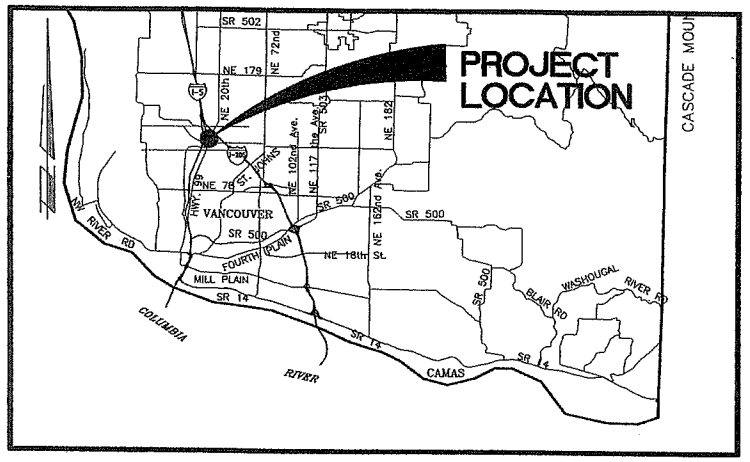
CAPITAL IMPROVEMENTS PROGRAM

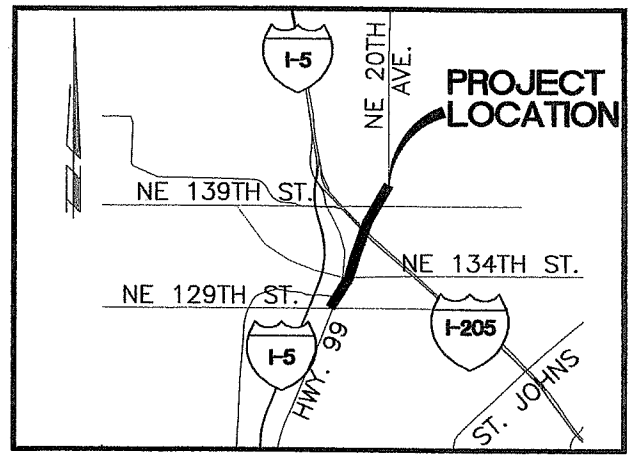
N.E. HIGHWAY 99/N.E. 20TH AVENUE REALIGNMENT

FROM N.E. 129TH ST. TO N.E. 138TH ST.

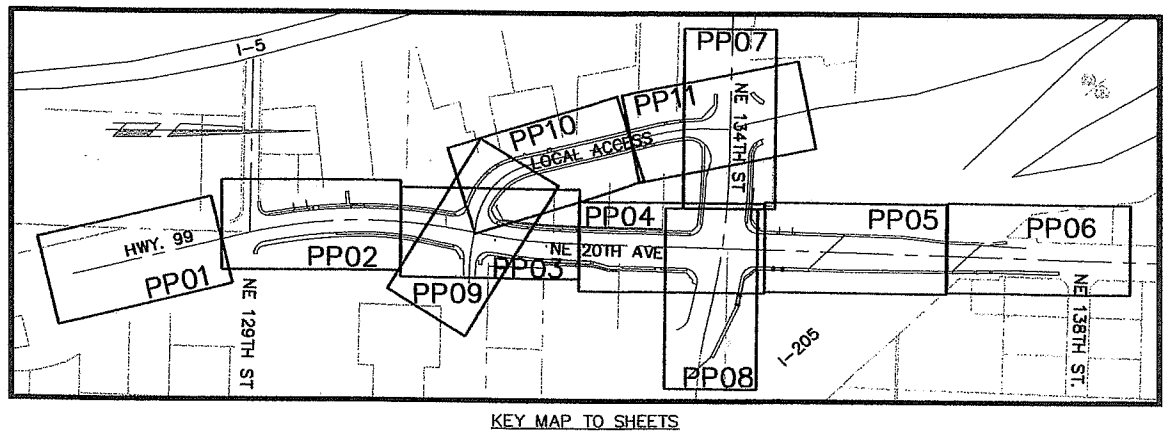
COUNTY ROAD PROJECT #392922 FEDERAL AID PROJECT #STPF-4253(010) TA #1164

PLANS FOR THE CONSTRUCTION OF ROADWAYS, STORM DRAINAGE AND A BRIDGE WIDENING





VICINITY MAPS



KEY MAP TO SHEETS

INDEX OF SHEETS: VOLUME I – ROADWAYS AND STORM DRAINAGE

SHT.	DWG.	DESCRIPTION
1	CV1	COVER SHEET
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9	EC3	EROSION CONTROL DETAILS AND NOTES
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45	T09	HIGHWAY 99 / N.E. 20TH AVENUE SIGNAL STANDARD DETAIL
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76	WP03	WATERMAIN PLAN – NE HWY 99, STA. 17+00 TO STA. 22+00
77	WP04	WATERMAIN PLAN – NE HWY 99, STA. 22+00 TO STA. 27+00
78	WP05	WATERMAIN PLAN – NE HWY 99, STA. 27+00 TO STA. 33+00
79	WP06	WATERMAIN PLAN – NE 134th ST, STA. 11+00 TO STA. 15+00
80	WP07	WATERMAIN PLAN – NE 134th ST, STA. 15+00 TO STA. 19+00
81	WP08	WATERMAIN PLAN – LOCAL ACCESS, STA. 11+00 TO STA. 16+00
82	WP09	HIGHWAY 99 RE-ALIGNMENT, STANDARD WATER DETAILS
83	E01	N.E. 20TH AVE. FROM N.E. 129TH TO NE 138TH ST. – CONDUIT PLAN
84	E02	N.E. 20TH AVE. FROM N.E. 129TH TO NE 138TH ST. – CONDUIT DETAILS

(SEE VOLUME II FOR BRIDGE SHEETS)

COMMISSIONERS:

BETTY SUE MORRIS, Chair
CRAIG PRIDEMORE, Commissioner
JUDIE STANTON, Commissioner

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proud past, promising future

DEPARTMENT OF PUBLIC WORKS

DESIGN AND ENGINEERING DIVISION- DESIGN SECTION

otak Incorporated
105 W. Evergreen Blvd., Suite 300
Vancouver, WA 98660-3123
Phone: (360) 737-9613
FAX: (360) 737-9651

ENG 2003-00115

PAMELA KIEL WIEDEMANN, STATE OF WASHINGTON, 22440, REGISTERED PROFESSIONAL ENGINEER
EXPIRES: AUG. 31, 2005

Quality Assurance	Project Manager	Director of Public Works
2/24/04 DATE	2-24-04 DATE	2/24/04 DATE
Greg Shafer, P.E.	Matt Hall, P.M.P.	Peter Capell, P.E.

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Recommended for Approval

Grading WCW 2-19-04 Erosion WCW 2-19-04

Storm Water Plan WCW 2-19-04

Development Review Manager 2/19/2004 Date

V: JOHNIA 02/16/04 2:17pm --> R:\DWG\C9785001.DWG

Ltscale: 1

Resolved
C978X001
PKW

LINE LEGEND

- EXISTING ROW/PROPERTY LINE
- PROPOSED ROW LINE
- PROPOSED CONSTRUCTION LIMIT LINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CURB AND GUTTER (TYPE A-1)
- PROPOSED TRAFFIC CURB
- PROPOSED CENTER LINE
- PROPOSED STORM DRAIN OR CULVERT
- F — F — PROPOSED FILL LIMITS
- C — C — PROPOSED CUT LIMITS
- x — x — PROPOSED FENCE LINE
- PROPOSED SAWCUT LINE
- PROPOSED ASPHALT OVERLAY LIMIT LINE
- XX — XX — PROPOSED TEMPORARY SAFETY FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB LINE
- EXISTING CENTER LINE
- x — x — EXISTING FENCE LINE
- T — T — EXISTING TELEPHONE LINE
- W — W — EXISTING WATER LINE
- PWR — PWR — EXISTING UNDERGROUND ELECTRIC
- SAN — SAN — EXISTING SANITARY SEWER LINE
- STM — STM — EXISTING STORM DRAINAGE
- G — G — EXISTING GAS LINE
- ITS — ITS — EXISTING INTELLIGENT TRAFFIC SYSYTEM LINE
- EXISTING CULVERT
- EXISTING DITCH CENTER LINE
- EXISTING GUARDRAIL
- PROPOSED RETAINING WALL
- EXISTING BRUSH LINE
- EXISTING HEDGE

GENERAL NOTES

1. SURVEY DATUM PER CLARK COUNTY.
2. EXISTING UTILITIES SHOWN ON THE PLANS ARE PER SURFACE LOCATIONS RECORD DRAWINGS AND LIMITED POT-HOLE DATA. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. AT THE END OF EACH WORK DAY THE CONTRACTOR SHALL CLEAN UP THE PROJECT AREA AND LEAVE IT IN A NEAT AND SECURED MANNER. UPON COMPLETION, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL.
4. THE CONTRACTOR SHALL PRUNE ALL VEGETATION, AS APPROVED, AWAY AND UP FROM THE STREET AS WELL AS ANY ROOT PRUNING AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL.
5. ALL ROADWAY STATIONS ARE BASED UPON THE CONSTRUCTION CENTERLINE, WHICH IS REFERENCED TO THE RECORD OF SURVEY (R.O.S.) CENTERLINES.
6. IF EXISTING CONCRETE CURBS AND SIDEWALKS DESIGNATED TO REMAIN ARE DAMAGED THEY WILL BE REMOVED AND REPLACED TO ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
7. CONTRACTOR TO NOTIFY THE C-TRAN OPERATION CHIEF, 72 HOURS PRIOR TO CONSTRUCTION NEAR ANY C-TRAN FACILITY.
8. CONTRACTOR TO COORDINATE UTILITY RELOCATIONS WITH CLARK PUBLIC UTILITIES FOR POWER, QWEST FOR TELEPHONE, N.W. NATURAL FOR GAS, COMCAST FOR CABLE TV AND HAZEL DELL SEWER DISTRICT FOR SANITARY SEWER SYSTEM.
9. WATER SYSTEM RELOCATIONS FOR CLARK PUBLIC UTILITIES ARE INCLUDED IN THIS CONTRACT.
10. CONTRACTOR SHALL PROTECT EXISTING WATER SERVICE LINES. ALL DISTURBED WATER SERVICE LINES SHALL BE REPAIRED AS DIRECTED. ALL RELOCATED METERS WILL BE RESET IN ACCORD WITH CLARK PUBLIC UTILITIES STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE SERVICE CUT OVERS WITH PROPERTY OWNERS AS NEEDED AND ACCOMMODATE BUSINESS NEEDS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE REPAIR OF EXISTING WATER SERVICE LINES DESTROYED THROUGH NEGLIGENCE AND/OR INATTENTION AND COORDINATE ANY DISRUPTION OF WATER SERVICE OR ANY OTHER UTILITIES WITH PROPERTY OWNER.
11. CONTRACTOR TO MAINTAIN ACCESS TO ALL PRIVATE PROPERTY DRIVEWAYS DURING CONSTRUCTION.
12. STREET AND PLANTER STRIP DIMENSIONS SHOWN FROM FACE OF CURB ON PLAN AND PROFILE SHEETS.
13. GRADES SHOWN ON PROFILE SHEETS ARE BASED ON DESIGN STREET CENTERLINE STATIONING (ST. STA.) EXCEPT AS NOTED. ADDITIONAL STORM STATIONING (STM. STA.) BASED ON CENTER OF STORM LINE ALIGNMENTS HAS BEEN INCLUDED IN STORM STRUCTURE TABLES.

Fed. Aid No.
STPF-4253[010]

BENCHMARKS-CLARK COUNTY DATUM

DESCRIPTION	STATION	OFFSET	ELEVATION
SURVEY CONTROL POINT #1225 5/8" IRON ROD WITH RED PLASTIC CAP, "COUNTY CONTROL"	ST. STA. 11+19.87	60.50' RT (NE 20TH AVE)	189.27
SURVEY CONTROL POINT #1203 5/8" IRON ROD WITH RED PLASTIC CAP, "COUNTY CONTROL"	ST. STA. 12+01.86	45.20' LT (LOCAL ACCESS RD)	200.83
SURVEY CONTROL POINT #1015 5/8" IRON ROD WITH RED PLASTIC CAP, "COUNTY CONTROL"	ST. STA. 24+75.26	25.65' LT (NE 20TH AVE)	198.63

SYMBOLS LEGEND

- PROPOSED MANHOLE (MH)
- PROPOSED CATCH BASIN (CB)
- PROPOSED CURB INLET (CI)
- PROPOSED COMBINATION CURB INLET (CCI)
- PROPOSED FIRE HYDRANT
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- EXISTING TRANSFORMER
- EXISTING ELEC TOWER
- EXISTING FIRE HYDRANT
- EXISTING CLEAN OUT
- EXISTING GAS VALVE
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING SIGNAL POLE
- EXISTING TELEPHONE VAULT
- EXISTING TELEVISION BOX
- EXISTING CURB OPENING INLET (CI)
- EXISTING CATCH BASIN (CB)
- EXISTING STORM MH OR DRYWELL
- EXISTING SANITARY SEWER
- EXISTING SHRUB
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- EXISTING SIGN
- EXISTING J BOX
- EXISTING TELEPHONE MANHOLE
- EXISTING LIGHT
- EXISTING GUY ANCHOR
- EXISTING UTILITY POLE
- EXISTING MAIL BOX
- EXISTING TELEPHONE PEDESTAL
- EXISTING SPRINKLER HEAD
- TRAVERSE POINT
- TEST HOLE

FOR LANDSCAPE SYMBOLS
SEE DRAWING L01

PATTERN LEGEND

- PROPOSED PCC SIDEWALK AND MEDIAN HARDSCAPE
- PROPOSED CONCRETE DRIVEWAY
- NEW A.C. PAVEMENT DRIVEWAY RECONSTRUCTION
- PROPOSED CURB RAMP PER CLARK COUNTY DETAILS, SEE SHEET D01
- EXISTING BUILDING
- BUS SHELTER PAD

NOTE SYMBOLS

- SD# STORM DRAIN STRUCTURE NOTE
- MH# STORM DRAIN MANHOLE NUMBER
- CB# CATCH BASIN/CURB INLET NUMBER
- XX CURB NUMBER
- XX ROAD CENTERLINE CURVE DATA
- XX CONSTRUCTION NOTE

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: CONTRACTOR / CITY/COUNTY FORCES / OTHERS

DESIGNED:	PKW
DRAWN:	SLW
CRP:	392922
HORIZ.	NA
VERT.	NA
DATE:	2/20/04
DWG:	SQ1
SHEET	2 OF 84

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NORTHWEST UTILITIES NOTIFICATION CENTER

RACHEL A. LEDEMANN
STATE OF WASHINGTON
22449
REGISTERED PROFESSIONAL ENGINEER
EXPIRES JUNE 30, 2005

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105 West Evergreen Blvd. Suite 300
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FAX: (360) 737-9851

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

GENERAL NOTES, LEGENDS AND BENCHMARKS

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WASHINGTON

XX/XX

Fed. Aid No.
STPF-4253[010]

SUMMARY OF QUANTITIES

STATE ITEM # Sales Tax	COUNTY ITEM # No Sales Tax	UNIT	TOTAL QUANTITY	DESCRIPTION	STATE OWNED LANDS	COUNTY OWNED LANDS
118	1	L.S.	2	MOBILIZATION	1	1
119	2	CALC	2	MINOR CHANGES	1	1
	3	HOUR	5	REPLACEMENT STAKING SERVICES		5
	4	DAY	32	INCENTIVE (SOUTH OF STATION 27+00)		32
	5	DAY	39	INCENTIVE (NORTH OF STATION 27+00)		39
121	6	HOUR	5,000	TRAFFIC CONTROL LABOR	1,000	4,000
122	7	HOUR	1430	TRAFFIC CONTROL SUPERVISOR	530	900
123	8	L.S.	2	TEMPORARY TRAFFIC CONTROL DEVICES	1	1
	9	EACH	4	PORTABLE CHANGEABLE MESSAGE SIGN		4
	10	HOUR	5,500	OPERATION OF PORTABLE CHANGEABLE MESSAGE SIGN		5,500
	11	HOUR	14,000	SEQUENTIAL ARROW SIGN		14,000
126	12	EACH	6	TEMPORARY IMPACT ATTENUATOR	4	2
127	13	EST.	2	REPAIR IMPACT ATTENUATOR	1	1
125	14	L.F.	4,900	TEMPORARY CONCRETE BARRIER	4,500	400
	15	L.S.	1	TEMPORARY TRAFFIC SIGNAL SYSTEM – NE HIGHWAY 99/NE 129TH STREET		1
124	16	S.F.	650	CONSTRUCTION SIGNS – CLASS "A"	150	500
	17	S.F.	82	INSTALL PROJECT IDENTIFICATION SIGN		82
	18	L.S.	1	CLEARING AND GRUBBING		1
	19	EST.	1	ROADSIDE CLEANUP		1
	20	L.S.	1	REMOVAL OF STRUCTURE AND OBSTRUCTION		1
	21	L.S.	1	CONSTRUCTION WASTE MANAGEMENT		1
	22	EACH	29	REMOVAL OF EXISTING CATCH BASIN		29
	23	L.S.	1	REMOVAL OF BUILDING, PARR LUMBER		1
	24	L.S.	1	REMOVAL OF BUILDING, RICKY POOL		1
128		L.S.	1	RELOCATE WSDOT BUILDING	1	
	25	EST.	1	REMOVAL OF HAZARDOUS MATERIALS – EQUITABLE ADJUSTMENT		1
	26	EACH	1	REMOVE EXISTING SIGN BRIDGE – (NE 134TH STREET)		1
	27	EACH	1	REMOVE EXISTING SIGN BRIDGE – (HIGHWAY 99)		1
129	28	C.Y.	12,250	ROADWAY EXCAVATION, INCLUDING HAUL	250	12,000
	29	C.Y.	430	EMBANKMENT CONSTRUCTION FOR STORMWATER FACILITY NO. 2		430
	30	MGAL	500	WATER		500
	31	S.Y.	3,000	CONSTRUCTION GEOTEXTILE FOR SOIL STABILIZATION		3,000
	32	S.Y.	290	GRAVEL ACCESS ROAD		290
133	33	TON	12,075	CRUSHED SURFACING BASE COURSE	275	11,800
134	34	TON	3,810	ASPHALT CONCRETE PAVEMENT CL. A	110	3,700
135	35	TON	2,910	ASPHALT CONCRETE PAVEMENT CL. E	50	2,860
	36	S.Y.	290	TRENCH RESTORATION (6-INCH THICK PAVEMENT)		290
136	37	L.F.	6,650	SAWCUT EXISTING ASPHALT PAVEMENT	650	6,000
	38	S.Y.	3,735	PLANING BITUMINOUS PAVEMENT		3,735
	39	S.Y.	1,500	ASPHALT CONC. APPROACH CL. A		1,500
	40	S.Y.	15	ASPHALT CONCRETE WALKWAY AND RAMP CL. A		15
	41	S.Y.	200	ASPHALT CONCRETE SLOPE PAVING CL. A		200
	42	L.F.	800	SAWCUT EXISTING CEMENT CONC. PAVEMENT		800
	43	S.F.	330	MODULAR BLOCK RETAINING WALL INCL. CAP UNIT		330
137		L.S.	1	STRUCTURAL EARTH WALL	1	
	44	L.F.	1,366	STORM SEWER PIPE, 10 IN. DIAM.		1,366
	45	L.F.	319	DUCTILE IRON STORM SEWER PIPE 10 IN. DIAM.		319
	46	L.F.	1,321	STORM SEWER PIPE, 12 IN. DIAM.		1,321
	47	L.F.	49	DUCTILE IRON STORM SEWER PIPE 12 IN. DIAM.		49
	48	L.F.	363	STORM SEWER PIPE, 18 IN. DIAM.		363
	49	EACH	1	MANHOLE 72 IN. DIAM. OVER EXISTING 48 IN. DIAM. STORM SEWER PIPE		1
	50	EACH	5	MANHOLE 48 IN. DIAM. TYPE 1		5
	51	EACH	14	MANHOLE 48 IN. DIAM. TYPE 3		14
	52	EACH	1	MANHOLE 60 IN. DIAM. TYPE 3		1
	53	EACH	1	MANHOLE 60 IN. DIAM WITH FLOW SPLITTER		1
	54	EACH	1	CATCH BASIN, TYPE 1		1
	55	EACH	9	CONCRETE CURB INLET		9
	56	EACH	19	CONCRETE COMINATION CURB INLET		19
	57	EACH	4	ADJUST MANHOLE, METHOD 1		4
	58	EACH	4	ADJUST MANHOLE, METHOD 2		4
	59	EACH	4	ADJUST CATCH BASIN, METHOD 1		4
	60	EACH	5	ADJUST CATCH BASIN WITH SOLID LID		5
	61	L.S.	1	STD. PRECAST STORMFILTER™ UNIT, (STORM WATER FACILITY NO. 2 DOUBLE IN-SERIES 16-FT LONG X 8 FT WIDE VAULTS)		1
	62	L.S.	1	STD. PRECAST STORMFILTER™ UNIT, (STORM WATER FACILITY NO. 3 DOUBLE IN-SERIES 16-FT LONG X 8-FT WIDE VAULTS)		1
	63	L.S.	1	DETENTION VAULT (STORM WATER FACILITY NO. 1, 40' L. X 15' W. X 10' D.)		1
	64	L.S.	1	DETENTION VAULT (STORM WATER FACILITY NO. 2, 135' L. X 18' W. X 8' D.)		1
	65	L.S.	1	DETENTION VAULT (STORM WATER FACILITY NO. 3, 145' L. X 18' W. X 8' D.)		1
168	66	L.F.	3,477	TRENCH SAFETY SYSTEM	139	3,338
	67	EACH	13	CONNECTION TO DRAINAGE STRUCTURE		13
	68	EACH	22	ADJUST WATER/GAS VALVE RIM, COVER OR FRAME		22
	69	HOUR	100	ESC LEAD		100
169		EACH	4	CHECK DAM	4	
170	70	EACH	67	INLET PROTECTION	12	55
171	71	L.F.	1,815	SILT FENCE	815	1,000
172		ACRES	1.75	SEEDING AND MULCHING	1.75	
	72	EACH	1	EROSION CONTROL AND SPILL PREVENTION REINSPECTION FEE		1
	73	L.S.	1	SPCC PLAN		1
	74	C.Y.	1,430	TOPSOIL TYPE A		1,430
	75	EACH	5	PSIPE – CONIFER TREE, 6' HEIGHT (HOGAN CEDAR)		5
	76	EACH	49	PSIPE – 1.5 IN. CALIPER TREE (AMERICAN HORNBEAM)		49
	77	EACH	49	PSIPE – 2 IN. CALIPER TREE (CORINTHIAN LINDEN)		49
	78	EACH	586	PSIPE – SHRUB, EVERGREEN 2 GALLON (ORCHID ROCKROSE)		586
	79	EACH	163	PSIPE – SHRUB, EVERGREEN 2 GALLON (NOOTKA ROSE)		163
	80	EACH	126	PSIPE – SHRUB, EVERGREEN 2 GALLON (MUGHO PINE)		126
	81	EACH	318	PSIPE – SHRUB, DICIDUOUS 2 GALLON (WARMINSTER BROOM)		318
	82	EACH	87	PSIPE – SHRUB, DICIDUOUS 2 GALLON (SPIRAEA)		87
	83	EACH	938	PSIPE – GROUNDCOVER, EVERGREEN 1 GALLON (CASCADE OREGON GRAPE)		938
	84	EACH	1,343	PSIPE – GROUNDCOVER, EVERGREEN 1 GALLON (BEARBERRY COTONEASTER)		1,343
	85	EACH	2,111	PSIPE – GROUNDCOVER, EVERGREEN 1 GALLON (KINNIKINNICK)		2,111
	86	C.Y.	870	BARK MULCH, 4 IN. DEPTH		870
	87	S.Y.	3,015	SEEDED LAWN INSTALLATION		3,015

SUMMARY OF QUANTITIES

STATE ITEM # Sales Tax	COUNTY ITEM # No Sales Tax	UNIT	TOTAL QUANTITY	DESCRIPTION	STATE OWNED LANDS	COUNTY OWNED LANDS	CPU UTILITIES
	88	L.F.	528	CEMENT CONC. TRAFFIC CURB, TYPE E-1		528	
174	89	L.F.	6,146	CEMENT CONC. TRAFFIC CURB AND GUTTER, TYPE A-1	143	6,003	
	90	L.F.	865	EXTRUDED CURB, TYPE 6		865	
	91	S.Y.	475	CEMENT CONCRETE APPROACH, 3 DAY		475	
173	92	L.F.	1,118	TYPE C PRECAST TRAFFIC CURB	70	1,048	
	93	EACH	80	TREE ROOT BARRIER, (20 LF PER STREET TREE)		80	
175		L.F.	686	BEAM GUARDRAIL, TYPE 1	686		
176		EACH	2	BEAM GUARDRAIL FLARED TERMINAL	2		
177		EACH	2	BEAM GUARDRAIL ANCHOR TYPE 4	2		
178	94	L.F.	451	CHAIN LINK FENCE TYPE 1	236	215	
	95	L.F.	165	COATED CHAIN LINK FENCE TYPE 6, BLACK		165	
	96	L.F.	1,470	PROTECTIVE CHAIN LINK FENCING		1,470	
179		L.F.	580	ORANGE CONSTRUCTION FENCE	580		
	97	EACH	4	ADJUST SURVEY MONUMENT CASE AND COVER		4	
180	98	S.Y.	3,287	CEMENT CONCRETE SIDEWALK	97	3,190	
	99	S.Y.	282	CEMENT CONCRETE SIDEWALK, THICKENED (6 IN.)		282	
	100	S.Y.	27	CEMENT CONCRETE BUS SHELTER PAD		27	
	101	EACH	25	DETECTABLE WARNING PATTERN		25	
181		EACH	1	OUTFALL PROTECTION	1		
182		S.Y.	535	CONCRETE SLOPE PROTECTION	535		
	102	EACH	2	MAILBOX SUPPORT, TYPE 1		2	
	103	EACH	2	MAILBOX SUPPORT, TYPE 2		2	
	104	L.S.	1	ILLUMINATION SYSTEM		1	
	105	L.S.	1	TRAFFIC SIGNAL SYSTEM NO.2 – NE HIGHWAY 99/NE 20th AVENUE		1	
	106	L.S.	1	TRAFFIC SIGNAL SYSTEM NO. 3 – NE 134 STREET/NE 20TH AVENUE		1	
	107	L.S.	1	TRAFFIC SIGNAL SYSTEM NO. 1 – NE HIGHWAY 99/NE 129TH STREET		1	
	108	L.S.	1	TRAFFIC SIGNAL SYSTEM NO. 4 – NE HIGHWAY 99/NE 134TH STREET		1	
	109	L.S.	1	TRAFFIC SIGNAL INTERCONNECT		1	
	110	L.S.	1	TEMPORARY AERIAL FIBER CABLE		1	
	111	L.S.	1	PERMANENT FIBER CABLE		1	
	112	L.S.	1	SIGN BRIDGE MODIFICATION, SIGN BRIDGE NO. 2 – NE 134TH STREET		1	
	113	L.S.	1	SIGN BRIDGE NO. 1 – NE 20TH AVENUE		1	
	114	L.S.	1	CANTILIVER SIGN STRUCTURE NO. 1, NE 134TH STREET		1	
	115	L.S.	1	CANTILIVER SIGN STRUCTURE NO. 2, NE 134TH STREET		1	
183	116	L.F.	17,472	REMOVING PAINTED LINE	9,972	7,500	
184	117	L.F.	16,972	TEMPORARY STRIPING	9,972	7,000	
130-132				**SEE VOLUME 2 PLANS FOR BRIDGE ITEMS**			
138-167							
				WATER MAIN AND CONDUITS (SALES TAX APPLIES)			
	185			MOBILIZATION			1
	186			MINOR CHANGE			1
	187			TRAFFIC CONTROL LABOR (WATER)			260
	188			TRAFFIC CONTROL SUPERVISOR (WATER)			55
	189			TRENCH SAFETY SYSTEM (WATER)			75
	190			16" D.I. MAIN W/ TYPE C-1 RESTORATION			35
	191			16" D.I. MAIN W/ TYPE D RESTORATION			45
	192			16" D.I. MAIN W/ TYPE R RESTORATION (W/ GRANULAR BACKFILL)			1,525
	193			16" D.I. MAIN W/ TYPE R RESTORATION (W/ CONTROL DENSITY FILL)			110
	194			12" D.I. MAIN W/ TYPE C-1 RESTORATION			160
	195			12" D.I. MAIN, SUSPENDED FROM BRIDGE (W/ EXISTING 8" REMOVAL)			390
	196			12" P.V.C. MAIN W/ TYPE D RESTORATION			150
	197			12" PVC MAIN W/ TYPE R RESTORATION (W/ GRANULAR BACKFILL)			230
	198			12" PVC MAIN W/ TYPE R RESTORATION (W/ CONTROL DENSITY FILL)			70
	199			8" PVC MAIN W/ TYPE R RESTORATION (W/ GRANULAR BACKFILL)			1,005
	200			8" PVC MAIN W/ TYPE R RESTORATION (W/ CONTROL DENSITY FILL)			60
	201			PIPE HANGERS AND ACHOR BOLTS			43
	202			CONNECT AND FITTING, ASSEMBLY NO. 1			1
	203			VALVES AND FITTINGS, ASSEMBLY NO. 2			1
	204			FITTINGS, ASSEMBLY NO. 3			4
	205			TEMPORARY STD. PERPENDICULAR BLOW-OFF ASSEMBLY AND FITTING, ASSEMBLY NO. 4			2
	206			VALVES AND FITTINGS, ASSEMBLY NO. 5			1
	207			FITTINGS, ASSEMBLY NO. 6			2
	208			VALVES AND FITTINGS, ASSEMBLY NO. 7			2
	209			FITTINGS, ASSEMBLY NO. 8			1
	210			CUT, CONNECT AND FITTINGS, ASSEMBLY NO. 9A			1
	211			CUT, CONNECT AND FITTINGS, ASSEMBLY NO. 9B			4
	212			CUT, CONNECT AND FITTINGS, ASSEMBLY NO. 9C			1
	213			PIPE VALVE AND FITTINGS, ASSEMBLY NO. 10			1
	214			STD. PERPENDICULAR BLOW-OFF ASSEMBLY, ASSEMBLY NO. 11			4
	215			FITTINGS, ASSEMBLY NO. 12			2
	216			NEAR-SIDE WATER SERVICE RELOCATE, ASSEMBLY NO. 13N			2
	217			FAR-SIDE WATER SERVICE RELOCATE, ASSEMBLY NO. 13F			4
	218			FAR-SIDE WATER SERVICE RELOCATE, ASSEMBLY NO. 14F			1
	219			FITTINGS, ASSEMBLY NO. 15			1
	220			NEAR-SIDE WATER SERVICE RELOCATE, ASSEMBLY NO. 6N			7
	221			PIPE VALVES AND FITTINGS, ASSEMBLY NO. 17			1
	222			METER AND BOX REMOVAL, ASSEMBLY NO. 18			3
	223			STD. FIRE HYDRANT ASSEMBLY (REMOVAL/RETURN), ASSEMBLY NO. 19			2
	224			PIPE VALVES AND FITTINGS, ASSEMBLY NO. 20			1
	225			VALVES AND FITTINGS, ASSEMBLY NO. 21			1
	226			PIPE VALVES AND FITTINGS, ASSEMBLY NO. 22			1
	227			NEAR-SIDE WATER SERVICE RELOCATE, ASSEMBLY NO. 23N			1
	228			FIRE HYDRANT RELOCATE, ASSEMBLY NO. 24			1
	229			CONNECT, VALVES AND FITTINGS, ASSEMBLY NO. 25			1
	230			TEMPORARY STD. PERPENDICULAR BLOW-OFF ASSEMBLY, CONNECT AND FITTING, ASSEMBLY NO. 26			1
	231			CUT AND FITTINGS, ASSEMBLY NO. 27			2
	232			CONNECT, VALVES AND FITTINGS, ASSEMBLY NO. 28			1
	233			STD. FIRE HYDRANT ASSEMBLY (REMOVAL/RETURN), ASSEMBLY NO. 29			2
	234			VALVES AND FITTINGS, ASSEMBLY NO. 30			1
	235			PIPE VALVES AND FITTINGS, ASSEMBLY NO. 31			1
	236			STD. FIRE HYDRANT ASSEMBLY (REMOVAL/RETURN), VALVES AND FITTINGS, ASSEMBLY NO. 29			1
	237			PLANE W/A C. OVERLAY, ASSEMBLY NO. 33			370
	238			ELECTRICAL CONDUIT SYSTEM			1

