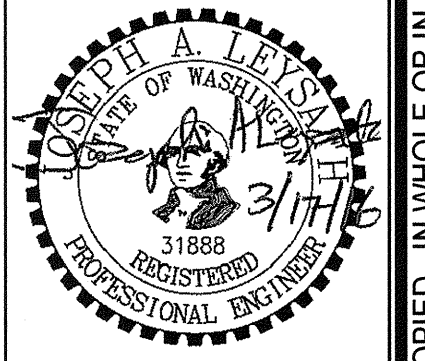
- ① EXISTING LIGHT POLE TO REMAIN.
- ② (1) 2"C, 3#2 AND 1#6G (YARD LIGHTING).
- ③ PULLBOX ON POLE
- ④ PROVIDE 3#2 AND 1#6G IN EXISTING 2"C BACK TO HANDHOLE LH1A (YARD LIGHTING).
- ⑤ PROVIDE 3#2 AND 1#6G IN EXISTING 2"C BACK TO POLE LP3 (YARD LIGHTING).

6555  
**E2**  
SHEET 118 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

**NORTH LEAD  
WEST END - AREA 2  
ELECTRICAL SITE PLAN**

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3  
DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846  
PARCEL: MULTIPLE DRAWING SCALE:

APPROVED: *[Signature]* SWK 03/17/16  
DIRECTOR ENG. DATE: 4-2-16 JAL 03/17/16  
PRINTED BY: dwoods Mar. 16, 2016  
PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837



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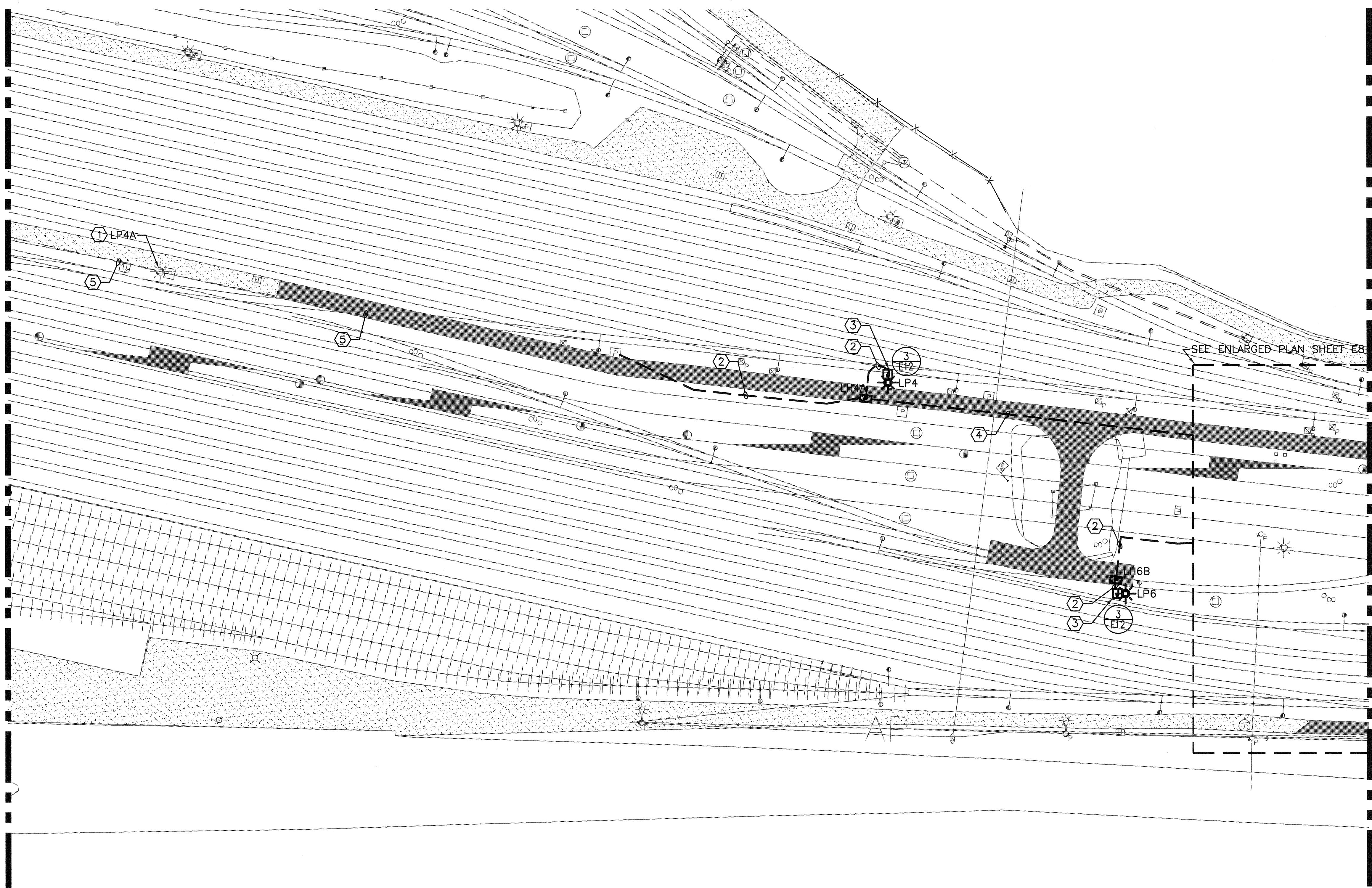
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MARK:	REVISION:	BY:	DATE:

MATCH LINE - SEE SHEET E2

MATCH LINE - SEE SHEET E4



**ELECTRICAL SITE PLAN**  
 SCALE: 1"=40'-0"

**GENERAL NOTES:**

- A. REFER TO VAULT TABLE ON SHEET E14 FOR VAULT SIZES.
- B. REFER TO LIGHT POLE TABLE ON SHEET E12 FOR LIGHT POLE INFORMATION.
- C. REFER TO C1 - C6 FOR LOCATIONS OF VAULTS AND LIGHTPOLES

**KEY NOTES:**

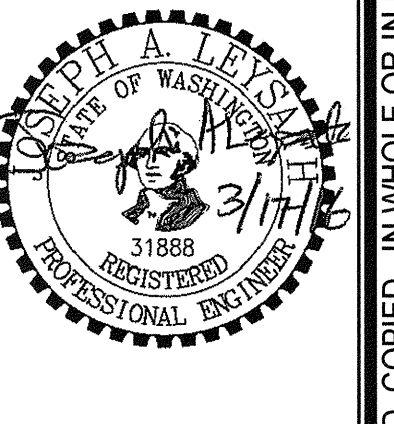
- ① EXISTING LIGHT POLE TO REMAIN.
- ② (1) 2"C, 3#2 & 1#6G
- ③ PULLBOX ON POLE.
- ④ (1) 2"C, 3#2 AND 1#6G  
(1) 2"C SPARE.
- ⑤ EXISTING (1) 2"C, 3#6 AND 1#6G (YARD LIGHTING) TO REMAIN.

6555  
**E3**  
 SHEET 119 OF 134  
 CONT/CONS: 070164  
 M. ID: 092938  
 PHASE: BID

**NORTH LEAD  
 EAST END - AREA 3  
 ELECTRICAL SITE PLAN**

RANGE: 03E SECTION: 1, 2, 3  
 TOWNSHIP: 20N  
 DAT-HRZ: W83-SF  
 VERT: PORT OF TACOMA EM #846  
 PARCEL: MULTIPLE  
 DRAWING SCALE:

APPROVED: *[Signature]*  
 DIRECTOR  
 4-12-16  
 DIRECTOR ENG. DATE  
 SWK 03/17/16  
 CHECKED BY DATE  
 JAL 03/17/16  
 PROJ. ENGR DATE  
 PRINTED BY: dwoods Mar 16, 2016  
 PORT ADDRESS: ONE SITCUM PLAZA  
 TACOMA, WA 98401-1837

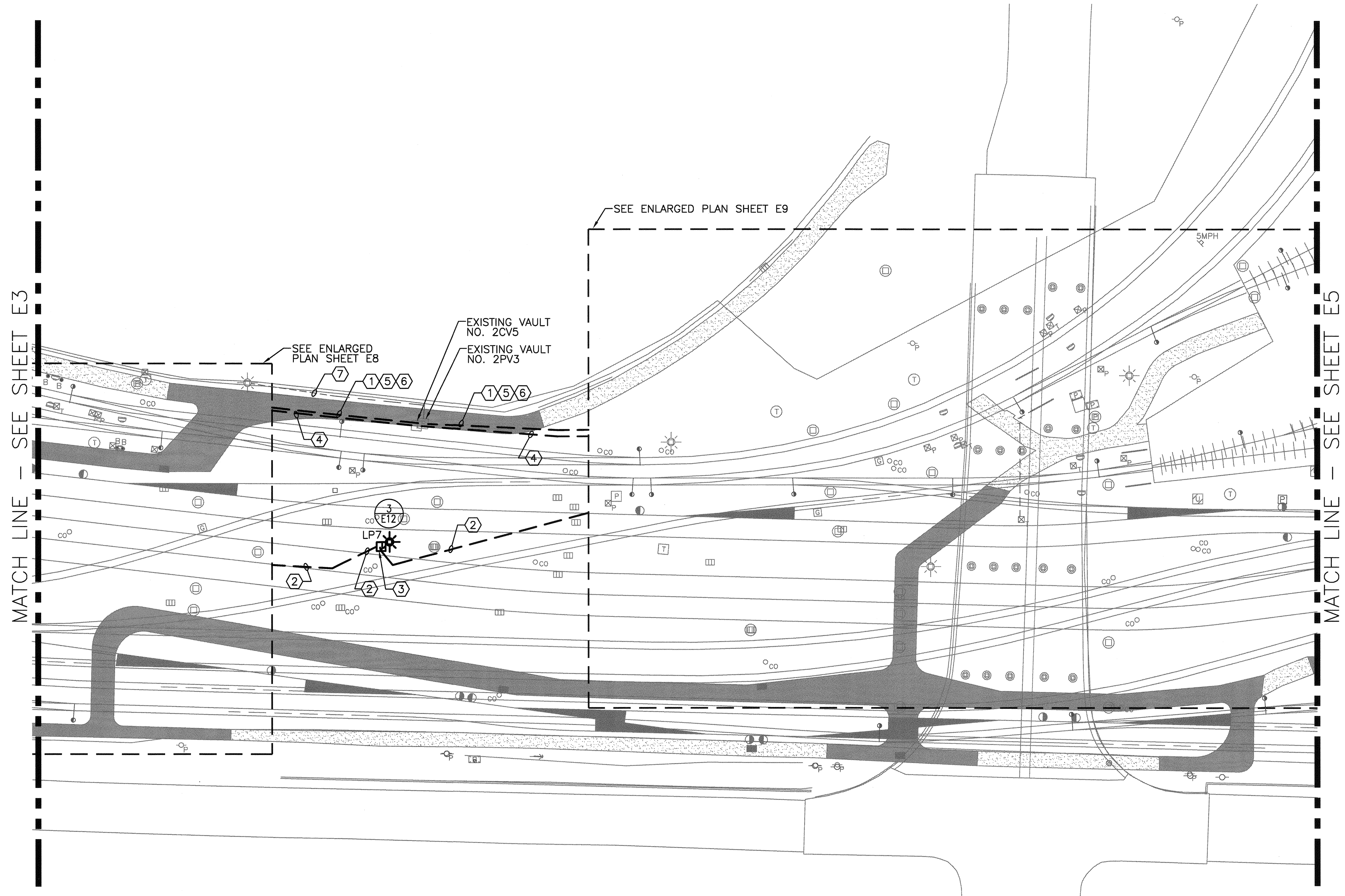


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MARK: REVISION: BY: DATE: APPR:

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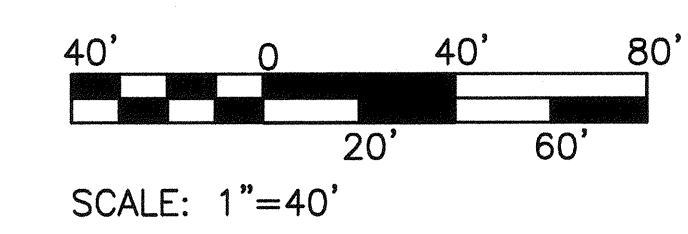
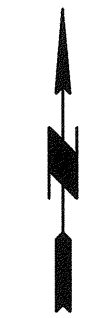
**ELECTRICAL SITE PLAN**  
 SCALE: 1"=40'-0"

**GENERAL NOTES:**

- A. REFER TO VAULT TABLE ON SHEET E14 FOR VAULT SIZES.
- B. REFER TO LIGHT POLE TABLE ON SHEET E12 FOR LIGHT POLE INFORMATION.
- C. REFER TO C1 - C6 FOR LOCATIONS OF VAULTS AND LIGHTPOLES

**KEY NOTES:**

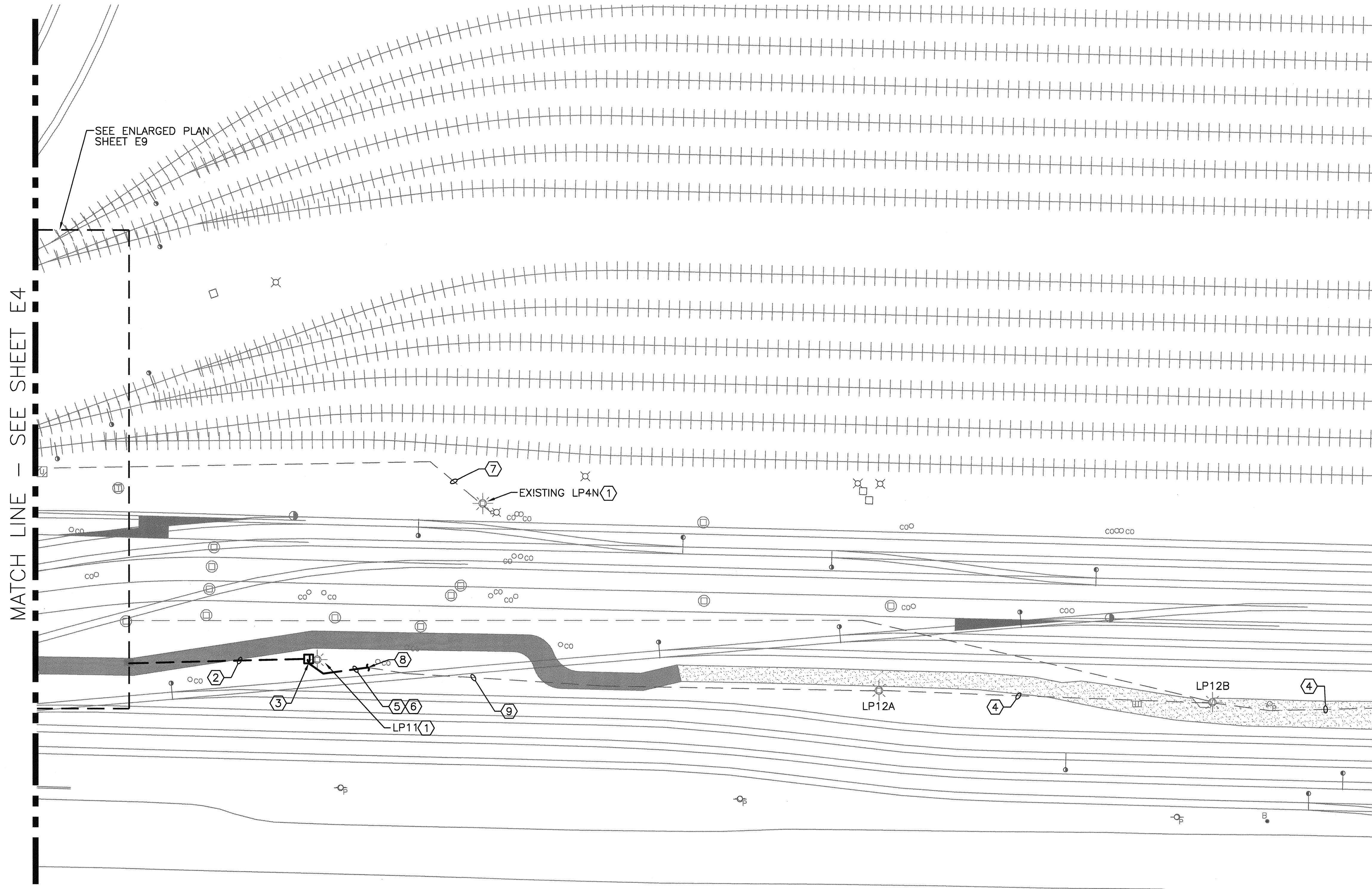
- ① PROVIDE 3#2 & 1#6G (POT YARD LIGHTING) AND 4#8 & 1#8G (RAIL SWITCH 120V POWER) IN EXISTING 3" DUCT. EXISTING DUCT CONTAINS 3#2 & 1#6G (YARD LIGHTING WEST) TO REMAIN.
- ② (1) 2"C, 3#2 AND 1#6G (YARD LIGHTING)  
(1) 2"C, SPARE.
- ③ PULLBOX ON POLE
- ④ PROVIDE (3) 4"C WITH (3) 1-1/4" INNER DUCT (COMM.) IN ONE CONDUIT. EXISTING (3) 4"C (COMM) TO REMAIN.
- ⑤ PROVIDE 4#4/0 AND 1#2 GND (PANEL DPA) IN EXISTING 3" DUCT.
- ⑥ (1) 4"C (POWER)
- ⑦ EXISTING 2"C, 3#2 & 1#6G (WEST YARD LIGHTING) TO REMAIN



<b>6555</b> <b>E4</b> SHEET 120 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>EAST END - AREA 4</b> ELECTRICAL SITE PLAN	APPROVED: <i>[Signature]</i> DIRECTOR 4-12-16	SWK 03/17/16 CHECKED BY: JAL DATE: 03/17/16
	TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3 DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846	PROJECT: awoods Mar 16, 2016 PRINTED BY: awoods PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	DATE: 03/17/16 BY: [ ] APPR: [ ] REVISION: [ ] MARK: [ ]
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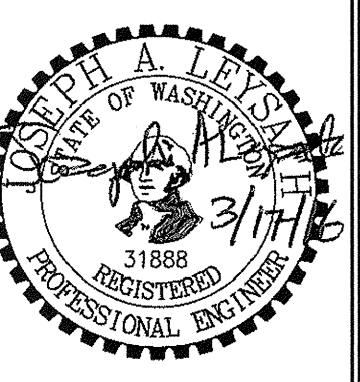
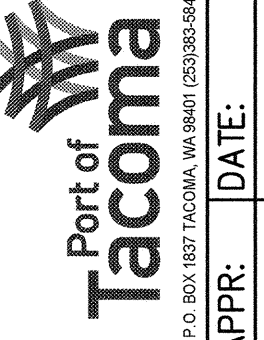
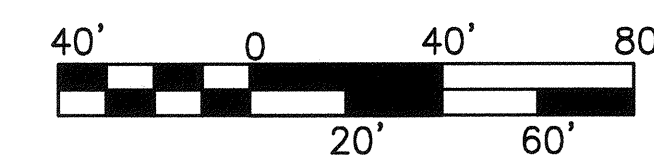
**ELECTRICAL SITE PLAN**  
 SCALE: 1"=40'-0"

**GENERAL NOTES:**

- A. REFER TO VAULT TABLE ON SHEET E14 FOR VAULT SIZES.
- B. REFER TO LIGHT POLE TABLE ON SHEET E12 FOR LIGHT POLE INFORMATION.
- C. REFER TO C1 - C6 FOR LOCATIONS OF VAULTS AND LIGHTPOLES

**KEY NOTES:**

- ① EXISTING LIGHT POLE TO REMAIN.
- ② (1) 2"C, 3#2 AND 1#6G  
(1) 2"C, SPARE.
- ③ PULLBOX ON POLE.
- ④ EXISTING (1) 2"C, 3#6 AND 1#8G (YARD LIGHTING) TO REMAIN.
- ⑤ (1) 2"C
- ⑥ PROVIDE 3#2 AND 1#6G IN NEW RACEWAY.
- ⑦ EXISTING 2"C, 3#2 AND 1#8G TO REMAIN.
- ⑧ CONNECT TO EXISTING 2"C.
- ⑨ PROVIDE 3#2 AND 1#6G IN EXISTING 2"C.