DESIGNED: PKW
DRAWN: SLW
CRP: 392922
HORIZ. NA
VERT. NA
DATE: 2/20/04
DWG: SQ2
SHEET 3 OF 84

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STATE OF WASHINGTON STEVE WIEDEMANN 22440 REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-8613
FAX: (360) 737-8651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

SUMMARY OF QUANTITIES

proud past, promising future
CLARK COUNTY WASHINGTON

V: JOHNMA 02/23/04 8:53am --> R:\DWG\G978S003.DWG

EXISTING CATCH BASIN AND MANHOLE TABLES

Fed. Aid No.
STPF-4253[010]

SHEET PP01

EXISTING CATCH BASIN TABLE

1	CATCH BASIN GRATE= 186.17 IE= 183.27 (18"S) IE= 183.57 (12"N) BOTTOM= 182.97
65	CURB INLET TC = 181.93 IE= 179.43 (10"W) BOTTOM= 178.33
66	CATCH BASIN GRATE= 178.71 IE= 173.91 (18"N) IE= 173.71 (24"S) BOTTOM= 173.71
67	CATCH BASIN RIM= 178.8± IE (24"OUT)= 174.0±

SHEET PP02

EXISTING CATCH BASIN TABLE

2	CATCH BASIN GRATE= 187.91 IE OUT= 185.6 (8"E) BOTTOM= 183.4
3	CATCH BASIN GRATE= 190.42 IE IN= 187.9 (10"N) IE OUT= 187.8 (10"S) BOTTOM= 186.9
4	CATCH BASIN GRATE= 191.44 IE IN= (N) IE OUT= 189.2 (8"S) BOTTOM= 187.8
5	CATCH BASIN GRATE= 191.55 IE OUT= 189.4 (8"E) BOTTOM= 187.6
6	CATCH BASIN GRATE= 194.35 OUT IE= 192.6 (6"N) BOTTOM= 190.9
7	CATCH BASIN GRATE= 194.28 IE IN= 192.2 (6"W) IE OUT= 191.1 (12"E) BOTTOM= 190.3
8	CURB INLET TC= 195.84 IE OUT= 193.7 (6"E) BOTTOM= 191.8
9	CATCH BASIN GRATE= 194.68 IE IN= 192.4 (10"N) IE OUT= 192.4 (10"S) BOTTOM= 191.7
41	CATCH BASIN GRATE= 193.87 BOTTOM= 190.27 IE= 192.57 (4"W) IE= 191.87 (6"N)

EXISTING MANHOLE TABLE

A	SAN MH RIM= 190.22 IN (8"E) IN (12"N) IN (12"W) OUT (12"S) CHANNEL= 180.9
B	STM MH RIM= 188.68 IN (8"N) IN (12"E) IN (16"S) CHANNEL= 181.4
C	STM MH RIM= 196.46 IE IN= 193.9 (6"W) IE IN= 193.9 (12"N) IE OUT= 193.8 (12"S) CHANNEL= 193.5
D	SAN MH RIM= 196.39 IN (8"E) IN (12"N) OUT (12"S) CHANNEL= 186.7

SHEET PP03

EXISTING CATCH BASIN TABLE

10	CATCH BASIN GRATE= 196.94 IE OUT= 194.0 (8"W) BOTTOM= 192.9
11	CATCH BASIN GRATE= 197.02 IE OUT= 195.1 (8"W) BOTTOM= 193.0
13	CATCH BASIN GRATE= 197.86 IE OUT= 195.7 (8"SW) BOTTOM= 193.9
14	CATCH BASIN GRATE= 197.42 IE IN= 195.9 (6"W) IE IN= 195.2 (8"E) IE IN= 195.0 (12"N) IE OUT= 194.9 (12"S) BOTTOM= 193.4
15	CATCH BASIN GRATE= 198.73 IE OUT= 197.2 (6"E) BOTTOM= 195.7
16	CATCH BASIN GRATE= 198.09 IE IN= 196.0 (12"N) IE OUT= 196.0 (12"S) BOTTOM= 194.3
17	EXISTING CURB INLET TC= 198.76 IE IN= 196.0 (8"W) IE OUT= 195.5 (12"S) BOTTOM= 194.5
18	CATCH BASIN GRATE= 197.98 IE OUT= 196.3 (10"N) ??? BOTTOM= 194.3
19	CATCH BASIN GRATE= 198.37 IE= 197.2 (8"E) BOTTOM= 196.4
20	CATCH BASIN GRATE= 198.36 IE= 196.6 (8"W) BOTTOM= 194.6

EXISTING MANHOLE TABLE

F	SAN MH MH RIM= 198.10 IN (8" N) OUT (8" S) CHANNEL= 188.1
G	SAN MH MH RIM= 198.65 IN (8" N) IN (8" E) OUT (8" S) CHANNEL= 189.4
H	SAN MH RIM= 198.79 IN (12" N) OUT (18" S) CHANNEL= 189.7

SHEET PP04

EXISTING CATCH BASIN TABLE

23	CATCH BASIN GRATE= 198.10 IE= 195.8 (8"W) BOTTOM= 193.6
25	CATCH BASIN GRATE= 198.06 IE OUT= 195.1 (12" N) BOTTOM= 193.6
26	CATCH BASIN GRATE= 197.79 IE OUT= 195.6 (12"N) BOTTOM= 193.6
27	CATCH BASIN GRATE= 197.79 IE IN= 195.0 (12"S) IE OUT= 195.0 (12"NE) BOTTOM= 193.4
28	CATCH BASIN GRATE= 197.52 IE IN= 193.0 (12"S) IE IN= 192.8 (12"W) IE OUT= 192.8 (12"NE) BOTTOM= 191.2
29	CATCH BASIN GRATE= 197.41 IE IN= 193.6 (12"W) IE IN= 193.6 (12"NE) BOTTOM= 191.8
30	CATCH BASIN GRATE= 197.45 IE IN= 193.8 (12"W) IE OUT= 193.8 (12"E) BOTTOM= 191.9
31	CATCH BASIN GRATE= 197.91 IE IN= 190.4 (12"SW) IE OUT= 190.8 (12"N) BOTTOM= 188.3
32	CATCH BASIN GRATE= 197.68 IE IN= 192.6 (12"W) IE OUT= 192.7 (12"NE) BOTTOM= 190.88
33	CATCH BASIN GRATE= 197.30 IE IN= 192.2 (12"N) IE IN= 192.2 (12"S) IE OUT= 192.1 (12"E) BOTTOM= 190.7
34	CATCH BASIN GRATE= 197.41 IE IN= 191.2 (12"NW) IE OUT= 191.1 (12"NE) BOTTOM= 190.7

EXISTING MANHOLE TABLE

I	SAN MH RIM= 197.84 IN (8" FM N) IN (10" W) OUT (12" S) CHANNEL= 190.6

FIELD VERIFY PRIOR TO CONSTRUCTION

SHEET PP05

EXISTING CATCH BASIN TABLE

35	CATCH BASIN GRATE= 197.06 IE IN= 194.1 (12"NW) ? IE OUT= 194.0 (12"S) BOTTOM= 192.0
36	CATCH BASIN GRATE= 197.00 IE OUT= 195.0 (6"E) BOTTOM= 192.6
37	EXISTING CURB INLET TOC= 197.33 IE IN= 194.24 (10"N) IE OUT= 194.18 (10"SE)
90	EXISTING CURB INLET TOC= 197.42 IE OUT= 194.72 (10"S)

EXISTING MANHOLE TABLE

K	MH RIM= 197.06
N	MH RIM= 196.40
O	MH RIM= 196.59
Q	MH RIM= 194.43

SHEET PP06

EXISTING CATCH BASIN TABLE

57	CATCH BASIN GRATE= 188.05
58	CATCH BASIN GRATE= 190.33
59	CATCH BASIN GRATE= 177.06 IE IN= 174.76 12" (N) IE IN= 175.56 6" (S) BOTTOM=173.06
60	CATCH BASIN GRATE= 177.11 IE IN= 174.31 12" (S) IE IN= 174.31 12" (W) BOTTOM=172.81
61	CATCH BASIN GRATE= 176.83 IE IN= 175.13 (SW) BOTTOM=176.13

EXISTING MANHOLE TABLE

P	MH RIM= 193.48
R	MH RIM= 198.39
S	MH RIM= 190.15
T	SAN MH RIM = 177.28 IE.IN = 169.78 (8" E) IE OUT= 169.68 (10" N)
DD	STM MH RIM = 180.93 IE IN = 164.93 (48" N) IE OUT= 164.93 (48" S)
EE	STM MH RIM = 178.07 IE IN = 166.27 (48" N) IE IN= 170.57 (12" W) IE OUT= 166.27 (48" S)

SHEET PP07

EXISTING CATCH BASIN TABLE

48	CATCH BASIN GRATE= 199.14 IE IN= 196.7 (10"SW) IE OUT= 195.5 (12"NW) BOTTOM= 194.1
49	CATCH BASIN GRATE= 199.57 IE IN= 195.1 (8"W) IN (12"SE) IE OUT= 192.4 (12"N) BOTTOM= 191.6
50	CATCH BASIN GRATE= 199.96 IE OUT= 199.1 (6"E) BOTTOM= 197.5
51	CATCH BASIN GRATE= 200.55 IE OUT= 197.1 (8"E) BOTTOM= 195.6
53	CATCH BASIN GRATE= 200.71 IE OUT= 197.0 (12"E) BOTTOM= 196.2
54	CATCH BASIN GRATE= 199.26 IE IN= 195.7 (12"E) IN (12"S) IE OUT= 192.8 (18"NE) BOTTOM= 191.8
55	CATCH BASIN GRATE= 198.50 IN (18"SW) IE OUT= 192.7 (18"N) BOTTOM= 191.5

EXISTING MANHOLE TABLE

AA	SAN MH RIM= 199.22 IE IN (8" N,E) CHANNEL= 191.82
BB	SAN MH RIM= 199.22

SHEET PP08

EXISTING CATCH BASIN TABLE

91	CATCH BASIN GRATE= 197.82 IE IN= 194.91 (10"W) IE OUT= 194.80 (10"NW)
92	COMBINATION CURB INLET TC= 198.01 IE OUT= 195.50 (10"E)

SEE SHEET PP04 TABLES FOR ADDITIONAL CATCH BASIN AND MANHOLE INFORMATION

SHEET PP09

EXISTING CATCH BASIN TABLE

42	CATCH BASIN TC= 199.46 BOTTOM= 194.46 IN IE= 193.16 (12"S) IN IE= 193.26 (12"N)

SEE SHEET PP02 TABLES FOR ADDITIONAL CATCH BASIN AND MANHOLE INFORMATION

SHEET PP10

EXISTING CATCH BASIN TABLE

44	CATCH BASIN GRATE= 202.13 IE= 200.5 (8" SE) BOTTOM= 198.6
47	CATCH BASIN GRATE= 199.43 IE= 198.1 (6" S) BOTTOM= 197.9

SHEET PP11

SEE SHEET PP07 TABLES FOR ADDITIONAL CATCH BASIN AND MANHOLE INFORMATION

DESIGNED:	PKW
DRAWN:	JPV
CRP:	392922
HORIZ.	NA
VERT.	NA
DATE:	2/20/04
DWG:	SO3
SHEET	4 OF 84

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EXPIRES JULY 31, 2005

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105 West Evergreen Blvd, Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9813
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

EXISTING CATCH BASIN AND MANHOLE TABLES

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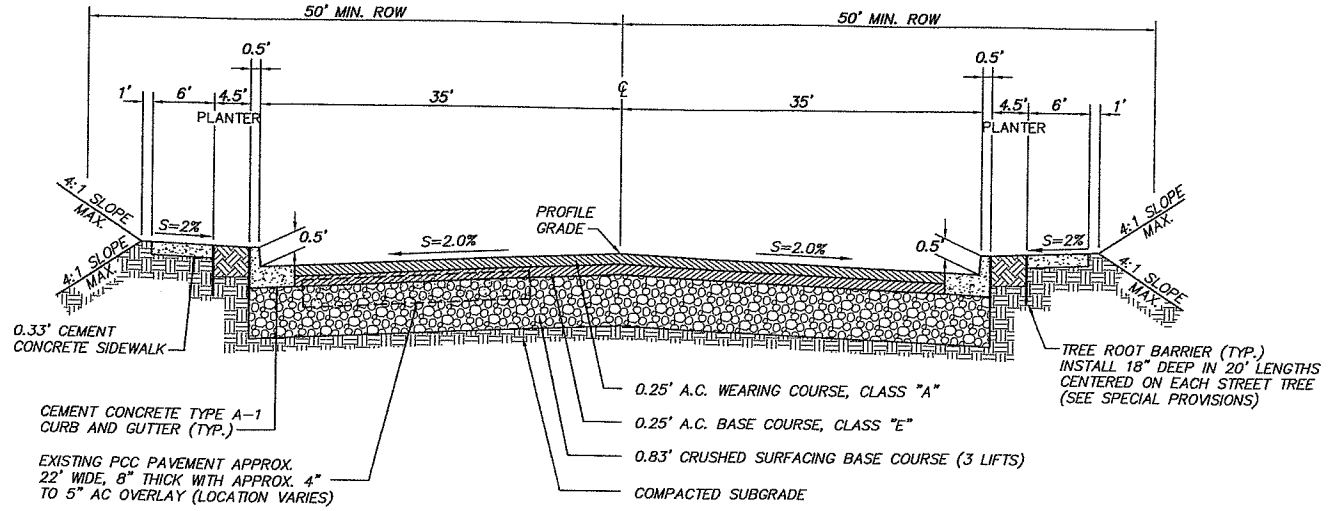
CLARK COUNTY WASHINGTON

V: JOHNNA 02/16/04 2:22pm ---> R:\DWG\C978SS004.DWG

XREF LIST
Ltscale: 1
Resolved
C978X001
PKW WASH

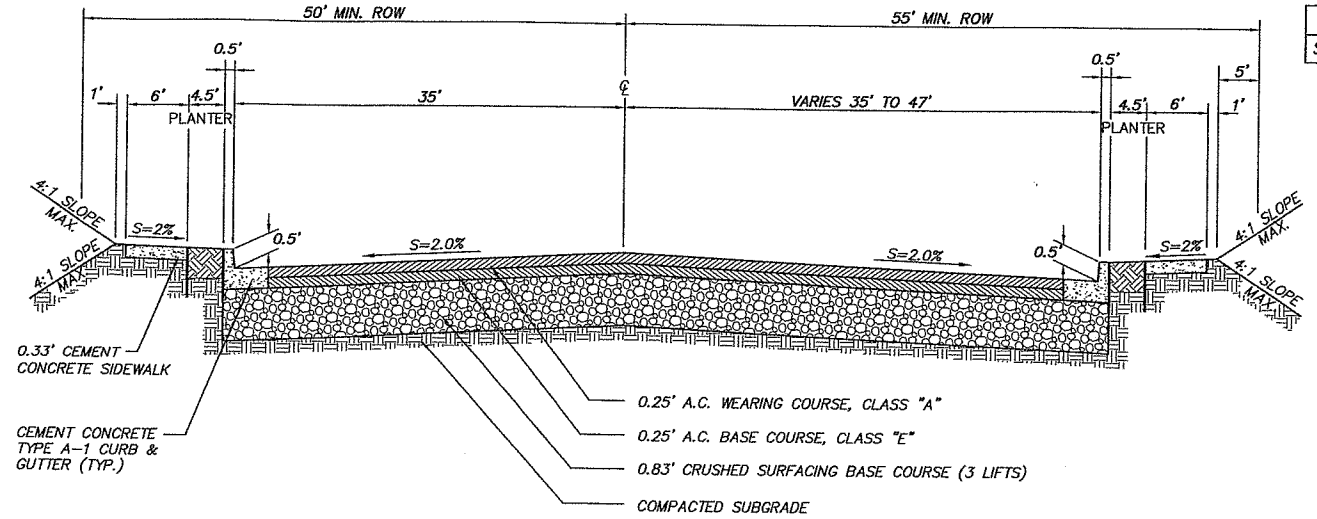
XREF LIST
Ltscale: 1
Resolved
C978X001
PKW WASH



HIGHWAY 99

N.T.S.

STATION 13+00.0 TO 15+75.03

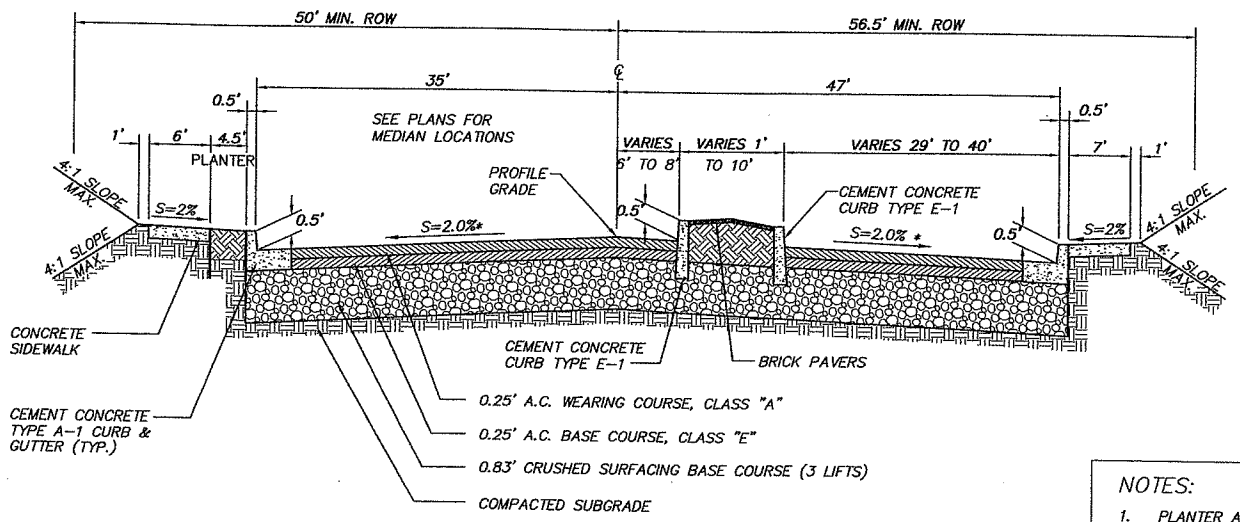


HIGHWAY 99

N.T.S.

STATION 15+75.03 TO 19+03.20

(BEGIN NE 20th AVENUE)



N.E. 20TH AVENUE

N.T.S.

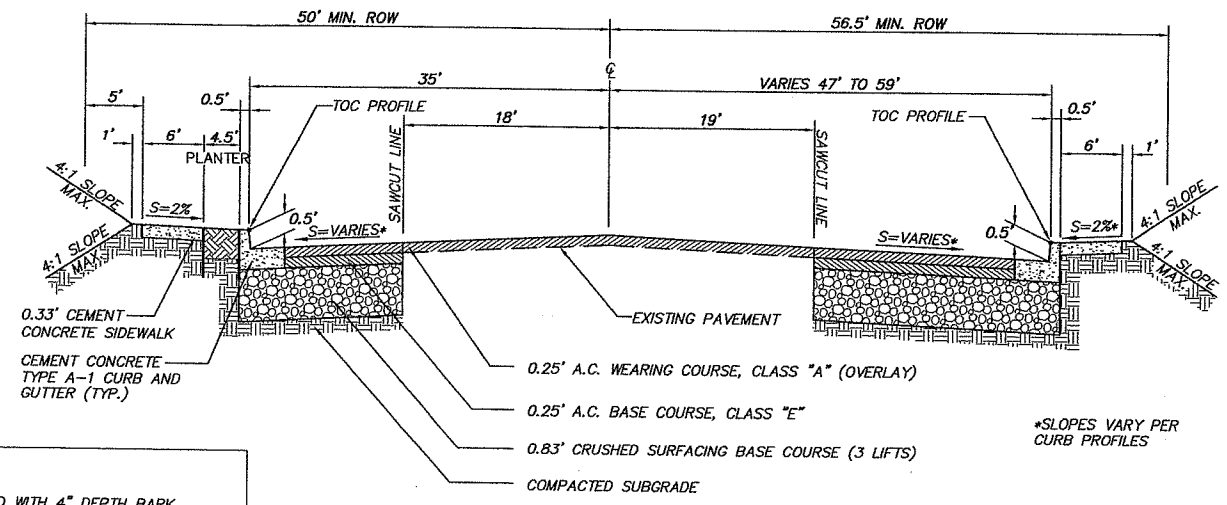
STATION 19+03.20 TO 20+80.00

(END HWY 99)

*STA. 20+25 TO 20+80 SLOPES VARY PER CURB PROFILES

NOTES:

1. PLANTER AREAS TO BE BACKFILLED WITH 4" DEPTH BARK MULCH OVER 12" DEPTH TOPSOIL, TYPE "A".
2. ALL CURBS AND SIDEWALKS PER DETAILS SHOWN ON DWG. D02
3. SEE PLANS FOR LOCATIONS OF MEDIANS AND TRAFFIC CURBS.
4. CONSTRUCT SLOPE PAVING BETWEEN BACK OF SIDEWALK AND EXISTING PAVEMENT AT LOCATIONS SHOWN ON PLANS. SLOPE PAVING TO CONSIST OF 0.15' AC CLASS "A" ON 0.35' CSBC

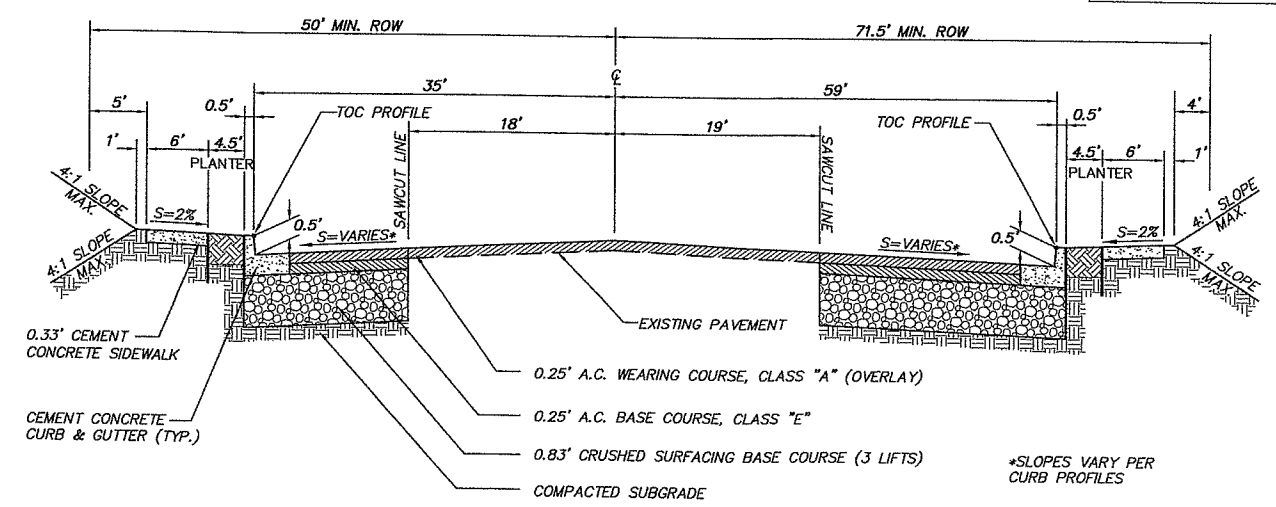


*SLOPES VARY PER CURB PROFILES

N.E. 20TH AVENUE

N.T.S.

STATION 20+80.00 TO 22+25.00



*SLOPES VARY PER CURB PROFILES

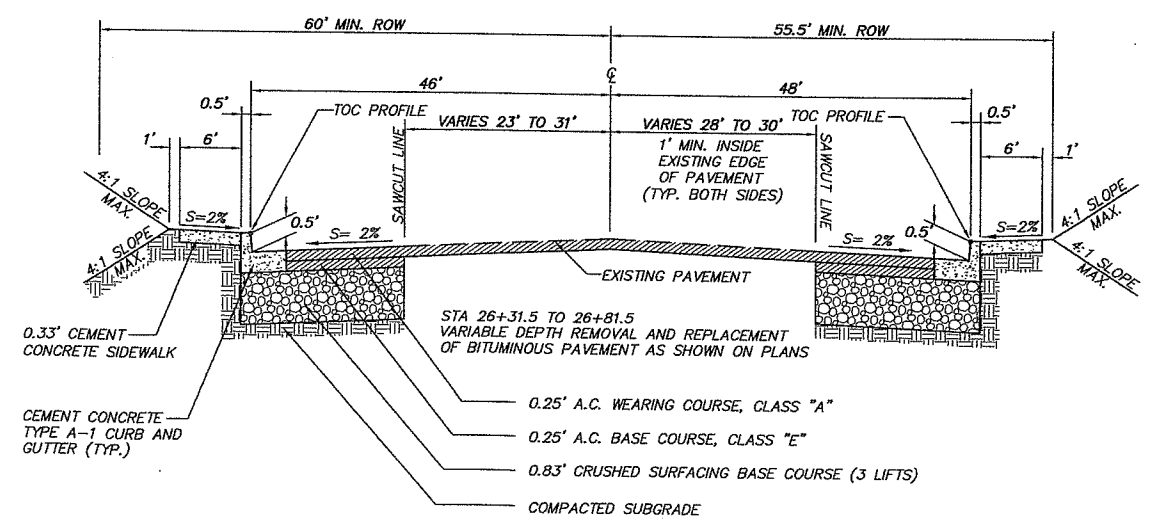
N.E. 20TH AVENUE

N.T.S.

STATION 22+25.00 TO 24+50.00*

NOTE:

* – SEE N.E. 134TH STREET TYPICAL SECTION SHT. NO. TS2 FOR SECTION BETWEEN STA. 24+50 TO STA. 26+00



N.E. 20TH AVENUE

N.T.S.

STATION 26+00.00* TO 26+81.50

Fed. Aid No.
STPF-4253[010]

DESIGNED: PKW
DRAWN: JRM
CRP: 392922
HORIZ. AS NOTED
VERT. NA
DATE: 2/20/04
DWG: TS1
SHEET 5 OF 84

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KEL W. REDMANN
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
EXPIRES MARCH 31, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-8613
FAX: (360) 737-9651

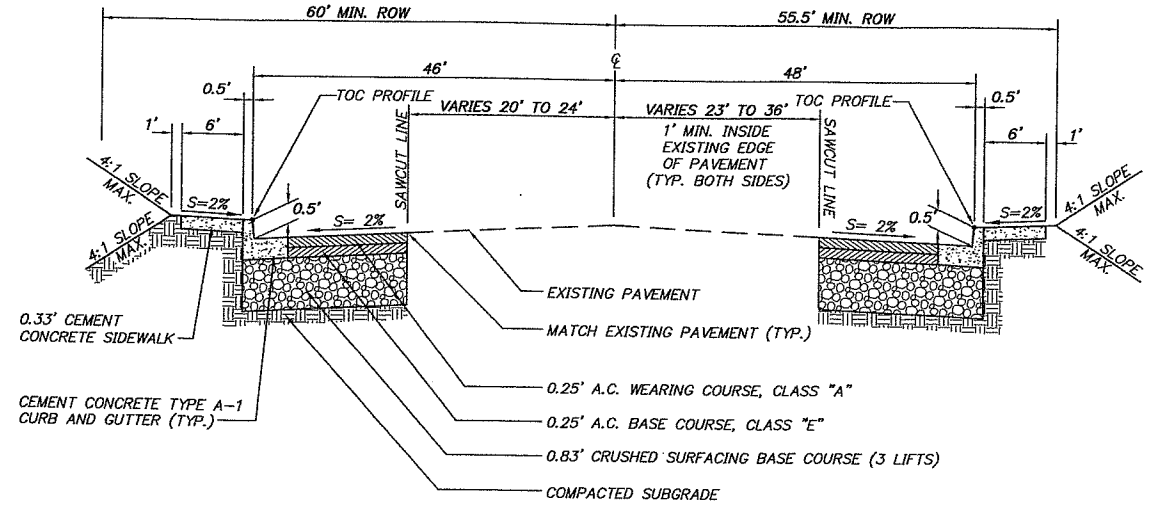
DESIGN & ENGINEERING DIVISION
DESIGN SECTIONS

TYPICAL ROAD SECTIONS

proud past, promising future
CLARK COUNTY
WASHINGTON

V: SADIE 02/17/04 4:17pm —> R:\DWG\C978SS05.DWG

XREF LIST
Ltscale: 1
Resolved
C978X001
PKW WASH

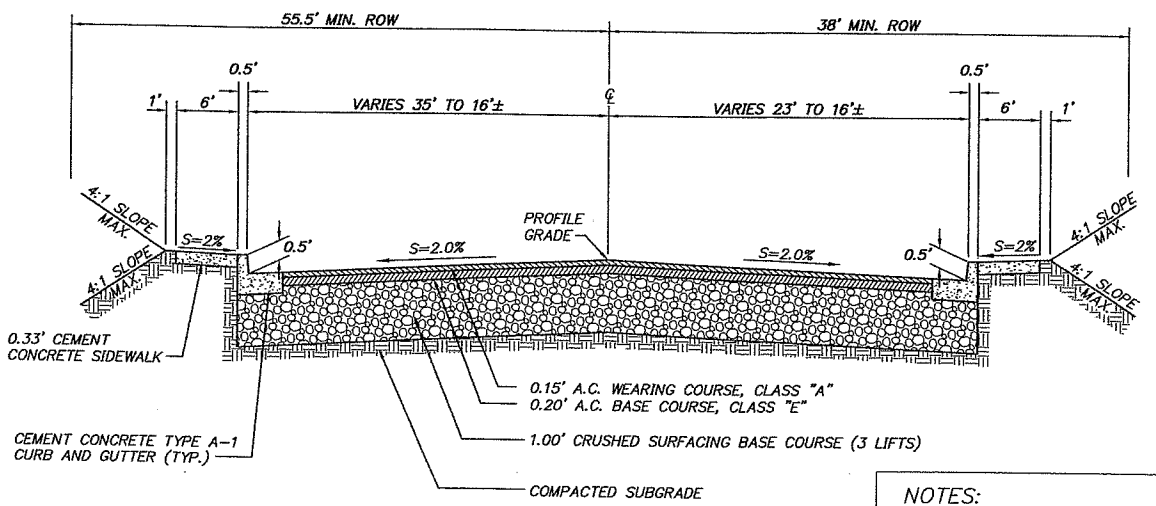


N.E. 20TH AVENUE

N.T.S.

STATION 26+81.50 TO 28+23.50 (BRIDGE)

NOTE:
ALL CURBS PER WSDOT STANDARD DETAILS.



HIGHWAY 99

(LOCAL ACCESS ROAD)

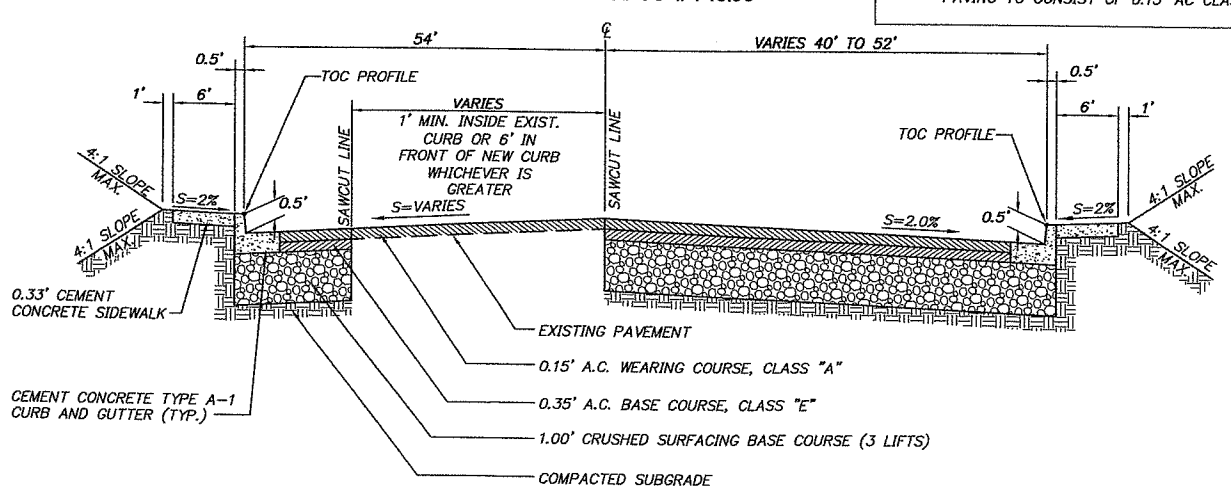
N.T.S.

STATION 8+80.00 TO 9+50.00
STATION 10+34.00 TO 12+63.66
STATION 15+60.00 TO 17+40.00 *

* PCC PAVEMENT SECTION EXTENDS FROM 15+60 TO NE 134TH STREET SEE LOCAL ACCESS ROAD SECTION FOR STA 12+63.66 TO 15+60.00

NOTES:

1. PLANTER AREAS TO BE BACKFILLED WITH 4" DEPTH BARK MULCH OVER 12" DEPTH TOPSOIL, TYPE "A".
2. ALL CURBS AND SIDEWALKS PER DETAILS SHOWN ON DWG. D02
3. SEE PLANS FOR LOCATIONS OF MEDIANS AND TRAFFIC CURBS.
4. CONSTRUCT SLOPE PAVING BETWEEN BACK OF SIDEWALK AND EXISTING PAVEMENT AT LOCATIONS SHOWN ON PLANS. SLOPE PAVING TO CONSIST OF 0.15' AC CLASS "A" ON 0.35' CSBC

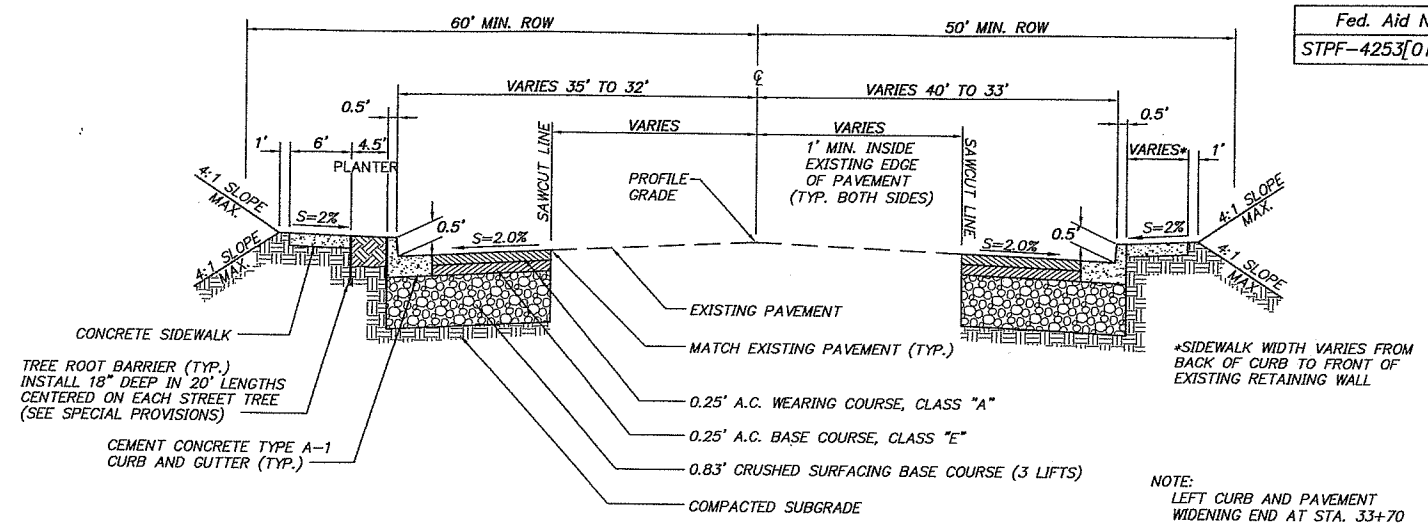


N.E. 134TH STREET

N.T.S.

STATION 12+00.00 TO 13+75.00

Fed. Aid No.
STPF-4253[010]



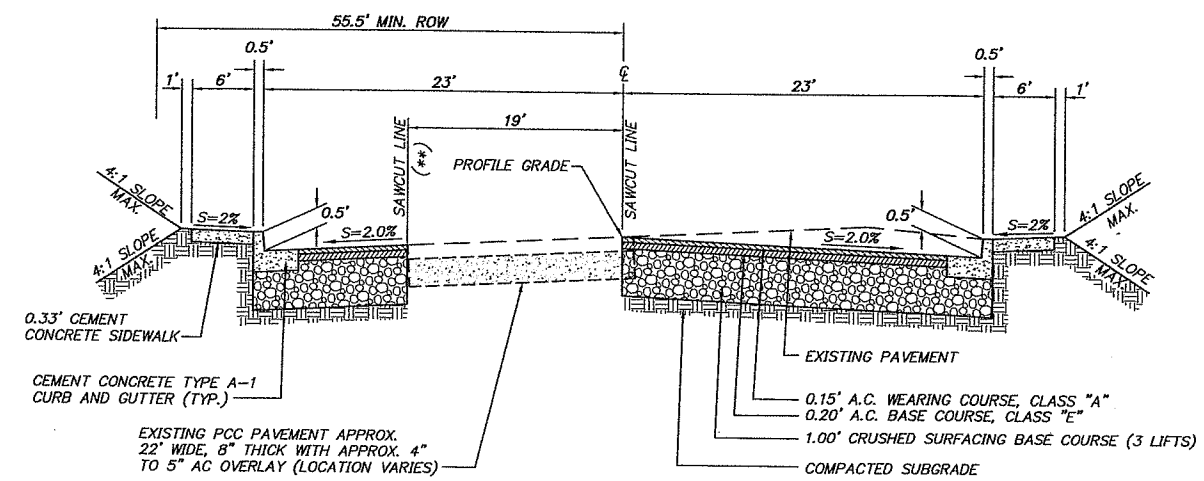
*SIDEWALK WIDTH VARIES FROM BACK OF CURB TO FRONT OF EXISTING RETAINING WALL

NOTE:
LEFT CURB AND PAVEMENT WIDENING END AT STA. 33+70

N.E. 20TH AVENUE

N.T.S.

STATION 32+12.04 (BRIDGE) TO 34+62.69 RT
TO 33+70.00 LT.



* PCC PAVEMENT SECTION EXTENDS FROM 15+60 TO NE 134TH STREET

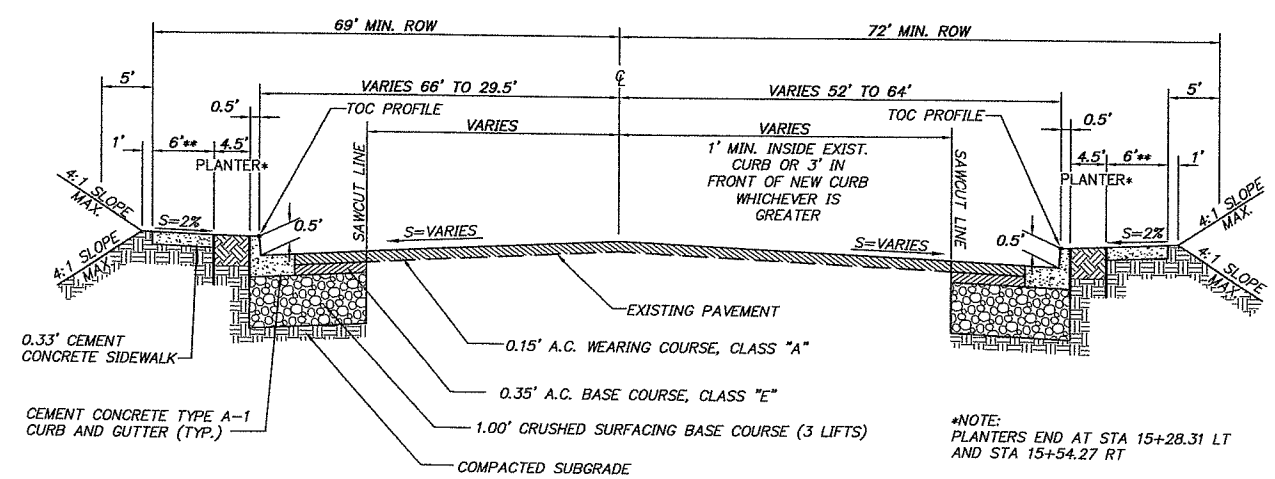
** OUTER SAWCUT LINE LOCATION CAN BE ADJUSTED TO MATCH EDGE OF PCC PAVEMENT, AS APPROVED BY ENGINEER.

HIGHWAY 99

(LOCAL ACCESS ROAD)

N.T.S.

STATION 12+63.66 TO 15+60.00



*NOTE:
PLANTERS END AT STA 15+28.31 LT AND STA 15+54.27 RT

**NOTE:
BEGIN CURB TIGHT SIDEWALK AT STA 16+84.61 LT AND END AT STA 17+26.13 RT

N.E. 134TH STREET

N.T.S.

STATION 13+75.00 TO 19+16.92

DESIGNED: PKW
DRAWN: JRM
CRP: 392922
HORIZ. AS NOTED
VERT. NA
DATE: 2/20/04
DWG: TS2
SHEET 6 OF 84

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EXPIRES AUG. 31, 2005

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DESIGN SECTION

TYPICAL ROAD SECTIONS

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WASHINGTON

V: SAOIE 02/17/04 4:19pm --> R:\DWG\c3978S006.DWG

XREF LIST
Ltscale: 40
Resolved
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C978x116
C978X230
c978x231
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PKW WASH
Unresolved
Bridge Under dtm
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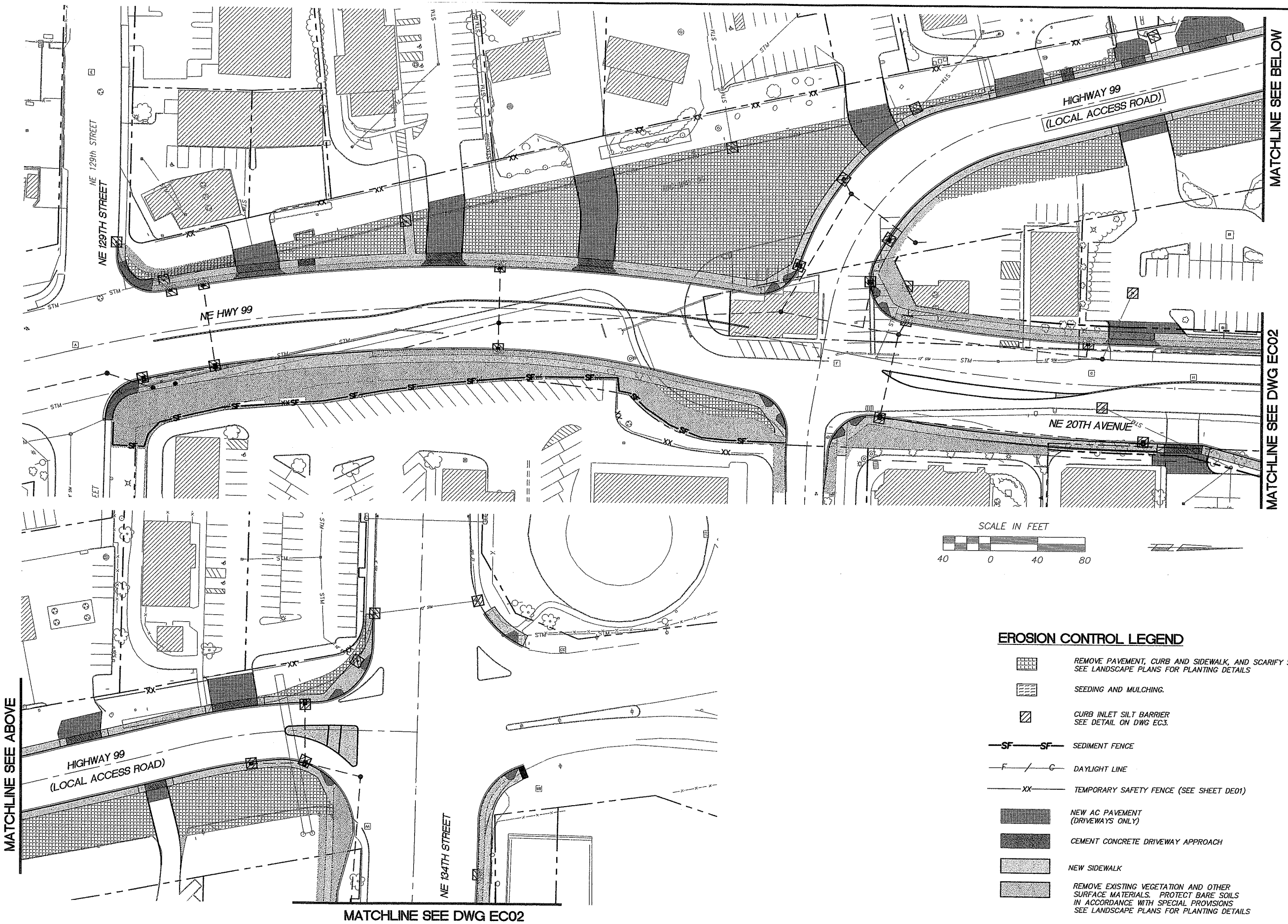
c978x430
L978X700



EROSION CONTROL LEGEND

- REMOVE PAVEMENT, CURB AND SIDEWALK, AND SCARIFY SOIL. SEE LANDSCAPE PLANS FOR PLANTING DETAILS
- SEEDING AND MULCHING.
- CURB INLET SILT BARRIER SEE DETAIL ON DWG EC3.
- —SF—SF— SEDIMENT FENCE
- —F—/—C— DAYLIGHT LINE
- —XX— TEMPORARY SAFETY FENCE (SEE SHEET DE01)
- NEW AC PAVEMENT (DRIVEWAYS ONLY)
- CEMENT CONCRETE DRIVEWAY APPROACH
- NEW SIDEWALK
- REMOVE EXISTING VEGETATION AND OTHER SURFACE MATERIALS. PROTECT BARE SOILS IN ACCORDANCE WITH SPECIAL PROVISIONS SEE LANDSCAPE PLANS FOR PLANTING DETAILS

NOTES:

1. CONTRACTOR TO PROVIDE EROSION CONTROL PROTECTION ON ALL DOWN FLOW INLETS/DITCHES AND PARKING LOT INLETS AS NEEDED OR DIRECTED.

Fed. Aid No.
STPF-4253[010]

DESIGNED: PKW
DRAWN: DKH
CRP: 392922
HORIZ. 1" = 40'
VERT. NA
DATE: 2/20/04
DWG: EC1
SHEET 7 OF 84

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PAMELA KIEL WIEDEMANN
STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

EROSION CONTROL PLAN

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V: JOHNMA 02/16/04 2:42pm --> R:\DWG\C978S007.DWG

xREF LIST
Ltscale: 40

Resolved
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Bridge Under dtm
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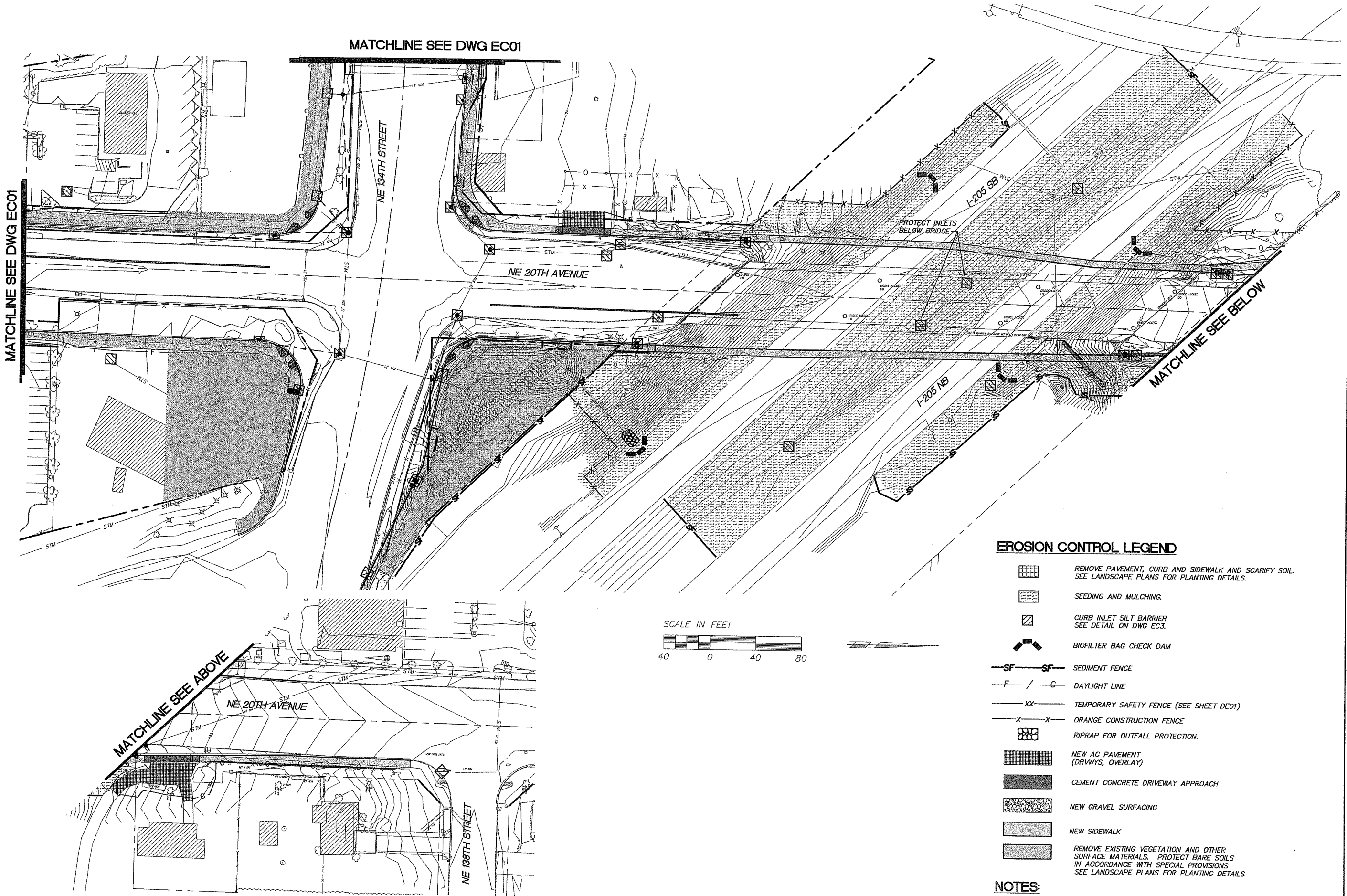
C978x116
C978X230
C978X231
c978x232
C978x300
C978X304
c978x430
0978B191
PKW WASH

Unresolved
C978X301

V: SADIE 02/17/04 4:12pm --> R:\DWG\C978SD08.DWG

Fed. Aid No.
STPF-4253[010]



EROSION CONTROL LEGEND

- REMOVE PAVEMENT, CURB AND SIDEWALK AND SCARIFY SOIL. SEE LANDSCAPE PLANS FOR PLANTING DETAILS.
- SEEDING AND MULCHING.
- CURB INLET SILT BARRIER SEE DETAIL ON DWG EC3.
- BIOFILTER BAG CHECK DAM
- SF — SF — SEDIMENT FENCE
- F — / — C — DAYLIGHT LINE
- XX — TEMPORARY SAFETY FENCE (SEE SHEET DE01)
- X — X — ORANGE CONSTRUCTION FENCE
- RIPRAP FOR OUTFALL PROTECTION.
- NEW AC PAVEMENT (DRVWYS, OVERLAY)
- CEMENT CONCRETE DRIVEWAY APPROACH
- NEW GRAVEL SURFACING
- NEW SIDEWALK
- REMOVE EXISTING VEGETATION AND OTHER SURFACE MATERIALS. PROTECT BARE SOILS IN ACCORDANCE WITH SPECIAL PROVISIONS SEE LANDSCAPE PLANS FOR PLANTING DETAILS

NOTES:

1. CONTRACTOR TO PROVIDE EROSION CONTROL PROTECTION ON ALL DOWN FLOW INLETS/DITCHES AND PARKING LOT INLETS AS NEEDED OR DIRECTED.

DESIGNED:	PKW
DRAWN:	JPV
CRP:	392922
HORIZ:	1" = 40'
VERT.	NA
DATE:	2/20/04
DWG:	EC2
SHEET	8 OF 84

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EROSION CONTROL PLAN

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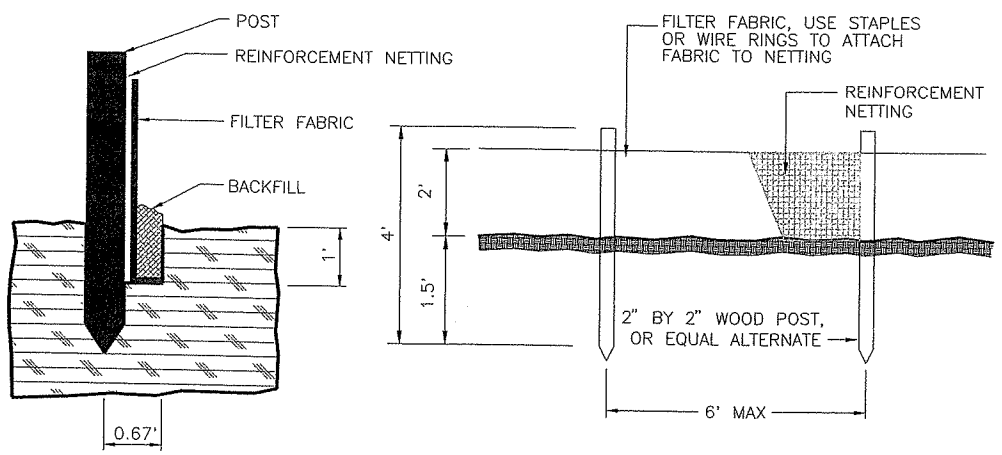
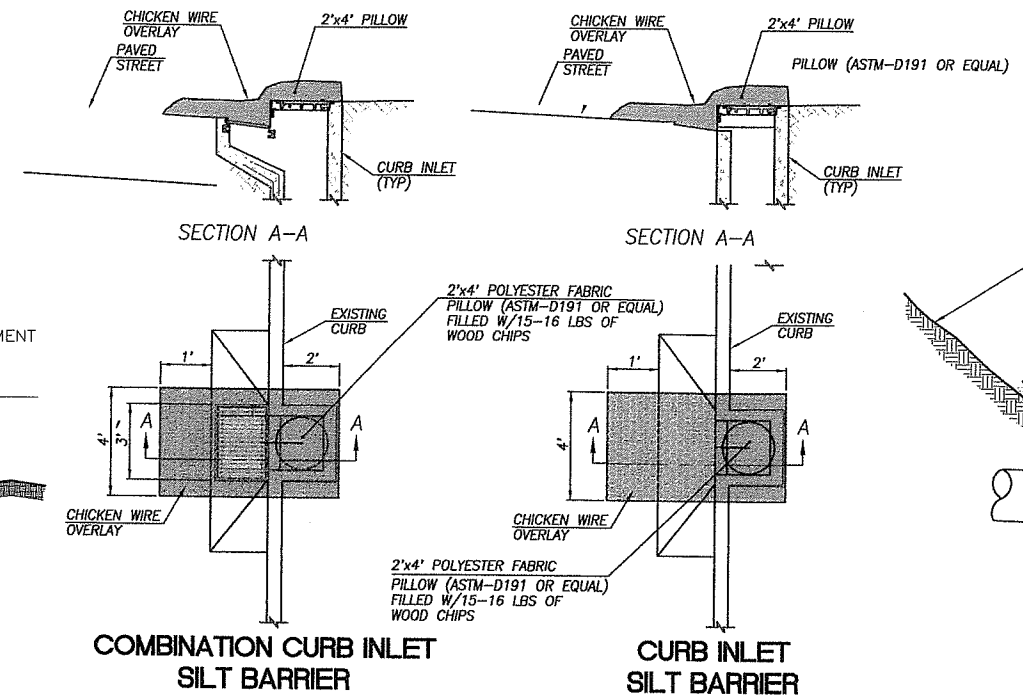


SILT FENCE INSTALLATION

N.T.S.

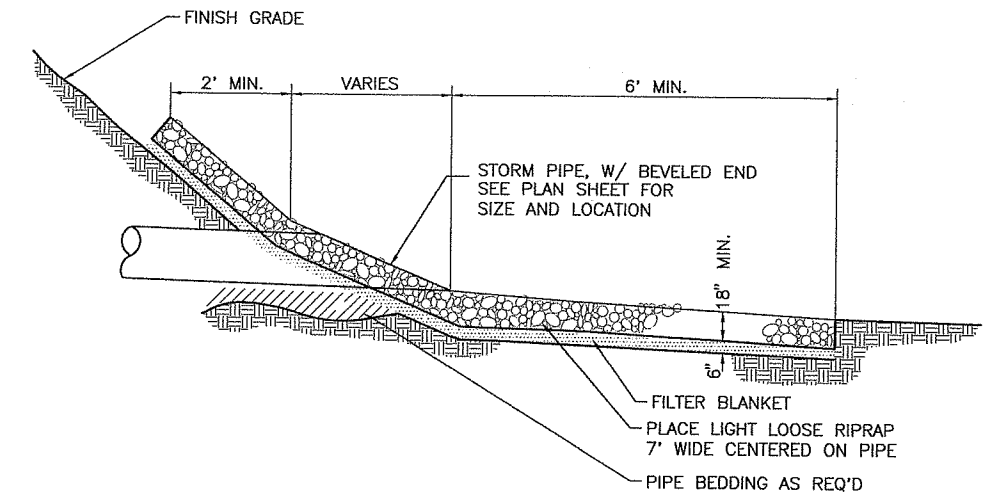


COMBINATION CURB INLET SILT BARRIER

CURB INLET SILT BARRIER

INLET PROTECTION

N.T.S.



OUTFALL PROTECTION

N.T.S.

NOTE:
SIGNIFICANT VARIATION AND DEGREE OF EROSION CONTROL EFFORT WILL BE DICTATED BY WEATHER CONDITIONS. THE CONTRACTOR SHOULD BE PREPARED TO PROVIDE EXTRA EROSION CONTROL PROVISIONS AND EFFORT DURING WINTER AND WET WEATHER CONDITIONS BEYOND THAT NORMALLY REQUIRED DURING SUMMER AND DRY WEATHER CONDITIONS. FINE GRAINED AND UNCONSOLIDATED SOILS ON SLOPING SITES MAY BECOME UNSTABLE WHEN SUBJECT TO EXCESSIVE MOISTURE.

STANDARD NOTES FOR EROSION CONTROL PLAN

1. The Contractor shall install and maintain BMP's as shown and perform all actions necessary to prevent erosion, and control sediment from leaving the construction site. Site Contractor shall comply with Clark County Code Chapter 40.380.050.

2. All erosion control measures shall be in-place and in working condition prior to disturbing and exposing any soil surfaces (i.e. silt fence, construction entrance, sedimentation barriers, sedimentation traps).

3. All erosion prevention and control BMP's shall be maintained and repaired as needed to insure continued performance of their intended function. Needed repairs shall be made as soon as practicable. They are to remain in place and operational during all phases of construction. Construction activities shall not continue or resume until repairs to erosion control facilities are made and the facilities are functional. Any sediment leaving the site or discharging to a sensitive area shall be stopped and controlled immediately. Contaminated areas shall be cleaned and restored.

4. Clearing limits and work area limits shall be delineated and marked. Do not disturb more area than needed for construction requirements.

5. All sensitive or critical areas (wetlands, steep slopes, natural waterways), and buffers shall all be clearly delineated and clearly marked, and protected from sediment deposition.

6. Sediment laden runoff shall be prevented from entering all existing storm water catch basins and inlets affected by construction.

7. No exposed, bare soils shall remain unstabilized for more than two days during the period October 1 thru April 30 or for more than seven days during the period of May 1 through September 30. All disturbed soil surfaces shall be stabilized by a suitable application of "Best Management Practices".

8. Where feasible, no more than 500 feet of trench shall be open at one time. Excavated material shall be placed on the up-hill side of trenches provided it does not conflict with safety requirements.

9. Dewatering devices shall discharge into a sediment trap or sediment pond. No discharge shall be made to a paved street or stormwater collection system without first removing sediment.

10. Cut and fill slopes shall be constructed in a manner that will minimize erosion. Erosion shall be controlled and prevented by such measures as roughening the surface, installation of interceptor ditches, terracing, covering with matting, mulch or plastic sheeting. Runoff shall be prevented from entering a slope and from undercutting the base of slopes.

11. Any soil or debris transported onto roadways and sidewalks shall be removed. Deposits shall be completely removed by shoveling and/or sweeping. Washing shall not be utilized unless specifically approved in writing by the County.

12. All permanent infiltration systems shall be isolated and protected from sediment laden runoff entering to avoid risk of reducing the ability of the systems to infiltrate. Isolation and protection shall not be removed until the drainage area tributary to the system is completely stabilized.

CONTINUED ON SHEET 2

NO.	REVISIONS	DATE	BY

DWG: ECN1.DWG

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CLARK COUNTY WASHINGTON
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STANDARD NOTES FOR EROSION CONTROL PLAN

APPROVED
Peter Capell — COUNTY ENGINEER — 01/01/04 — DATE

STANDARD ECN1
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 08/02/02

STANDARD NOTES FOR EROSION CONTROL PLAN (CONTINUED)

13. All conveyance channels, both temporary and permanent shall be stabilized to prevent erosion of the channel. Stabilization shall extend to areas at outlets and downstream reaches vulnerable to erosion resulting from flow discharging from the channel.

14. If BMP's shown are utilized but are insufficient to prevent sediment from reaching water bodies, adjacent properties, or public rights-of-way; additional BMP's shall be implemented immediately to prevent further encroachment of sediment.