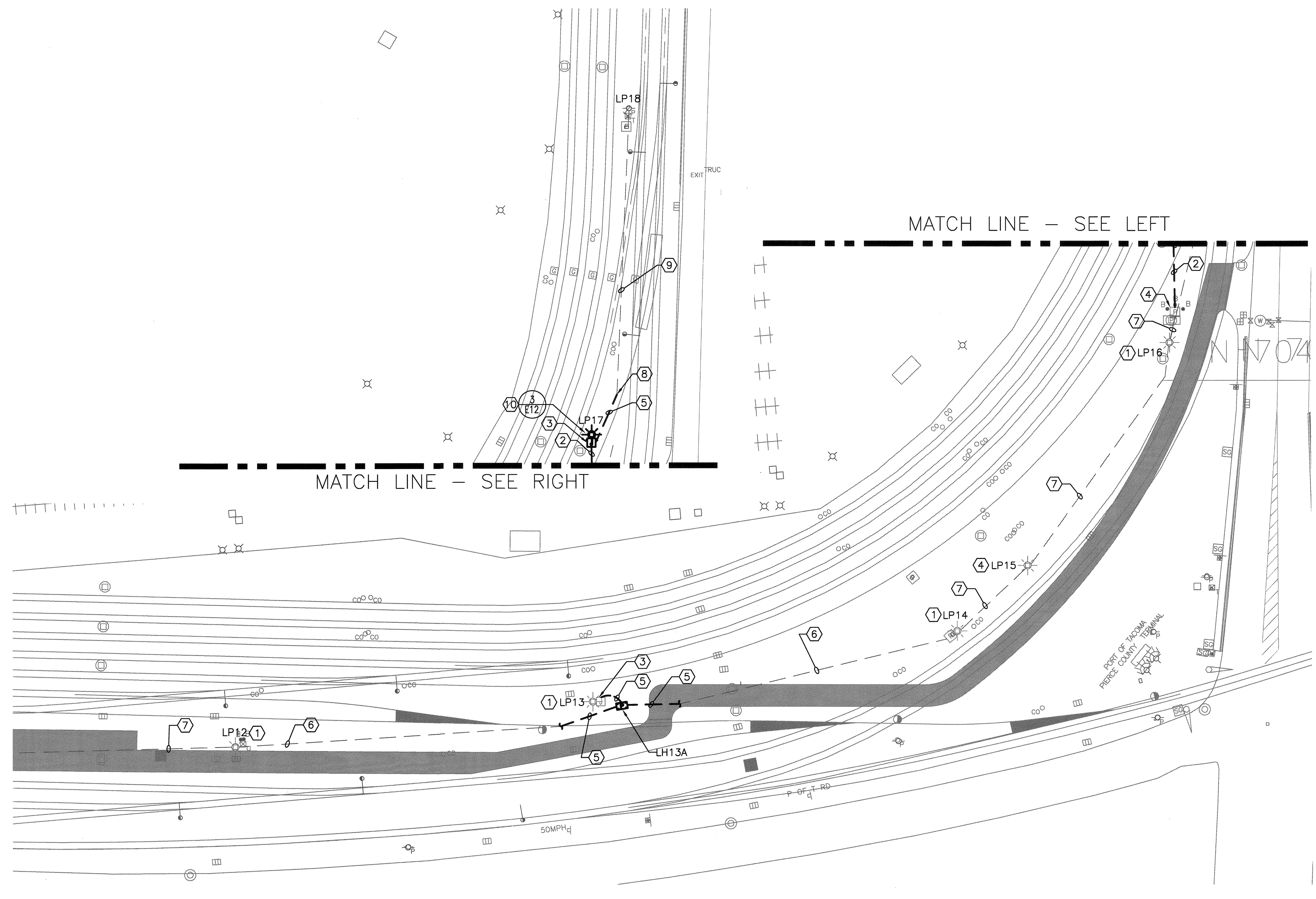


APPROVED:	SWK	03/17/16
<i>[Signature]</i>	CHECKED BY	DATE
	JAL	03/17/16
DIRECTOR	ENG. DATE	PROJ. ENGR. DATE
4-12-16	dwoods	Mar 16, 2016
PRINTED BY:	PORT ADDRESS: ONE SITCUM PLAZA	
	TACOMA, WA 98401-1837	

<b>6555</b> <b>E5</b>	<b>NORTH LEAD</b>		
	<b>EAST END - AREA 5</b>		
	<b>ELECTRICAL SITE PLAN</b>		
	TOWNSHIP: 20N	RANGE: 03E	SECTION: 1, 2, 3
M. ID: 092938	DAT-HRZ: W83-SF		
PHASE: BID	PARCEL: MULTIPLE		
	DRAWING SCALE:		

6555	SHEET 121 OF 134
CONT/CONS: 070164	
M. ID: 092938	
PHASE: BID	

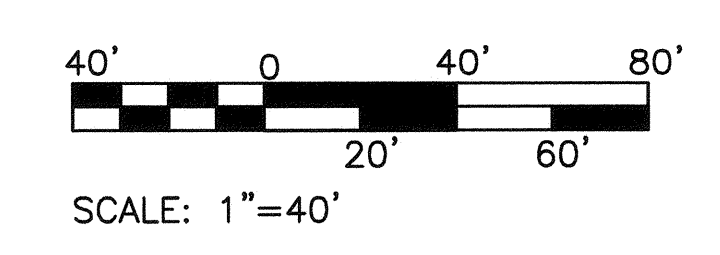
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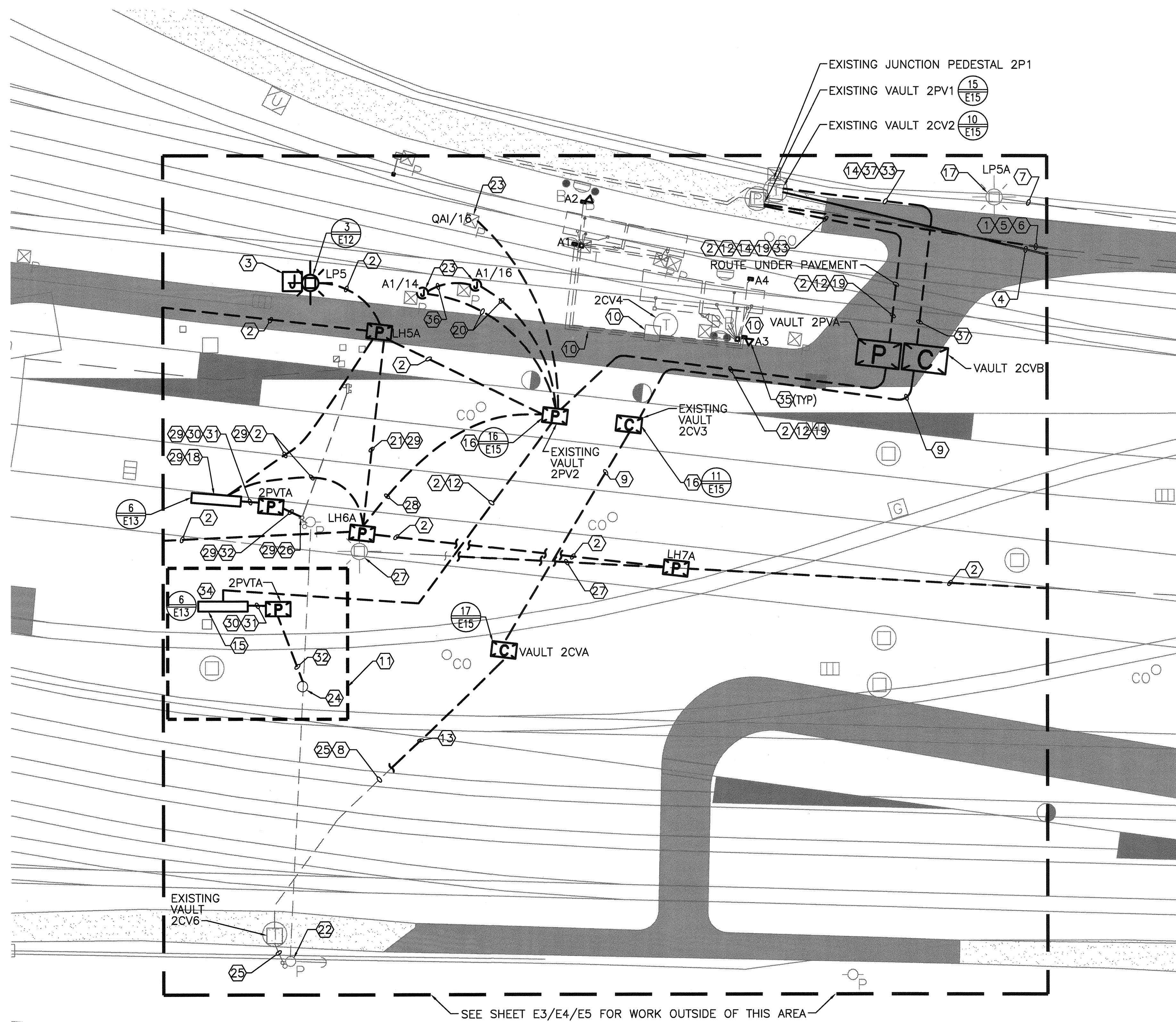
**ELECTRICAL SITE PLAN**  
 SCALE: 1"=40'-0"

- GENERAL NOTES:**
- A. REFER TO VAULT TABLE ON SHEET E14 FOR VAULT SIZES.
  - B. REFER TO LIGHT POLE TABLE ON SHEET E12 FOR LIGHT POLE INFORMATION.
  - C. REFER TO C1 - C6 FOR LOCATIONS OF VAULTS AND LIGHTPOLES

- KEY NOTES:**
- ① EXISTING LIGHT POLE TO REMAIN.
  - ② (1) 2" C, 3#2 AND 1#6G  
(1) 2" C, SPARE.
  - ③ PULLBOX ON POLE.
  - ④ EXISTING HANDHOLE (YARD LIGHTING)
  - ⑤ (1) 2" C, 3#2 AND 1#6G (YARD LIGHTING)
  - ⑥ PROVIDE 3#2 AND 1#6G IN EXISTING 2" C (YARD LIGHTING)
  - ⑦ EXISTING 2" C, 3#6 AND 1#8G TO REMAIN.
  - ⑧ RECONNECT HERE TO EXISTING 2" C.
  - ⑨ PROVIDE 3#2 AND 1#6G FROM LP17 TO LP18 IN EXISTING 2" C (YARD LIGHTING).
  - ⑩ PROVIDE (1) 20A/3P AND (1) 20A/2P CIRCUIT SER BREAKER /DISCONNECT. THE (1) 20A/3P IS TO SERVICE THE FLOODS. THE (1) 20A/2P IS TO SERVE THE COBRA HEADS.



 <b>Wood Harbinger</b> <small>3009 112th Ave NE        Suite 100        Bellevue WA 98004        425.726.6000        woodharbinger.com</small>	 <b>Port of Tacoma</b> <small>P.O. BOX 887 TACOMA, WA 98401 (206)385-5841</small>	APPR: _____ BY: _____ DATE: _____
		SWK 03/17/16 CHECKED BY: _____ DATE: _____ JAL 03/17/16 DATE: _____
<b>NORTH LEAD EAST END - AREA 6 ELECTRICAL SITE PLAN</b>		APPROVED: <i>David Lewis</i> DIRECTOR ENG. DATE: 4-12-16 PRINTED BY: dwoods Mar 16, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837
<b>6555 E6</b> SHEET 122 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID	TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3 DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 PARCEL: MUL TIPLE DRAWING SCALE: _____	THIS DRAWING IS THE PROPERTY OF THE PORT OF TACOMA AND SHALL NOT BE USED ON OTHER WORK, DISCLOSED, COPIED, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION



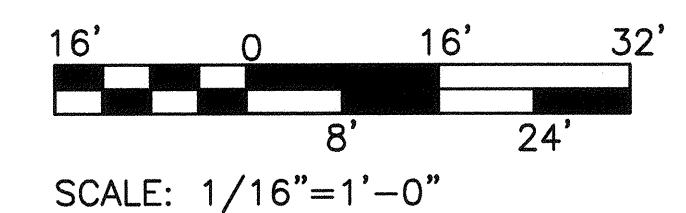
ENLARGED ELECTRICAL PLAN  
 SCALE: 1/16"=1'-0"

GENERAL NOTES:

- A. REFER TO VAULT TABLE ON SHEET E14 FOR VAULT SIZES.
- B. REFER TO LIGHT POLE TABLE ON SHEET E12 FOR LIGHT POLE INFORMATION.
- C. REFER TO C1 - C6 FOR LOCATIONS OF VAULTS AND LIGHTPOLES

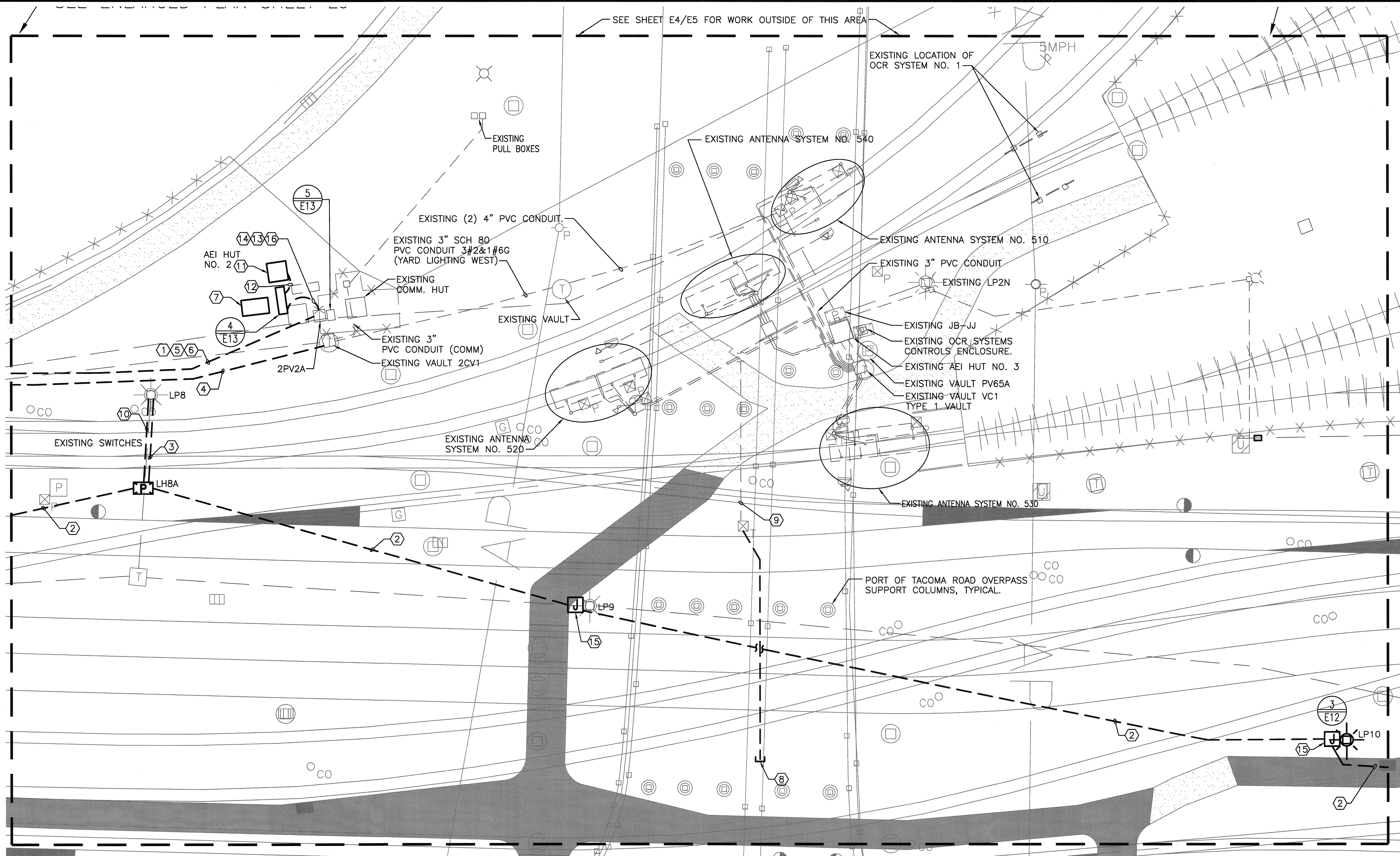
KEY NOTES:

- ① PROVIDE 3#2 & 1#6G (POT YARD LIGHTING) AND 4#8 & 1#8G (RAIL SWITCH 120V POWER) IN EXISTING 3" DUCT. EXISTING DUCT CONTAINS 3#2 AND 1#6G (YARD LIGHTING WEST) TO REMAIN.
- ② EXISTING AERIAL TO UNDERGROUND COMMUNICATION TRANSITION POLE TO REMAIN.
- ③ PULLBOX ON POLE.
- ④ PROVIDE (3)4"C WITH (3)1-1/4" INNER DUCT (COMM.) IN ONE CONDUIT. EXISTING (3)4"C (COMM) TO REMAIN.
- ⑤ PROVIDE 4#4/0 AND 1#2G (PANEL DPA) IN EXISTING 3" DUCT.
- ⑥ (1) 4"C (POWER)
- ⑦ EXISTING 2"C, 3#2 AND 1#6G (YARD LIGHTING WEST) TO REMAIN.
- ⑧ MODIFY AND EXTEND (2)4"C (COMM.).
- ⑨ (6)4"C (COMM.) WITH ONE DUCT CONTAINING (3) 1-1/4" (COMM.) INNER DUCT.
- ⑩ ABANDON AEI CONDUIT IN PLACE.
- ⑪ REFER TO SHEET C14 FOR LAYOUT OF TPU SERVICE.
- ⑫ (1)4"C, 4#4/0 AND 1#2G AND (2)4"C SPARE.
- ⑬ (2)4"C WITH EACH DUCT CONTAINING (3) 1-1/4" (COMM.) INNER DUCT.
- ⑭ TRANSITION UP ABOVE EXISTING DUCT BANK. MINIMUM DEPTH IS 24".
- ⑮ (2) METERS, (2) DISCONNECTS, SUPPORT FRAME AND (3) GROUND RODS.
- ⑯ REINSTALL VAULT IN NEW LOCATION. PROVIDE NEW SUPPORT CHANNELS.
- ⑰ EXISTING LIGHT POLE TO REMAIN. CONNECT TO NEW CIRCUIT.
- ⑱ TEMPORARY (1) 60A AND (1) 200A SERVICE METERS AND (1) LTG CONTACTOR TO FEED LIGHTS AND PANEL DPA LOADS. REFER TO SPECIFICATION SECTION 011400 FOR SEQUENCING REQUIREMENTS.
- ⑲ (1) 1.5"C, 4#8 AND 1#8G BACK TO PANEL A1/14,16 (SWITCH 120V POWER). (1) 1.5" C, SPARE.
- ⑳ 1.5"C, 2#8 AND 1#8G (120V RAIL SWITCH POWER)
- ㉑ (1) 2.5"C 6#4 AND 2#6 (TR AND POT YARD LIGHTING).
- ㉒ EXISTING 120V POWER SWITCH. SEE DETAIL 4/E12.
- ㉓ TPU POLE PROVIDED BY TPU. CONTRACTOR COORDINATE EXACT LOCATION WITH TPU PRIOR TO INSTALLATION OF POLE.
- ㉔ EXISTING (2) 4"C. PROVIDE (3) 1-1/4" (COMM) INNER DUCT IN ONE CONDUIT.
- ㉕ EXISTING TPU POLE TO BE USED FOR TEMPORARY POWER.
- ㉖ TO MINIMIZE SITE LTG DOWNTIME, INTERCEPT EXISTING 1.5"C (SITE LTG POLE LP6) & PROVIDE NEW 3#2 & 1#6G IN EXISTING CONDUIT. REMOVE CONDUIT & CONDUCTORS UPON COMPLETION OF PHASE. REFER TO SPECIFICATION SECTION 011400 FOR SEQUENCING REQUIREMENTS.
- ㉗ (1) 3"C, 6#2 & 2#6G (TR AND POT YARD LIGHTING) AND (1) 3"C, SPARE.
- ㉘ TEMPORARY FOR PHASING. REMOVE UPON COMPLETION OF PERMANENT WORK.
- ㉙ (1) 2"C, 4#4
- ㉚ (1) 4"C, 4#4/0 (1) 4"C SPARE
- ㉛ (1) 4"C, 4#250 KCMIL.
- ㉜ REINFORCE CONCRETE ENCASE CONDUITS. SEE DETAIL 5/E12.
- ㉝ FRONT.
- ㉞ ABANDON AEI SENSORS IN PLACE.
- ㉟ EXISTING 1.5"C TO REMAIN.
- ㊱ (3) 4"C WITH (3) 1-1/4" INNER DUCT (COMM) IN ONE CONDUIT.



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	<b>6555 E8</b> SHEET 123 OF 134 CONT/CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD          EAST END - AREA 3          ELECTRICAL SITE ENLARGED PLAN</b>	RANGE: 03E SECTION: 1, 2, 3 TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA EM #846 PARCEL: MULTIPLE DRAWING SCALE:

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SEE SHEET E4/E5 FOR WORK OUTSIDE OF THIS AREA

5MPH

EXISTING LOCATION OF OCR SYSTEM NO. 1

EXISTING PULL BOXES

EXISTING ANTENNA SYSTEM NO. 540

EXISTING ANTENNA SYSTEM NO. 510

EXISTING 3\"/>

EXISTING JB-JJ

EXISTING OCR SYSTEMS CONTROLS ENCLOSURE

EXISTING AEI HUT NO. 3

EXISTING VAULT PV65A

EXISTING VAULT VC1 TYPE 1 VAULT

EXISTING ANTENNA SYSTEM NO. 530

PORT OF TACOMA ROAD OVERPASS SUPPORT COLUMNS, TYPICAL.

EXISTING (2) 4\"/>

EXISTING 3\"/>

EXISTING COMM. HUT

EXISTING VAULT

EXISTING 3\"/>

EXISTING VAULT 2CV1

EXISTING ANTENNA SYSTEM NO. 520

AEI HUT NO. 2

EXISTING SWITCHES

LP8

LH8A

LP9

LP10

GENERAL NOTES:

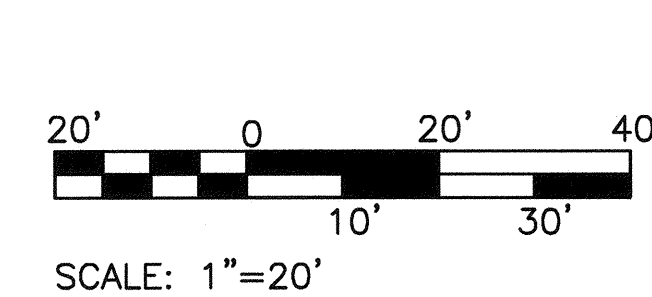
- A. REFER TO VAULT TABLE ON SHEET E12 FOR VAULT SIZES.
- B. REFER TO LIGHT POLE TABLE ON SHEET E12 FOR LIGHT POLE INFORMATION.
- C. REFER TO C1 - C6 FOR LOCATIONS OF VAULTS AND LIGHTPOLES

KEY NOTES:

- 1) PROVIDE 3#2 & 1#6G (POT YARD LIGHTING) AND 4#8 & 1#8G (RAIL SWITCH 120V POWER) IN EXISTING 3\"/>
- 2) (1) 2\"/>
- 3) (1) 1.5\"/>
- 4) PROVIDE (3) 4\"/>
- 5) PROVIDE 4#4/0 & 1#2G (PANEL DPA) IN EXISTING 3\"/>
- 6) (1) 4\"/>
- 7) PROVIDE 60KW-208/120V 3P 4W GENERATOR TO SERVE THE COMM. HUT 1.4 UNTIL PERMANENT POWER IS RESTORED.
- 8) EXTEND (1) 3\"/>
- 9) EXISTING 3\"/>
- 10) REUSE EXISTING RACEWAY & CONDUCTORS FOR TEMPORARY POWER TO LIGHTS FOR PHASING. REMOVE UPON COMPLETION OF PERMANENT POWER. REFER TO SPECIFICATION SECTION 011400 FOR SEQUENCING REQUIREMENTS.
- 11) REINSTALL AEI HUT 2. PROVIDE NEW FOUNDATION. PROVIDE POWER TO HUT.
- 12) 2\"/>
- 13) 2\"/>
- 14) 1.5\"/>
- 15) PULLBOX ON POLE.
- 16) (1) 4\"/>

ENLARGED ELECTRICAL PLAN

SCALE: 1"=20'



WOOD  
Harbinger

APPROVED:	<i>John Lewis</i>	SWK	03/17/16
CHECKED BY:	JAL	DATE:	03/17/16
DIRECTOR ENG. DATE:	4-12-16	PROJ. ENGR DATE:	
PRINTED BY:	dwoods	Mar 16, 2016	
PORT ADDRESS:			

**6555 E9**

SHEET 124 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**EAST END - AREA 4**