15. Stabilized areas shall be provided for employee parking and storage of construction materials. Erodeable stockpiles of earthen materials, such as topsoil, silty and clayey soils; and landscape materials, shall be covered when not being incorporated in the work. Erosion control BMP's shall be utilized as necessary to prevent sediment laden runoff from leaving or sediment being transported from these areas from vehicle activity.

16. All pollutants other than sediment that occur during construction shall be handled and disposed of in a manner that does not cause contamination of storm water.

17. The Contractor shall keep an inspection log of the condition of the erosion control facilities. Erosion control facilities shall be inspected at least weekly and after each rainfall. The inspection log shall be kept at the project site at a designated location and shall be available for review by the County. An individual that has successfully completed the County's Erosion Control Certification course shall perform inspections and maintain the log.

18. All temporary BMP's shall be removed within 30 days after final site stabilization is achieved. Trapped sediment shall be deposited and stabilized on site. Areas disturbed resulting from removal shall be permanently stabilized.

19. Construction shall not be considered complete and acceptable until all disturbed soil surfaces have been protected from erosion with permanent landscaping, covering with impervious surfaces, restored to original undisturbed condition or permanently stabilized.

20. Vegetated stabilization and landscaping shall be fertilized, watered and maintained to insure that growth of vegetation is established and sustained.

21. During dry weather construction periods the contractor shall provide project-specific dust control measures that may include: Seeding, Mulching, Matting, Water, Tackifier, or Chemical Soil Stabilizers. The contractor shall maintain the dust control measures through dry weather periods until all disturbed areas have been stabilized. Immediately re-stabilize areas disturbed by contractor's operations or other activities (wind, water, vandalism, etc.).

22. Entry onto the construction site shall be restricted to a single approved entrance as shown on the plan.

23. Maintenance and repair of heavy equipment and vehicles which involve potential contaminants (oil,solvents,hydraulic fluid, etc.) must be conducted in a manner which prevents contamination of soils, surface water and ground water. Tarps, drip pans, or other appropriate measures shall be used as necessary.

24. Stripping, topsoil, and unsuitable material stockpiles shall be hydroseeded with "regreen wheat x wheat grass hybrid" by Hobbs and Hobkins (or approved equal). Maintenance of stockpile areas and reapplication of hydroseed covering shall be required if bare soil is present. During winter and wet weather conditions, stockpiles shall be covered with plastic sheeting per detail E-16.

NO.	REVISIONS	DATE	BY

DWG: ECN.DWG

SHEET 2 OF 2

Department of Public Works
CLARK COUNTY WASHINGTON
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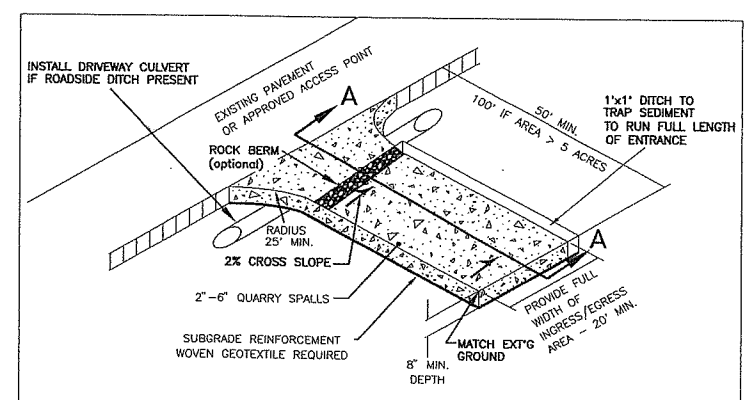
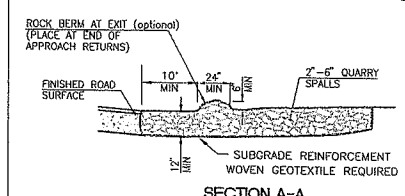
STANDARD NOTES (CONTINUED) FOR EROSION CONTOL PLAN

APPROVED
Peter Capell — COUNTY ENGINEER — 01/01/04 — DATE

STANDARD ECN2
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 07/22/03





SECTION A-A

1. EXCAVATE MINIMUM OF 12" OF EXISTING SOILS.
2. PLACE MINIMUM OF 12" OF 2"-6" QUARRY SPALLS
3. CONSTRUCT ROCK BERM ALONG TRANSITION POINT TO FINISH ROAD SURFACES, DIVERT RUNOFF TO ONSITE AREA (OPTIONAL).

NOTES:

1. FOR DEVELOPMENT PROJECTS REVIEWED BY ENGINEERING SERVICES. NOT FOR USE WITH SINGLE FAMILY OR DUPLEX RESIDENTIAL BUILDING PERMITS. SEE BUILDING DEPT. FOR GRAVEL CONSTRUCTION ENTRANCE PLAN.
2. INSTALL WOVEN GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.
3. VEHICLE WASHDOWN AREA, IF REQUIRED, IS TO BE INSTALLED AND USED TO REMOVE SEDIMENT FROM VEHICLES THAT ARE ABOUT TO ENTER AN ESTABLISHED ROAD.
4. WASHDOWN AREA TO BE MADE UP OF CLEAN 2"- 6" QUARRY SPALLS, 1" DEEP (MIN) OVER WOVEN GEOTEXTILE FABRIC. WASHDOWN AREA TO BE FULL WIDTH OF ENTRANCE AND 50' (MIN.), AND 100' IF EXPOSED SOIL IS OVER 5 ACRES.
5. AT TIME OF PRECONSTRUCTION MEETING, THE COUNTY INSPECTOR MAY REQUIRE THE ENTRANCE TO BE PAVED TO THE EDGE OF THE RIGHT-OF-WAY PRIOR TO THE INSTALLATION OF A WASHDOWN ENTRANCE TO AVOID DAMAGE TO THE EXISTING ROADWAY.
6. THE RESPONSIBLE EROSION CONTROL INDIVIDUAL IS TO ENSURE THAT ALL VEHICLES USE THIS ENTRANCE AND ARE TO BE INSPECTED AND CLEANED OF SOILS BEFORE LEAVING PROJECT, AND THAT THE ENTRANCE IS TO BE KEPT CLEAN AT ALL TIMES.

NO.	REVISIONS	DATE	BY

DWG: E-1.DWG

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STANDARD CONSTRUCTION ENTRANCE

APPROVED
Peter Capell — COUNTY ENGINEER — 01/01/04 — DATE

STANDARD E-1
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 07/07/03

DESIGNED: PKW
DRAWN: JPV
CRP: 392922
HORIZ. NA
VERT. NA
DATE: 2/20/04
DWG: EC3
SHEET 9 OF 84

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION
EROSION CONTROL DETAILS AND NOTES

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XREF LIST
Ltscale: 40
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C978x116
C978X230
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C978x300
C978X304
0978B191
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Unresolved
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Fed. Aid No.
STPF-4253[010]

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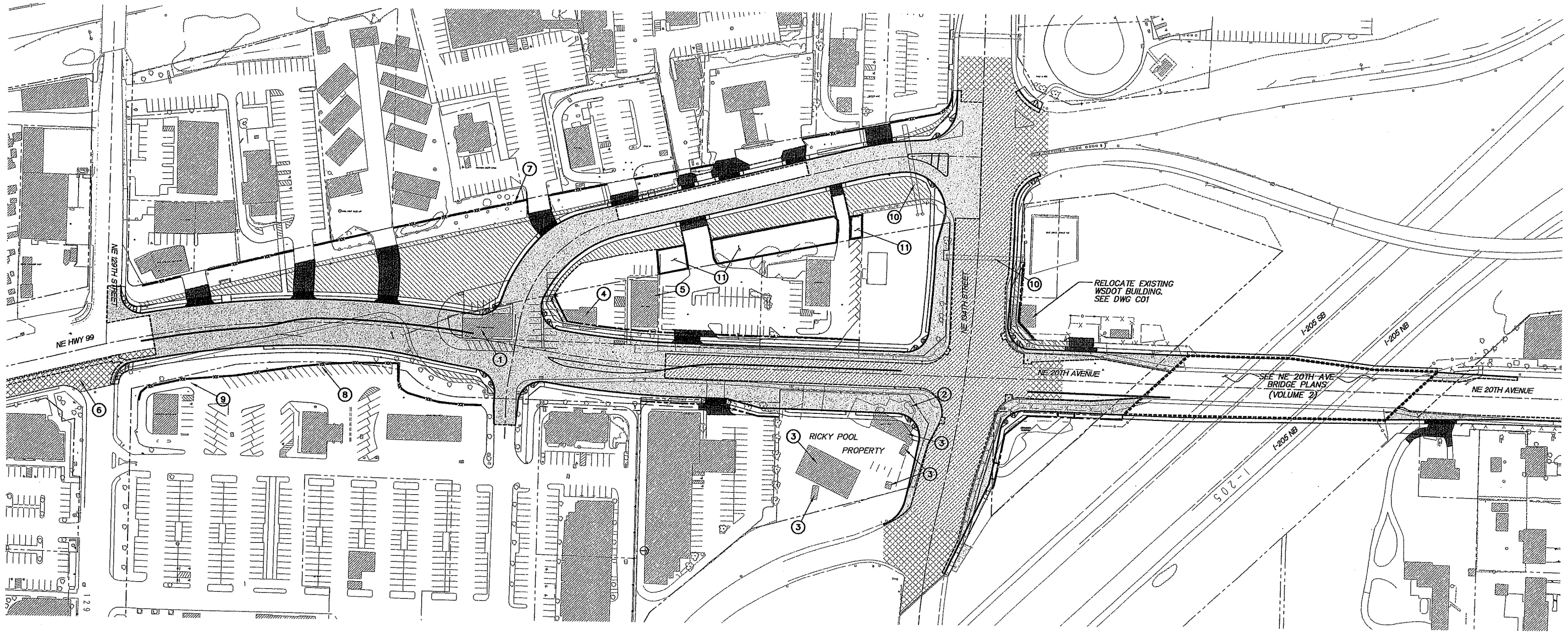

DEMOLITION LEGEND

- REMOVE ALL SURFACING MATERIALS. SEE LANDSCAPE PLANS, EROSION CONTROL PLANS, AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- ROADWAY RECONSTRUCTION WIDENING
- GRIND AND OVERLAY EXISTING PAVEMENT
- OVERLAY EXISTING PAVEMENT
- —xx— TEMPORARY PROTECTIVE FENCE
- PAVED DRIVEWAY

DEMOLITION NOTES:

1. REMOVE EXISTING PARR LUMBER BUILDING AND BASEMENT. BASEMENT FILL TO BE COMPACTED TO 95% MAXIMUM DENSITY. FILL SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO BEGINNING ROAD WORK.
2. REMOVE EXISTING BELOW GRADE POOL AT RICKY POOL SITE. FILL TO BE COMPACTED TO 95% MAXIMUM DENSITY. FILL SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO BEGINNING ROAD WORK.
3. REMOVE EXISTING BUILDINGS AND SHEDS AT RICKY POOL SITE.
4. GAS PUMPS, CANOPY AND TANKS TO BE REMOVED BY COUNTY..
5. TRAILMART BUILDING OWNED BY CLARK COUNTY AND TO BE USED AS FIELD OFFICE. SEE SPECIAL PROVISIONS.
6. TRENCH RESTORATION AND PAVEMENT GRINDING, OVERLAY. WORK EXTENDS TO END OF STORMWATER IMPROVEMENTS. SEE SHEET PP01.
7. INSTALL 1040 LF TEMPORARY SAFETY FENCE ON RIGHT OF WAY LINE AS SHOWN OR DIRECTED.
8. INSTALL 575 LF TEMPORARY SAFETY FENCE IN FRONT OF EXISTING PARKING LOT CURB.
9. DRIVE-THRU ACCESS TO BANK TO REMAIN OPEN AT ALL TIMES.
10. REMOVE EXISTING SIGN BRIDGE.
11. PROTECT EXISTING LANDSCAPING BETWEEN HOLLAND PROPERTY AND BACK OF EXISTING CURB/SIDEWALK.

DESIGNED: PKW
DRAWN: JPV
CRP: 392922
HORIZ. 1" = 80'
VERT. NA
DATE: 2/20/04
DWG: DE01
SHEET 10 OF 84

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STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

DEMOLITION PLAN

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V: SADIE 02/17/04 3:41pm --> R:\DWG\C978S010.DWG

OPEN CUT UTILITY TRENCH BACKFILL DETAIL (COLLECTOR OR ARTERIAL)

SURFACING:

1. All A.C.P. shall be saw cut to provide a straight, clean edge prior to paving.
2. The cut line shall be one continuous straight line from the outer excavation limits of manhole, valve box, etc. to manhole, valve box, etc.
3. Pave with an 0.5 ft. minimum compacted depth A.C.P., or match existing or design section, whichever is greater.
4. Lifts for A.C.P. (Class A) shall be 0.15 ft. minimum and 0.35 ft. maximum for non-surface lifts (0.25' maximum for surface lift); the temperature shall be 250 degree minimum, 350 degree maximum, compacted to 92% of the theoretical maximum.
5. All joints shall be tacked, sealed and sanded.
6. Trench shall be plated until paved.
7. For longitudinal installation, full lane width including turn lanes restoration shall be required or as directed by Clark County. For transverse installation refer to surfacing restoration of detail U6. See Section 12.20A.120.C.

BASE COURSE:

1. 0.80 ft. minimum depth (1-1/4" minus) C.S.B.C. (W.S.D.O.T. approved material).
2. Compacted to 95% of maximum density. See trench zone.
3. Equivalent depth of A.T.B. may be substituted.
4. For transverse or diagonal trenches in existing roadway pavement, CDF will be used from the bottom of full pavement section to a maximum CDF section of 3 feet or to 6" above the top of the pipe, which ever is less. See note 13 of Std. Plan UGN of this Manual.

TRENCH ZONE:

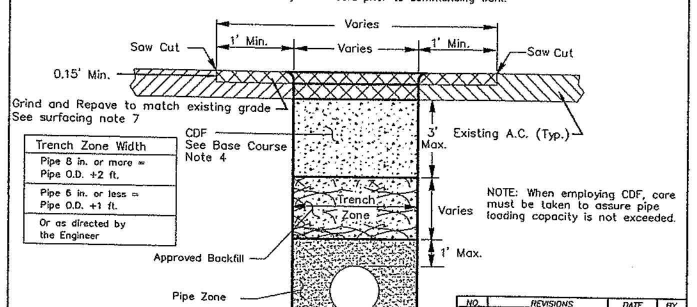
1. Granular backfill as approved by local agency or W.S.D.O.T. specifications for granular backfill. Compacted to 95% of maximum density in the trench zone using Method C compaction as per Section 2-03.3(14)C.
2. Native material may be used if approved prior to construction by Clark County.
3. Trench zone width -- see below.

PIPE ZONE:

1. Pipe zone material as specified by utility owner, and shall conform to section 9-03.12(3) WSDOT Specs.
2. 1.0 ft. max. from top of the pipe. 6" from top of pipe when CDF backfill used.

CONDITIONS:

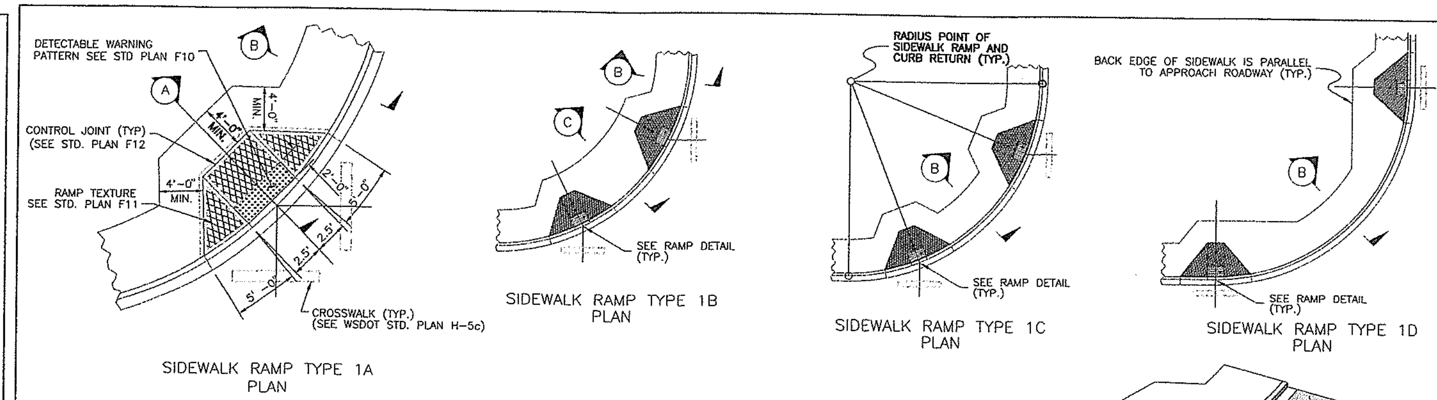
1. A copy of the permit and requirements shall be on the job site at all times.
2. The permit holder shall be responsible for all restoration and maintenance of ditches, shoulders, driveways, landscaping, etc.
3. Call Clark County at 397-2446 twenty-four hours prior to commencing work.

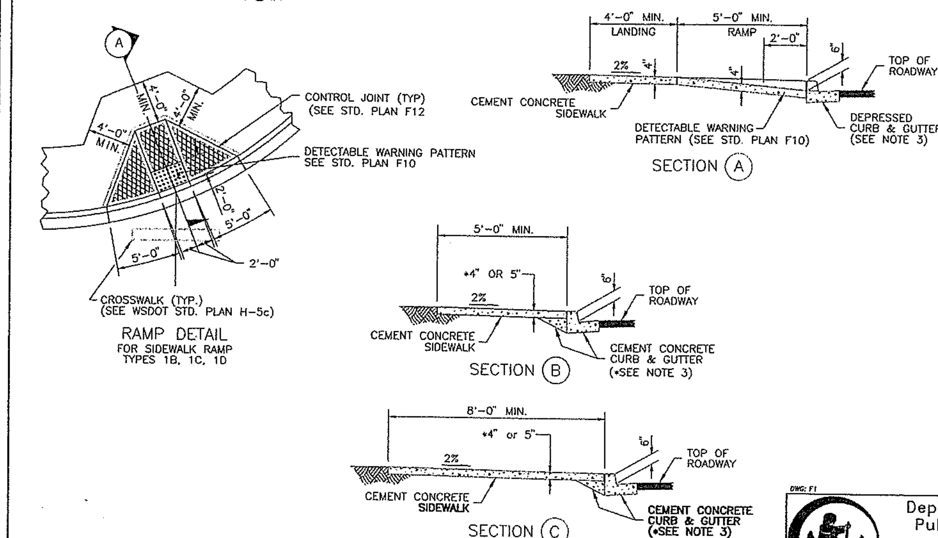


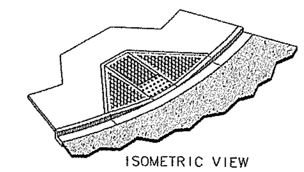
Trench Zone Width
Pipe 8 in. or more = Pipe O.D. +2 ft.
Pipe 6 in. or less = Pipe O.D. +1 ft.
Or as directed by the Engineer

NO.	REVISIONS	DATE	BY
2	ILLUSTRATIVE CHANGE	07/10/01	BK
3	Notes & Del. Rev. 7	12/07/02	SCH

DWG: U1.DWG — Department of Public Works, CLARK COUNTY WASHINGTON, proud past, promising future — OPEN CUT UTILITY TRENCH BACKFILL DETAIL COLLECTOR OR ARTERIAL ROADWAY — APPROVED — Peter Capell, COUNTY ENGINEER — 1/20/01 DATE — STANDARD PLAN No. U1 — DATE 04/25/03







NOTES

1. Avoid placing drainage structures, junction boxes or other obstructions in front of ramp access areas.
2. Detectable warning patterns may be created by any method that will achieve the truncated dome dimensions and spacing shown.
3. Curb and gutter shown, see Construction Plans for the curb design specified. See Std. Plan F18 for standard curb details, and std. plan F18b for rolled curb & gutter with THICKENED SIDEWALK.
4. The plan views for SIDEWALK RAMP TYPES 1B, 1C & 1D are provided to define each ramp type. See the RAMP DETAIL on this sheet. See Std. Plan F12 for sidewalk joint placement and details.
5. Ramp slopes shall not be steeper than 12H:1V.
6. For Arterials and Collectors use WSDOT Standard Plan F-3a.

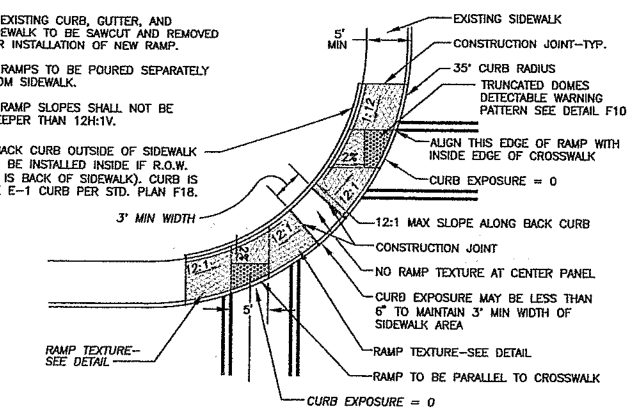
DWG: F1 — Department of Public Works, CLARK COUNTY WASHINGTON, proud past, promising future — SIDEWALK RAMP TYPES 1A, 1B, 1C & 1D — APPROVED — Peter Capell, COUNTY ENGINEER — 01/01/04 DATE — STANDARD PLAN No. F1 — DATE 11/14/03

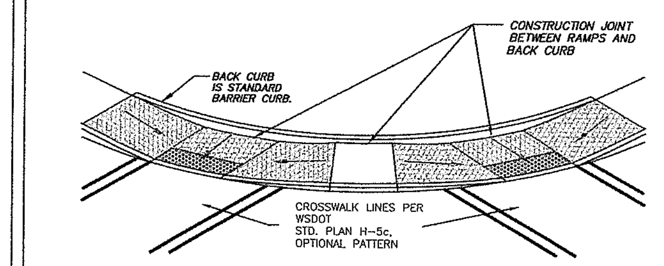
Fed. Aid No. STPF-4253[010]

NOTES:

1. EXISTING CURB, GUTTER, AND SIDEWALK TO BE SAWCUT AND REMOVED FOR INSTALLATION OF NEW RAMP.
2. RAMPS TO BE POURED SEPARATELY FROM SIDEWALK.
3. RAMP SLOPES SHALL NOT BE STEEPER THAN 12H:1V.

6" BACK CURB OUTSIDE OF SIDEWALK (CAN BE INSTALLED INSIDE IF R.O.W. LINE IS BACK OF SIDEWALK). CURB IS TYPE E-1 CURB PER STD. PLAN F18.

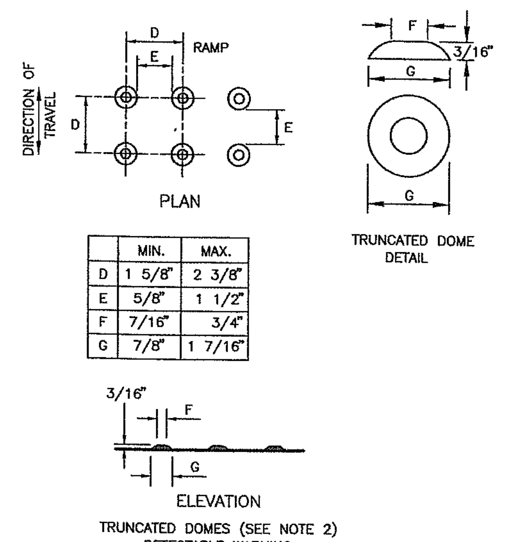




THIS TYPE OF RAMP IS ONLY TO BE USED IN EXISTING RESTRICTED RIGHT-OF-WAY AREAS, DOUBLE RAMP SHOWN-SINGLE RAMP MAY BE USED AT SOME INSTALLATIONS.

NO.	REVISIONS	DATE	BY
1	TRUNCATED DOMES	8/14/03	SCH

DWG: F2b.dwg — Department of Public Works, CLARK COUNTY WASHINGTON — TYPE 2 ALTERNATE RAMP - DOUBLE — APPROVED — Peter Capell, COUNTY ENGINEER — 8/22/00 DATE — F2b — DATE 7/24/00



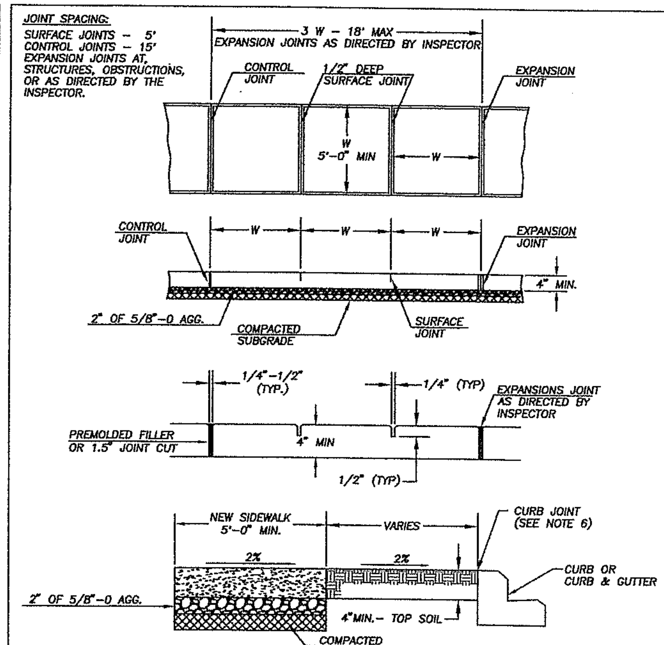
	MIN.	MAX.
D	1 5/8"	2 3/8"
E	5/8"	1 1/2"
F	7/16"	3/4"
G	7/8"	1 7/16"

NOTES

1. AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREA.
2. THE DETECTABLE WARNING PATTERNS CAN BE CREATED BY ACCEPTABLE MEANS THAT WILL ACHIEVE THE TRUNCATED DOME DIMENSIONS AND SPACING SHOWN.
3. PLACE TRUNCATED DOME DETECTABLE WARNING TEXTURE IN THE LOWER 24" OF THE THROAT OF THE RAMP ONLY. ARRANGE DOMES USING IN-LINE PATTERN ONLY AS SHOWN. COLOR OF TEXTURE (COATING) SHALL BE SAFETY YELLOW IN COMPLIANCE WITH WSDOT STD. SPEC. OR AS INSTRUCTED BY COUNTY INSPECTOR.
4. FOR CONSTRUCTION OF SIDEWALK RAMPS OUTSIDE OF PUBLIC RIGHT-OF-WAY, CHECK WITH STATE BUILDING CODES.

DWG: F10.DWG — Department of Public Works, CLARK COUNTY WASHINGTON, proud past, promising future — TRUNCATED DOME DETECTABLE WARNING PATTERN — APPROVED — Peter Capell, COUNTY ENGINEER — 01/01/04 DATE — STANDARD PLAN No. F10 — DATE 6/15/03

JOINT SPACING:
SURFACE JOINTS – 5'
CONTROL JOINTS – 15'
EXPANSION JOINTS AT, STRUCTURES, OBSTRUCTIONS, OR AS DIRECTED BY THE INSPECTOR.

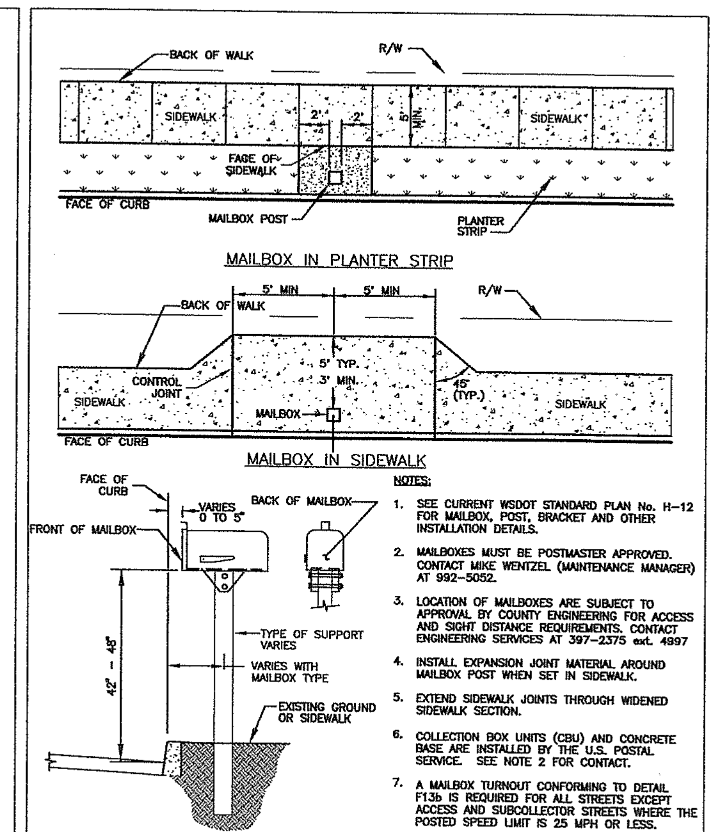


NOTES:

1. CONCRETE SHALL BE 3,000 PSI MIN. (CLASS 3000), 3 1/2" SLUMP (± 1")
2. FINISH SHALL BE MEDIUM BROOM PERPENDICULAR TO PEDESTRIAN TRAFFIC UNLESS OTHERWISE DIRECTED.
3. ALL EXISTING EDGES SHALL BE SAWCUT.
4. NO FILLER REQUIRED FOR SURFACE JOINTS.
5. ALL JOINTS AND EDGES SHALL BE FINISHED WITH 1/4" RADIUS EDGER (3" SMOOTH EACH SIDE)
6. FOR SIDEWALKS ADJACENT TO THE CURB AND POURED AT THE SAME TIME AS THE CURB, THE JOINT BETWEEN THEM SHALL BE A TROWELED JOINT WITH A MIN. 1/2" RADIUS.

NO.	REVISIONS	DATE	BY
1	CHANGE SUBGRADE &	03/28/02	KD
2	2" BASE AGG. & NOTES	10/07/02	SCH

DWG: F12.dwg — Department of Public Works, CLARK COUNTY WASHINGTON, proud past, promising future — SIDEWALK DETAIL — APPROVED — Peter Capell, COUNTY ENGINEER — 01/01/04 DATE — STANDARD PLAN No. F12 — DATE 10/08/02

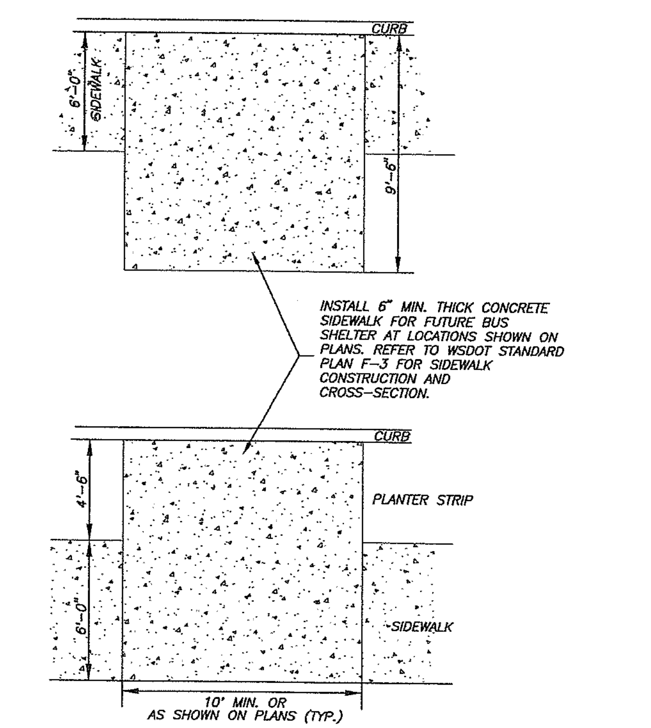


NOTES:

1. SEE CURRENT WSDOT STANDARD PLAN No. H-12 FOR MAILBOX, POST, BRACKET AND OTHER INSTALLATION DETAILS.
2. MAILBOXES MUST BE POSTMASTER APPROVED. CONTACT MIKE WENTZEL (MAINTENANCE MANAGER) AT 992-5052.
3. LOCATION OF MAILBOXES ARE SUBJECT TO APPROVAL BY COUNTY ENGINEERING FOR ACCESS AND SIGHT DISTANCE REQUIREMENTS. CONTACT ENGINEERING SERVICES AT 397-2375 ext. 4997
4. INSTALL EXPANSION JOINT MATERIAL AROUND MAILBOX POST WHEN SET IN SIDEWALK.
5. EXTEND SIDEWALK JOINTS THROUGH WIDENED SIDEWALK SECTION.
6. COLLECTION BOX UNITS (CBU) AND CONCRETE BASE ARE INSTALLED BY THE U.S. POSTAL SERVICE. SEE NOTE 2 FOR CONTACT.
7. A MAILBOX TURNOUT CONFORMING TO DETAIL F13b IS REQUIRED FOR ALL STREETS EXCEPT ACCESS AND SUBCOLLECTOR STREETS WHERE THE POSTED SPEED LIMIT IS 25 MPH OR LESS.

WSDOT STD. PLANS WEB SITE ADDRESS:
http://www.wsdot.wa.gov/eesc/design/designstandards/HTM/TOC.pdf

DWG: F13.DWG — Department of Public Works, CLARK COUNTY WASHINGTON, proud past, promising future — SIDEWALK MAILBOX PLACEMENT — APPROVED — Peter Capell, COUNTY ENGINEER — 01/01/04 DATE — STANDARD PLAN No. F13 — DATE 07/31/02



BUS SHELTER PAD

NTS

CLARK COUNTY WASHINGTON — proud past, promising future

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

ROADWAY DETAILS

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105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
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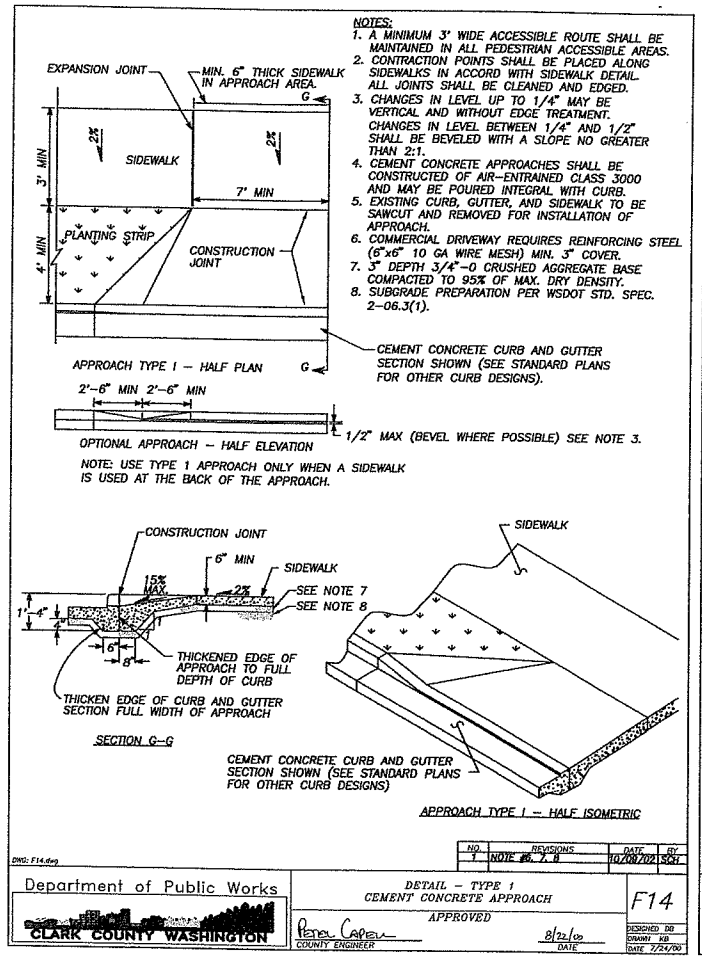
CRP:	392922
HORIZ.	NA
VERT.	NA
DATE:	2/20/04
DWG:	D01
SHEET	11 OF 84

V: JOHNMA 02/16/04 3:14pm --> R:\DWGS\C978S011.DWG

Ltscale: 5
Resolved
C978X001
PKW WASH

Ltscale: 96
Resolved
C978X001
PKW WASH

NOTES:
1. A MINIMUM 3' WIDE ACCESSIBLE ROUTE SHALL BE MAINTAINED IN ALL PEDESTRIAN ACCESSIBLE AREAS.
2. CONTRACTION POINTS SHALL BE PLACED ALONG SIDEWALKS IN ACCORD WITH SIDEWALK DETAIL. ALL JOINTS SHALL BE CLEANED AND EDGED.
3. CHANGES IN LEVEL UP TO 1/4" MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 2:1.
4. CEMENT CONCRETE APPROACHES SHALL BE CONSTRUCTED OF AIR-ENTRAINED CLASS 3000 AND MAY BE POURED INTEGRAL WITH CURB.
5. EXISTING CURB, GUTTER, AND SIDEWALK TO BE SAWCUT AND REMOVED FOR INSTALLATION OF APPROACH.
6. COMMERCIAL DRIVEWAY REQUIRES REINFORCING STEEL (6"x6" 10 GA WIRE MESH) MIN. 3" COVER.
7. 3" DEPTH 3/4"-0 CRUSHED AGGREGATE BASE COMPACTED TO 95% OF MAX. DRY DENSITY.
8. SUBGRADE PREPARATION PER WSDOT STD. SPEC. 2-06.3(1).

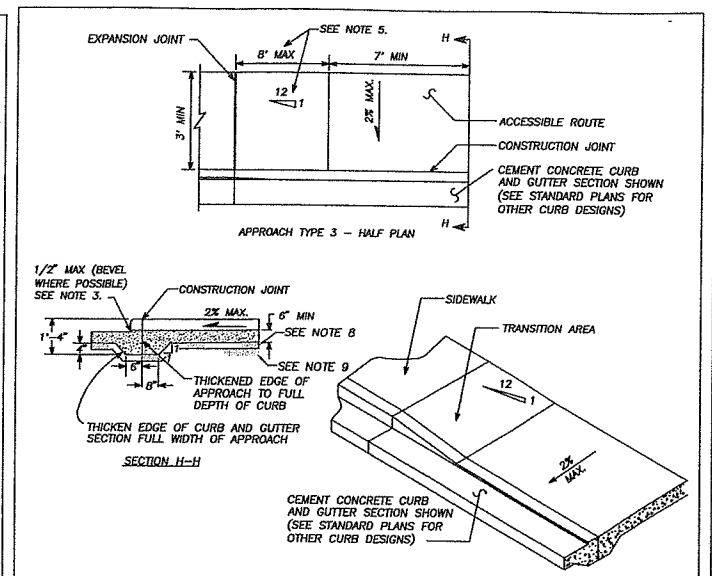


NO.	REVISIONS	DATE	BY
1	NOTE #6, 7, 8	10/09/02	SCH

DWG: F14.dwg

Department of Public Works
CLARK COUNTY WASHINGTON

DETAIL – TYPE 1
CEMENT CONCRETE APPROACH
APPROVED
PETER CAPELLI, COUNTY ENGINEER — DATE 8/22/00
F14
DESIGNED DB
DRAWN KB
DATE 7/24/00



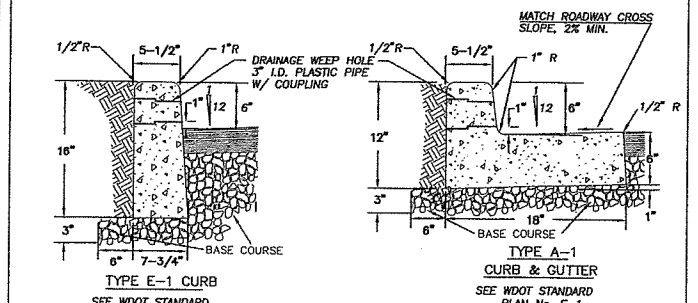
NOTES:
1. A MINIMUM 3' WIDE ACCESSIBLE ROUTE SHALL BE MAINTAINED IN ALL PEDESTRIAN ACCESSIBLE AREAS.
2. CONTRACTION JOINTS SHALL BE PLACED ALONG SIDEWALKS IN ACCORD WITH SIDEWALK DETAIL. ALL JOINTS SHALL BE CLEANED AND EDGED.
3. CHANGES IN LEVEL UP TO 1/4" MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 2:1.
4. TRANSITION AREA TO BE SLOPED AT 1v TO 12h, UNLESS STREET GRADE WOULD CREATE A TRANSITION LENGTH GREATER THAN 8', THEN THE MAXIMUM LENGTH OF 8' GOVERNS SLOPE.
5. CEMENT CONCRETE APPROACHES SHALL BE CONSTRUCTED OF AIR-ENTRAINED CONCRETE CLASS 3000 AND MAY BE POURED INTEGRAL WITH CURB.
6. EXISTING CURB, GUTTER AND SIDEWALK TO BE SAWCUT AND REMOVED FOR INSTALLATION OF APPROACH.
7. COMMERCIAL DRIVEWAY REQUIRES REINFORCING STEEL (6"x6"x10 GA MESH) MIN. 3" COVER.
8. 3" DEPTH 3/4"-0 CRUSHED AGGREGATE BASE COMPACTED TO 95% OF MAX. DRY DENSITY.
9. SUBGRADE PREPARED PER WSDOT STD. SPEC. 2-06.3(1)

NO.	REVISIONS	DATE	BY
1	NOTE # 7, 8, 9	7/24/02	SCH

DWG: F16.dwg

Department of Public Works
CLARK COUNTY WASHINGTON

CEMENT CONCRETE APPROACH
DETAIL – TYPE 3
APPROVED
PETER CAPELLI, COUNTY ENGINEER — DATE 8/22/00
F16
DESIGNED DB
DRAWN KB
DATE 7/24/00



NOTES
1. CONCRETE SHALL BE 3000 PSI MIN. (CLASS 3000) 3 1/2" SLUMP (MAX.)
2. CURBS ADJACENT TO PAVEMENT OR SIDEWALK TO HAVE EXPANSION AND/OR CONTRACTION JOINTS TO MATCH EXISTING PATTERNS.
3. 3/8" EXPANSION JOINTS TO BE PROVIDED AT EACH POINT OF TANGENCY OF THE CURB, COLD JOINTS, EACH SIDE OF INLET STRUCTURES AND DRIVEWAYS. MATERIAL TO BE PRE-MOLDED, ASPHALT IMPREGNATED AND NON EXTRUDING.
4. CONTRACTION JOINT SPACING NOT TO EXCEED 15 FEET. THE DEPTH OF THE JOINT SHALL BE AT LEAST 1-1/2 INCHES. WEEP HOLES TO BE CENTERED WITH CONTRACTION JOINTS.
5. BASE COURSE SHALL BE TO SUBGRADE OF STREET SECTION OR 3 INCHES, WHICHEVER IS GREATER, AND SHALL EXTEND 6" BEHIND THE CURB.
6. DRAINAGE WEEP HOLES TO BE 3" I.D. PLASTIC PIPE WITH COUPLING. FINISH PIPE END FLUSH WITH FACE OF CURB.
7. GROUT ANY VOIDS IN CONCRETE SURROUNDING PIPE.
8. DRAINAGE ACCESS THROUGH EXISTING CURBS SHALL BE CORE DRILLED.
9. CURB TO BE BRUSH FINISHED. ALL EXISTING EDGES SHALL BE SAWCUT.
10. ALL MATERIALS AND WORKMANSHIP FOR TYPE E-1 & A-1 SHALL BE IN ACCORDANCE WITH WDOT STANDARD PLAN No. F-1, APPROVED 7/18/97 OR MOST CURRENT REVISION.

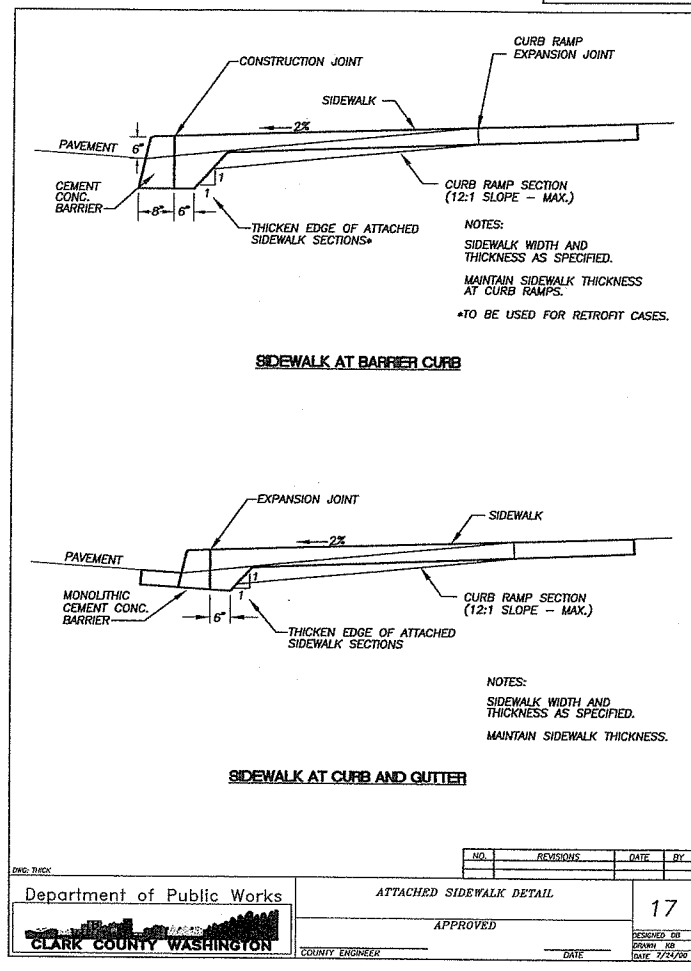
NO.	REVISIONS	DATE	BY

DWG: F18.DWG

Department of Public Works
CLARK COUNTY WASHINGTON
proud past, promising future

CONCRETE CURBS
APPROVED
PETER CAPELLI, COUNTY ENGINEER — DATE 01/01/04
STANDARD F18
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 07/24/02

Fed. Aid No.
STPF-4253[010]

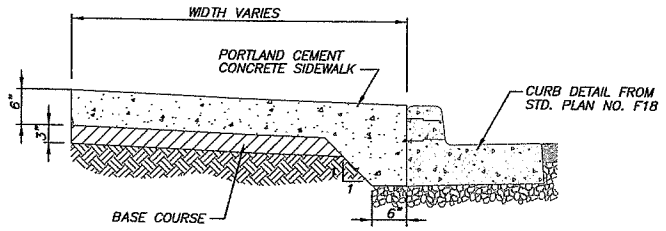


NO.	REVISIONS	DATE	BY

DWG: THDX

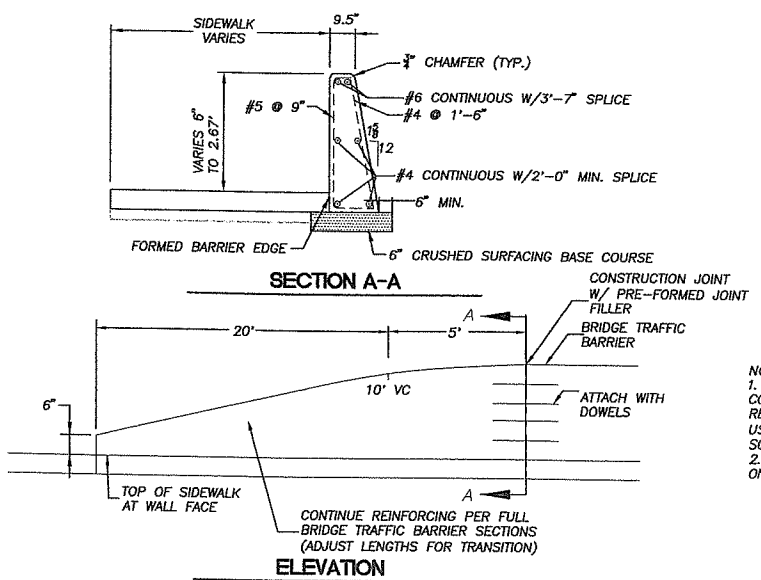
Department of Public Works
CLARK COUNTY WASHINGTON

ATTACHED SIDEWALK DETAIL
APPROVED
COUNTY ENGINEER — DATE
17
DESIGNED DB
DRAWN KB
DATE 7/24/00



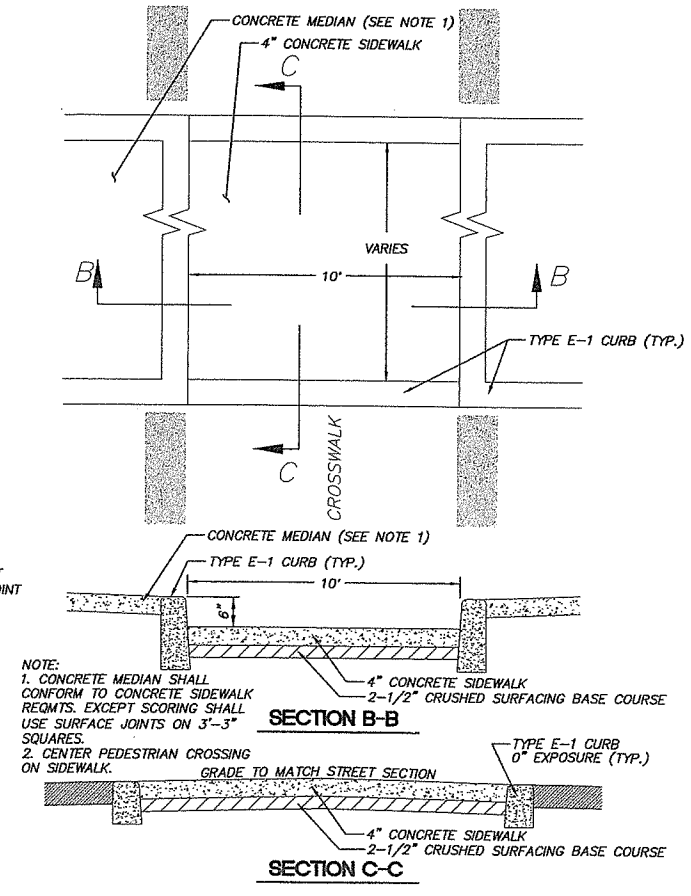
THICKENED SIDEWALK

NTS



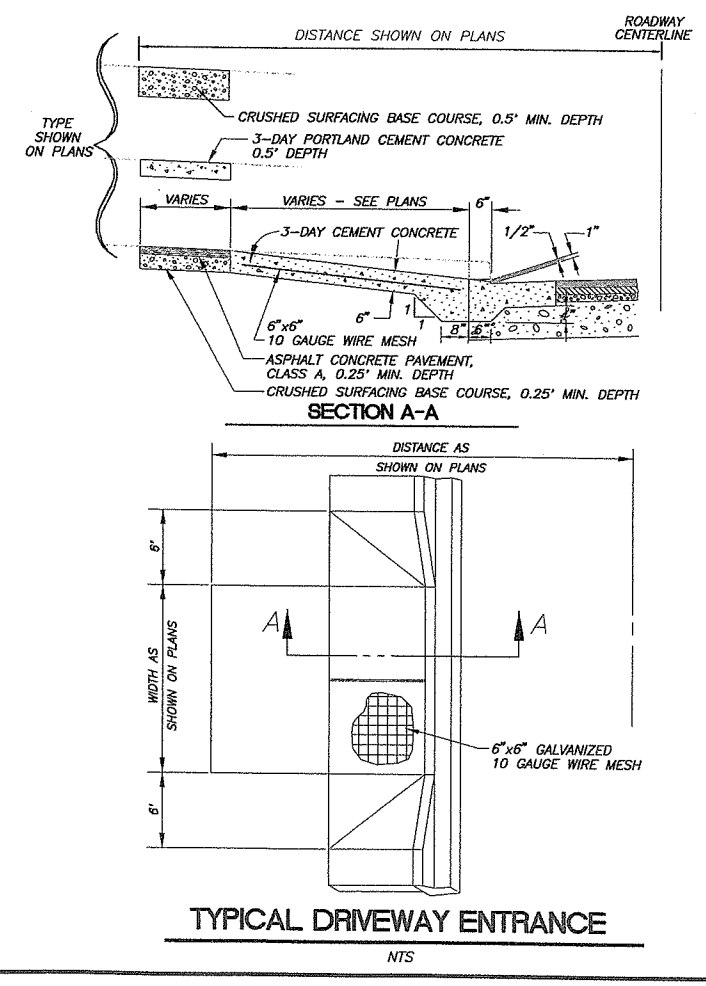
BRIDGE BARRIER TRANSITION

NTS



PEDESTRIAN REFUGE ISLAND

NTS



TYPICAL DRIVEWAY ENTRANCE

NTS

V: JOHNMA 02/16/04 3:50pm ---> R:\DWG\C978SD012.DWG

DESIGNED: PKW
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ROADWAY DETAILS

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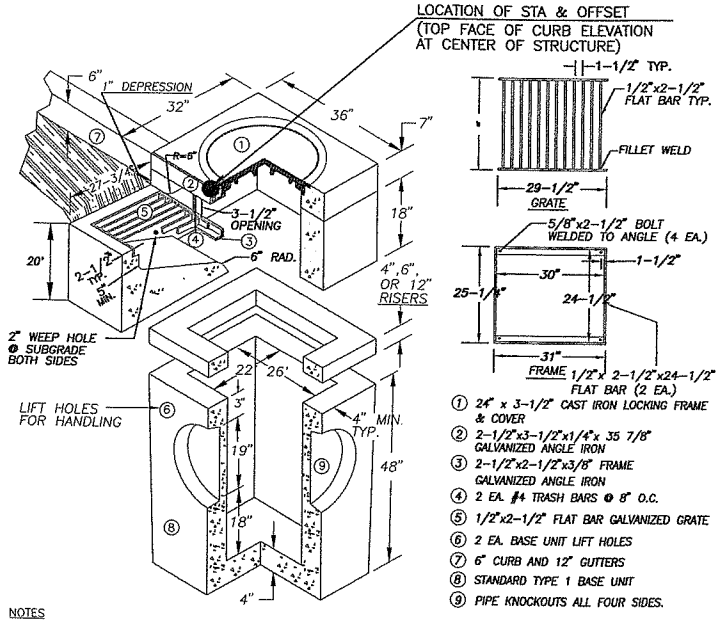


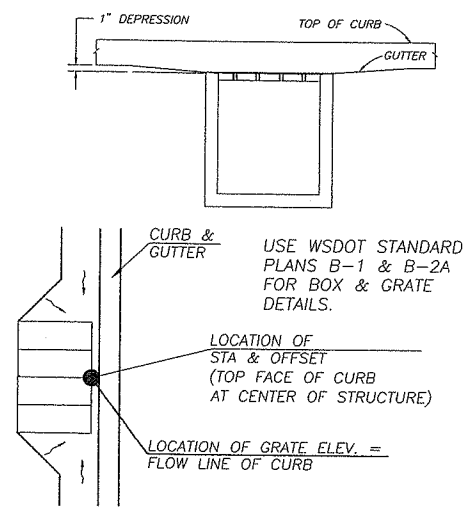
1. 24" x 3-1/2" CAST IRON LOCKING FRAME & COVER
2. 2-1/2"x3-1/2"x1/4"x 35 7/8" GALVANIZED ANGLE IRON
3. 2-1/2"x2-1/2"x3/8" FRAME GALVANIZED ANGLE IRON
4. 2 EA. #4 TRASH BARS @ 8" O.C.
5. 1/2"x2-1/2" FLAT BAR GALVANIZED GRATE
6. 2 EA. BASE UNIT LIFT HOLES
7. 6" CURB AND 12" GUTTERS
8. STANDARD TYPE 1 BASE UNIT
9. PIPE KNOCKOUTS ALL FOUR SIDES.

NOTES

1. COMBINATION CURB INLET TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 & C890 UNLESS SHOWN ON PLANS OR NOTED IN STANDARD SPECIFICATIONS.
2. REINFORCING FOR INLET UNIT, 3 EA. #4 HORZONTAL BARS; REINFORCING FOR TOP UNIT, 2 EA. #3 HORZONTAL BARS; REINFORCING FOR INLET SLOPED BASE, 4x4 MESH.
3. ALL REBAR TO MEET ASTM A615 GRADE 60.
4. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQAURE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497. WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
5. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4,000.
6 PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
7. KNOCKOUTS OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAM. PLUS INLET WALL THICKNESS.
8. ROUND KNOCKOUTS MAY BE ON ALL 4 SIDES WITH MAX. DIAM. OF 17".
9. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
10. ANY PROTUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED TO THE SATISFACTION OF ENGINEER.
11. GRATE TO HAVE 1" DEPRESSION AT GUTTER INLET WITH GUTTER TO BE TAPERED DOWN TO INLET.
12. INSTALL REMOVABLE APWA TYPE 60A TRAP OR EQUAL. SEE STD. PLAN D2.1.
13. CONTRACTOR SHALL HAVE THE OPTION OF FURNISHING PRECAST OR CAST-IN-PLACE INLET STRUCTURES, UNLESS SPECIFIED.

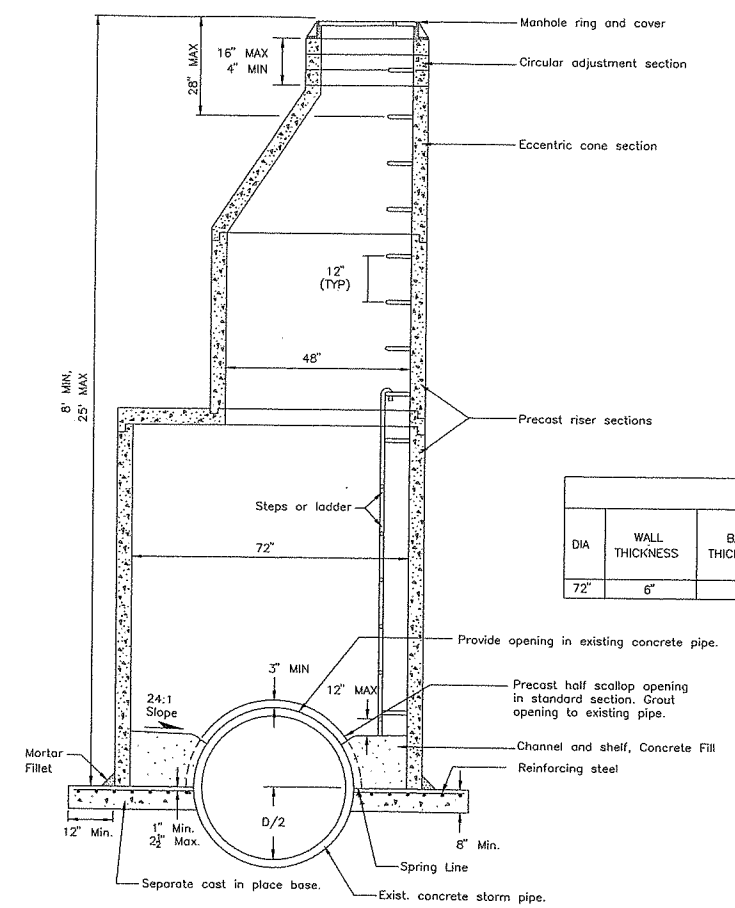
TYPE 1 COMBINATION CURB INLET

NTS



CATCH BASIN

NTS



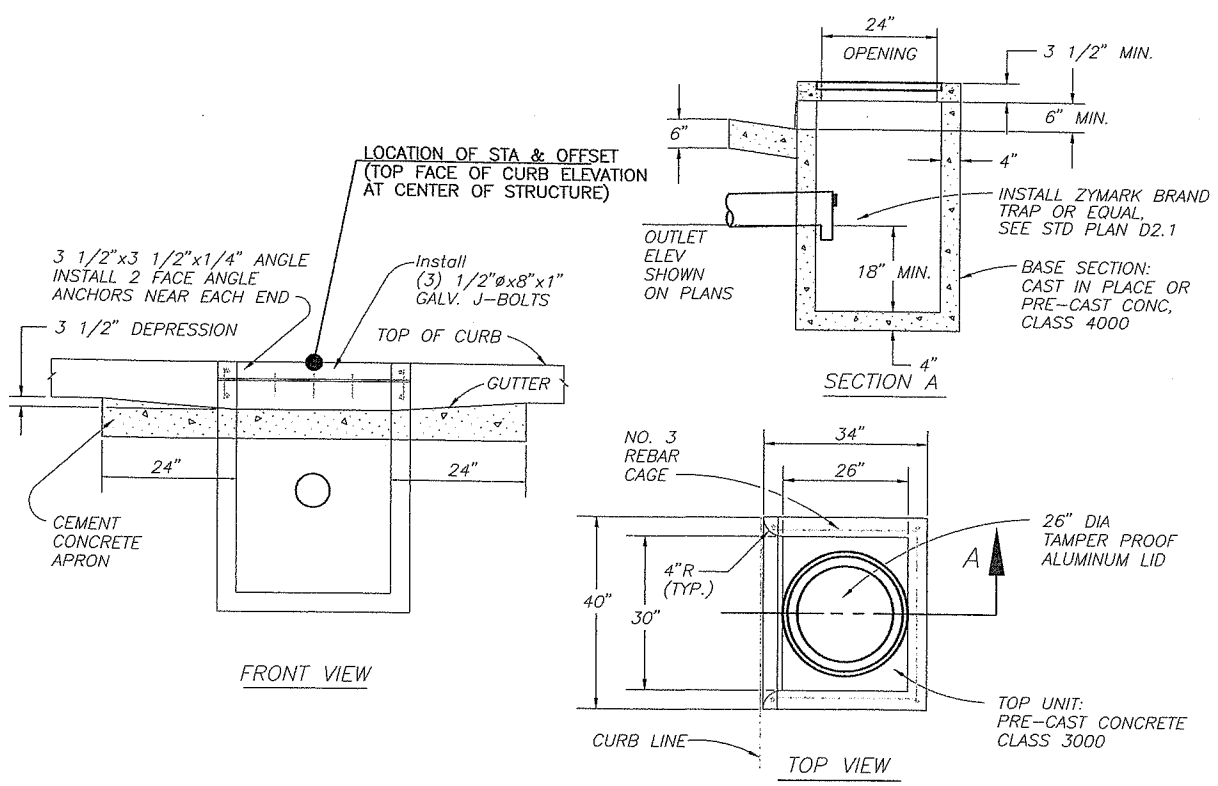
MANHOLE DIMENSION TABLE						
DIA	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL SQ IN/FT EACH DIRECTION	
					INTEGRAL BASE	SEPARATE BASE
72"	6"	8"	60"	12"	0.24	0.35

NOTES:

1. Knockouts shall have a wall thickness of 2" minimum.

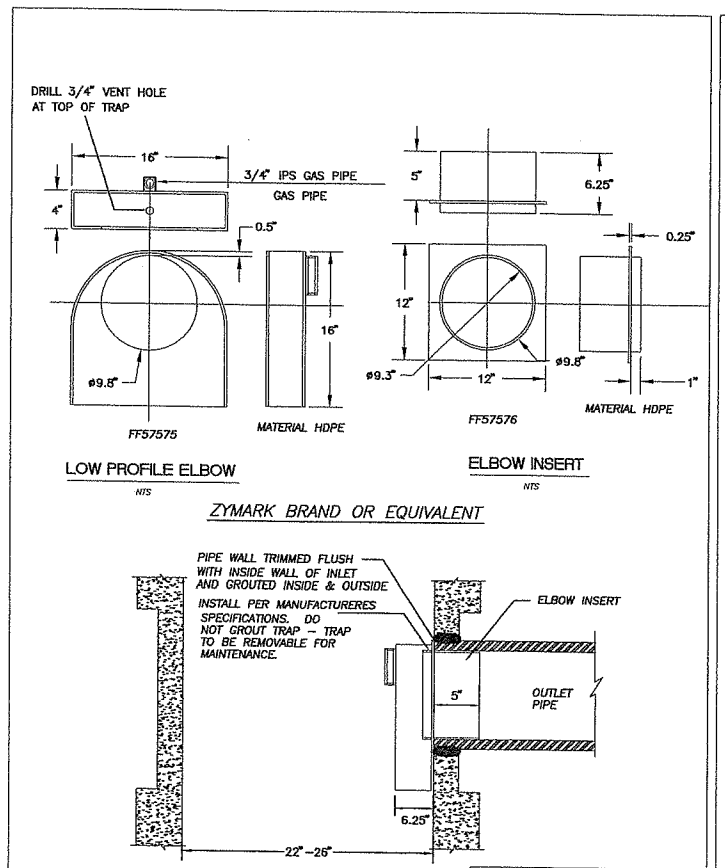
MANHOLE, 72" DIAM. OVER EXISTING 48" DIAM STORM SEWER PIPE

NTS



CURB INLET DETAIL

NTS



NO.	REVISIONS	DATE	BY

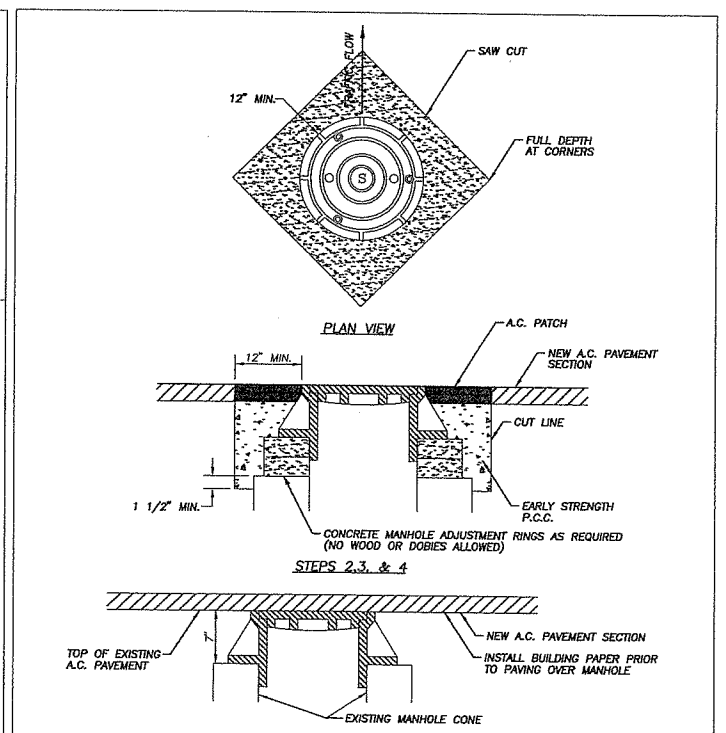
DWG: D2-1.DWG

Department of Public Works
CLARK COUNTY WASHINGTON
proud past, promising future

CATCH BASIN
OUTLET PIPE TRAP

APPROVED
PETER CAPELLI
COUNTY ENGINEER
01/01/04
DATE

STANDARD
D2.1
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 09/23/02



STEP 1 COVER EXSITING MANHOLE WITH BUILDING PAPER AND CONSTRUCT A.C. PAVEMENT OVER TOP OF MANHOLE.
STEP 2 SAW CUT AND REMOVE PAVEMENT AROUND MANHOLE 12" MIN. FROM MANHOLE FRAME.
STEP 3 RAISE MANHOLE FRAME AND COVER USING CONCRETE RINGS AND MECHANICAL ADJUSTMENT DEVICES TO FINISH GRADE MATCHING PROFILE AND CROSS SLOPE.
STEP 4 BACKFILL WITH EARLY STRENGTH P.C.C. AND A.C. TO DEPTHS AS DIRECTED.