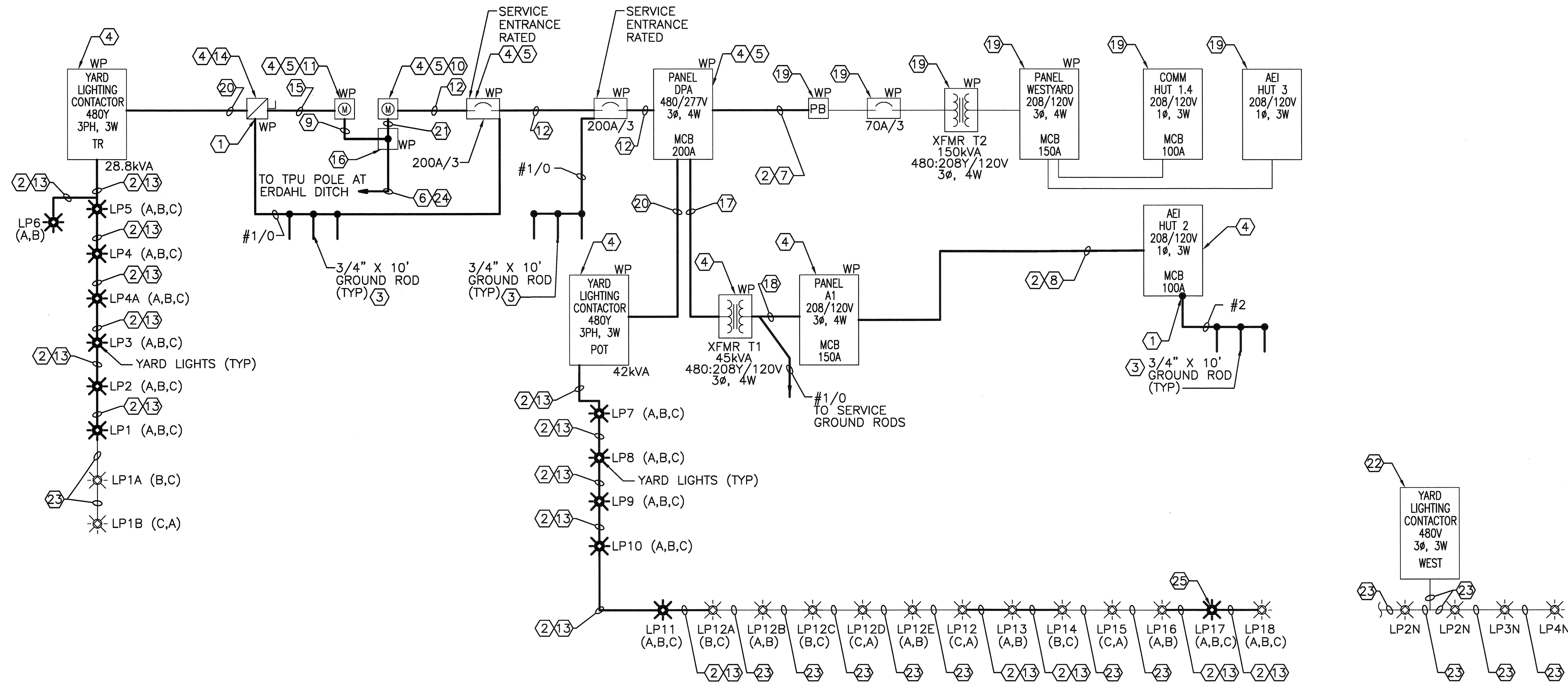
**ELECTRICAL SITE ENLARGED PLAN**

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3

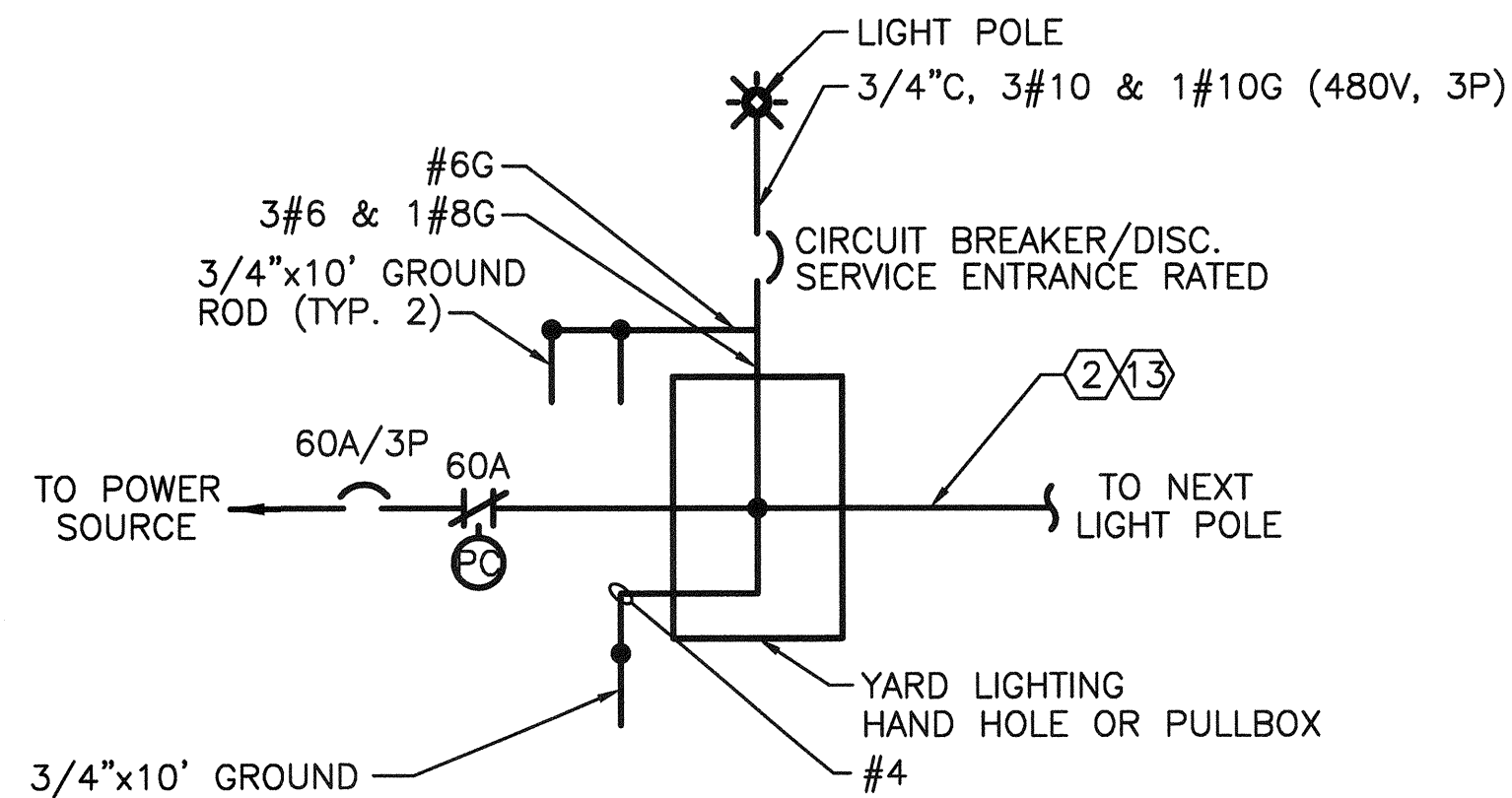
DAT-HRZ: W83-SF VERT: PORT OF TACOMA EM #846

PARCEL: MULTIPLE DRAWING SCALE:

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1 POWER ONE-LINE DIAGRAM  
SCALE: NONE



2 YARD LIGHTING ONE-LINE DIAGRAM  
SCALE: NONE

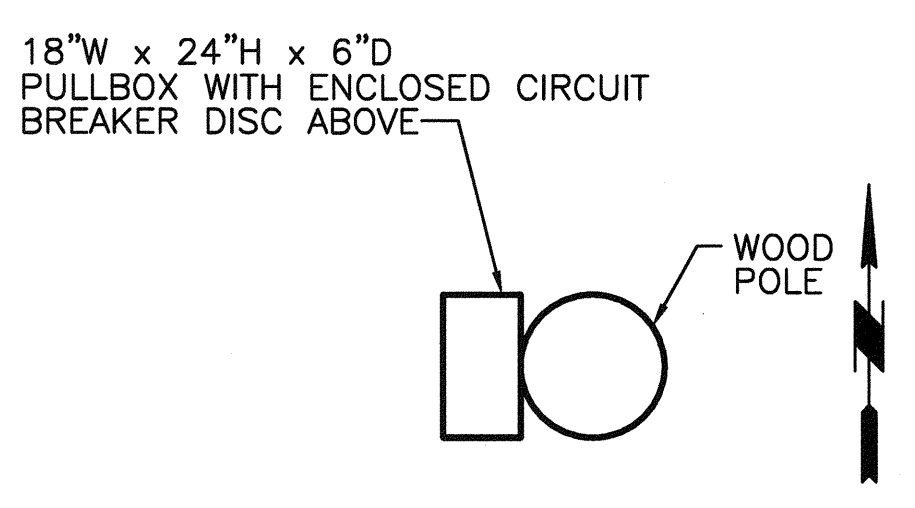
KEY NOTES:

- 1 BOND TO SERVICE GROUND BAR
- 2 PROVIDE FEEDER/BRANCH CIRCUIT
- 3 SPACE NEW GROUND RODS MINIMUM 20'-0" APART
- 4 RELOCATE EQUIPMENT
- 5 PROVIDE NEW LUGS IN EXISTING EQUIPMENT TO ACCEPT NEW SERVICE FEEDS
- 6 (1) 4"C, 4#250KCMIL
- 7 2 1/2"C, 3#3/0 AND 1#2G
- 8 2"C, 3#2 AND 1#8G
- 9 (1) 2" C, 4#4
- 10 METER #87350101 (200A, 480V)
- 11 METER # 80766392 (100A, 480V)
- 12 (1) 4"C, 4#4/0 & 1#2GND
- 13 SEE PLANS FOR BRANCH CIRCUIT SIZE
- 14 60A/3P/60AF
- 15 2"C, 3#4 AND 1#6
- 16 HANDHOLE
- 17 2"C, 3#4 AND 1#8G
- 18 2 1/2"C 4#1/0 AND 1#6G
- 19 EXISTING TO REMAIN
- 20 2"C, 3#4 AND 1#6G
- 21 (1) 4"C., 4#4/0
- 22 EXISTING LIGHTING CONTACTOR TO REMAIN.
- 23 EXISTING CIRCUIT
- 24 5,306AIC AT SECONDARY LUGS OF 13.8KV-480V TRANSFORMER.
- 25 FIELD CONFIRM EXISTING POWER SOURCE.

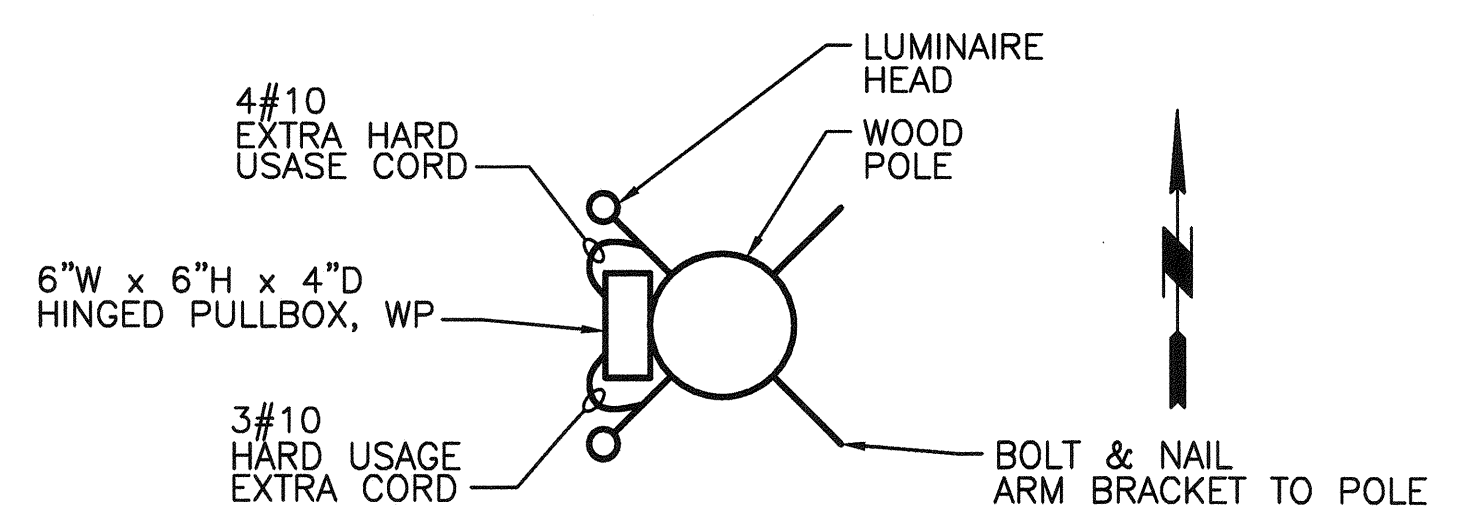
 Port of Tacoma P.O. BOX 1837 TACOMA, WA 98401 (253)393-9441	DATE: XX
	APPR: XX
 Wood Harbinger 3009 112th Ave. NE Bellevue, WA 98004 425.628.6000 woodharbinger.com	BY: XX
	REVISION: XXX
 JOSEPH A. LIVENGOOD 31888 REGISTERED PROFESSIONAL ENGINEER	SWK 03/17/16
	CHECKED BY: JAL 03/17/16
APPROVED: <i>[Signature]</i>	DIRECTOR ENG. DATE: 4-2-16
PRINTED BY: dwoods	Mar 16, 2016
SECTION: 1, 2, 3	TACOMA BM #846
RANGE: 03E	VERT: PORT OF TACOMA
TOWNSHIP: 20N	DRAWING SCALE:
M. ID: 092938	
PHASE: BID	

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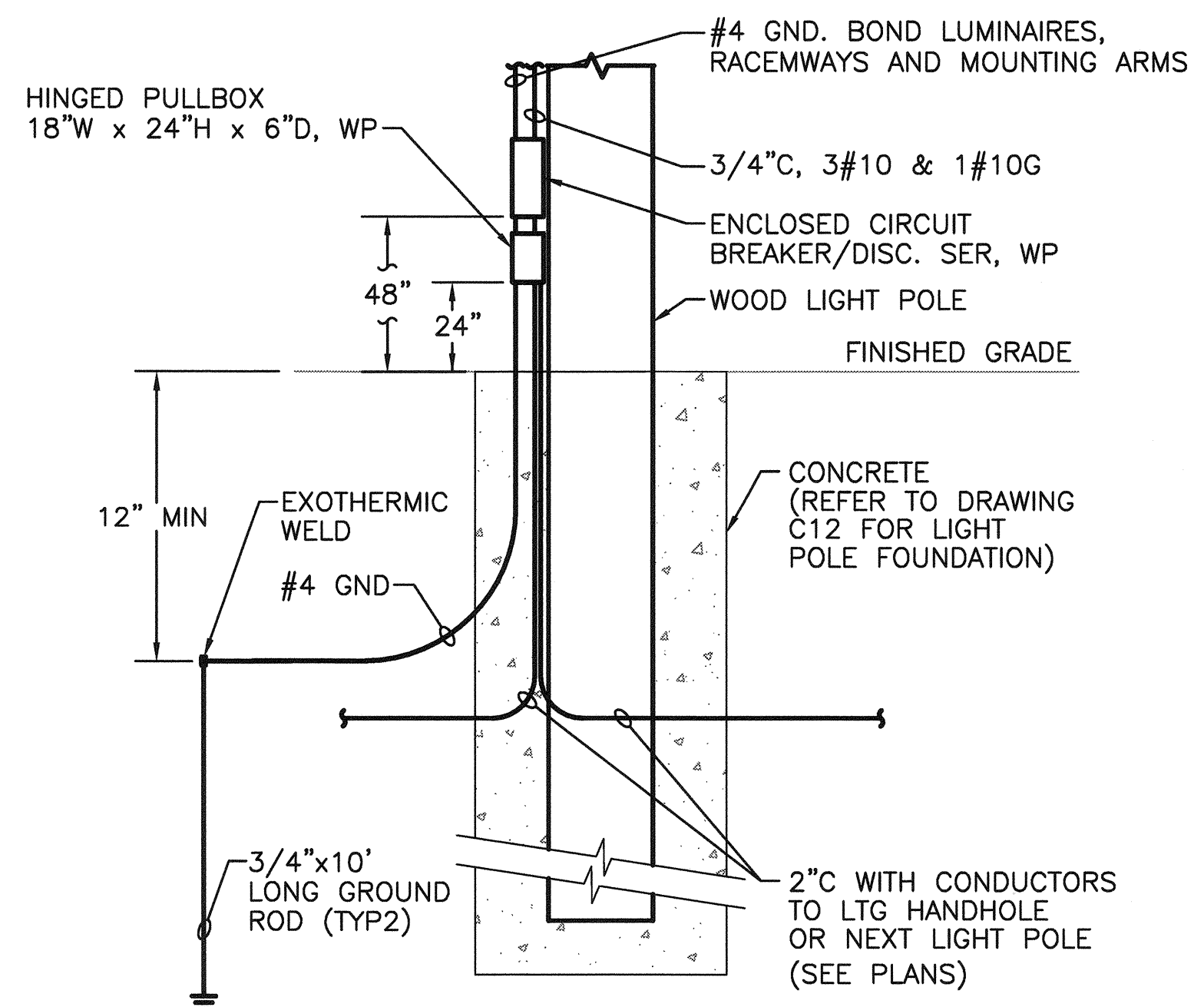
PORT OF TACOMA FILE: G:\2015\15023\001\DWG\E12



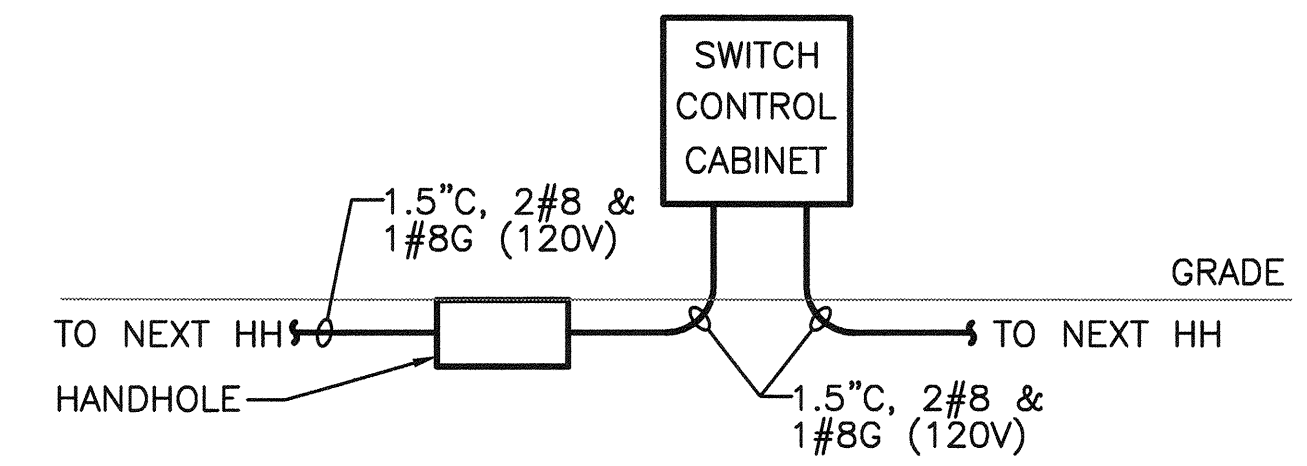
**1 POLE/PULLBOX ORIENTATION**  
SCALE: NONE



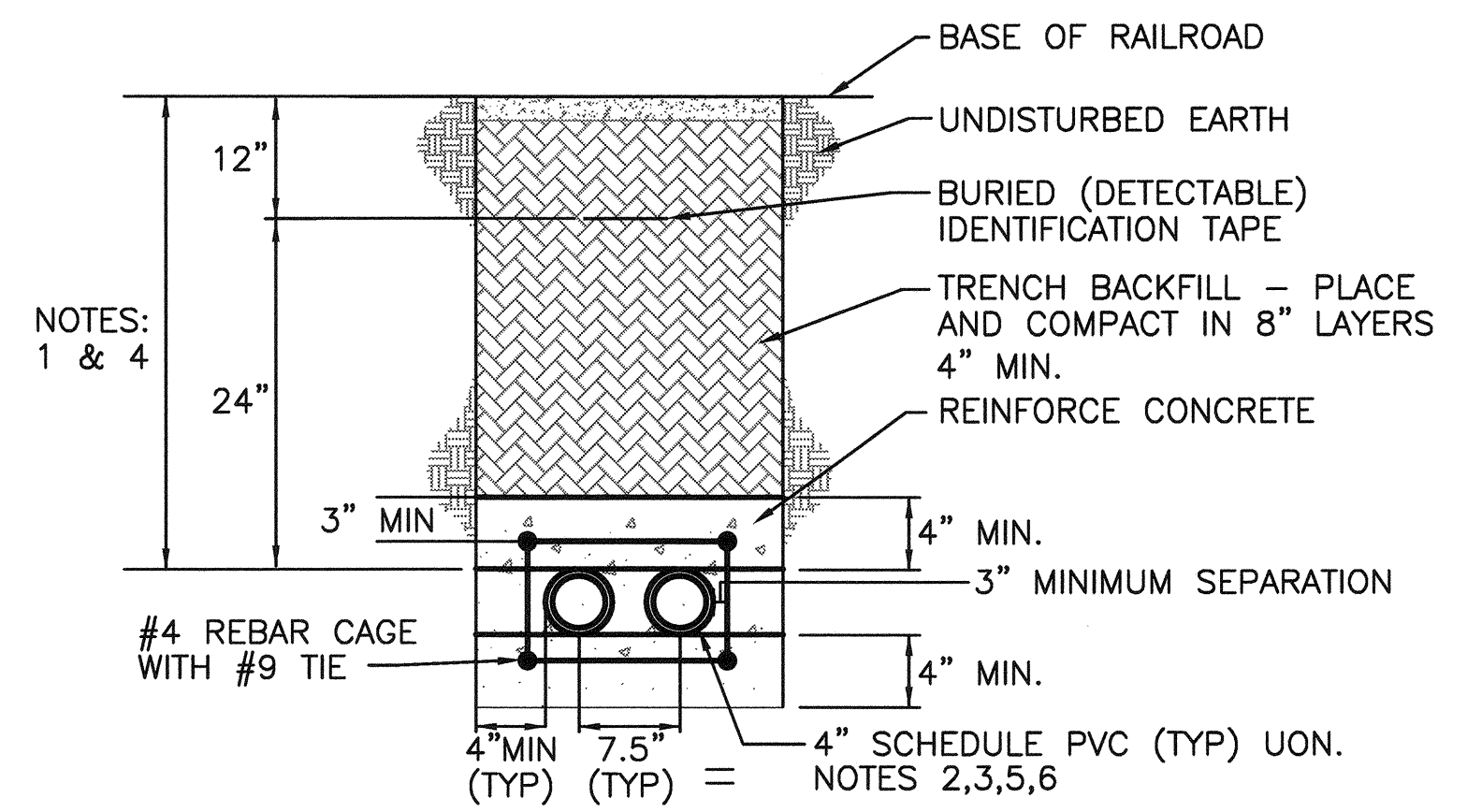
**2 LIGHT POLE UPPER ASSEMBLY DETAIL**  
SCALE: NONE



**3 LUMINAIRE POLE BASE DETAIL**  
SCALE: NONE



**4 ELECTRIC POWER RAIL SWITCH**  
SCALE: NONE



- NOTES:**
- CONDUIT SHALL HAVE A MINIMUM OF 36" OF COVER. UNDER NON RAIL LOCATIONS.
  - PROVIDE A MINIMUM OF 12" HORIZONTAL SEPARATION BETWEEN CONDUIT AND OTHER UTILITIES.
  - PROVIDE WIDE RADIUS SWEEP, OFFSET OF CONDUITS TO AVOID OTHER UTILITIES.
  - CONDUIT UNDER RAILS SHALL HAVE A MINIMUM OF 36" BELOW BOTTOM OF RAILS.
  - PROVIDE MINIMUM 12" SEPARATION BETWEEN POWER AND COMM RACEWAYS.
  - REFER TO DETAIL 6/E13 FOR CONDUITS UNDER EXISTING RAILS.

**5 POWER AND COMM DETAIL CONCRETE REINFORCEMENT UNDER TRACKS AND PAVEMENT**  
SCALE: NONE

EXISTING ILLUMINATION POLE SCHEDULE									
LUMINAIRE NO.	LIGHTING CONTACTOR	WOOD POLE/CLASS HEIGHT ABOVE GRADE	QUANTITY LUMINAIRES	LUMINAIRE VOLTAGE PHASE	WATTAGE TOTAL	POLE DEPTH OF SETTING	ARM "GARMIRE" MODEL #	REMARKS	
LP1N	WEST	80/1	(3) 1000W HPS	480V/1P	3300	15'	G-WAG-4	EXISTING	
LP2N	WEST	65/2	(4) 1000W HPS	480V/1P	4400	15'	G-WAG-4	EXISTING	
LP3N	WEST	80/1	(4) 1000W HPS	480V/1P	4400	15'	G-WAG-4	EXISTING	
LP4N	WEST	80/1	(3) 1000W HPS	480V/1P	4400	15'	G-WAG-4	EXISTING	
LP6	POT	65/2	(1) 1000W HPS	480V/1P	1100	UNKNOWN	UNKNOWN	EXISTING	
LP7	POT	65/2	(1) 1000W HPS	480V/1P	1100	UNKNOWN	UNKNOWN	EXISTING	
LP8	POT	65/2	(3) 1000W HPS	480V/1P	3300	15'	G-WAG-4	EXISTING	
LP9	POT	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	G-WAG-4	EXISTING	
LP10	POT	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	G-WAG-4	EXISTING	
LP11	POT	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	G-WAG-4	EXISTING	
LP12A	POT	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	G-WAG-4	EXISTING	
LP12B	POT	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	G-WAG-4	EXISTING	
LP12C	POT	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	G-WAG-4	EXISTING	
LP12D	POT	65/2	(2) 1000W HPS	480V/1P	2200	UNKNOWN	G-WAG-4	EXISTING	
LP12E	POT	65/2	(1) 1000W HPS	480V/1P	1100	UNKNOWN	UNKNOWN	EXISTING	
LP12	POT	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	G-WAG-4	EXISTING	
LP13	POT	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	G-WAG-4	EXISTING	
LP14	POT	65/2	(1) 1000W HPS	480V/1P	1100	UNKNOWN	UNKNOWN	EXISTING	
LP15	POT	65/2	(2) 1000W HPS FL	480V/1P	1100	UNKNOWN	UNKNOWN	EXISTING	
LP16	POT	65/2	(1) 1000W HPS	480V/1P	1100	UNKNOWN	UNKNOWN	EXISTING	
LP17	POT	80/2	(4) 1000W HPS FL	480V/1P	4400	UNKNOWN	G-WAG-4	EXISTING SALVAGE (2) COBRA HEADS AND ARMS ASSEMBLY.	
LP1A	TR	65/2	(2) 1000W HPS	480V/1P	3300	UNKNOWN	UNKOWN	EXISTING	
LP1B	TR	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	UNKOWN	EXISTING	
LP1	TR	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	UNKOWN	EXISTING	
LP2	TR	65/2	(5) 1000W HPS	480V/1P	5500	UNKNOWN	UNKOWN	EXISTING	
LP3	TR	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	UNKOWN	EXISTING	
LP4	TR	80/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	UNKOWN	EXISTING	
LP4A	TR	80/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	UNKOWN	EXISTING	
LP5	TR	65/2	(3) 1000W HPS	480V/1P	3300	UNKNOWN	UNKOWN	EXISTING	

NEW ILLUMINATION POLE SCHEDULE									
LUMINAIRE NO.	LIGHTING CONTACTOR	WOOD POLE/CLASS HEIGHT ABOVE GRADE	QUANTITY LUMINAIRES	LUMINAIRE VOLTAGE PHASE	SERVICE DISCONNECT	POLE SERVING VOLTAGE PHASE	PHASE LEG CONNECTION	WATTAGE TOTAL	REMARKS
LP1	TACOMA RAIL	65/2	(3) 1000W HPS	480V/1P	(1) 20A/3P	480V/3P	A, B, C	3300	NOTES 1, 2, 3 FACE HEADS NW,SW,SE
LP2	TACOMA RAIL	65/2	(5) 1000W HPS	480V/1P	(1) 20A/3P	480V/3P	A, B, C	5500	NOTES 1, 2, 3, 8 70 DEGREE OFFSET WITH ONE HEAD FACE SOUTH
LP4	TACOMA RAIL	80/2	(3) 1000W HPS	480V/1P	(1) 20A/3P	480V/3P	A, B, C	3300	NOTES 1, 2, 3 FACE HEADS NW,SW,NE
LP5	TACOMA RAIL	65/2	(3) 1000W HPS	480V/1P	(1) 20A/3P	480V/3P	A, B, C	3300	NOTES 1, 2, 3 FACE HEADS NW,SW,SE
LP6	TACOMA RAIL	65/2	(1) 1000W HPS	480V/1P	(1) 20A/3P	480V/3P	A, B, C	3300	NOTES 1, 2, 3 FACE HEAD SOUTH
LP7	TACOMA RAIL	65/2	(3) 1000W HPS	480V/1P	(1) 20A/3P	480V/3P	A, B, C	3300	NOTES 1, 2, 3 FACE HEADS NW,SW,SE
LP10	PORT OF TACOMA	65/2	(2) 1000W HPS	480V/1P	(1) 20A/3P	480V/1P	A, B, C	1100	NOTES 1, 2, 3, 7 FACE HEADS NW,SW
LP17	PORT OF TACOMA	80/2	(4) 1000W HPS & (2) 400W HPS	480V/1P	(1)20A/3P, (1) 20A/1P	480V/3P	A, B, C	2200	NOTES 3, 4, 5, 6, 9

- NOTES:**
- LUMINAIRE SHALL BE EATON, PART # HMX 91SC-CWA EXTENDED LIFE-8-D-M. BRONZE BALLAST HOUSING WITH SILVER FINISH.
  - ARM BRACKET SHALL BE GARMIRE G-WAG-4 OR EQUIVALENT WITH DUAL BOLT WOOD MOUNTING BAND CLAMP ON BRACKET AND 2" PIPE X 24" STEEL ARM TENONS. MOUNT ARMS 12" FROM TOP OF POLE. REFER TO DETAIL 8/E16.
  - PROVIDE TWO DEDICATED GROUND RODS PER POLE.
  - LUMINAIRE SHALL BE EATON, PART # FMVSY1000/480/M25S831
  - REINSTALL SALVAGE (2) COBRA HEAD AND BRACKETS. MOUNT AT 20' AFG. ORIENT HEAD NORTH AND SOUTH.
  - SEE DETAIL 7/E16 FOR UPPER LUMINAIRE ORIENTATION DETAIL.
  - PROVIDE WITH EXTERNAL CUTOFF SHIELD TO MINIMIZE LIGHT INTRUSION ON ROAD.
  - ARM BRACKET SHALL BE GARMIRE G-WAG-5 OR EQUIVALENT WITH DUAL BOLT WOOD MOUNTING BAND CLAMP ON BRACKET AND 2" PIPE X 24" STEEL ARM TENONS. MOUNT ARMS 12" FROM TOP OF POLE.
  - ARM SHALL BE "BULL HORN" YOKE 30" LONG WITH (2) 2" ROUND TENONS 180 DEGREE APART. COLOR SHALL BE GRAY. LOCATE UPPER ARMS 12" FROM TOP OF POLE AND LOWER ARMS 30" BELOW TOP OF POLE.

3000 112th Ave NE  
Suite 100  
Bellevue WA 98004  
425.482.6000  
www.woodharbinger.com

P.O. BOX 1087 TACOMA, WA 98501-0108

APPROVED: *[Signature]*

4-12-16

SWK 03/17/16

CHECKED BY: DATE

JAL 03/17/16

PROJ. ENGR. DATE

4woods Mar 16, 2016

MARK: REVISION: APPR: DATE:

XXX XXX XX XX

**NORTH LEAD**

ELECTRICAL DETAILS

RANGE: 0.3E SECTION: 1, 2, 3

TOWNSHIP: 20N

DATE-HRZ: W83-SF

VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE

DRAWING SCALE:

6555

**E12**

SHEET 126 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

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Panel Name: DPA		PANEL SCHEDULE										Mfr: Cat #	
Location: EXTERIOR		480Y/277 Volt Section: 1 of 1											
Fed From: SERVICE		3 Phase, 4 Wire		Surface Mounted Panelboard									
22 kAIC Sym		200 Amp		Main Circuit Breaker 200 Amp Bus Capacity		Copper Bus 100% Neutral							
Ckt No.	Circuit Description	Ckt Brkr Amps   Pol	kVA	H	P	kVA	Ckt Brkr Amps   Pol	Circuit Description	Ckt No.				
1	TRANSFORMER SERVING PANEL A1	70/ 3	0.80	a	6.00	100/ 3		LIGHTING YARD CONTACTOR (POT)	2				
3			0.80	b	6.00				4				
5			0.80	c	6.00				6				
7	WEST YARD PANEL	70/ 3	11.00	a	0.00	100/ 3		SPARE BREAKER	8				
9			11.00	b	0.00				10				
11			9.00	c	0.00				12				
13	BLANK	20/ 1	0.00	a	0.00	20/ 1		BLANK	14				
15	BLANK	20/ 1	0.00	b	0.00	20/ 1		BLANK	16				
17	BLANK	20/ 1	0.00	c	0.00	20/ 1		BLANK	18				
19	BLANK	20/ 1	0.00	a	0.00	20/ 1		BLANK	20				
21	BLANK	20/ 1	0.00	b	0.00	20/ 1		BLANK	22				
23	BLANK	20/ 1	0.00	c	0.00	20/ 1		BLANK	24				
25	BLANK	20/ 1	0.00	a	0.00	20/ 1		BLANK	26				
27	BLANK	20/ 1	0.00	b	0.00	20/ 1		BLANK	28				
29	BLANK	20/ 1	0.00	c	0.00	20/ 1		BLANK	30				
31	BLANK	20/ 1	0.00	a	0.00	20/ 1		BLANK	32				
33	BLANK	20/ 1	0.00	b	0.00	20/ 1		BLANK	34				
35	BLANK	20/ 1	0.00	c	0.00	20/ 1		BLANK	36				
37	BLANK	20/ 1	0.00	a	0.00	30/ 3		BLANK	38				
39	BLANK	20/ 1	0.00	b	0.00			BLANK	40				
41	BLANK	20/ 1	0.00	c	0.00			BLANK	42				

Load Summary	Connected Load	Factor	Calculated Load	Notes:
Lighting	18.00 kVA	125%	22.50 kVA	1. RELOCATE EXISTING PANEL
Receptacles	1.44 kVA	50%>10kVA	1.44 kVA	
All Motors	2.00 kVA	100%	2.00 kVA	
Lrgst Motor	0.00 kVA	125%	0.00 kVA	
Kitchen	0.00 kVA	100%	0.00 kVA	
Miscellaneous	39.40 kVA	100%	39.40 kVA	
Non-Coincident	0.00 kVA	-100%	0.00 kVA	
<b>Total</b>	<b>60.84 kVA</b>		<b>65.34 kVA *</b>	
	<b>73.2 Amps</b>		<b>78.6 Amps *</b>	

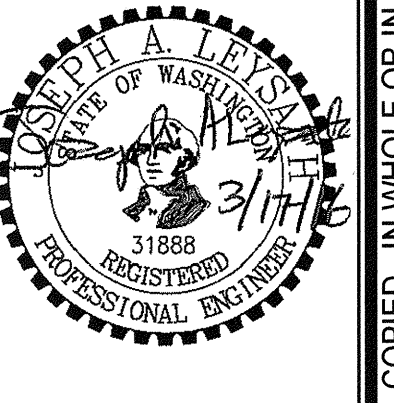
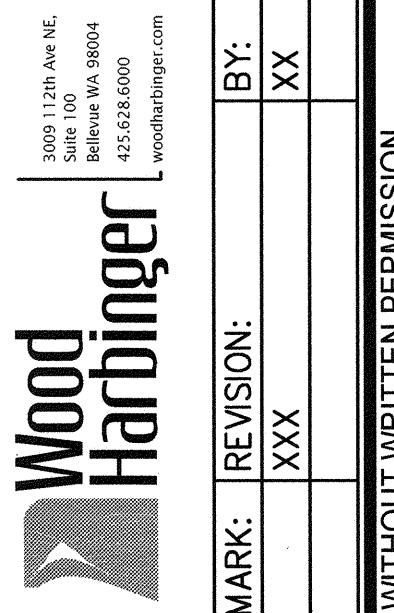
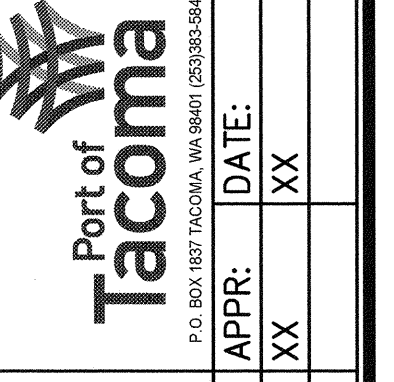
Panel Name: WEST YARD		PANEL SCHEDULE										Mfr: Cat #	
Location: EXTERIOR		208Y/120 Volt Section: 1 of 1										Feed-Thru Lugs	
Fed From:		3 Phase, 4 Wire		Surface Mounted Panelboard									
10 kAIC Sym		150 Amp		Main Circuit Breaker 200 Amp Bus Capacity		Copper Bus 100% Neutral							
Ckt No.	Circuit Description	Ckt Brkr Amps   Pol	kVA	H	P	kVA	Ckt Brkr Amps   Pol	Circuit Description	Ckt No.				
1	SPARE	100/ 3	0.00	a	0.00	100/ 3		SPARE	2				
3			0.00	b	0.00				4				
5			0.00	c	0.00				6				
7	SPARE	100/ 3	0.00	a	5.00	100/ 3		COMM HUT 1.4	8				
9			0.00	b	5.00				10				
11			0.00	c	5.00				12				
13	BLANK	20/ 1	0.00	a	3.00	100/ 2		AEI HUT 3	14				
15	BLANK	20/ 1	0.00	b	3.00				16				
17	BLANK	20/ 1	0.00	c	0.00	20/ 1		BLANK	18				
19	BLANK	20/ 1	0.00	a	0.00	20/ 1		BLANK	20				
21	BLANK	20/ 1	0.00	b	0.00	20/ 1		BLANK	22				
23	BLANK	20/ 1	0.00	c	0.00	20/ 1		BLANK	24				
25	BLANK	20/ 1	0.00	a	0.00	20/ 1		BLANK	26				
27	BLANK	20/ 1	0.00	b	0.00	20/ 1		BLANK	28				
29	BLANK	20/ 1	0.00	c	0.00	20/ 1		BLANK	30				
31	NOT USABLE		0.00	0	0.00			NOT USABLE	32				
33	NOT USABLE		0.00	0	0.00			NOT USABLE	34				
35	NOT USABLE		0.00	0	0.36			NOT USABLE	36				
37	NOT USABLE		0.00	0	0.36			NOT USABLE	38				
39	NOT USABLE		0.00	0	0.36			NOT USABLE	40				
41	NOT USABLE		0.00	0	0.36			NOT USABLE	42				

Load Summary	Connected Load	Factor	Calculated Load	Notes:
Lighting	0.00 kVA	125%	0.00 kVA	1: EXISTING SDD 30 POLE PANEL TO REMAIN 2: REFERENCE ONLY. NO WORK BEING PERFORMED ON THIS PANEL.
Receptacles	0.00 kVA	50%>10kVA	0.00 kVA	
All Motors	0.00 kVA	100%	0.00 kVA	
Lrgst Motor	0.00 kVA	125%	0.00 kVA	
Kitchen	0.00 kVA	100%	0.00 kVA	
Miscellaneous	21.00 kVA	100%	21.00 kVA	
Non-Coincident	0.00 kVA	-100%	0.00 kVA	
<b>Total</b>	<b>21.00 kVA</b>		<b>21.00 kVA</b>	
	<b>58.3 Amps</b>		<b>58.3 Amps</b>	

Panel Name: A1		PANEL SCHEDULE										Mfr: Cat #	
Location: EXTERIOR		208Y/120 Volt Section: 1 of 1											
Fed From: DPA		3 Phase, 4 Wire		Surface Mounted Panelboard									
10 kAIC Sym		150 Amp		Main Circuit Breaker 200 Amp Bus Capacity		Copper Bus 100% Neutral							
Ckt No.	Circuit Description	Ckt Brkr Amps   Pol	kVA	H	P	kVA	Ckt Brkr Amps   Pol	Circuit Description	Ckt No.				
1	AEI HUT 2	70/ 2	3.00	a	0.00	100/ 3		SPARE	2				
3			3.00	b	0.00				4				
5	SPARE	100/ 3	0.00	c	0.00				6				
7			0.00	a	0.00	100/ 3		SPARE	8				
9			0.00	b	0.00				10				
11	SPARE	100/ 3	0.00	c	0.00				12				
13			0.00	a	1.00	20/ 1		SWITCHES 21-29 W	14				
15			0.00	b	1.00	20/ 1		SWITCHES 17-20 R	16				
17	SPARE	20/ 1	0.00	c	0.00	20/ 1		SPARE	18				
19	SPARE	20/ 1	0.00	a	0.00	20/ 1		SPARE	20				
21	SPARE	20/ 1	0.00	b	0.00	20/ 1		SPARE	22				
23	SPARE	20/ 1	0.00	c	0.00	20/ 1		SPARE	24				
25	SPARE	20/ 1	0.00	a	0.00	20/ 1		SPARE	26				
27	SPARE	20/ 1	0.00	b	0.00	20/ 1		SPARE	28				
29	SPARE	20/ 1	0.00	c	0.00	20/ 1		SPARE	30				
31	SPARE	20/ 1	0.00	a	0.00	20/ 1		SPARE	32				
33	SPARE	20/ 1	0.00	b	0.00	20/ 1		SPARE	34				
35	SPARE	20/ 1	0.00	c	0.36	20/ 1		SPARE	36				
37	SPARE	20/ 1	0.00	a	0.36	20/ 1		SPARE	38				
39	SPARE	20/ 1	0.00	b	0.36	20/ 1		SPARE	40				
41	SPARE	20/ 1	0.00	c	0.36	20/ 1		SPARE	42				

Load Summary	Connected Load	Factor	Calculated Load	Notes:
Lighting	0.00 kVA	125%	0.00 kVA	1. RELOCATE EXISTING PANEL
Receptacles	1.44 kVA	50%>10kVA	1.44 kVA	
All Motors	2.00 kVA	100%	2.00 kVA	
Lrgst Motor	0.00 kVA	125%	0.00 kVA	
Kitchen	0.00 kVA	100%	0.00 kVA	
Miscellaneous	6.00 kVA	100%	6.00 kVA	
Non-Coincident	0.00 kVA	-100%	0.00 kVA	
<b>Total</b>	<b>9.44 kVA</b>		<b>9.44 kVA</b>	
	<b>26.2 Amps</b>		<b>26.2 Amps</b>	

VAULT AND HANDHOLE SCHEDULE				
TAG NO.	OLD CASTLE DESCRIPTION	OLD CASTLE CATELOG SERIES	DIMENSIONS	REMARKS
<b>VAULTS</b>				
2CVA	COMM	577-LA	7'x4.8'x7'H	57L-42C LID & 2 GND RODS
2CVB	COMM	577-LA	7'x4.8'x7'H	57L-42C LID & 2 GND RODS
2CV1	COMM	NA	NA	EXISTING
2CV2	COMM	NA	NA	EXISTING
2CV3	COMM	NA	NA	TO BE RELOCATE
2CV4	COMM	NA	NA	EXISTING
2CV5	COMM	NA	NA	EXISTING
2CV6	COMM	NA	NA	EXISTING
2PV1	POWER	NA	NA	EXISTING
2PVA	POWER	577-LA	7'x4.8'x7'H	57L-42C LID & 2 GND RODS
2PV2	POWER	NA	NA	TO BE RELOCATE
2PV2A	POWER	NA	NA	EXISTING
2PV3	POWER	NA	NA	EXISTING
<b>HANDHOLES</b>				
2PVA	SERVICE POWER	233-LA	REFER TO SPEC	REFER TO SPEC
LH1A	LIGHTING	233-LA	3'x4'x3.5'H	23-2436P LID & 1 GND ROD
LH4A	LIGHTING	233-LA	3'x4'x3.5'H	23-2436P LID & 1 GND ROD
LH5A	LIGHTING	233-LA	3'x4'x3.5'H	23-2436P LID & 1 GND ROD
LH6A	LIGHTING	233-LA	3'x4'x3.5'H	23-2436P LID & 1 GND ROD
LH6B	LIGHTING	233-LA	3'x4'x3.5'H	23-2436P LID & 1 GND ROD
LH7A	LIGHTING	233-LA	3'x4'x3.5'H	23-2436P LID & 1 GND ROD
LH8A	LIGHTING	233-LA	3'x4'x3.5'H	23-2436P LID & 1 GND ROD
LH13A	LIGHTING	233-LA	3'x4'x3.5'H	23-2436P LID & 1 GND ROD