NO.	REVISIONS	DATE	BY

DWG: 27.dwg

Department of Public Works
CLARK COUNTY WASHINGTON

MANHOLE ADJUSTMENT DETAIL

APPROVED
PETER CAPELLI
COUNTY ENGINEER
2/12/00
DATE

27
DESIGNED
DRAWN
DATE 7/20/00

Fed. Aid No.
STPF-4253[010]

DESIGNED: PKW
DRAWN: JPV
CRP: 392922
HORIZ: NA
VERT: NA
DATE: 2/20/04
DWG: D03
SHEET 13 OF 84

CALL 48 HOURS BEFORE YOU DIG
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"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON
PATRICK W. LEDEMANN
22824
REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

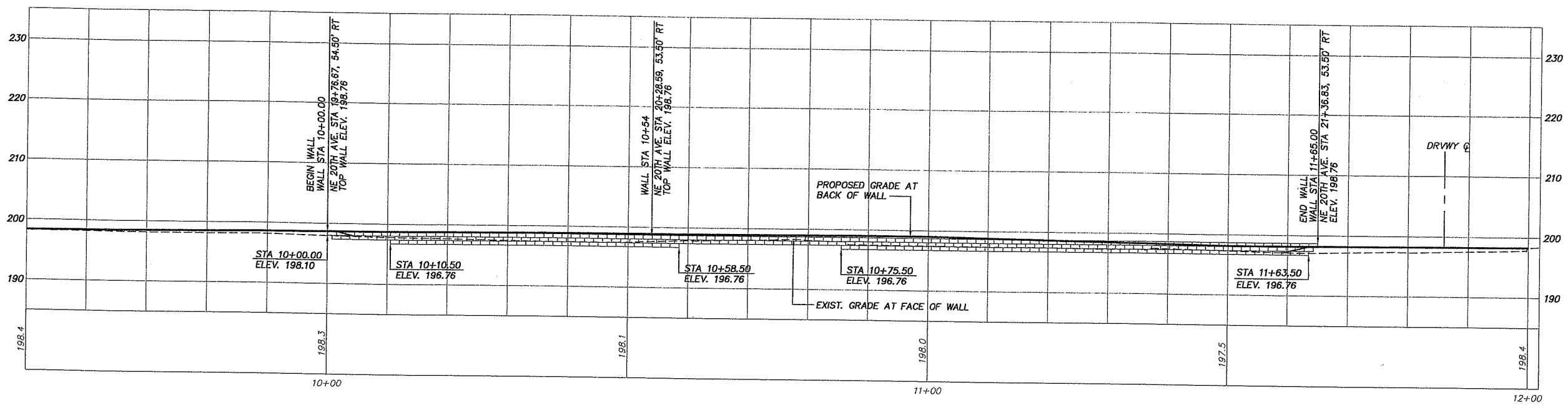
ROADWAY DRAINAGE DETAILS

proud past, promising future
CLARK COUNTY WASHINGTON

V:\DRAWA 02/16/04 3:47pm, --> R:\DWG\C976S013.DWG

XREF LIST
Ltscale: 10
Resolved
C978X001
C978X551
PKW WASH

Fed. Aid No.
STPF-4253[010]



MODULAR BLOCK WALL A (NE 20TH AVE.) WITH CHAIN LINK FENCE

SCALE: 1"=10' HORIZONTAL AND VERTICAL

NOTES:

1. SEE SHEET RW2 FOR FENCE AND WALL DETAILS
2. OFFSETS SHOWN IN PROFILE ARE FROM PROPOSED CENTERLINE TO BACK OF SIDEWALK.

DESIGNED: PKW
DRAWN: PW
CRP: 392922
HORIZ. 1" = 10'
VERT. 1" = 10'
DATE: 2/20/04
DWG: RW1
SHEET 14 OF 84

CALL 48 HOURS BEFORE YOU DIG
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PAMELA KIEL WIEDEMANN
STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: AUG. 31, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

RETAINING WALL PROFILES

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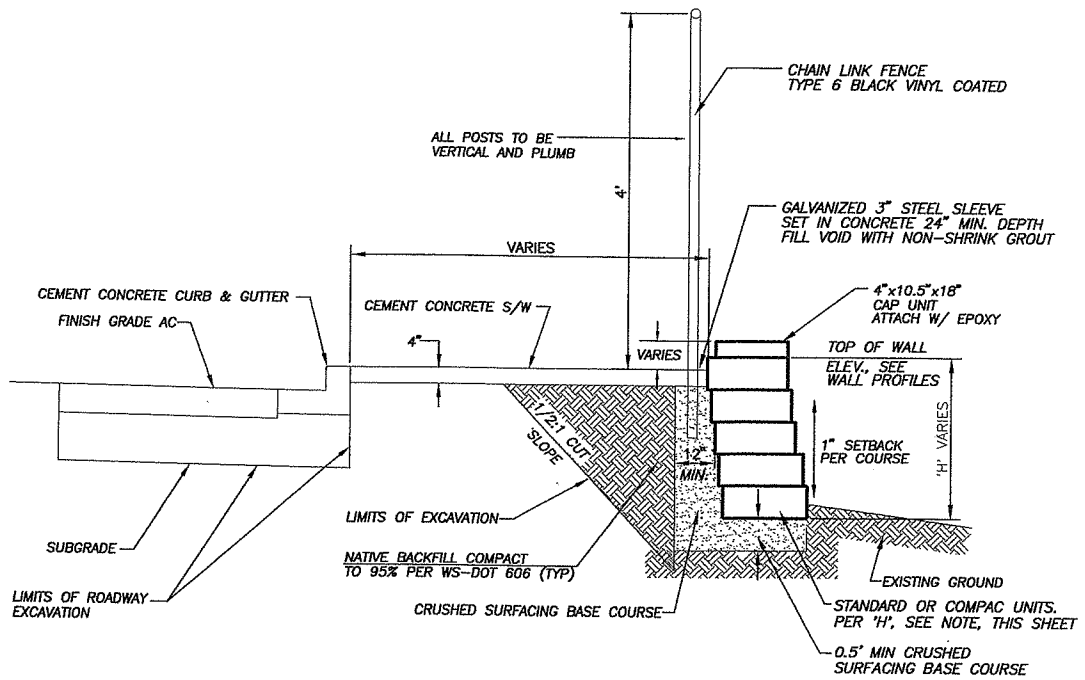
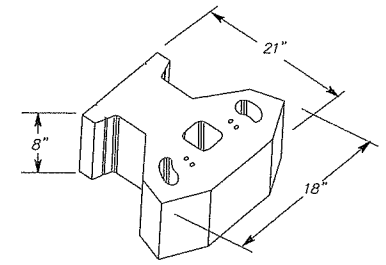
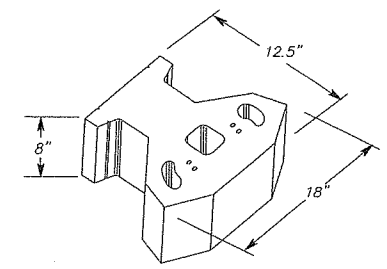
Ltscale: 10
Resolved
C978X001
C978x230
PKW WASH



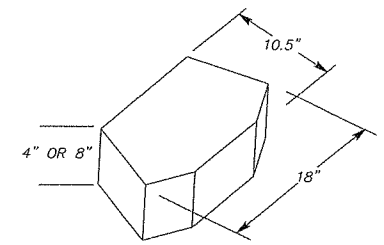
TYPICAL MODULAR BLOCK WALL (FILL)



STANDARD UNIT



COMPAC UNIT



CAP UNIT

NOTES:
1. USE COMPAC UNITS WHERE "H"=3.0' MAX.
2. USE STANDARD UNITS WHERE "H" EXCEEDS 3.0'.

MASONRY BLOCKS
(KEYSTONE OR EQUIVALENT)

DESIGNED: PKW
DRAWN: JPV
CRP: 392922
HORIZ. NA
VERT. NA
DATE: 2/20/04
DWG: RW2
SHEET 15 OF 84

CALL 48 HOURS BEFORE YOU DIG
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PAMELA KIEL WIEDEMANN
STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: AUG. 31, 2005

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Phone: (360) 737-9613
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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

RETAINING WALL DETAILS

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WASHINGTON

V: JOHNMA 02/16/04 3:55pm --> R:\DWG\C978S015.DWG

XREF LIST
Ltscale: 10
Resolved
9978dtm
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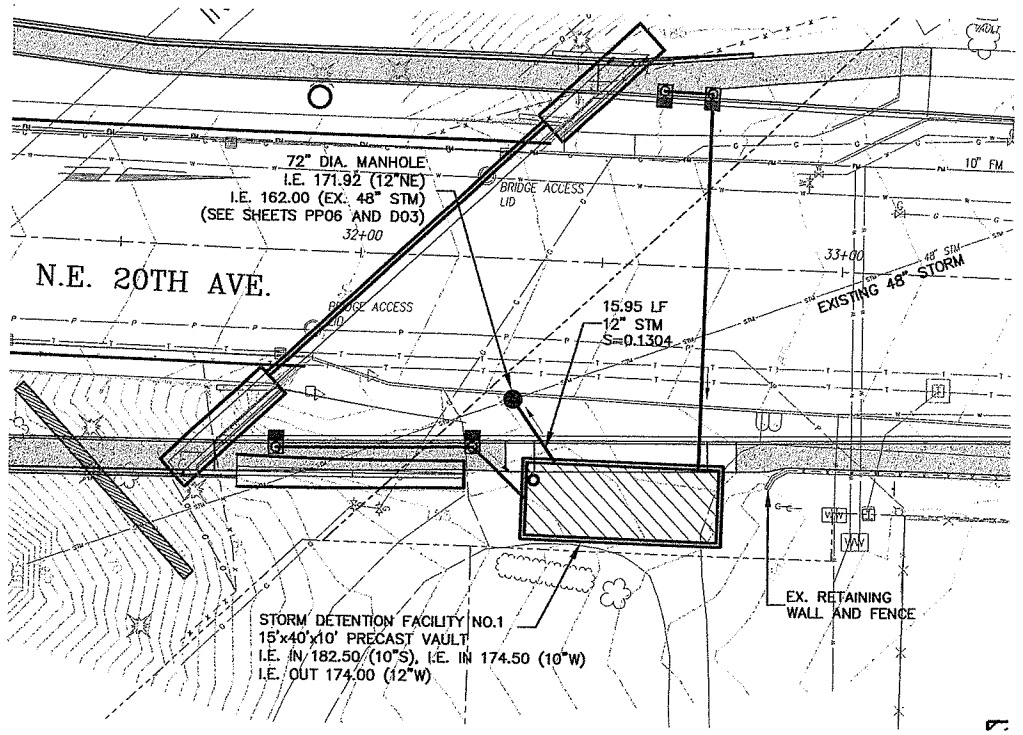
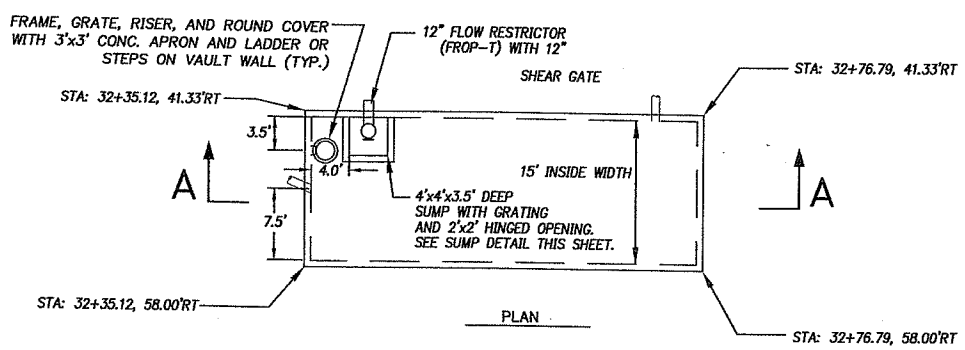
C978x116
C978X230
C978X231
C978x300
C978X304
kpffxref
0978B191
PKW WASH
Unresolved
C978x301
NE99XFRAME
NE99XRW
NE99XSURV

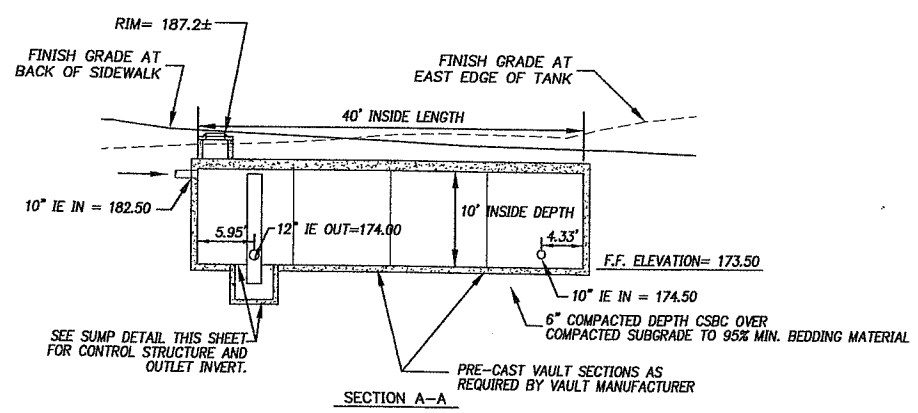


STORM WATER FACILITY NO. 1

SCALE: 1"=20'



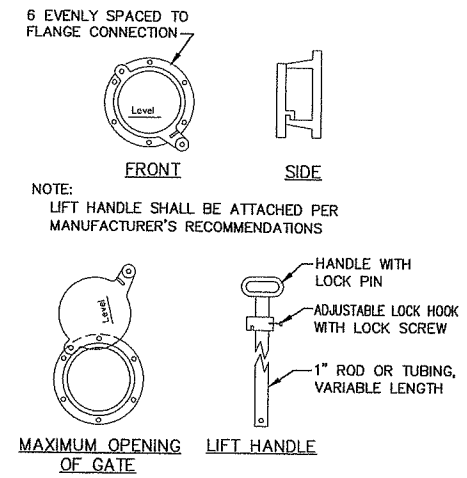
PLAN



SECTION A-A

PRECAST DETENTION VAULT STORM WATER FACILITY NO. 1

SCALE: 1"=10'

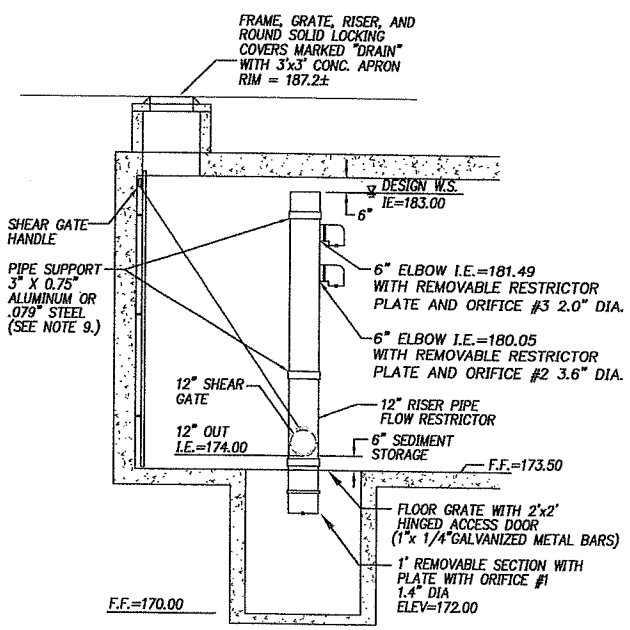


NOTE:
LIFT HANDLE SHALL BE ATTACHED PER MANUFACTURER'S RECOMMENDATIONS

CLEANOUT/SHEAR GATE

NOT TO SCALE

ALTERNATIVES ARE ACCEPTABLE PROVIDED MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.



SUMP DETAIL DETENTION VAULT 1

SCALE: N.T.S.

DETENTION VAULT GENERAL NOTES:

1. BASE AND SUMP MAY BE PRECAST OR CAST IN PLACE.
2. ADDITIONAL BALLAST FOR BUOYANCY FORCE EFFECTS ARE NOT SHOWN. THE FINAL VAULT DESIGN SHALL BE MODIFIED BY THE VAULT MANUFACTURER AS NEEDED FOR BUOYANCY FORCE. MANUFACTURER SHOP DRAWINGS SHALL INCLUDE BOUYANCY CALCULATIONS AND ANY ADDITIONAL BALLAST DIMENSIONS. GROUND WATER TABLE SHALL BE ASSUMED AT EXISTING GROUND ELEVATION UNLESS OTHERWISE SPECIFIED.
3. PIPE SUPPORTS AND RESTRICTOR/SEPARATOR SHALL BE ANCHORED AT A MAXIMUM SPACING OF 36". ATTACH PIPE SUPPORTS TO VAULT WITH 5/8" STAINLESS STEEL EXPANSION BOLTS OR EMBED SUPPORTS INTO VAULT WALL 2".
4. SEE SECTION 7-06 OF THE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS
5. BACKFILL MATERIAL SHALL BE SELECT GRANULAR.

Fed. Aid No.
STPF-4253[010]

DESIGNED:	DAP
DRAWN:	DAP
CRP:	392922
HORIZ.	1" = 10'
VERT.	NA
DATE:	2/20/04
DWG:	W01
SHEET	16 OF 84

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PAMELA M. WIEDEMANN
STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

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105 West Evergreen Blvd, Suite 300
Vancouver, WA 98660-3220
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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

STORMWATER FACILITY NO. 1

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V: SADIE 02/17/04 2:07pm --> R:\DWG\C978S016.DWG

XREF LIST
Ltscale: 10
Resolved
9978dtm
C978X001
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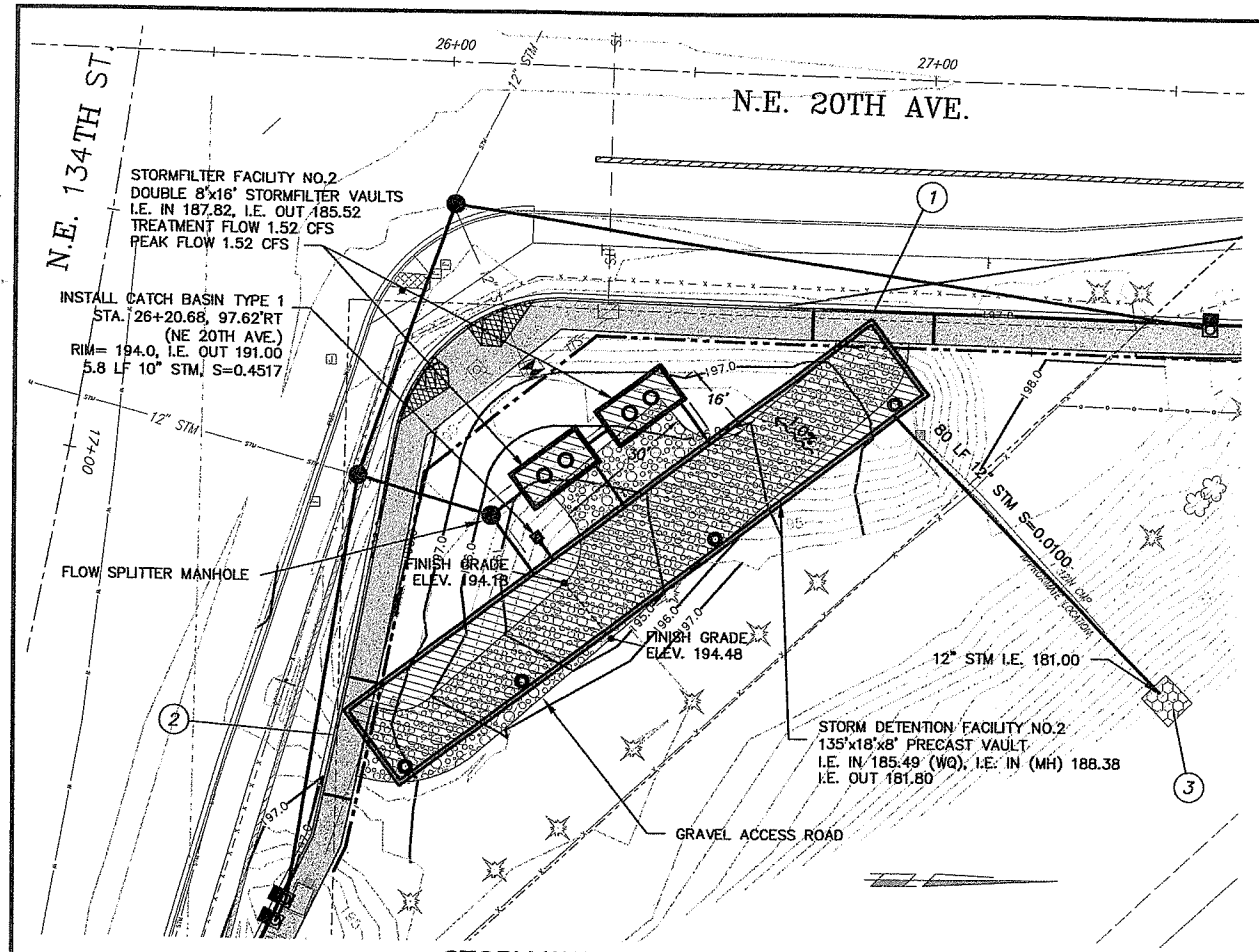
Unresolved
C978x301



STORM WATER FACILITY NO. 2

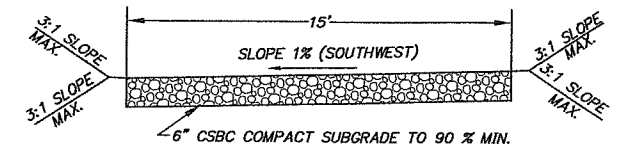
SCALE: 1"=20'

DETENTION VAULT GENERAL NOTES:

1. BASE AND SUMP MAY BE PRECAST OR CAST IN PLACE.
2. ADDITIONAL BALLAST FOR BUOYANCY FORCE EFFECTS ARE NOT SHOWN. THE FINAL VAULT DESIGN SHALL BE MODIFIED BY THE VAULT MANUFACTURER AS NEEDED FOR BUOYANCY FORCE. MANUFACTURER SHOP DRAWINGS SHALL INCLUDE BOUYANCY CALCULATIONS AND ANY ADDITIONAL BALLAST DIMENSIONS. GROUND WATER TABLE SHALL BE ASSUMED AT EXISTING GROUND ELEVATION UNLESS SPECIFIED OTHERWISE.
3. PIPE SUPPORTS AND RESTRICTOR/SEPARATOR SHALL BE ANCHORED AT A MAXIMUM SPACING OF 36". ATTACH PIPE SUPPORTS TO VAULT WITH 5/8" STAINLESS STEEL EXPANSION BOLTS OR EMBED SUPPORTS INTO VAULT WALL 2".
4. SEE SECTION 7-06 OF THE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS
5. BACKFILL MATERIAL SHALL BE SELECT GRANULAR.

CONSTRUCTION NOTES

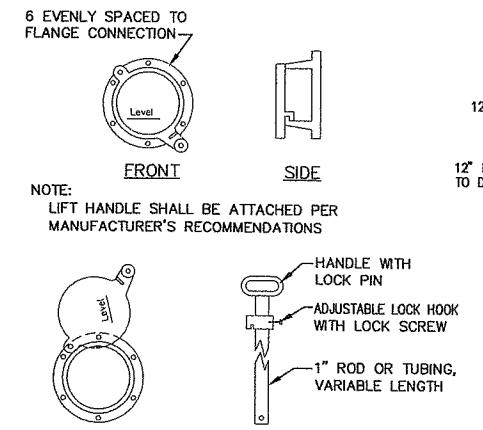
1. N.E. 20TH AVE. STA. 26+88.99, 48.00' RT CENTER OF 25' LONG THICKENED SIDEWALK SECTION. SEE DETAIL ON SHEET D02. (SEE SHEETS PP04 AND PP05 FOR STATIONS AND OFFSETS OF LIMITS OF CONSTRUCTION). BEGIN 15' WIDE MAINTENANCE ROAD, CONSTRUCT WITH CRUSHED ROCK TO LIMITS SHOWN AND PER DETAIL THIS SHEET.
2. N.E. 134TH ST. STA. 17+45.98, 66.00' LT. CENTER OF 25' LONG THICKENED SIDEWALK SECTION. SEE DETAIL ON SHEET D02. (SEE SHEET PP08 FOR STATIONS AND OFFSETS OF LIMITS OF CONSTRUCTION). END MAINTENANCE ROAD.
3. CONSTRUCT RIPRAP OUTFALL PROTECTION PER SHEET EC03.