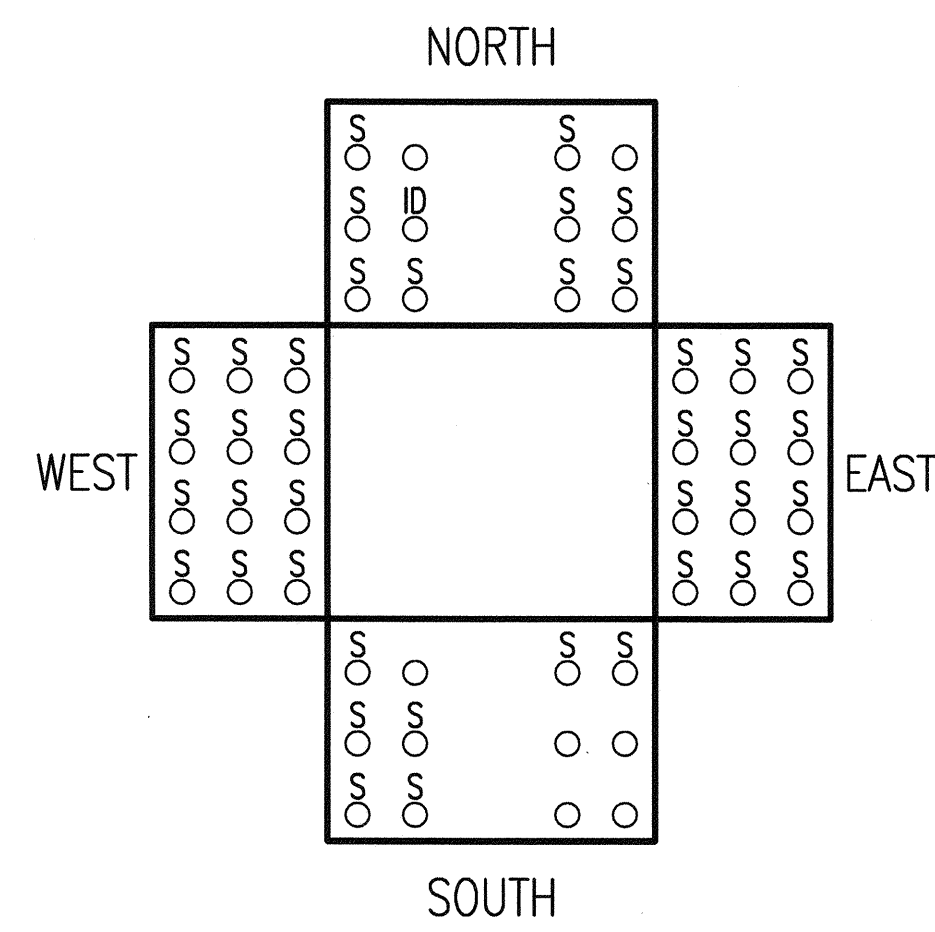
APPROVED: *Joseph A. Lewis*  
 SWK 03/17/16  
 CHECKED BY: JAL 03/17/16  
 DIRECTOR ENG. DATE: 4-12-16  
 PRINTED BY: dwoods Mar. 16, 2016  
 PORT ADDRESS:

**NORTH LEAD**  
**ELECTRICAL SCHEDULES**  
 TOWNSHIP: 20N  
 RANGE: 03E  
 SECTION: 1, 2, 3  
 VERT: PORT OF TACOMA BM #846  
 DRAWING SCALE:

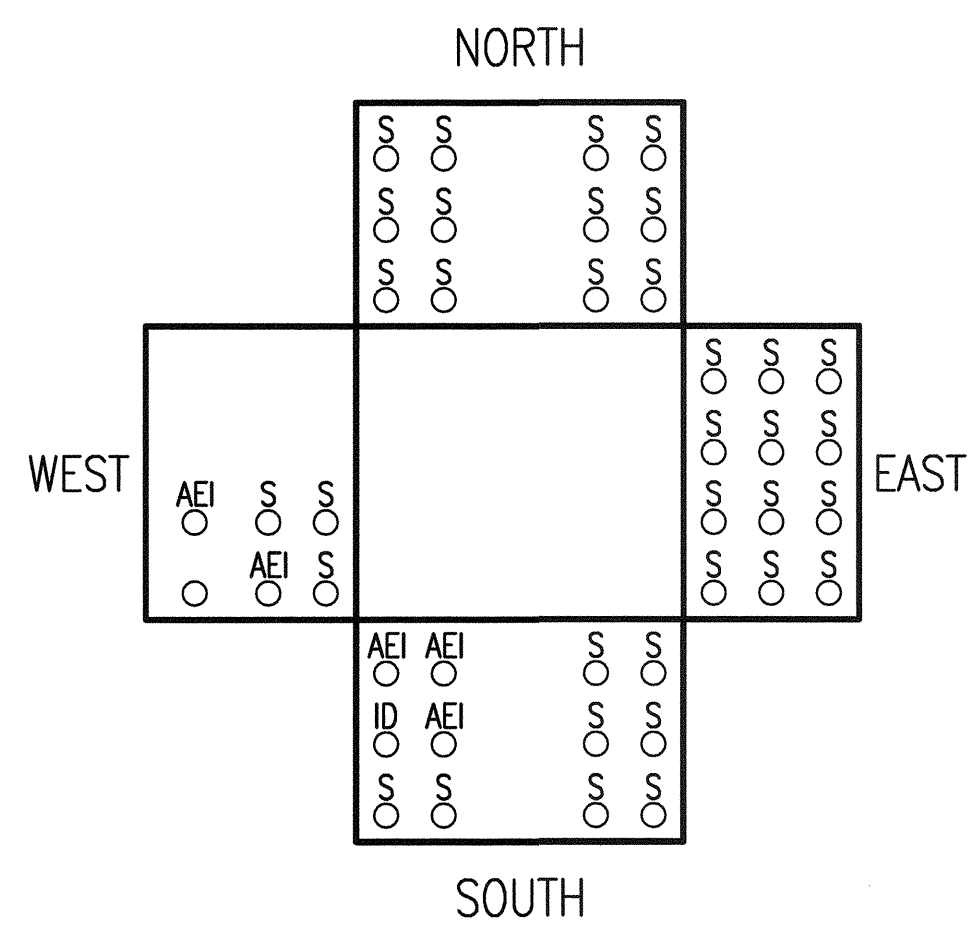
6555  
**E14**  
 SHEET 128 OF 134  
 CONT/CONS: 070164  
 M. ID: 092938  
 PHASE: BID

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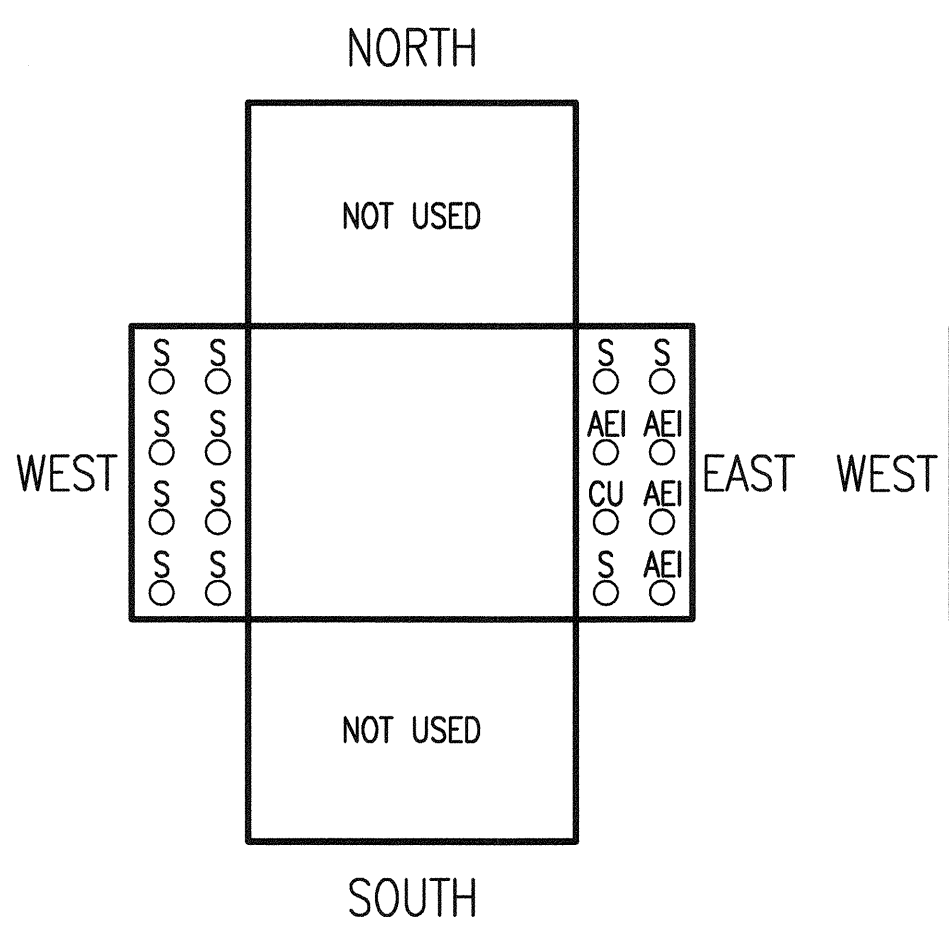
BINDING EDGE



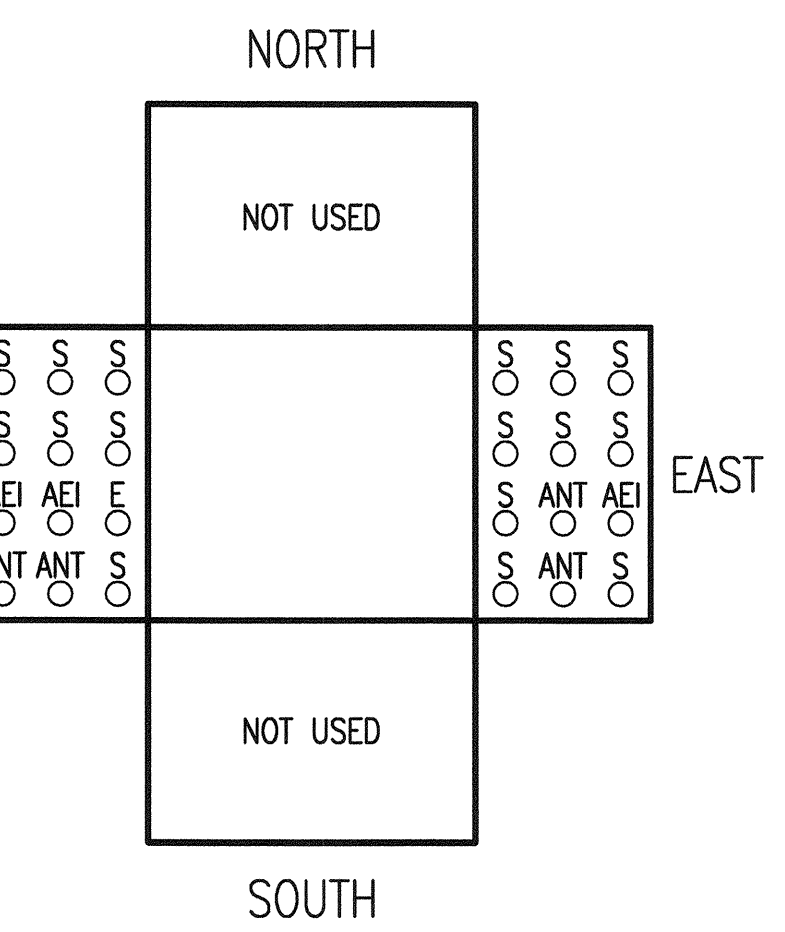
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SCALE: NONE



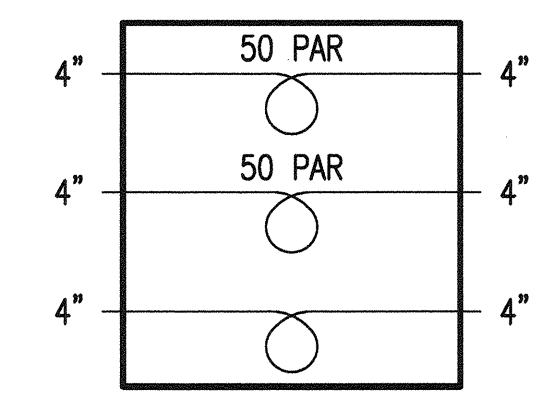
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SCALE: NONE



3 EXISTING VAULT 2CV3  
SCALE: NONE



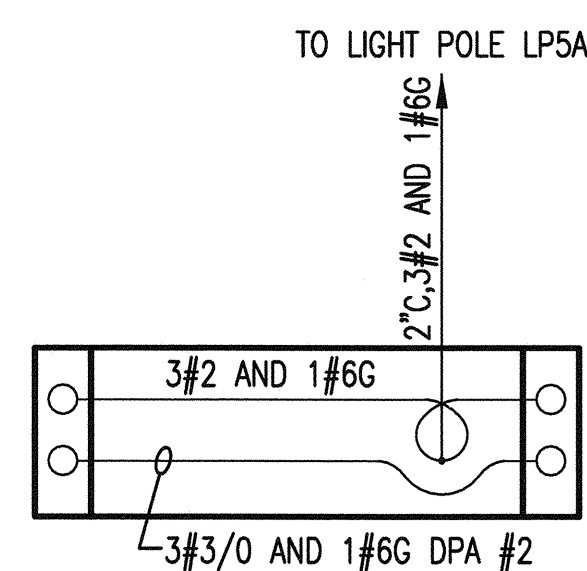
4 EXISTING VAULT 2CV4  
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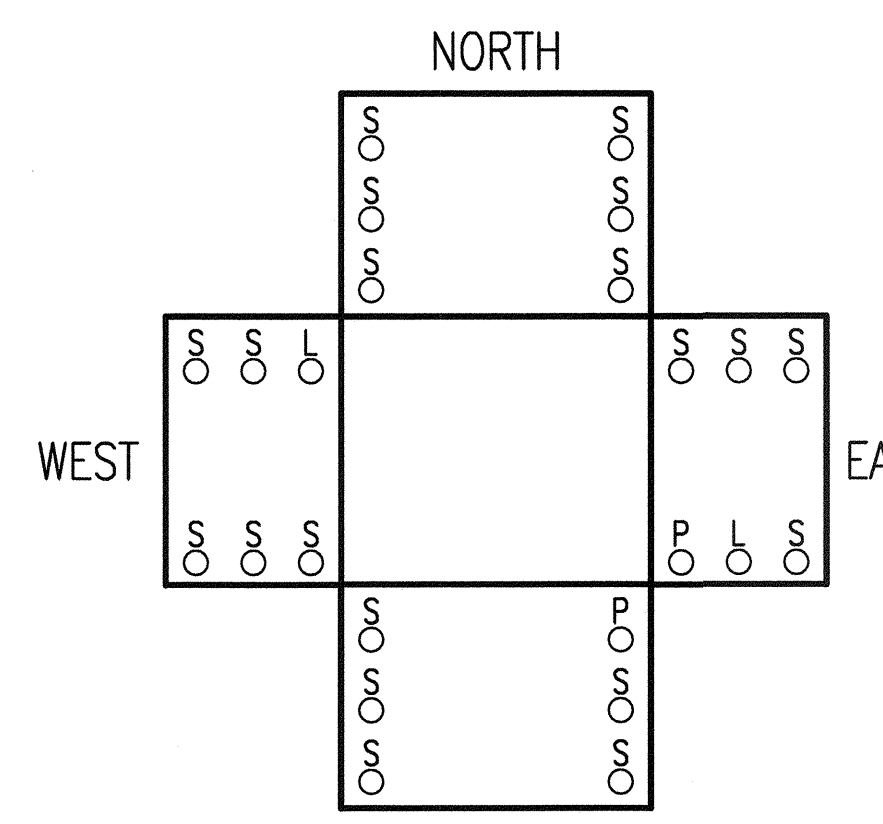
5 EXISTING VAULT 2CV5  
SCALE: NONE

KEY NOTES:

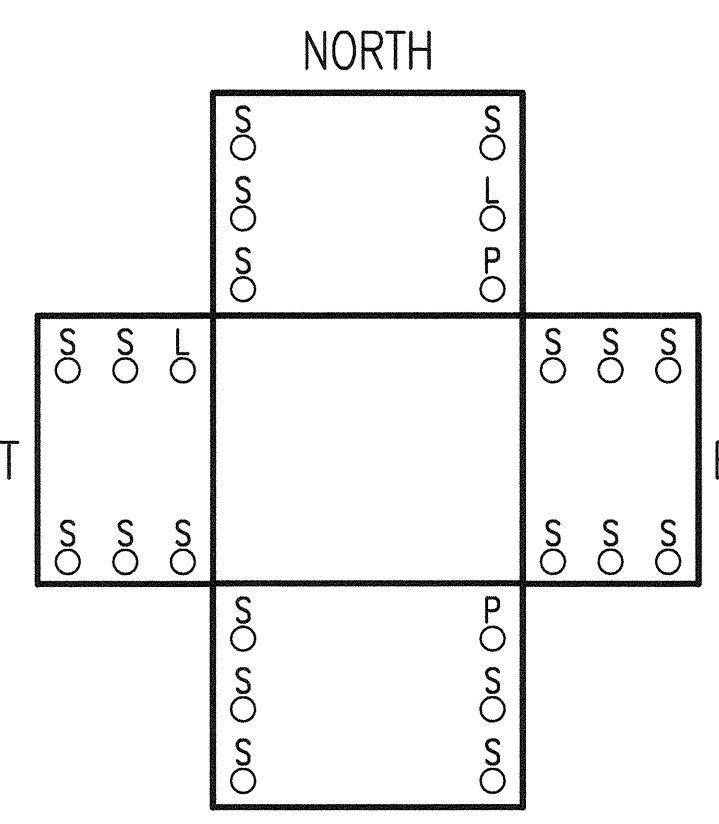
- ① PROVIDE 3#2 & 1#6G (LTG) AND 4#8 & 1#8G (120V) IN EXISTING DUCT. EXISTING 3#2 & 1#8G TO REMAIN.
- ② SERVES PANEL DPA.



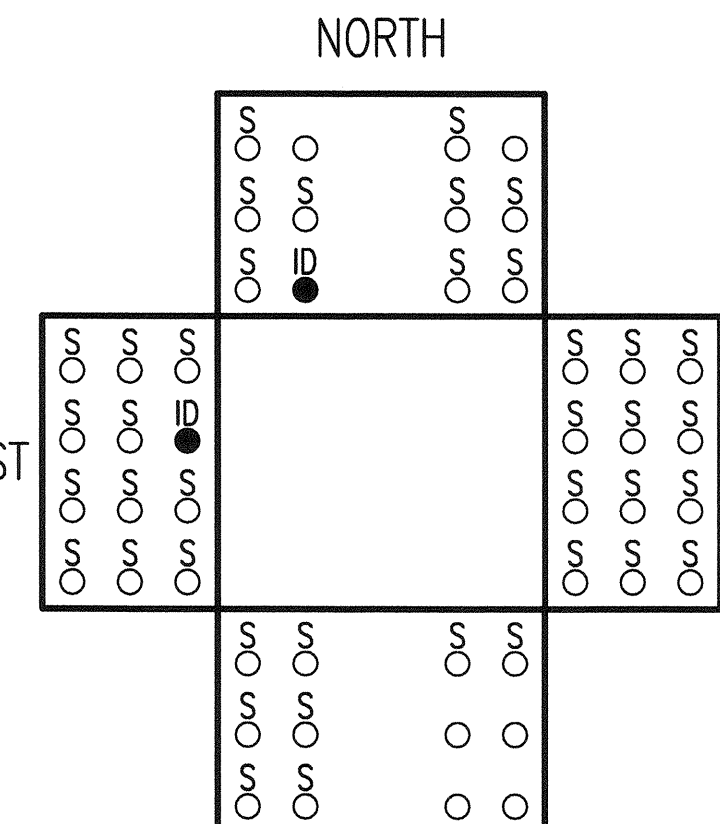
6 EXISTING VAULT 2PV3  
SCALE: NONE



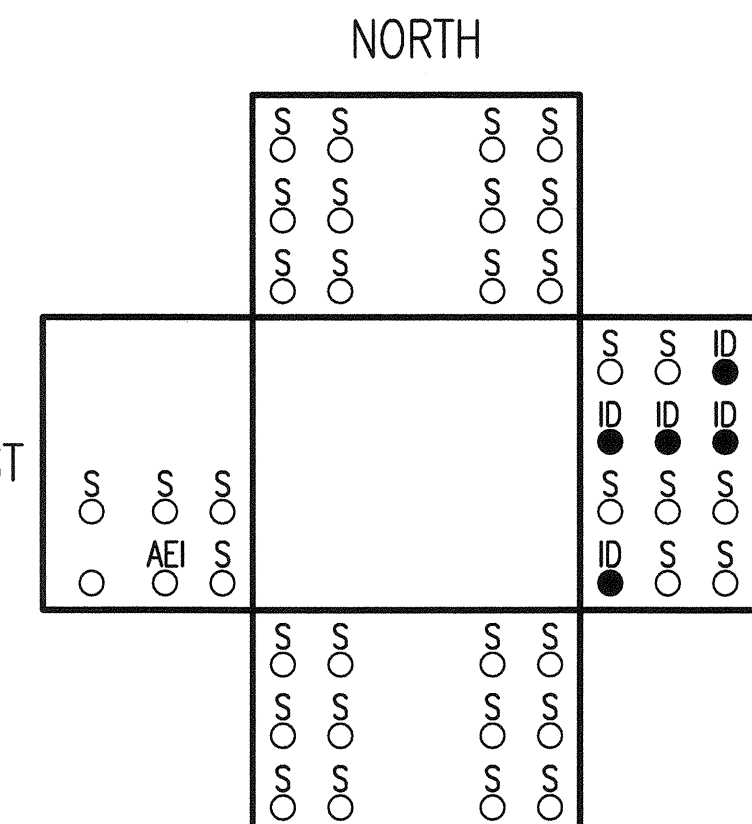
7 EXISTING VAULT 2PV1  
SCALE: NONE



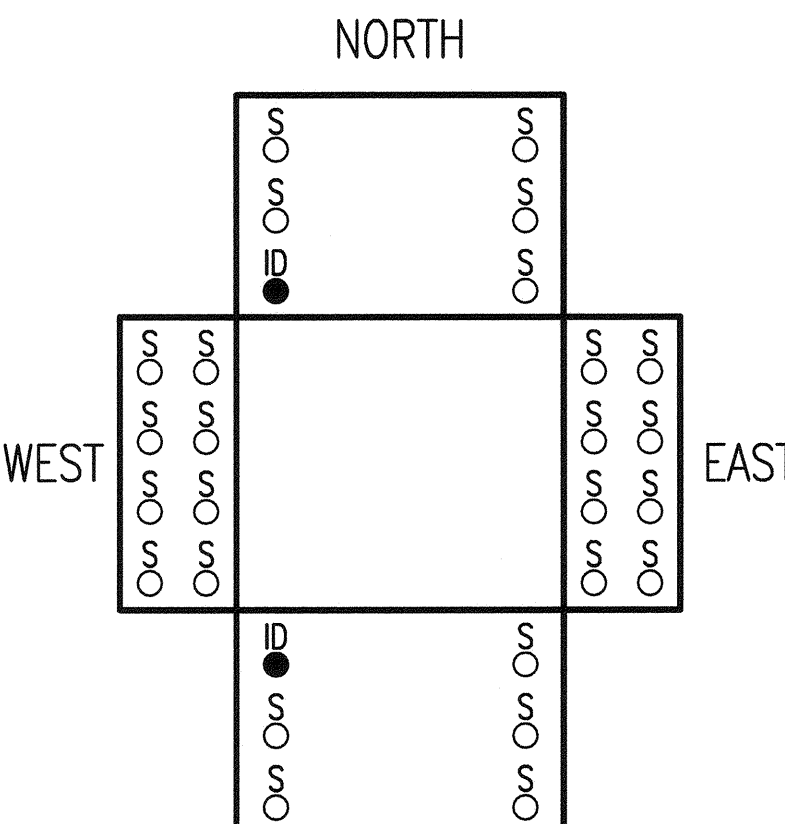
8 EXISTING VAULT 2PV2  
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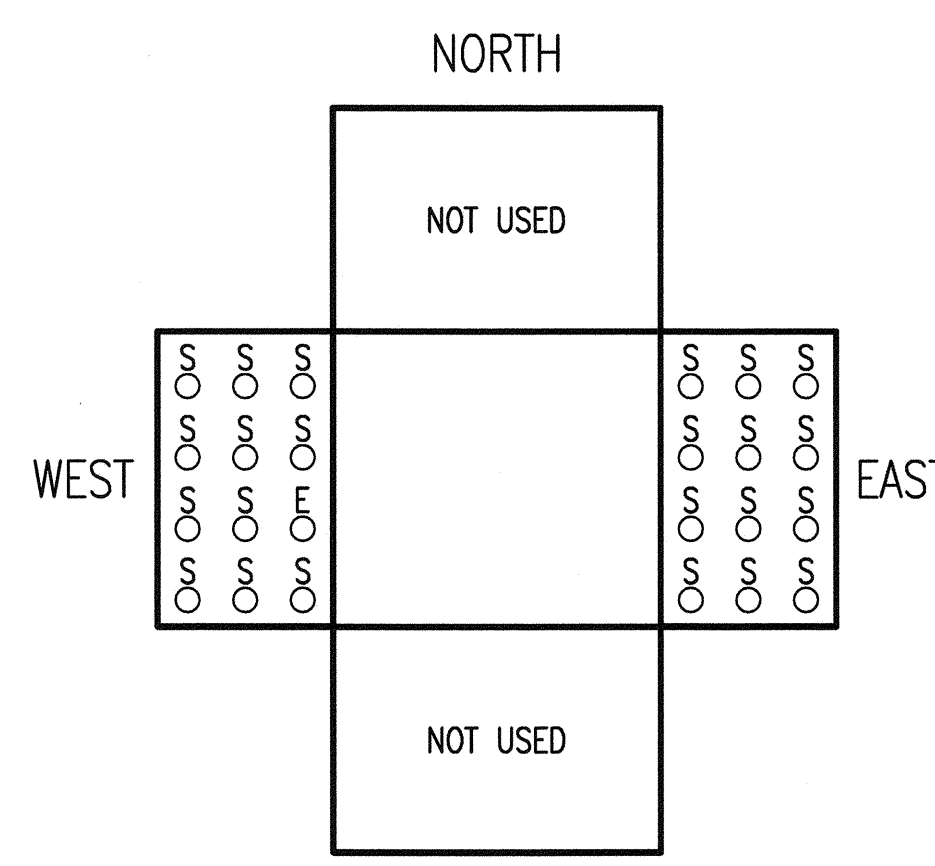
9 REVISED VAULT 2CV1  
SCALE: NONE



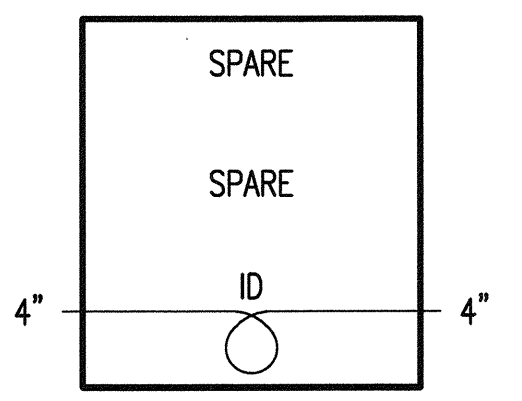
10 REVISED VAULT 2CV2  
SCALE: NONE



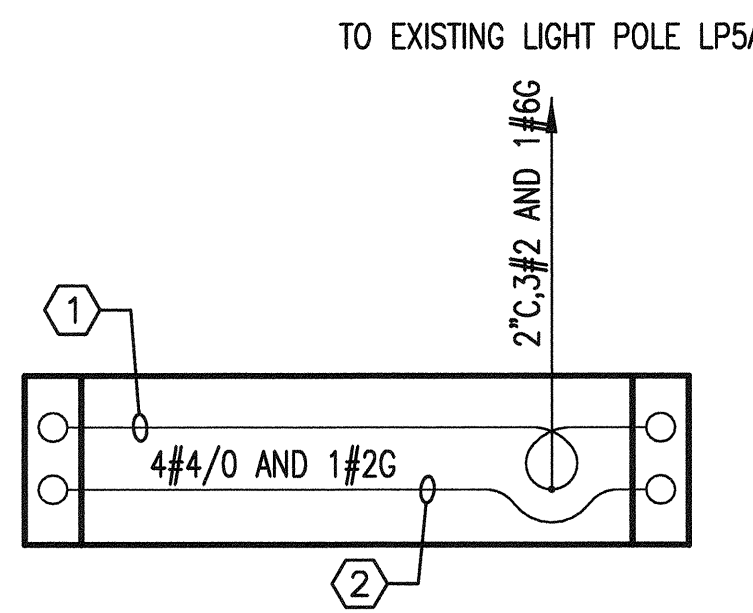
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SCALE: NONE



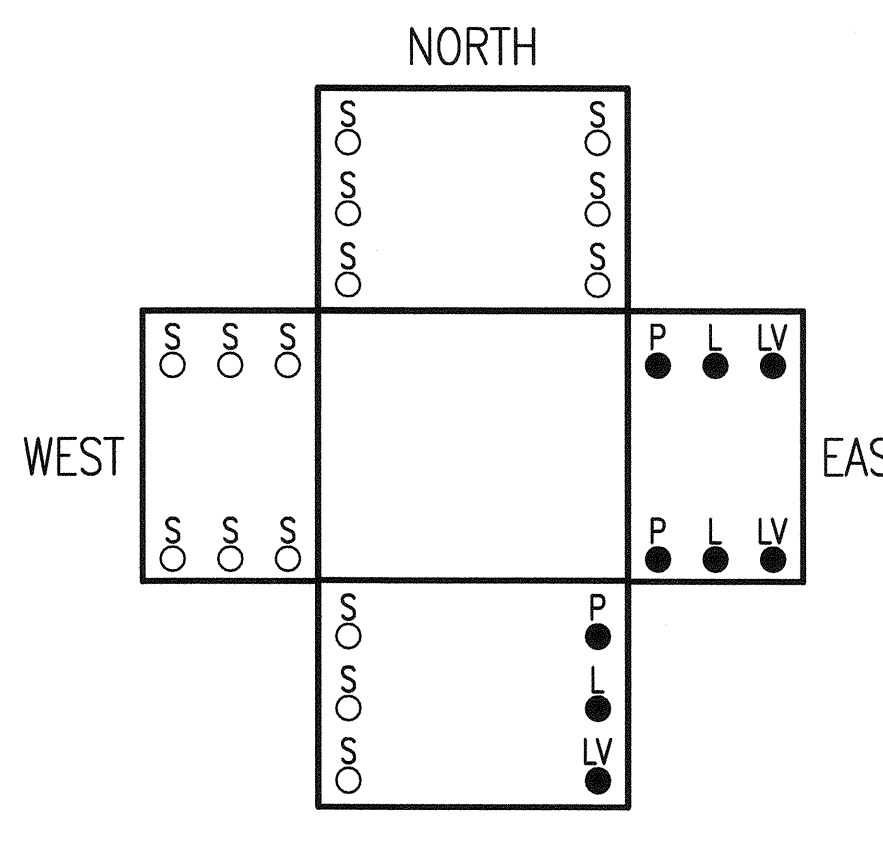
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SCALE: NONE



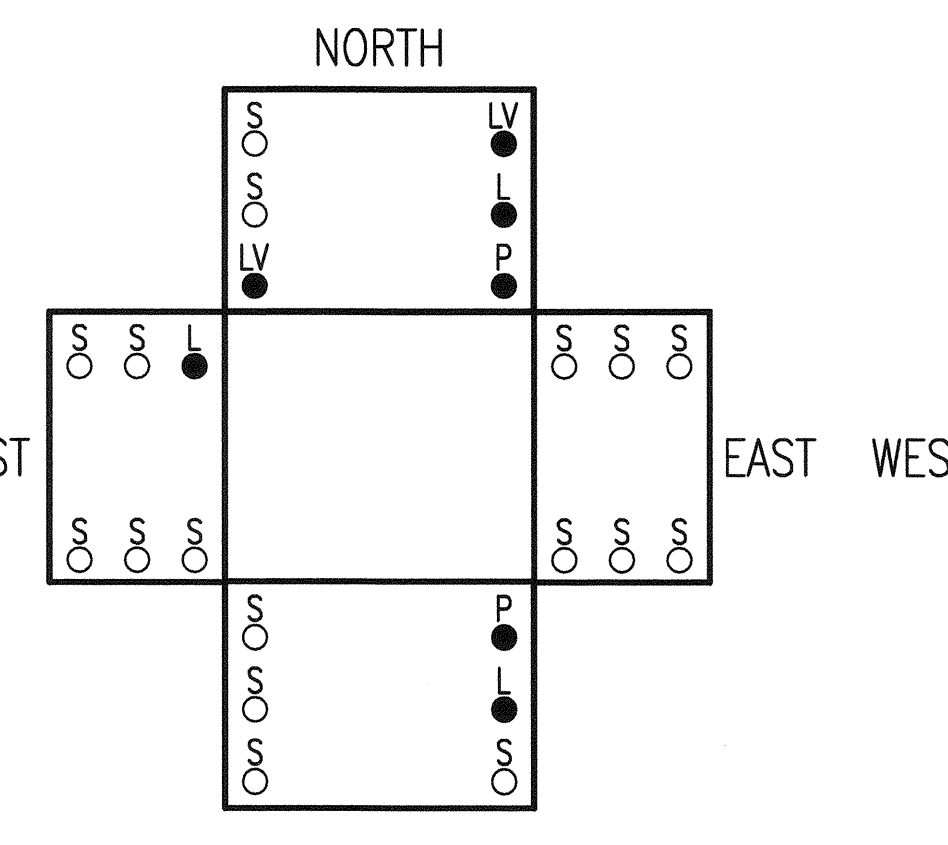
13 REVISED VAULT 2CV5  
SCALE: NONE



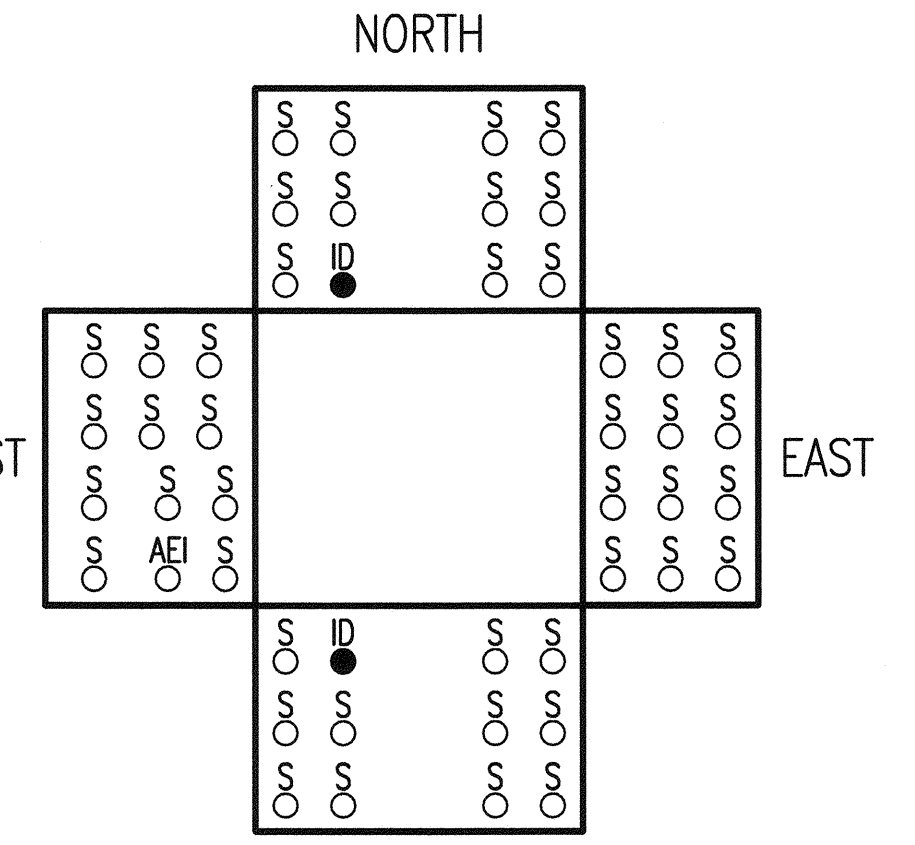
14 REVISED VAULT 2PV3  
SCALE: NONE



15 REVISED VAULT 2PV1  
SCALE: NONE



16 REVISED VAULT 2PV2  
SCALE: NONE

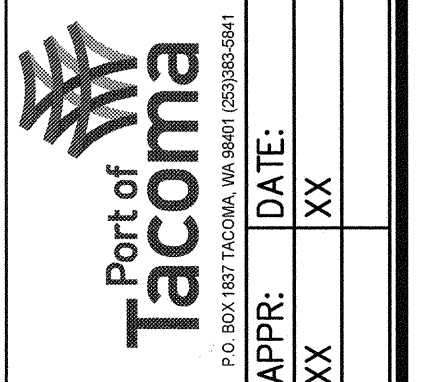


17 NEW VAULT 2CVA  
SCALE: NONE

CONDUIT KEY

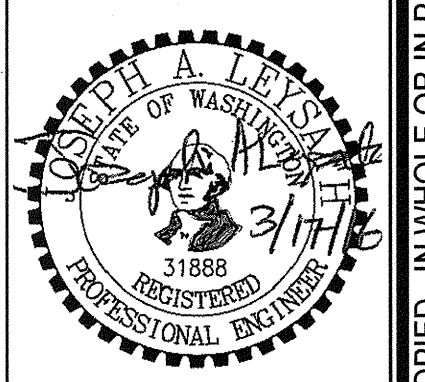
- S = SPARE
- ID = (3)1-1/4ID
- AEI = EQUIP. ID
- CU = 50 PR CU
- ANT = ANTENNA
- E = EMPTY
- L = LIGHTING
- E = POWER DPA
- LV = 120V

PORT OF TACOMA FILE: G:\2015\15023\00\DWG\IE15



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<i>Joseph A. Lewis</i>	CHECKED BY:	DATE
	JAL	03/17/16
DIRECTOR ENG. DATE	PROJ. ENGR	DATE
4-12-16	dwoods	Mar 16, 2016
PRINTED BY:	PORT ADDRESS:	

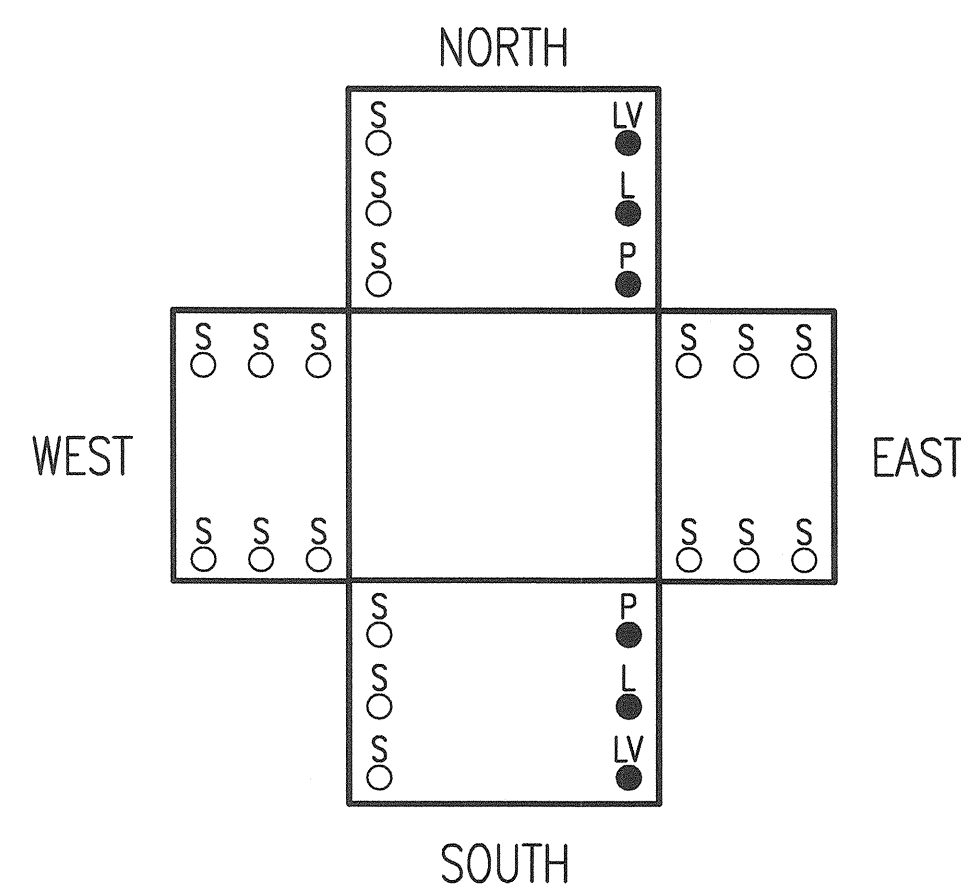
NORTH LEAD

ELECTRICAL DETAILS

TOWNSHIP:	20N	RANGE:	03E	SECTION:	1, 2, 3
DAT-HRZ:	WB3-SF	VERT:	PORT OF TACOMA	BM #B46	
CONTRACT:	070164	DRAWING SCALE:			
M. ID:	092938	PARCEL:	MULTIPLE		
PHASE:	BID				

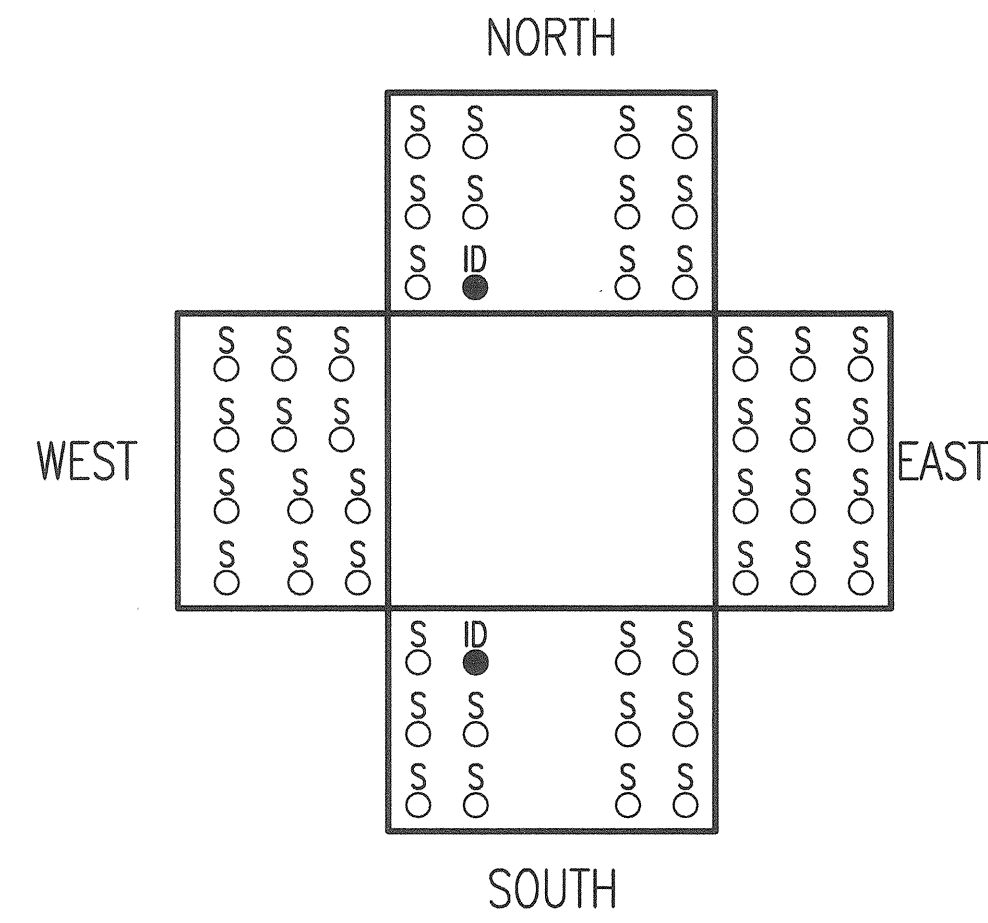
6555  
**E15**  
SHEET 129 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

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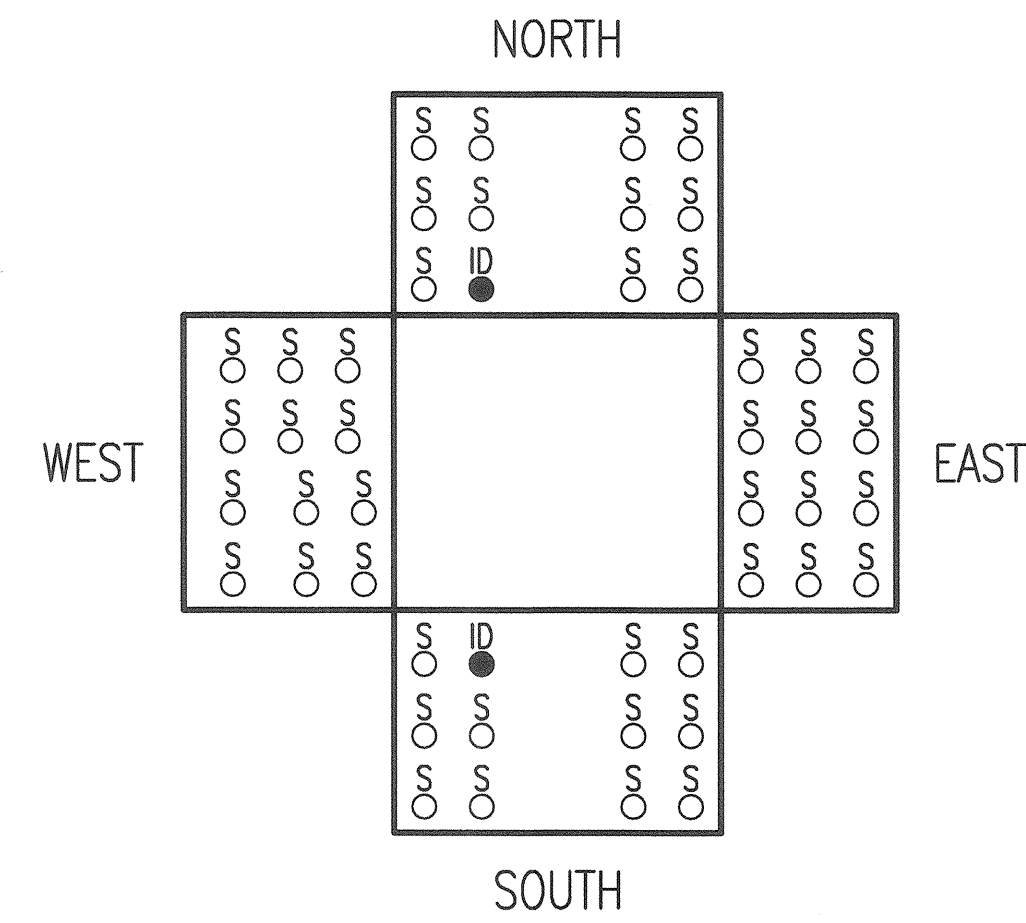
1 NEW VAULT 2PVA  
SCALE: NONE