MAINTENANCE ROAD

NOT TO SCALE

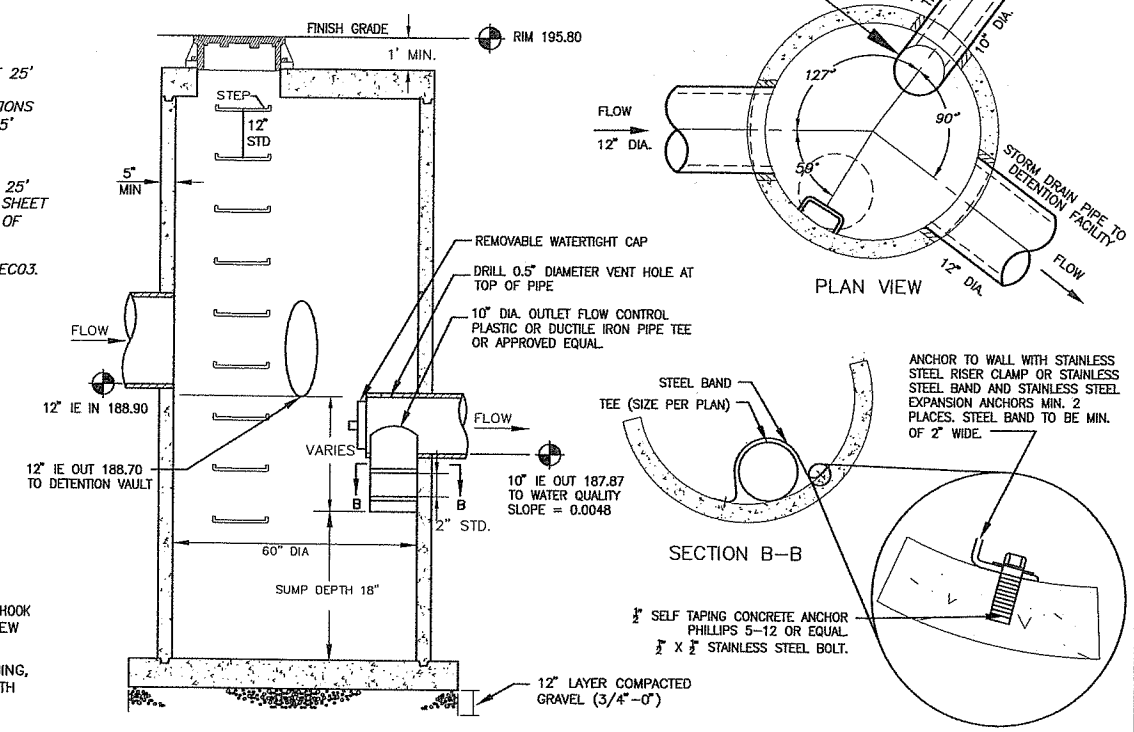
Fed. Aid No.
STPF-4253[010]



CLEANOUT/SHEAR GATE

NOT TO SCALE

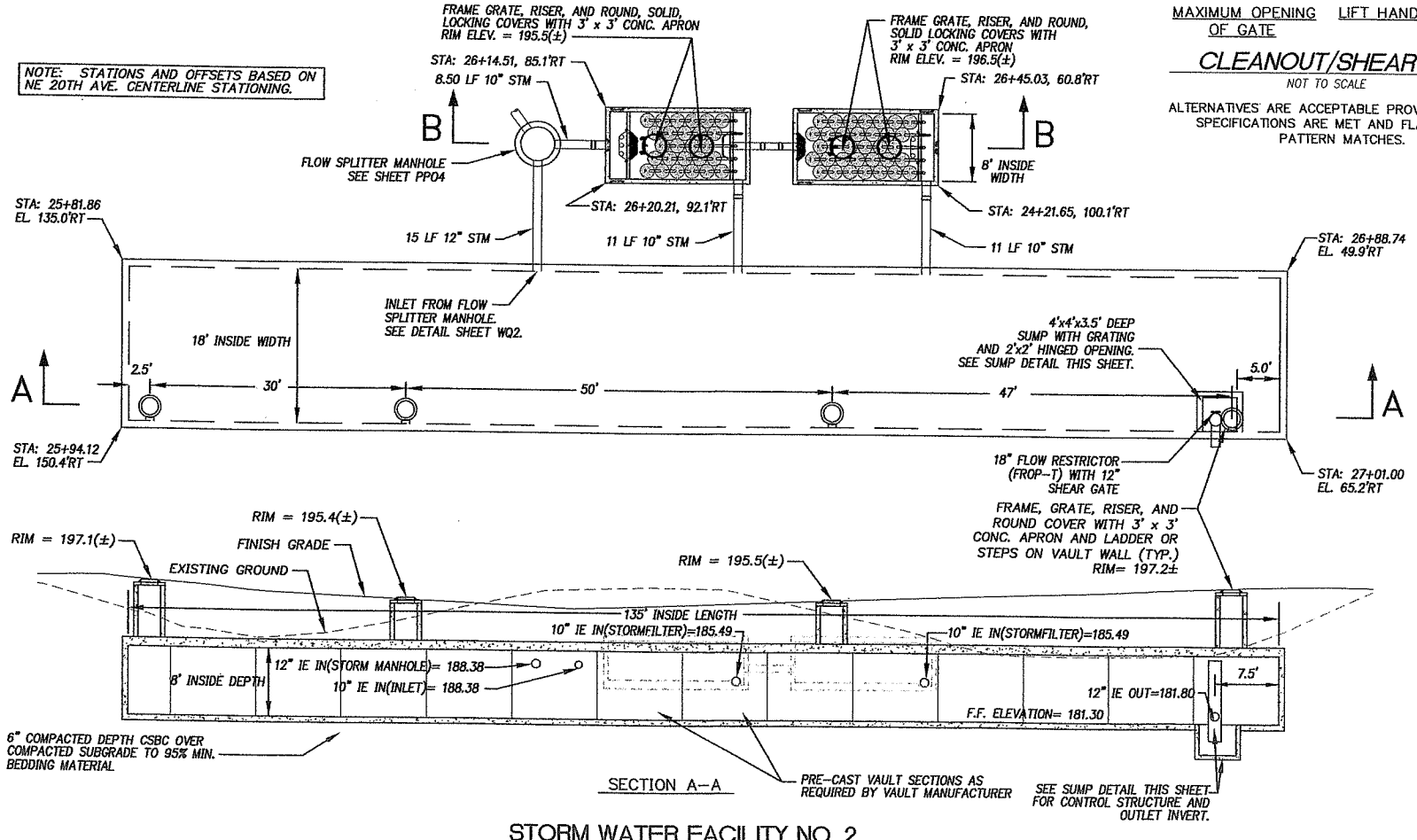
ALTERNATIVES ARE ACCEPTABLE PROVIDED MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.



FLOW SPLITTER TYPE 2 MANHOLE

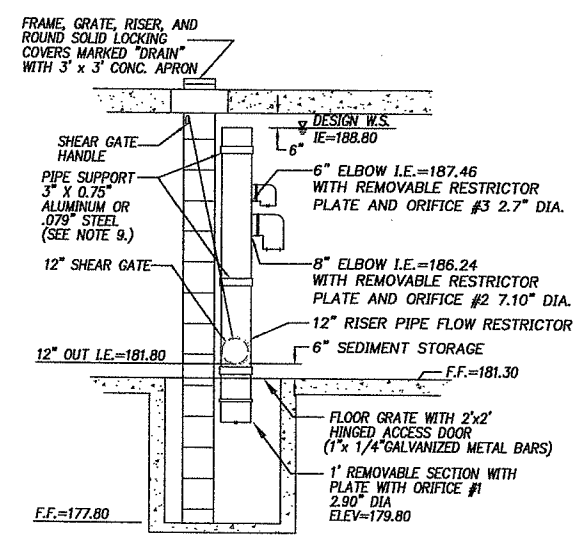
NOT TO SCALE

NOTE: STATIONS AND OFFSETS BASED ON NE 20TH AVE. CENTERLINE STATIONING.



STORM WATER FACILITY NO. 2

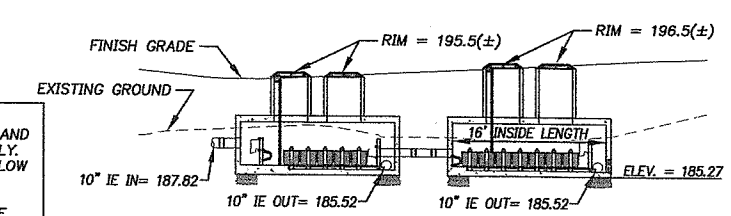
SCALE: 1"=10'



SUMP DETAIL DETENTION VAULT 2

SCALE: N.T.S.

NOTE: STORMFILTER CONFIGURATION SHOWN HERE FOR INNER DIMENSIONS AND PIPE CONNECTION CONFIGURATION ONLY. REFER TO MANUFACTURER FOR FOR FLOW CARTRIDGE LAYOUT, PLACEMENT, AND OUTER STRUCTURAL DIMENSIONS. A MINIMUM OF 47 CARTRIDGES SHALL BE INSTALLED FOR STORM FACILITY NO. 2



PRECAST STORMFILTER™ STORM WATER FACILITY NO. 2

SCALE: 1"=10'

DESIGNED:	DAP
DRAWN:	DAP
CRP:	392922
HORIZ.	1" = 10'
VERT.	NA
DATE:	2/20/04
DWG:	WQ2
SHEET	17 OF 84

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KEL WEDEMANN STATE OF WASHINGTON 22440 REGISTERED PROFESSIONAL ENGINEER
EXPIRES JAN. 30, 2005

oak Incorporated
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Vancouver, WA 98660-3220
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FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

STORMWATER FACILITY NO. 2

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V: JOHNMA 02/16/04 4:02pm --> R:\DWG\C978S017.DWG

XREF LIST
Ltscale: 10
Resolved
9978dtm
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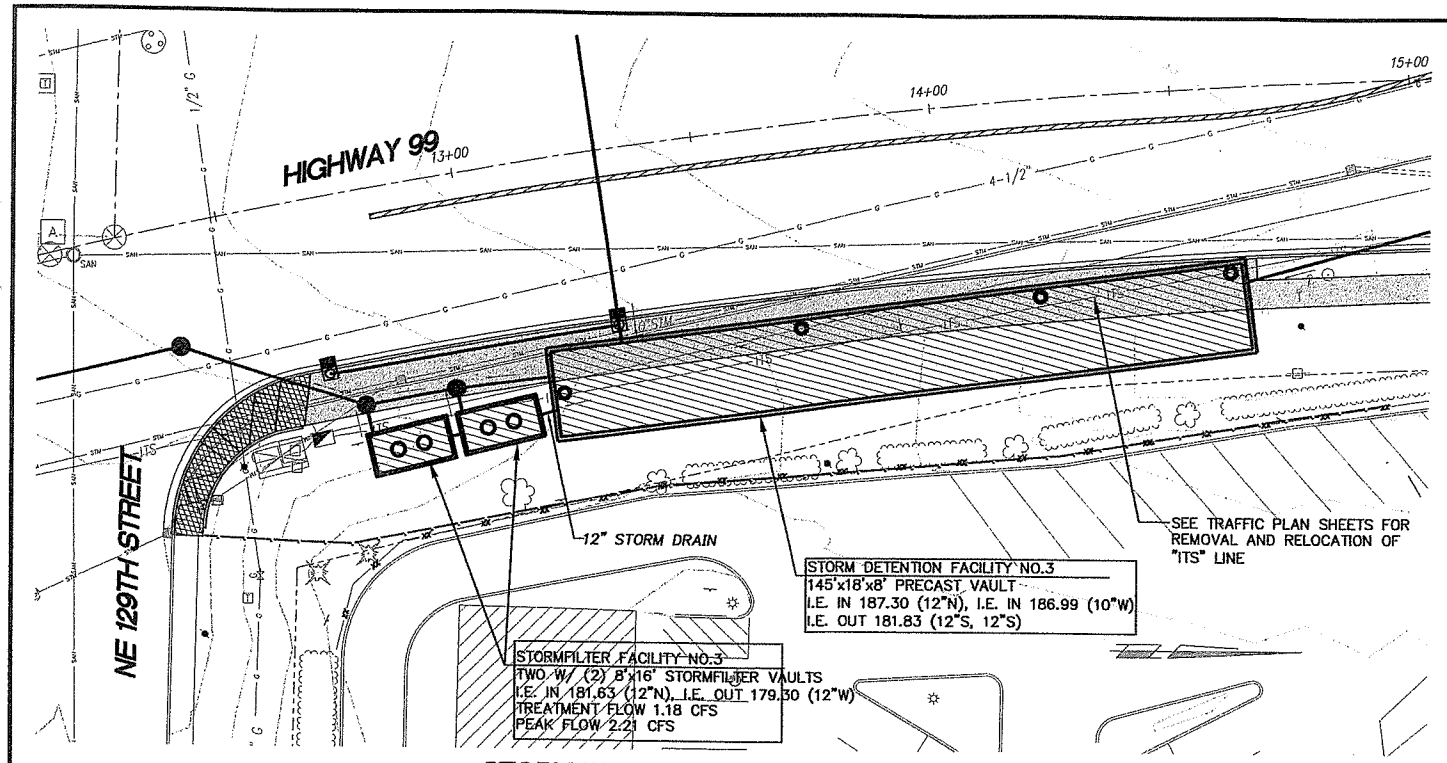
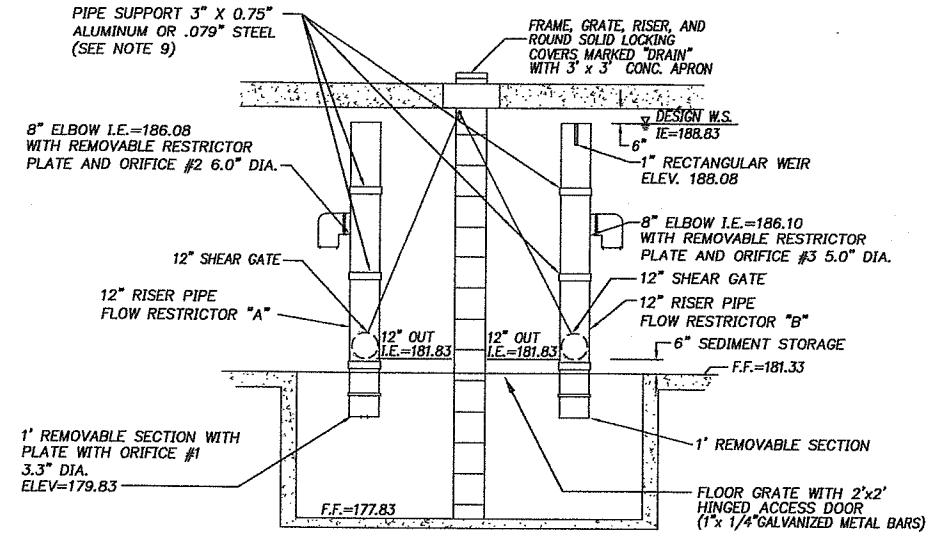
Unresolved
C978x301



STORM WATER FACILITY NO. 3

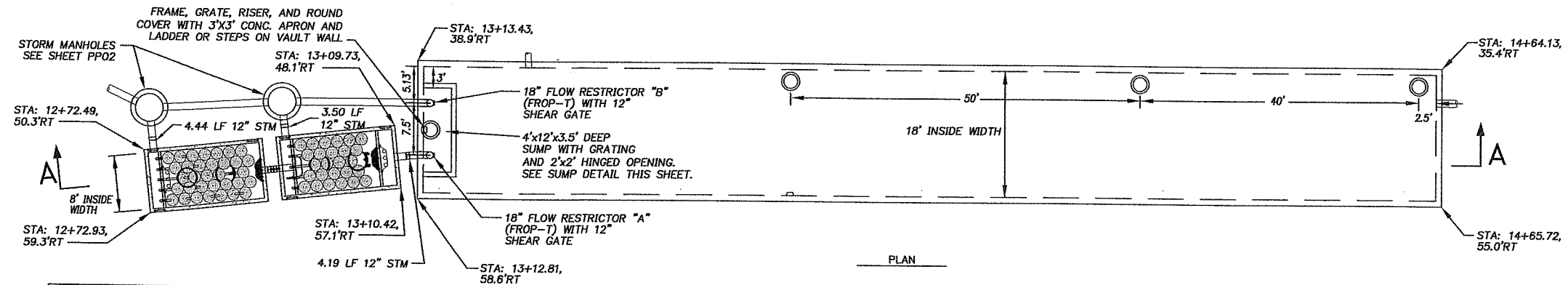
SCALE: 1"=20'

Fed. Aid No.
STPF-4253[010]



SUMP DETAIL DETENTION VAULT 3

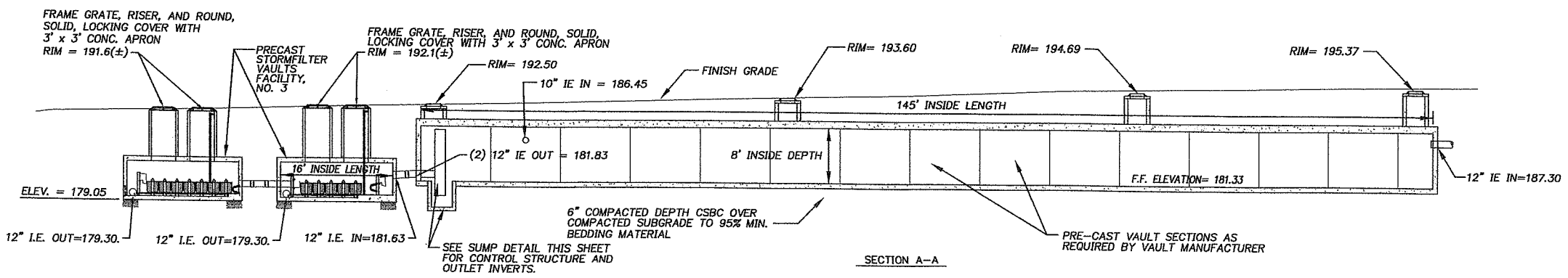
SCALE: N.T.S.



NOTE: STORMFILTER CONFIGURATION SHOWN HERE FOR INNER DIMENSIONS AND PIPE CONNECTION CONFIGURATION ONLY. REFER TO MANUFACTURER FOR FOR FLOW CARTRIDGE LAYOUT, PLACEMENT, AND OUTER STRUCTURAL DIMENSIONS. A MINIMUM OF 47 CARTRIDGES SHALL BE INSTALLED FOR STORM FACILITY NO. 3

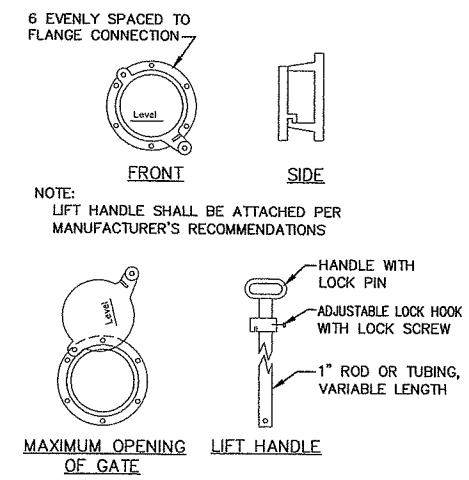
DETENTION VAULT GENERAL NOTES:

1. BASE AND SUMP MAY BE PRECAST OR CAST IN PLACE.
2. ADDITIONAL BALLAST FOR BUOYANCY FORCE EFFECTS ARE NOT SHOWN. THE FINAL VAULT DESIGN SHALL BE MODIFIED BY THE VAULT MANUFACTURER AS NEEDED FOR BUOYANCY FORCE. MANUFACTURER SHOP DRAWINGS SHALL INCLUDE BOUYANCY CALCULATIONS AND ANY ADDITIONAL BALLAST DIMENSIONS. GROUND WATER TABLE SHALL BE ASSUMED AT EXISTING GROUND ELEVATION UNLESS SPECIFIED OTHERWISE.
3. PIPE SUPPORTS AND RESTRICTOR/SEPARATOR SHALL BE ANCHORED AT A MAXIMUM SPACING OF 36". ATTACH PIPE SUPPORTS TO VAULT WITH 5/8" STAINLESS STEEL EXPANSION BOLTS OR EMBED SUPPORTS INTO VAULT WALL 2".
4. SEE SECTION 7-06 OF THE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS
5. BACKFILL MATERIAL SHALL BE SELECT GRANULAR.



STORM WATER FACILITY NO. 3

SCALE: 1"=10'



CLEANOUT/SHEAR GATE

NOT TO SCALE

ALTERNATIVES ARE ACCEPTABLE PROVIDED MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.

DESIGNED:	DAP
DRAWN:	DAP
CRP:	392922
HORIZ.	1" = 10'
VERT.	NA
DATE:	2/20/04
DWG:	W03
SHEET	18 OF 84

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KEITH W. LEHMANN STATE OF WASHINGTON 22649 REGISTERED PROFESSIONAL ENGINEER EXPIRES AUG. 31, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9813
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

STORMWATER FACILITY NO. 3

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V: JOHNMA 02/16/04 4:04pm --> R:\DWG\C978S018.DWG

XREF LIST
Ltscale: 20
Resolved
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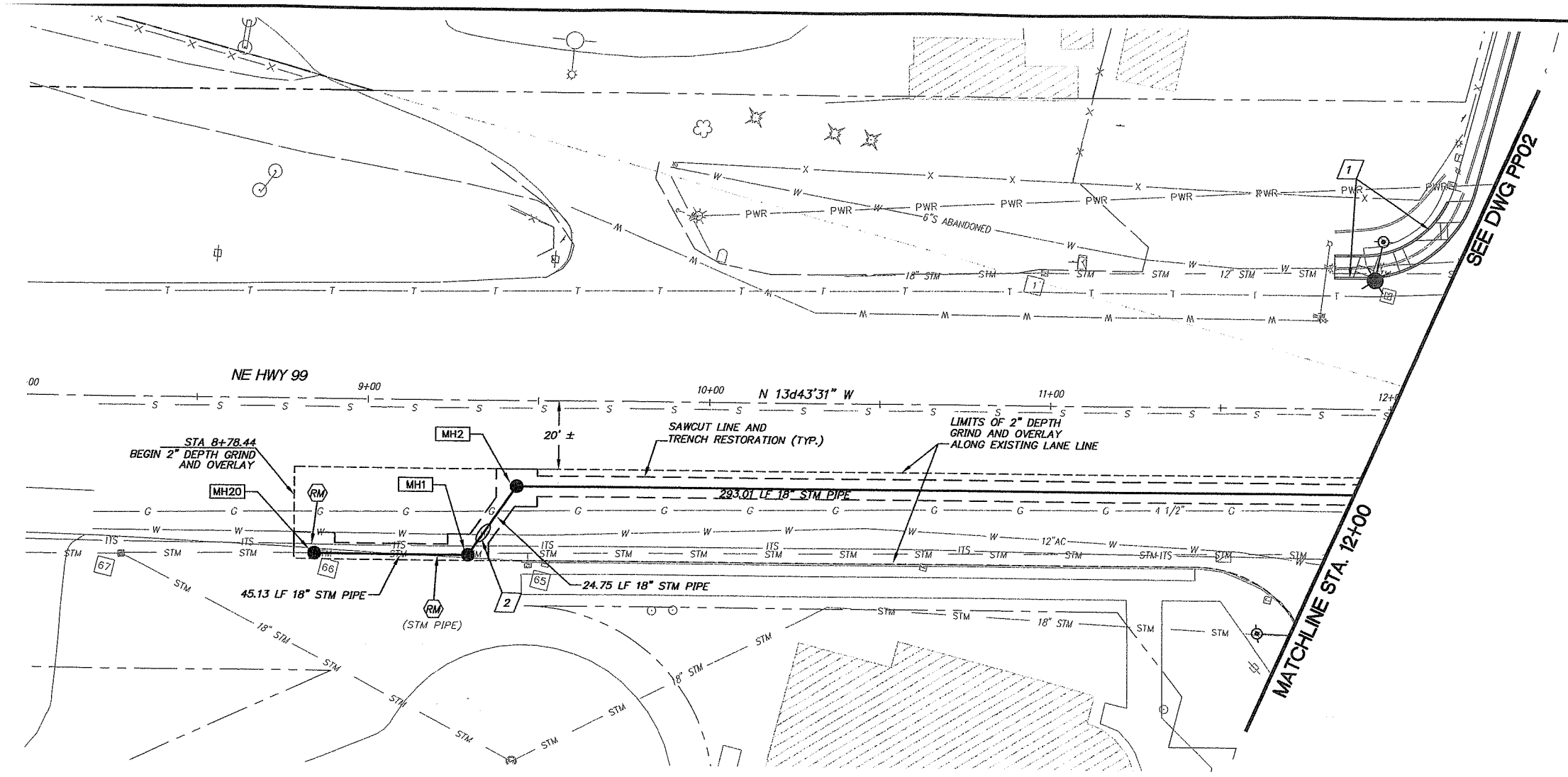
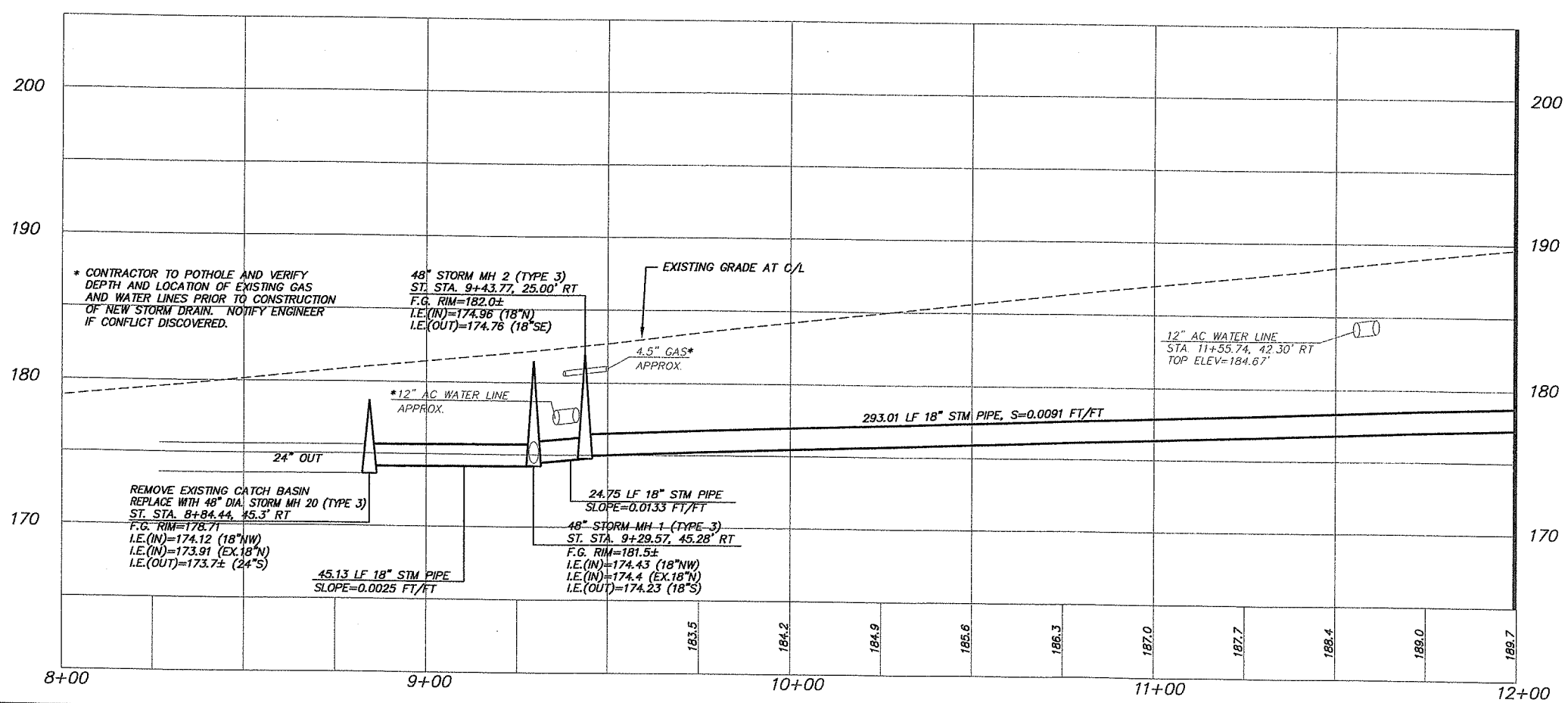
C978X230
C978X231
C978X270
C978X300
C978X304
0978B191
PKW WASH
XLIGHT





Fed. Aid No.
STPF-4253[010]

SCALE IN FEET
20 0 20 40

NOTES:
SEE DWG. SQ3 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.

SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.

SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

STORM STRUCTURE TABLE

MH20	STORM MANHOLE 20 ST. STA. 8+84.44, 45.28' RT STM. STA. 100+00.00
MH1	STORM MANHOLE 1 ST. STA. 9+29.57, 45.28' RT STM. STA. 100+45.13
MH2	STORM MANHOLE 2 ST. STA. 9+43.77, 25.00' RT STM. STA. 100+69.89

CONSTRUCTION NOTE

1. CURB, SIDEWALK, AND ADA RAMP TO BE CONSTRUCTED BY OTHERS. PER 129TH STREET IMPROVEMENTS BY WSDOT. CONTRACTOR SHALL COORDINATE WITH WSDOT DURING CONSTRUCTION.

2. CONTRACTOR TO POT-HOLE WATER LINE PRIOR TO STORM DRAIN CONSTRUCTION. ADJUST LOCATIONS OF MH 1, OR CONNECT DIRECTLY FROM MH 20 TO MH 2 AS REQUIRED TO AVOID CONFLICT WITH WATERLINE, AND AS DIRECTED BY THE ENGINEER.