2 (NOT USED)  
SCALE: NONE

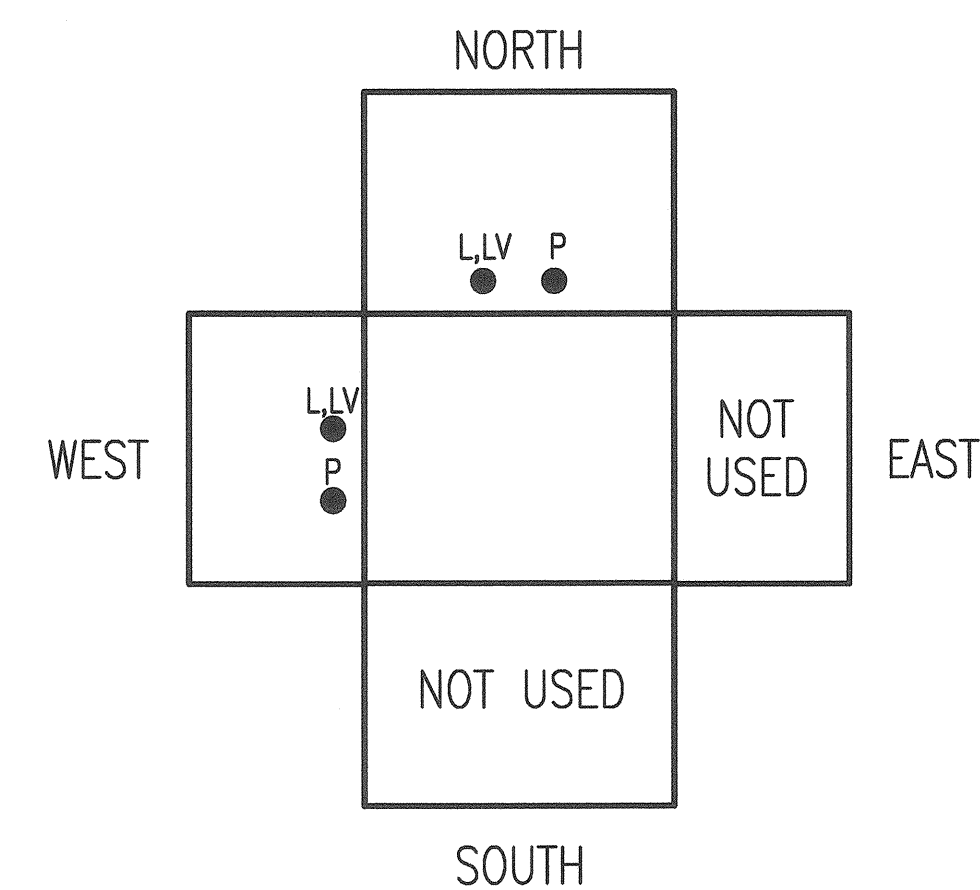


3 NEW VAULT 2CVB  
SCALE: NONE

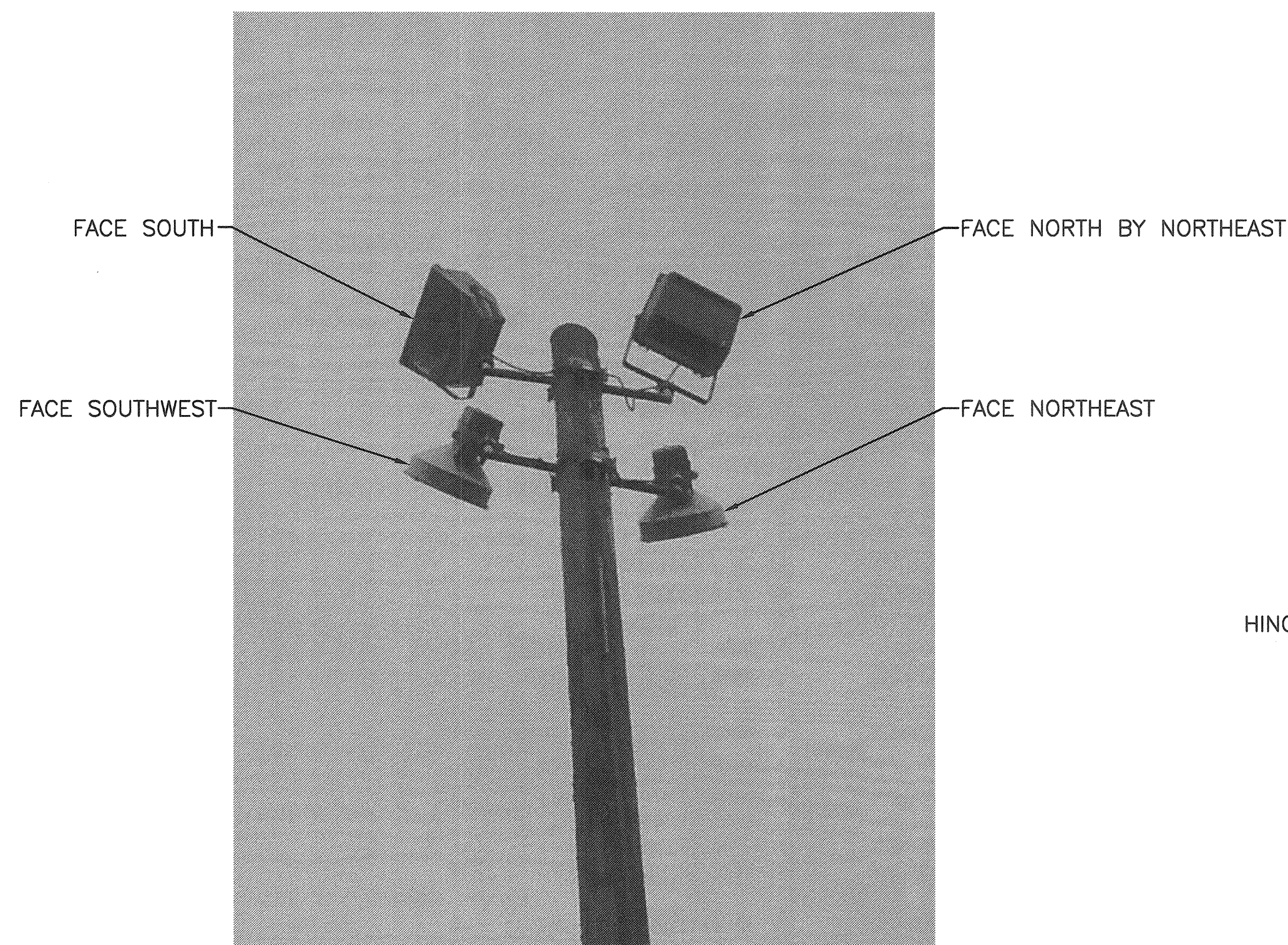
4 (NOT USED)  
SCALE: NONE



5 REVISED VAULT 2CV6  
SCALE: NONE

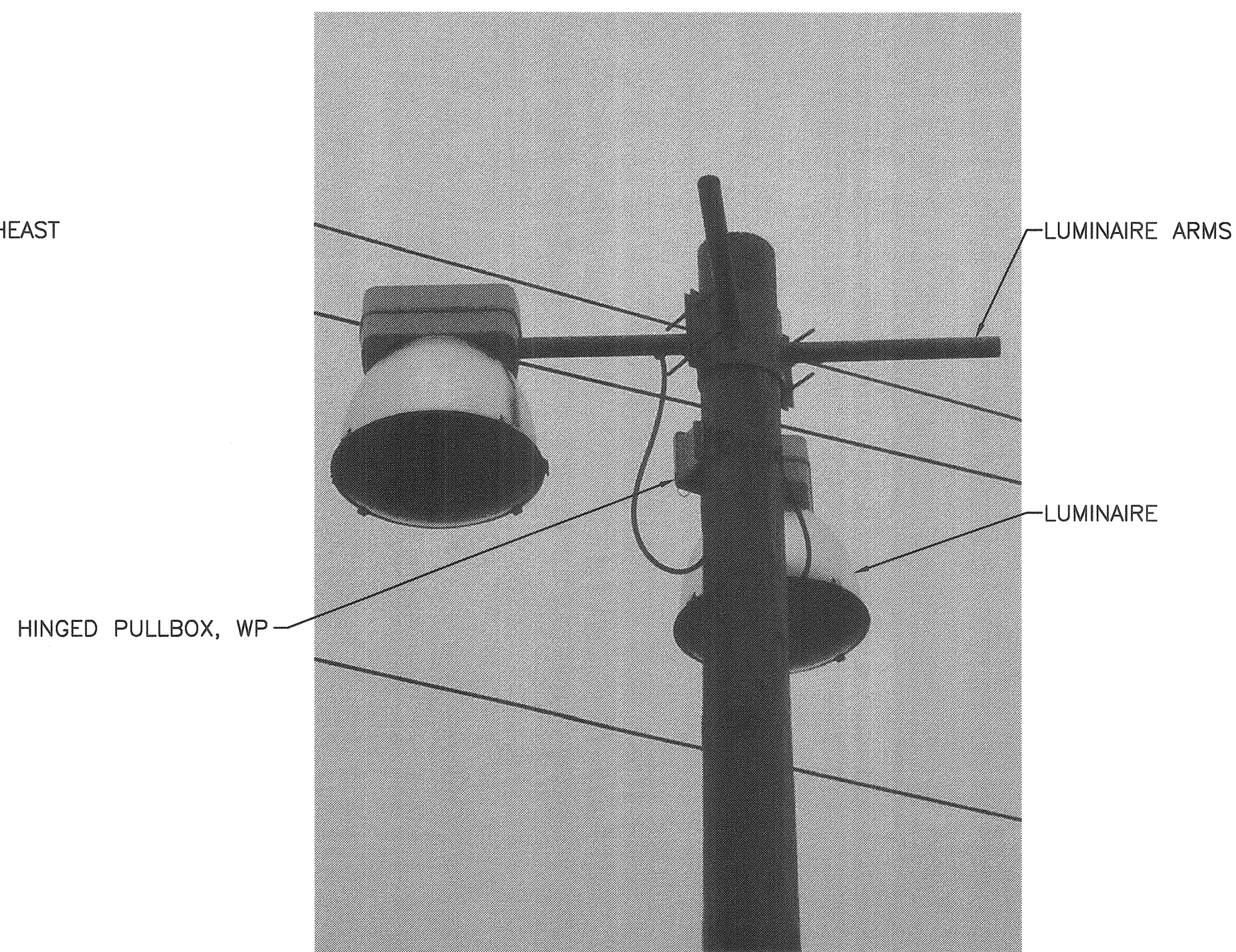


6 REVISED VAULT 2PV2A  
SCALE: NONE



NOTE: ORIENT LUMINAIRES FROM MIDNIGHT UNTIL 4AM

7 LIGHT POLE 17 HEAD ORIENTATION PHOTO  
SCALE: NONE



8 LIGHT POLE BRACKET MOUNTING DETAIL  
SCALE: NONE

CONDUIT KEY	
S	= SPARE
ID	= (3)1-1/4ID
AEI	= EQUIP. ID
CU	= 50 PR CU
ANT	= ANTENNA
E	= EMPTY
L	= LIGHTING
LV	= 120V
E	= POWER DPA

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NORTH LEAD	
SWK	03/17/16
CHECKED BY	DATE
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DIRECTOR	ENG. DATE
4-12-16	dwoods Mar 16, 2016
PRINTED BY:	PORT ADDRESS:
TOWNSHIP: 20N	SECTION: 1, 2, 3
DAT-HRZ: W83-SF	VERT: PORT OF TACOMA, BM #B46
PARCEL: MULTIPLE	DRAWING SCALE:

**6555 E16**

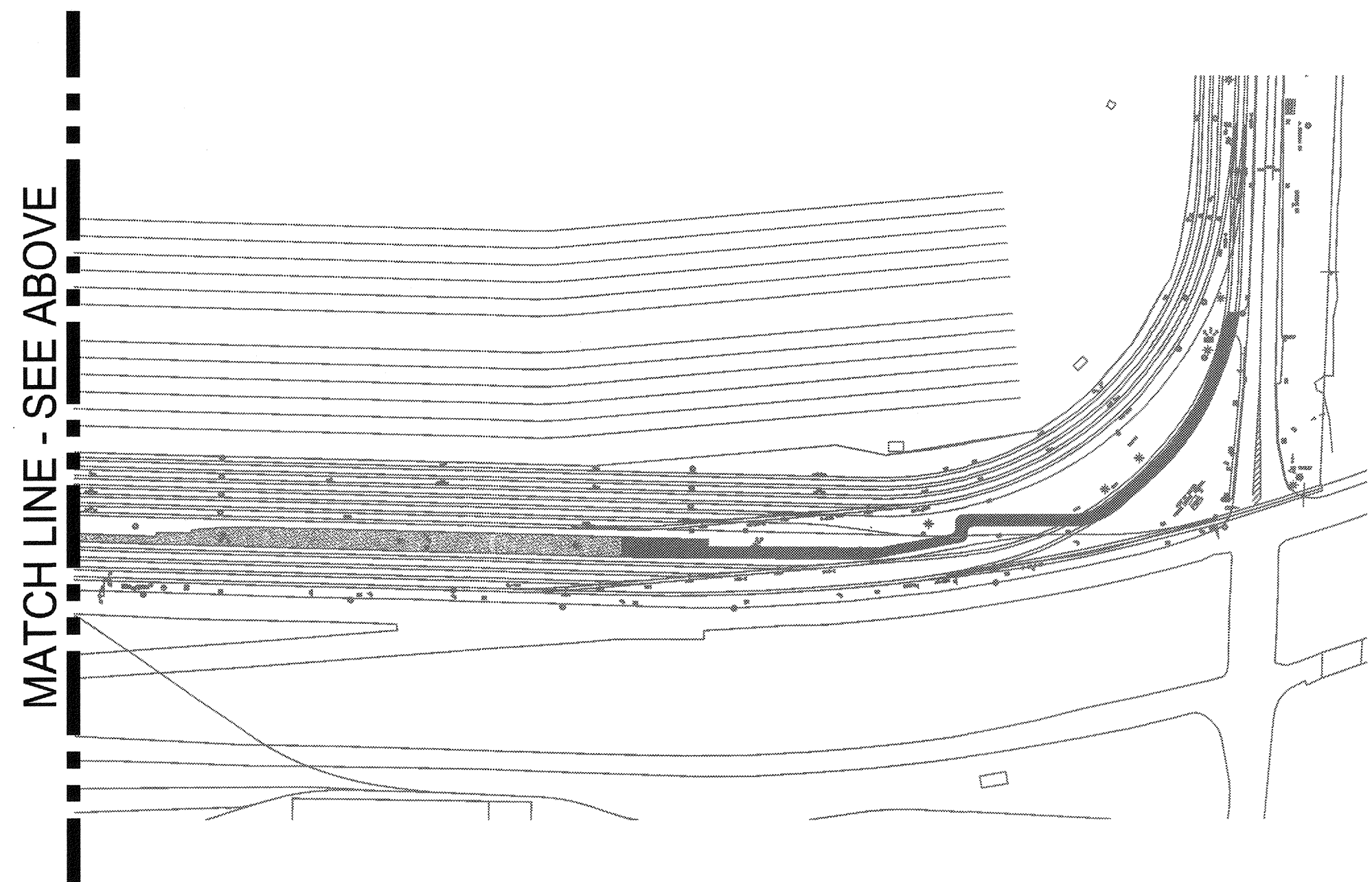
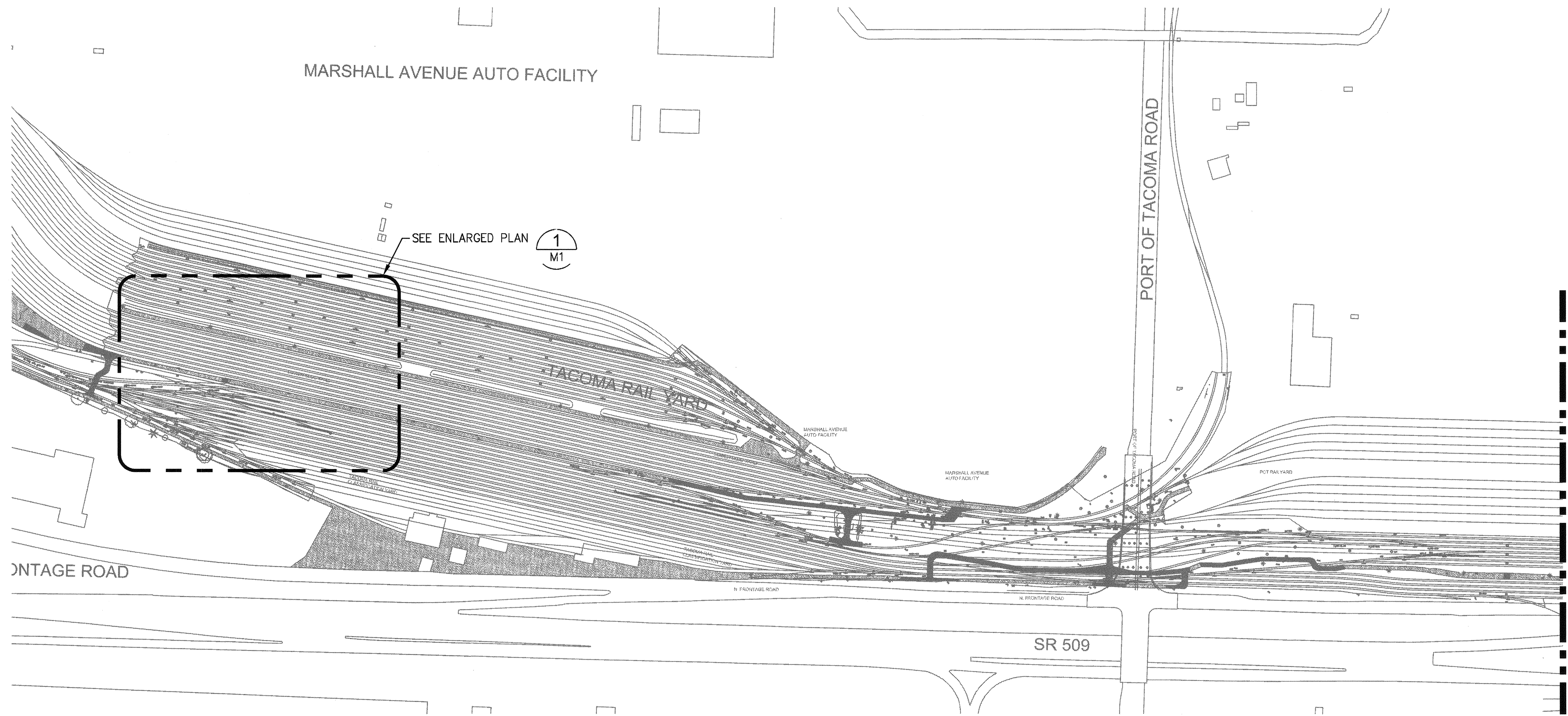
SHEET 130 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

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**MECHANICAL SITE PLAN**  
1"=200'-0"

**MECHANICAL LEGEND**

- BALL VALVE
- FLEXIBLE CONNECTOR
- CHECK VALVE
- PRESSURE REDUCING VALVE
- PRESSURE RELIEF VALVE
- FLOOR DRAIN
- AIR PIT
- UNION
- FLANGE
- PRESSURE GAUGE
- TEMPERATURE SWITCH (HIGH AIR/OIL TEMPERATURE)
- AIR COOLER

**ABBREVIATIONS**

- AC-X AIR COMPRESSOR
- AD-X AIR DRYER
- AR-X AIR RECEIVER
- (E) EXISTING
- FD FLOOR DRAIN
- FS FORGED STEEL
- FT FEET/FOOT
- HP HORSEPOWER
- MAX MAXIMUM
- MIN MINIMUM
- NO NORMALLY OPEN
- NC NORMALLY CLOSED
- OWS OIL/WATER SEPARATOR
- PLCS PLACES
- POC POINT OF CONNECTION
- PRV PRESSURE REDUCING VALVE
- PSIG POUNDS PER SQUARE INCH GAUGE
- SCFM STANDARD CUBIC FEET PER MINUTE
- SCH SCHEDULE
- THRD THREADED
- TYP TYPICAL

**GENERAL SYMBOLS**

- SHEET NOTE
- LIGHT LINE INDICATES BACKGROUND
- LIGHT LINE INDICATES EXISTING WORK
- HEAVY LINE INDICATES NEW WORK
- BURIED PIPING (EXISTING WORK)
- BURIED PIPING (NEW WORK)
- EXISTING WORK TO BE ABANDONED

**SECTION IDENTIFICATION**

- INDICATES DIRECTION OF CUTTING PLANE
- LETTER INDICATES SECTION
- SHEET NUMBER WHERE SECTION IS DRAWN

**DETAIL IDENTIFICATION**

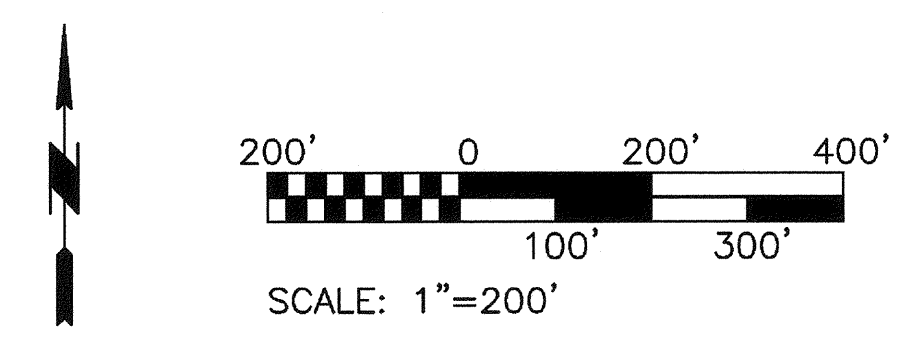
- NUMBER INDICATES DETAIL
- SHEET NUMBER WHERE DETAIL IS DRAWN

**ELEVATION IDENTIFICATION**

- NUMBER INDICATES ELEVATION
- SHEET NUMBER WHERE ELEVATION IS DRAWN

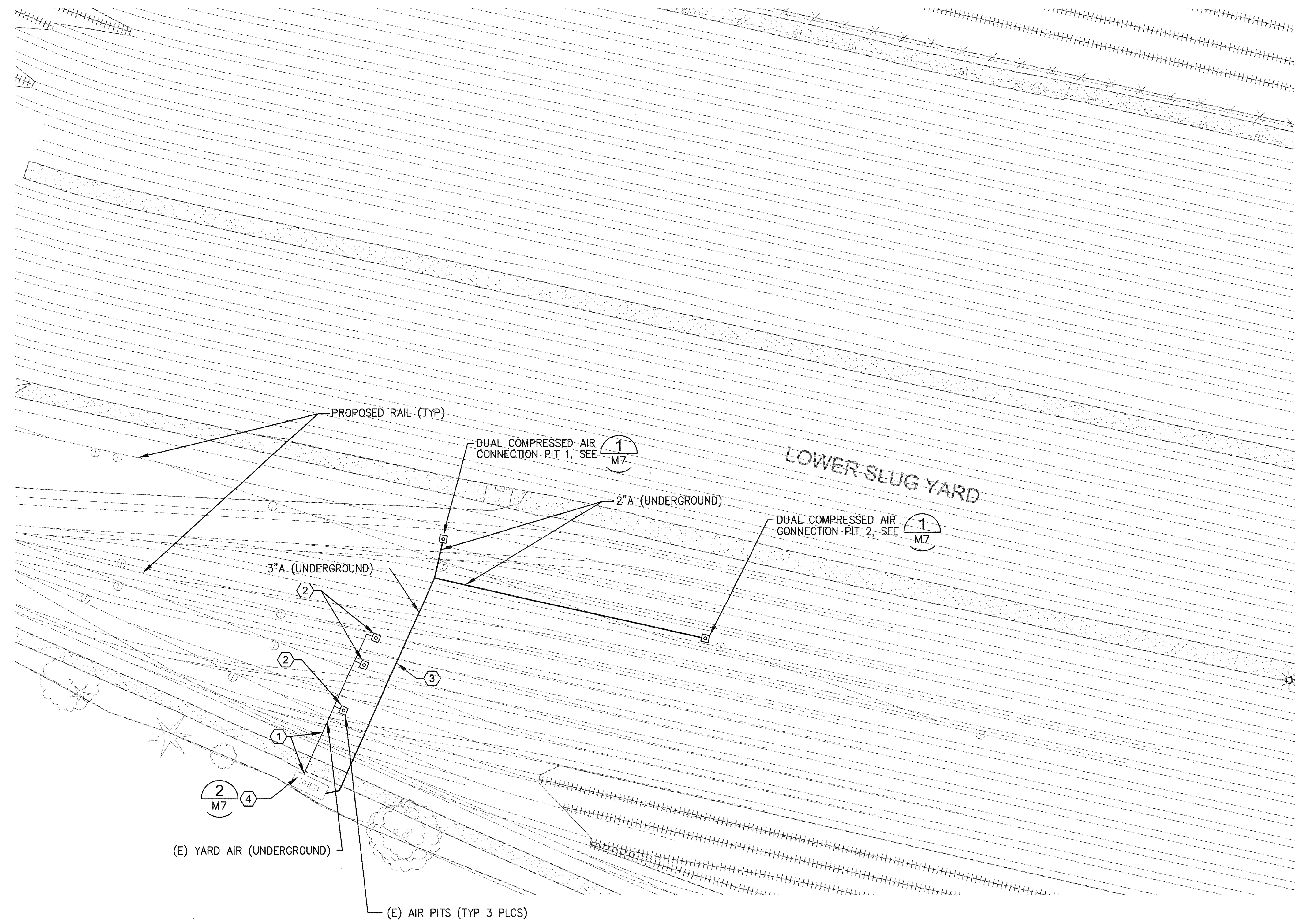
MATCH LINE - SEE BELOW

MATCH LINE - SEE ABOVE

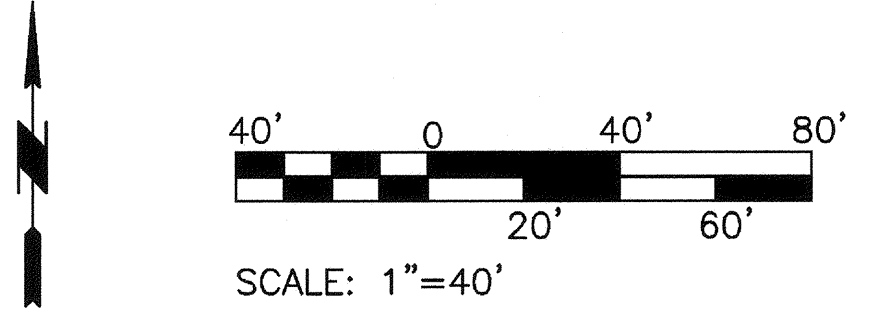


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APPROVED: <i>[Signature]</i> 4-12-16 DIRECTOR ENG. DATE PRINTED BY: Grason Mar 15, 2016 PORT ADDRESS: ONE SITCUM PLAZA TACOMA, WA 98401-1837	SWK 03/17/16 CHECKED BY DATE SAG 03/17/16 PROJ. ENGR DATE 46626 REGISTERED PROFESSIONAL ENGINEER 3-14-16
<b>6555</b> <b>GM1</b> SHEET 131 OF 134 CONT./CONS: 070164 M. ID: 092938 PHASE: BID	<b>NORTH LEAD</b> <b>MECHANICAL SITE PLAN</b> RANGE: 03E SECTION: 1, 2, 3 TOWNSHIP: 20N DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846 PARCEL: MULTIPLE DRAWING SCALE:

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**MECHANICAL PARTIAL SITE PLAN**  
1"=40'-0"



**GENERAL NOTES:**

1. REFER TO SHEET R2 FOR EXACT LOCATION OF NEW AND EXISTING AIR PITS.

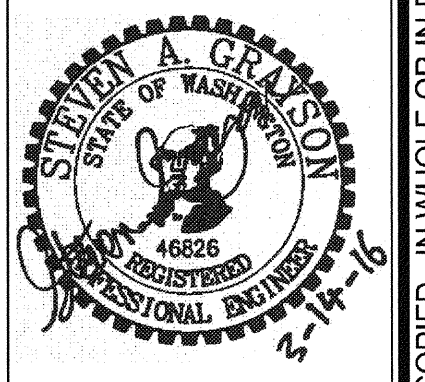
**KEYNOTES:**

- 1 REMOVE BURIED COMPRESSED AIR PIPING FROM DOWNSTREAM OF FILTERS AND DRYERS. EXISTING COMPRESSED AIR PIPE TO BE KEPT IN SERVICE DURING PHASED INSTALLATION. ABANDON PIPING LOCATED BELOW AREAS OF WORK ALREADY PERFORMED. REMOVE PIPING AND CAP UNDERGROUND AS PRACTICAL TO NOT DISTURB NEW TRACKS. CONTRACTOR TO VERIFY EXACT LOCATION OF PIPING.
- 2 REMOVE EXISTING COMPRESSED AIR PITS. KEEP PITS IN SERVICE AS REQUIRED DURING PHASED TRACK INSTALLATION UNTIL NEW AIR PITS ARE IN SERVICE. CONTRACTOR TO CONFIRM EXACT LOCATION OF EXISTING PITS.
- 3 INSTALL COMPRESSED AIR PIPING UNDERGROUND AS INDICATED TO AIR CONNECTION PITS. ROUTING IS DIAGRAMMATICALLY SHOWN. FOR EXACT LOCATIONS REFER TO "R" DRAWINGS AND ADJUST UNDERGROUND PIPING LOCATIONS AS REQUIRED TO PROVIDE CONNECTION TO AIR PITS.
- 4 POINT OF CONNECTION IN AIR COMPRESSOR BUILDING ABOVE GROUND DOWNSTREAM OF PRESSURE REGULATOR.

**6555**  
**M1**  
SHEET 132 OF 134  
CONT/CONS: 070164  
M. ID: 092938  
PHASE: BID

**NORTH LEAD**  
WEST END  
MECHANICAL PARTIAL SITE PLAN  
RANGE: 03E SECTION: 1, 2, 3  
TOWNSHIP: 20N  
DATE-HRZ: W63-SF  
VERT: PORT OF TACOMA BM #846  
PARCEL: MULTIPLE  
DRAWING SCALE:

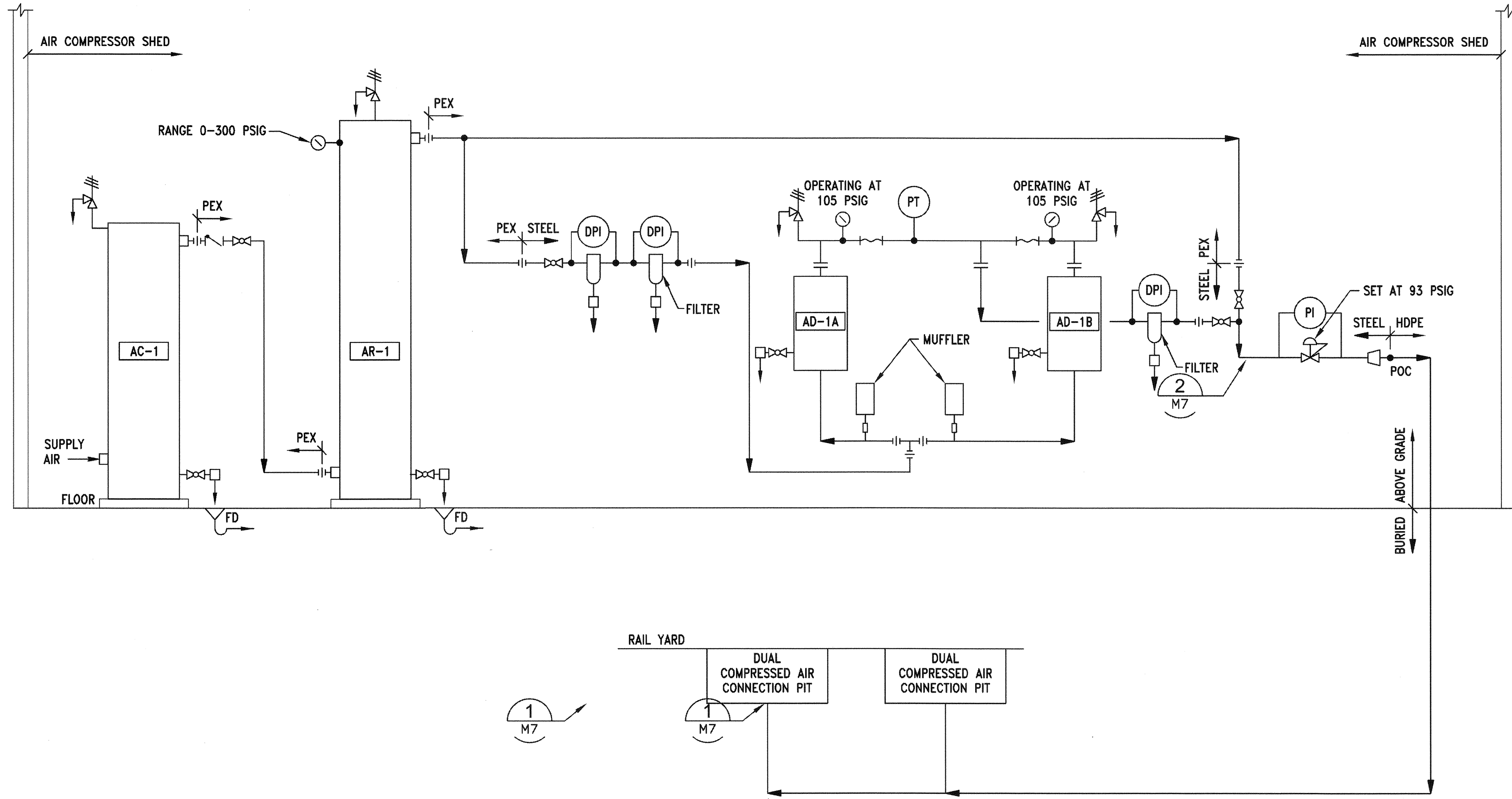
APPROVED:	SWK	03/17/16
<i>[Signature]</i>	CHECKED BY	DATE
	SAG	03/17/16
	PROJECT	03/17/16
	DATE	DATE
	4-12-16	PROJECT
	DATE	03/15/2016
	PRINTED BY:	oneison Mar 15, 2016
	PORT ADDRESS:	ONE SITCUM PLAZA
	TACOMA, WA	98401-1837



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1  
M6

COMPRESSED AIR  
PIPING AND  
INSTRUMENTATION DIAGRAM

NTS

6555

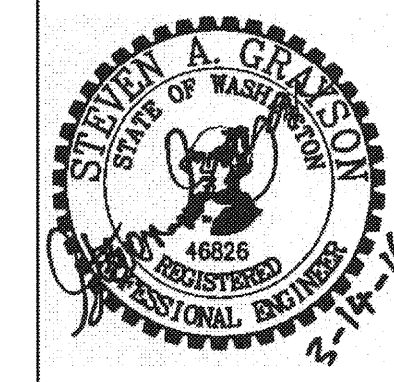
M6

SHEET 133 OF 134  
 CONT/CONS: 070164  
 M. ID: 092938  
 PHASE: BID

NORTH LEAD  
 PIPING AND INSTRUMENTATION DIAGRAM

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3  
 DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846  
 PARCEL: MULTIPLE DRAWING SCALE:

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 CHECKED BY: SAG 03/17/16  
 DIRECTOR ENG. DATE: 4-12-16 PROJ. ENGR DATE: 03/17/16  
 PRINTED BY: cnelson Mar 15, 2016  
 PORT ADDRESS:

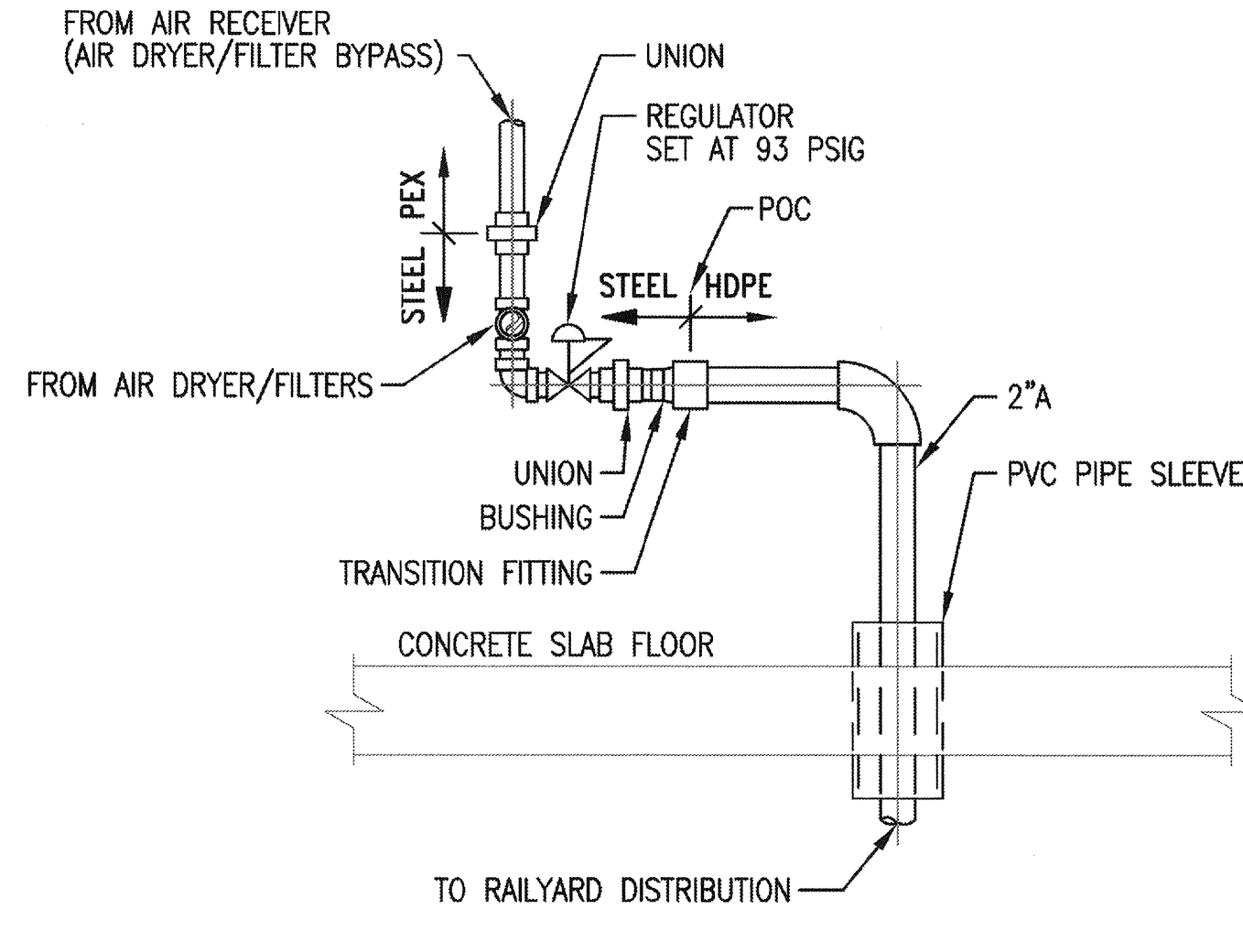
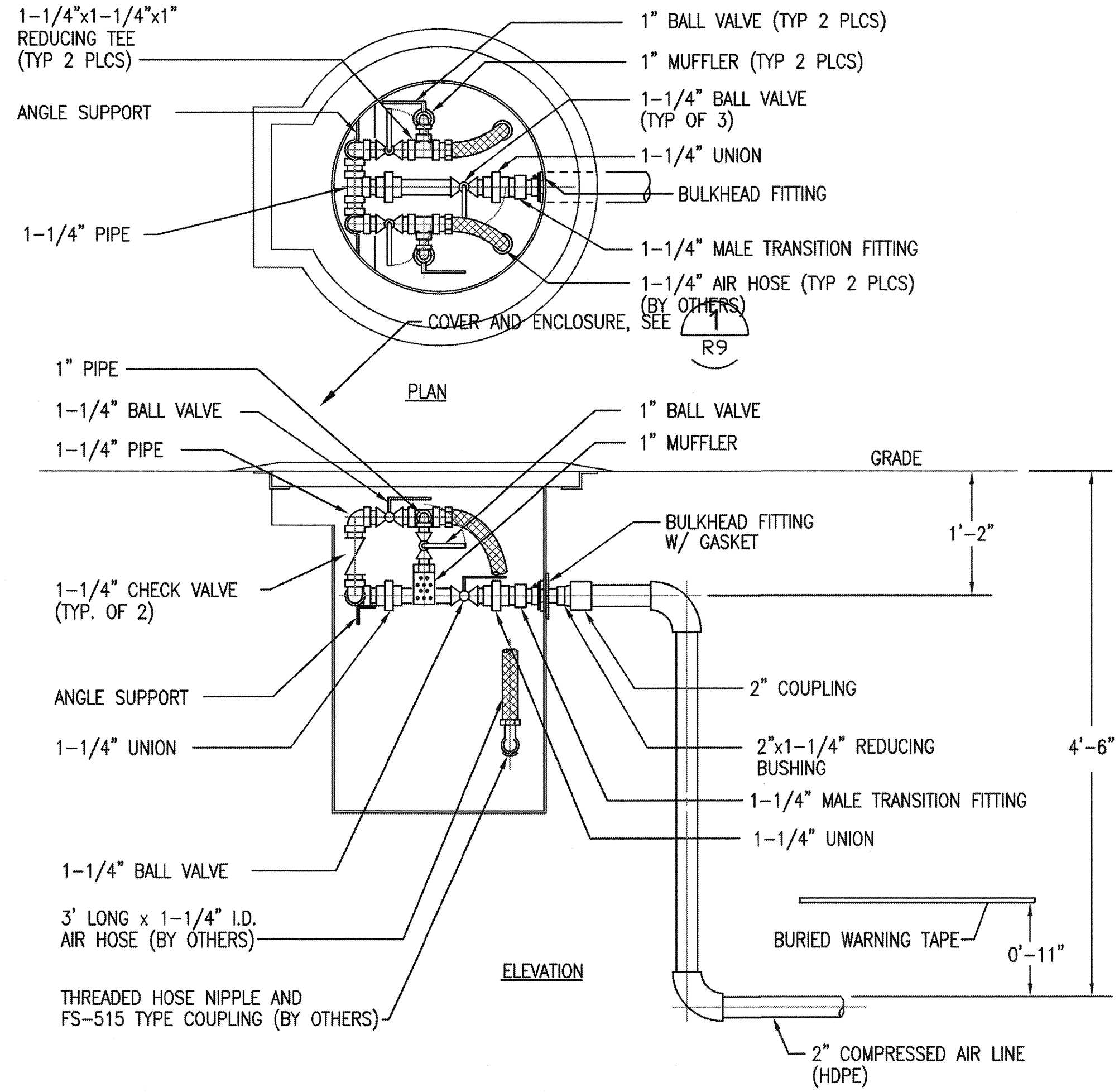


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6555

**M7**

SHEET 134 OF 134

CONT/CONS: 070164

M. ID: 092938

PHASE: BID

**NORTH LEAD**

**MECHANICAL SECTIONS AND DETAILS**

TOWNSHIP: 20N RANGE: 03E SECTION: 1, 2, 3

DAT-HRZ: W83-SF VERT: PORT OF TACOMA BM #846

PARCEL: MULTIPLE DRAWING SCALE:

APPROVED:

*[Signature]*

4-12-16

DIRECTOR ENG. DATE

PRINTED BY: cnelson

PORT ADDRESS:

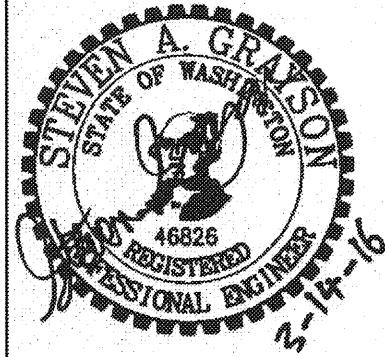
SWK 03/17/16

CHECKED BY DATE

SAG 03/17/16

PROJ. ENGR DATE

Mar 15, 2016



DATE: XX

APPR: XX

BY: XX

REVISION: XXX

MARK: XXX