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: ⬡ CONTRACTOR
⬭ CITY/COUNTY FORCES
□ OTHERS

DESIGNED: PKW
DRAWN: SLW
CRP: 392922
HORIZ. 1" = 20'
VERT. 1" = 5'
DATE: 2/20/04
DWG: PP01
SHEET 19 OF 84

CALL 48 HOURS BEFORE YOU DIG
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"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

PAMELA KIEL WIEDEMANN
STATE OF WASHINGTON
22446
REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

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105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE - NE HWY 99
STA. 8+00 TO STA. 12+00

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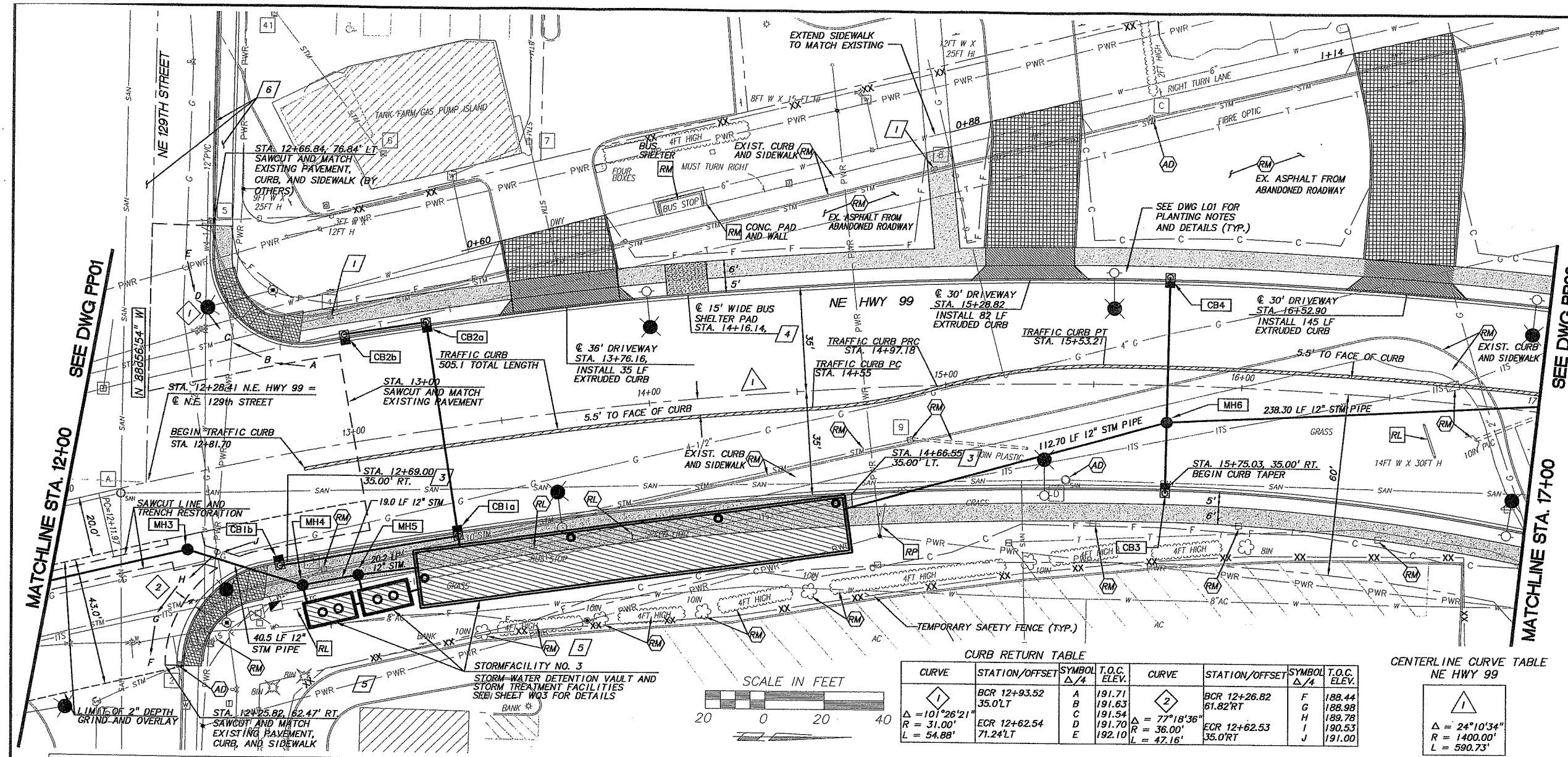
WASHINGTON

V: JOHNMA 02/16/04 4:17pm --> R:\DWG\C978S019.DWG

XREF LIST
Ltscale: 20
Resolved
C978X001
C978X116
C978X230
C978X231
C978X270
C978X300
C978X304
C978B191
PKW WASH
xlight
Xsignal
Unresolved
L978X700



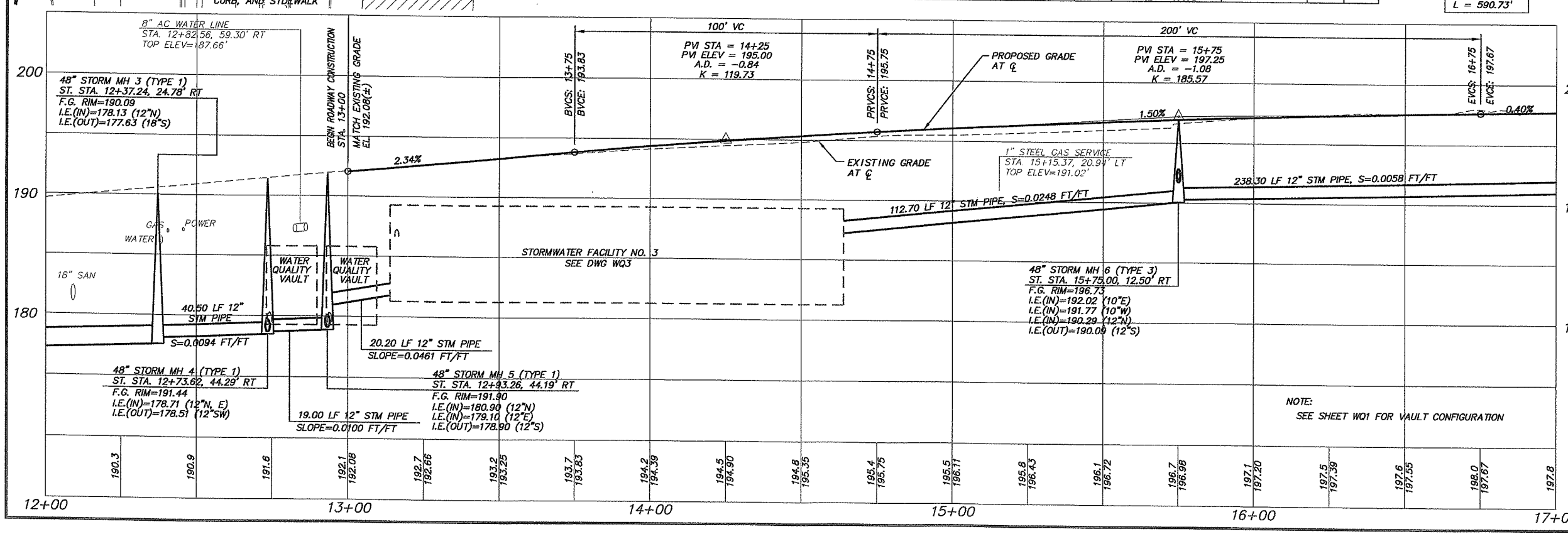
CURB RETURN TABLE

CURVE	STATION/OFFSET	SYMBOL △/4	T.O.C. ELEV.
1	BCR 12+93.52	A	191.71
	35.0'LT	B	191.63
		C	191.54
Δ =101°26'21"	ECR 12+62.54	D	191.70
R = 31.00'	71.24'LT	E	192.10
L = 54.88'			

CURVE	STATION/OFFSET	SYMBOL △/4	T.O.C. ELEV.
2	BCR 12+26.82	F	188.44
	61.82'RT	G	188.98
		H	189.78
Δ = 77°18'36"	ECR 12+62.53	I	190.53
R = 36.00'	35.0'RT	J	191.00
L = 47.16'			

CENTERLINE CURVE TABLE
NE HWY 99

Δ = 24°10'34"	
R = 1400.00'	
L = 590.73'	



Fed. Aid No.
STPF-4253[010]

CONSTRUCTION NOTES

1. CONTRACTOR TO ADJUST CB TO GRADE AND INSTALL SOLID COVER.
3. CONSTRUCT 197 LF 6" THICK SIDEWALK FOR STORM FACILITY ACCESS. SEE DETAIL SHEET D02.
4. CONSTRUCT BUS SHELTER PAD FROM FACE OF CURB TO BACK OF SIDEWALK SEE DETAIL SHEET D01.
5. UNINTERRUPTED DRIVE-THRU ACCESS TO BE PROVIDED AT ALL TIMES. SEE SPECIAL PROVISIONS.
6. CURB & SIDEWALK TO BE CONSTRUCTED PER 129TH STREET IMPROVEMENTS BY WSDOT. CONTRACTOR SHALL COORDINATE WITH WSDOT DURING CONSTRUCTION.

NOTES:
SEE DWG. SQ3 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.

SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.

SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

STORM STRUCTURE TABLE

MH3	STORM MANHOLE 3 ST. STA. 12+37.24, 24.78' RT STM. STA. 103+62.90
MH4	STORM MANHOLE 4 ST. STA. 12+73.62, 44.29' RT STM. STA. 104+0340
MH5	STORM MANHOLE 5 ST. STA. 12+93.26, 44.19' RT STM. STA. 104+22.42
MH6	STORM MANHOLE 6 ST. STA. 15+75.00, 12.50' RT STM. STA. 107+00.31
CB1a	COMBINATION CURB INLET ST. STA. 13+29.70, 35.00' RT T.C. ELEV.=192.53 I.E.(IN)= 186.73 (10"W) I.E.(IN)= 186.73 (10"S) I.E.(OUT)= 186.53 (10"E) 3.83 LF LF 10" STM. PIPE S=0.0200 FT/FT
CB1b	COMBINATION CURB INLET ST. STA. 12+67.28, 35.00' RT T.C. ELEV.= 191.08 I.E.(OUT)= 187.08 (10"N) 60.79 LF LF 10" STM. PIPE S=0.0058 FT/FT
CB2a	COMBINATION CURB INLET ST. STA. 13+29.70, 35.00' LT T.C. ELEV.=192.55 I.E.(IN)= 187.75 (10"S) I.E.(OUT)= 187.75 (10"E) 72.67 LF LF 10" STM. PIPE S=0.0113 FT/FT
CB2b	COMBINATION CURB INLET ST. STA. 13+02.62, 35.00' LT T.C. ELEV.= 191.92 I.E.(OUT)= 187.92 (10"N) 27.98 LF LF 10" STM. PIPE S=0.0061 FT/FT
CB3	COMBINATION CURB INLET ST. STA. 15+75.00, 35.00' RT T.C. ELEV.= 196.76 I.E.(OUT)= 192.26 23.9 LF 10" STM. PIPE S=0.0100 FT/FT
CB4	COMBINATION CURB INLET ST. STA. 15+75.00, 35.00' LT T.C. ELEV.= 196.76 I.E.(OUT)= 192.26 48.9 LF 10" STM PIPE S=0.0100 FT/FT

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: ⬡ CONTRACTOR ◯ CITY/COUNTY FORCES ☐ OTHERS

DESIGNED:	PKW
DRAWN:	JGN
CRP:	392922
HORIZ.	1" = 20'
VERT:	1" = 5'
DATE:	2/20/04
DWG:	PP02
SHEET	20 OF 84

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

KEE W. LEDEMANN STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER EXPIRES:APRIL 3TH, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-6813
FAX: (360) 737-8651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE - NE HWY 99
STA. 12+00 TO STA. 17+00

proud past, promising future
CLARK COUNTY WASHINGTON

V: SADIE 02/17/04 4:41pm ---> R:\DWG\C978S020.DWG

XREF LIST
Ltscale: 20
Resolved
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C978X116
C978X230
C978X231
C978X270
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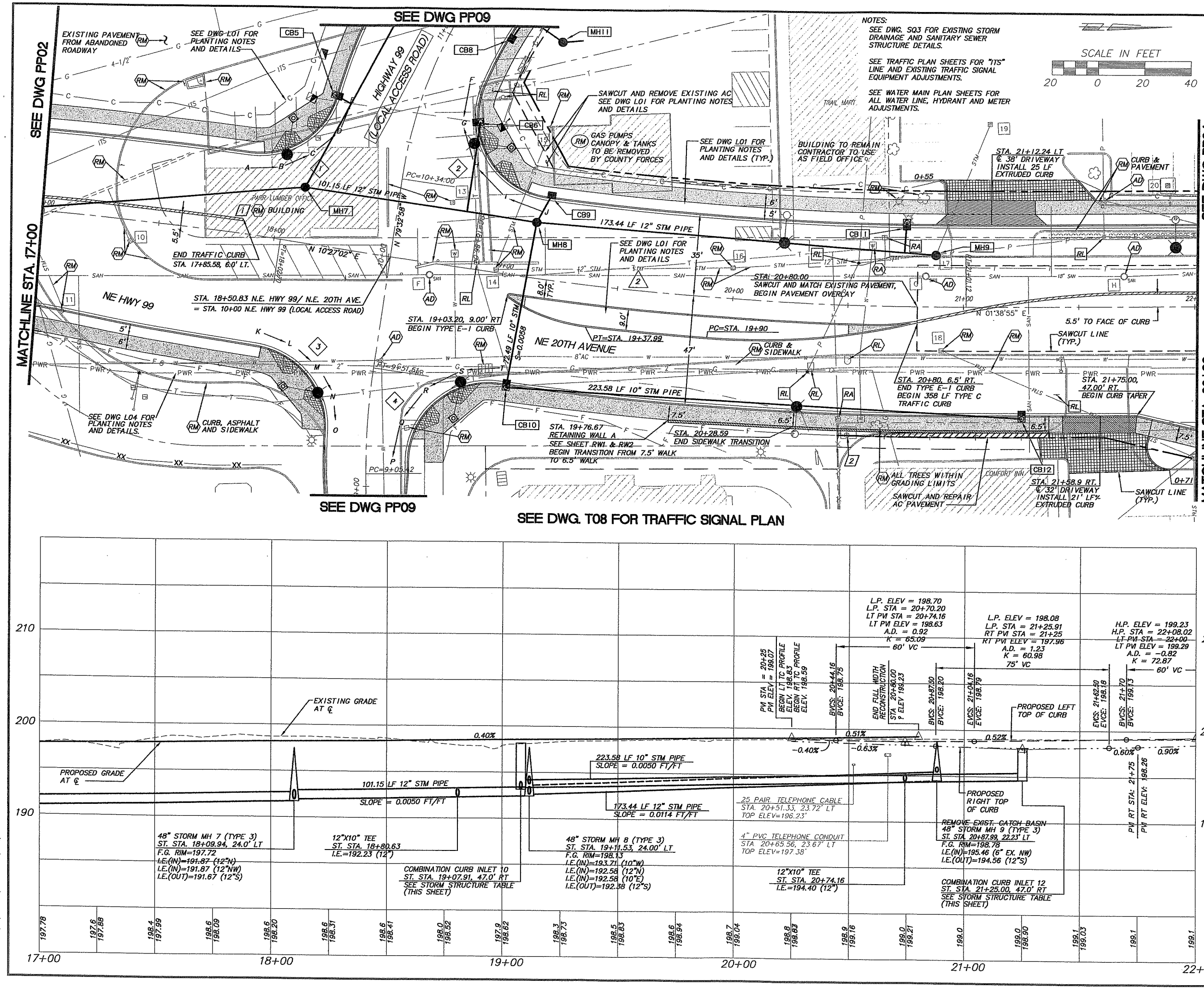
C978X304
L978X700
O978E191
PKW WASH



NOTES:
SEE DWG. SQ3 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.
SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.
SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

Fed. Aid No.
STPF-4253[010]

CURB RETURN TABLE

CURVE	STATION/OFFSET	SYMBOL Δ/4	T.O.C. ELEV.
1	BCR 17+84.15	A	197.91
	35.0' LT	B	197.87
Δ = 81°36'24"		C	197.63
R = 35.00'	ECR 10+60.65	D	197.39
L = 49.85'	35.0' LT	E	197.33
2	BCR 10+85.68	F	197.78
	23.0' RT	G	197.69
Δ = 105°59'22"		H	197.98
R = 35.00'	ECR 19+15.00	I	198.31
L = 64.75'	35.0' LT	J	198.47
3	BCR 17+99.62	K	197.74
	46.79' RT	L	197.68
Δ = 84°04'07"		M	197.54
R = 35.00'	ECR 9+23.16	N	197.24
L = 51.35'	18.0' LT	O	196.93
4	BCR 9+10.85	P	196.67
	18.0' RT	Q	197.03
Δ = 96°59'23"		R	197.40
R = 35.00'	ECR 19+04.99	S	197.75
L = 59.25'	47.0' RT	T	198.12

CENTERLINE CURVE TABLE
NE HWY 99

2
Δ = 08°48'08"
R = 1400.00
L = 215.08'

CONSTRUCTION NOTES

1 REMOVE THE EXISTING BUILDING AND BASEMENT. BASEMENT FILL TO BE COMPACTED TO 95% MAX. DENSITY. FILL SHALL BE INSPECTED AND APPROVED BY THE ENGINEER.

2 CONSTRUCT WALL ON CONC. PAD AS DIRECTED.

STORM STRUCTURE TABLE

MH7 STORM MANHOLE 7
ST. STA. 18+09.94, 24.00' LT
STM. STA. 109+38.61 = 120+00.00

MH8 STORM MANHOLE 8
ST. STA. 19+11.53, 24.00' LT
STM. STA. 110+39.76

MH9 STORM MANHOLE 9
ST. STA. 20+87.99, 22.23' LT
STM. STA. 112+13.20

CB6 COMBINATION CURB INLET
ST. STA. 18+79.34, 63.13' LT
HWY 99 STA. 10+67.64, 25.79' RT
T.C. ELEV.=197.69
I.E.(OUT)=193.19 (10"E)
40 LF 10" STM PIPE W/ 12"X10" TEE
S=0.0219 FT/FT

CB9 CURB INLET
ST. STA. 19+16.61, 35.00' LT
T.C. ELEV.=198.47
I.E.(OUT)=193.97 (10"SE)
13 LF 10" STM PIPE
S=0.0200 FT/FT

CB10 COMBINATION CURB INLET
ST. STA. 19+07.91, 47.00' RT
T.C. ELEV.=198.14
I.E.(IN)=193.20 (10"N)
I.E.(OUT)=193.00 (10"W)

CB11 COMBINATION CURB INLET
ST. STA. 20+75.00, 35.00' LT
T.C. ELEV.=198.63
I.E.(OUT)=194.63 (10"E)
13 LF 10" STM PIPE W/ 12"X10" TEE
S=0.0109 FT/FT

CB12 COMBINATION CURB INLET
ST. STA. 21+25.00, 47.00' RT
T.C. ELEV.=198.07
I.E.(OUT)=194.32 (10"S)

MH11, CB5, CB8 } SEE SHEET PP09

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: ⬡ CONTRACTOR ◯ CITY/COUNTY FORCES ☐ OTHERS

V: JOHNMA 08/15/03 4:10pm r--> R:\DWG\C9785023.DWG

DESIGNED:	PKW
DRAWN:	JGN
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP03
SHEET	21 OF 84

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

PAUL W. LEDEMANN STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER EXPIRES MAR. 31, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-8613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE – NE 20th AVE.
STA. 17+00 TO STA. 22+00

proud past, promising future
CLARK COUNTY WASHINGTON

V: JOHNMA 08/15/03 4:11pm --> R:\DWG\C978S024.DWG

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C978X116
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C978X231
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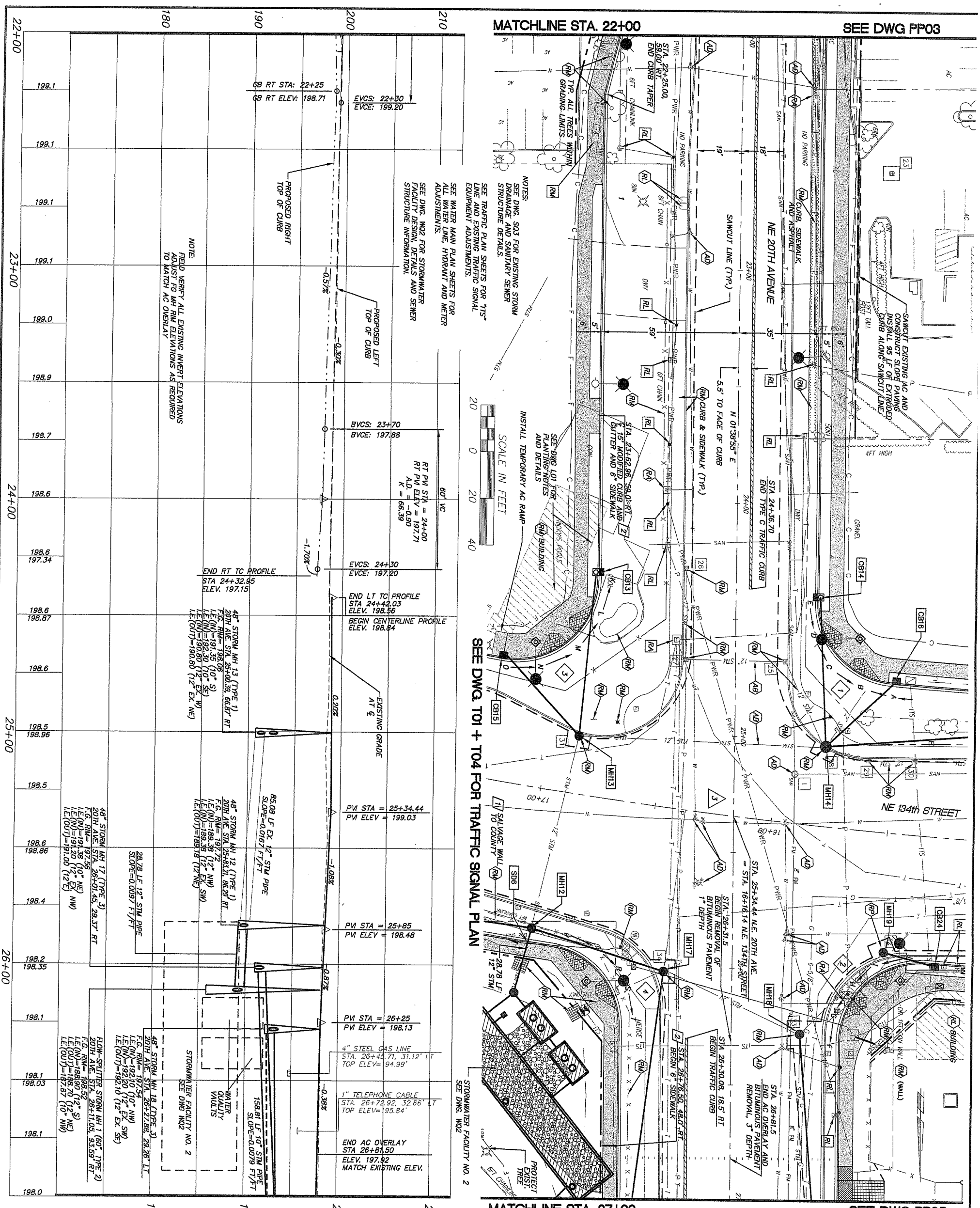
PKW WASH



CURB RETURN TABLE

CURVE	STATION/OFFSET	SYMBOL Δ/4	T.O.C. ELEV.
1 Δ = 85°06'24" R = 35.00' L = 51.99'	BCR 15+54.27 64.0'RT	A	197.09
		B	197.22
	ECR 24+42.03 35.0'LT	C	197.56
		D	198.34
		E	198.56
2 Δ = 94°08'58" R = 35.00' L = 57.51'	BCR 26+31.49 46.0'LT	F	197.67
		G	197.78
	ECR 15+28.31 54.0'LT	H	198.01
		I	198.25
		J	198.66
3 Δ = 99°48'59" R = 35.00' L = 60.97'	BCR 24+32.95 59.0'RT	K	197.15
		L	197.26
	ECR 17+26.13 52.0'RT	M	197.81
		N	198.49
		O	198.90
4 Δ = 81°22'23" R = 35.00' L = 49.71'	BCR 16+84.61 66.0'LT	P	198.08
		Q	198.05
	ECR 26+25.19 48.0'RT	R	197.90
		S	197.74
		T	197.65

Fed. Aid No. STPF-4253(010)

CENTERLINE CURVE TABLE
NE 138TH STREET

3: Δ = 12°48'10" R = 2000.00' L = 446.90'

CONSTRUCTION NOTES

1. SALVAGE BLOCK WALL TO COUNTY AT 78TH STREET. STACK ON PALLETS AND SHRINK WRAP
2. CONSTRUCT 6" THICK SIDEWALK PER DETAIL, SHEET D02

STORM STRUCTURE TABLE

MH12 STORM MANHOLE 12 ST. STA. 25+83.21, 86.29' RT STM. STA. 130+00.00=140+00.00

MH13 STORM MANHOLE 13 ST. STA. 25+00.39, 66.87' RT STM. STA. 130+85.08

MH17 STORM MANHOLE 17 ST. STA. 26+01.45, 29.37' RT STM. STA. 140+59.77

MH18 STORM MANHOLE 18 ST. STA. 26+27.88, 29.26' LT STM. STA. 141+24.08

CB13 COMBINATION CURB INLET ST. STA. 24+30.00, 59.00' RT T.C. ELEV.=197.20 I.E.(OUT)=192.77 (10"N) 71 LF 10" STM. PIPE S=0.0200 FT/FT

CB14 COMBINATION CURB INLET ST. STA. 24+40.00, 35.00' LT T.C. ELEV.=198.57 I.E.(OUT)=194.07 (10"N) 64 LF 10" STM. PIPE S=0.0100 FT/FT

MH14, MH19, CB15, CB16, CB24 — SEE SHEET PP08

OBJECT TO BE:
REMOVED = RM
RELOCATED = RL
ABANDONED = AB
REPLACED & RELOCATED = RP
RELOCATED & ADJUSTED TO GRADE = RA
ADJUSTED TO GRADE = AD
TRIMMED = T

BY: CONTRACTOR; CITY/COUNTY FORCES; OTHERS

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CLARK COUNTY WASHINGTON

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE – NE 20th AVE.
STA. 22+00 TO STA. 27+00

otak Incorporated
105 West Evergreen Blvd, Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

PAMELA KIEL WIEDEMANN — STATE OF WASHINGTON — 32440 REGISTERED PROFESSIONAL ENGINEER — EXPIRES: AUG. 31, 2005

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

DESIGNED:	PKW
DRAWN:	SLW
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP04
SHEET 22	OF 84

XREF LIST
Ltscale: 20
Resolved
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C978X116
C978X230
C978X231
C978X270
C978X300
C978X304
KPFFXREF
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PKW WASH
XLIGHT
Xsignal
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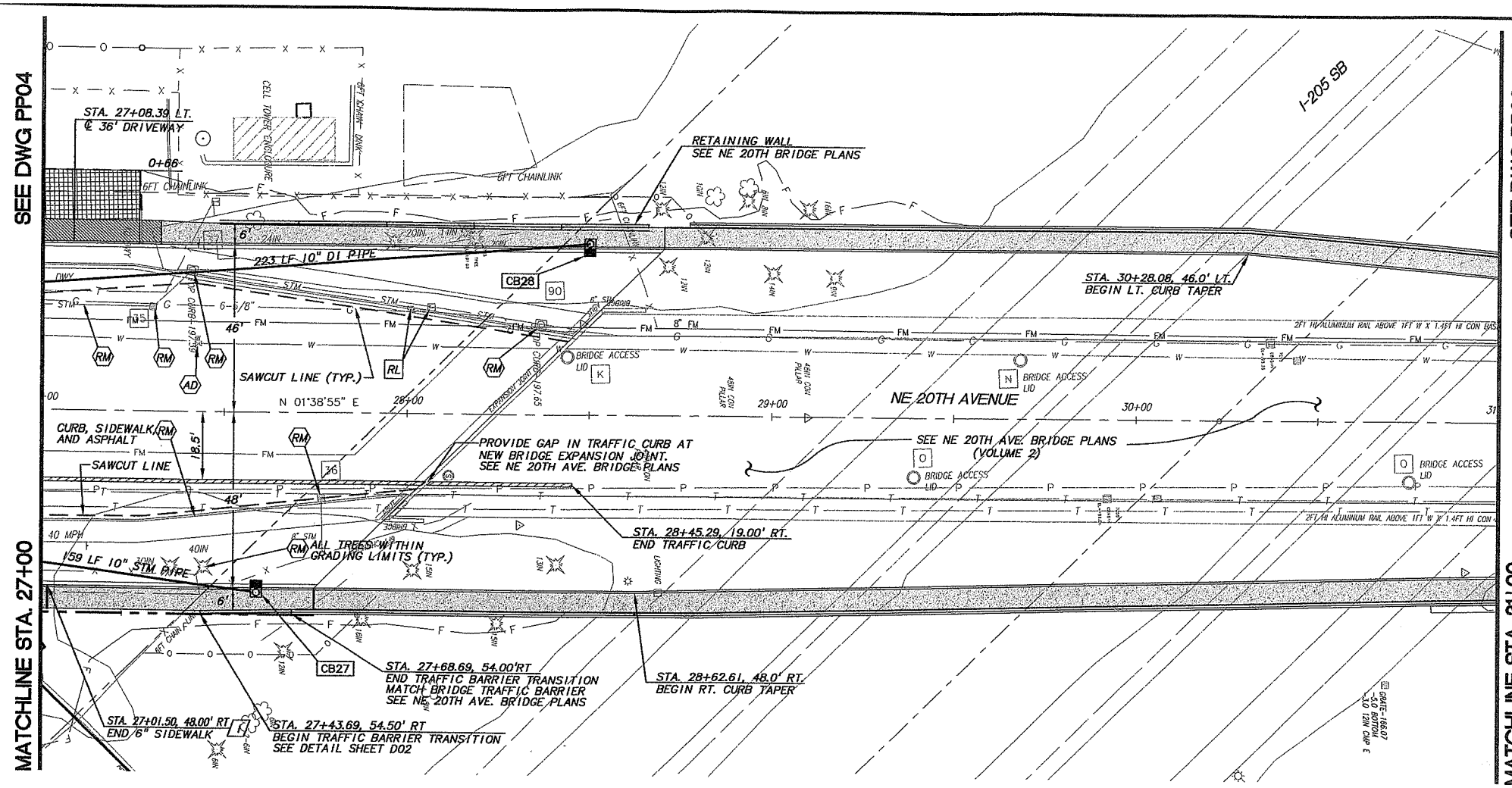
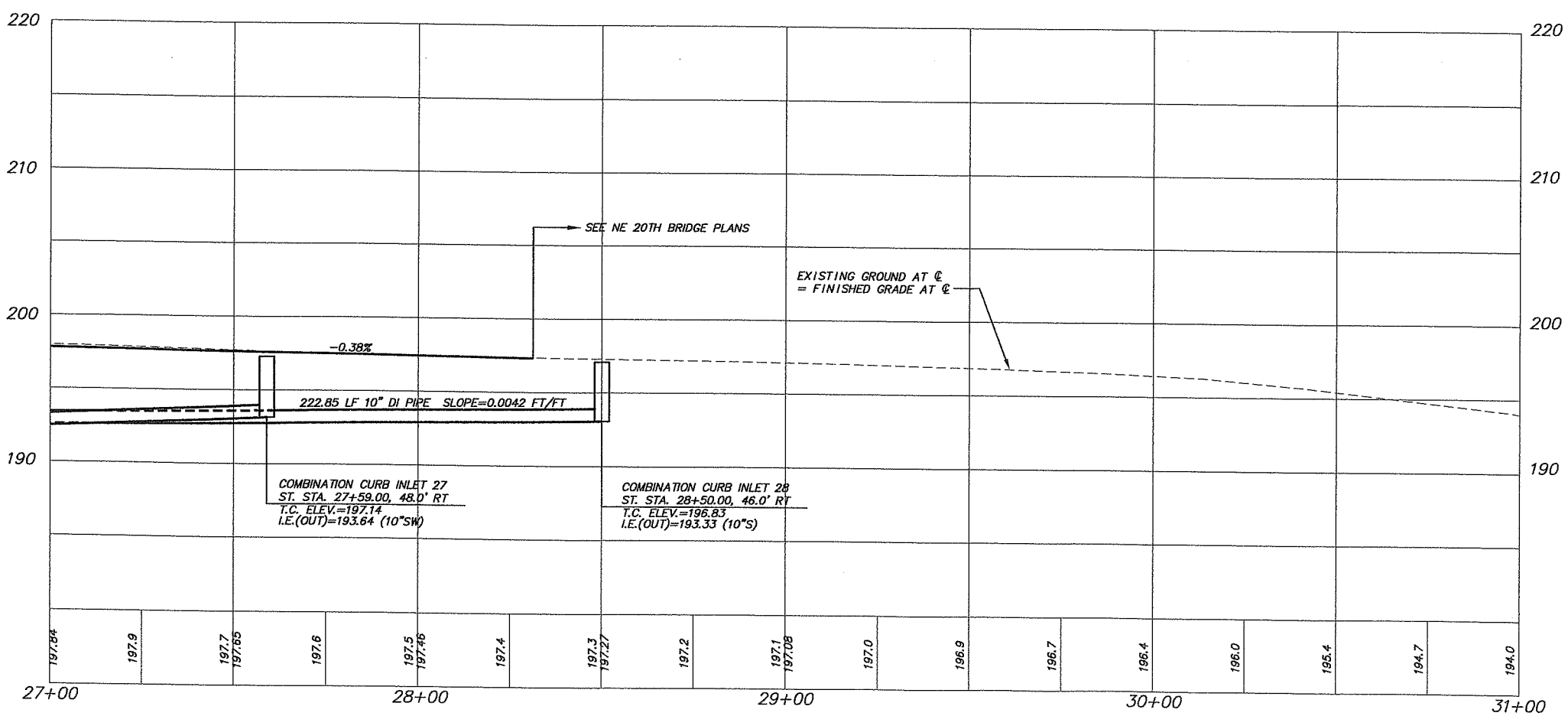
NE99XRW
NE99XSURV





Fed. Aid No.
STPF-4253[010]

SCALE IN FEET
20 0 20 40

NOTES:
SEE DWG. SQ3 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.

SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.

SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

CONSTRUCTION NOTE

1 CONSTRUCT 6" THICK SIDEWALK PER DETAIL, SHEET D02

STORM STRUCTURE TABLE

CB27 COMBINATION CURB INLET
ST. STA. 27+59.01, 48.00' RT
T.C. ELEV.=197.14
I.E.(OUT)=192.64 (10"SW)
159 LF 10" STM PIPE
S=0.0079 FT/FT

CB28 COMBINATION CURB INLET
ST. STA. 28+50.00, 46.00' LT
T.C. ELEV.=196.83
I.E.(OUT)=193.03 (10"S)
223 LF 10" DI PIPE
S=0.0042 FT/FT

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: ⬡ CONTRACTOR ○ CITY/COUNTY FORCES □ OTHERS

DESIGNED:	PKW
DRAWN:	SLW
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP05
SHEET	23 OF 84

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

KYLE L. WIDEMANN STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
EXPIRES APR. 30, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-8613
FAX: (360) 737-9851

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE - NE 20th AVE.
STA. 27+00 TO STA. 31+00

proud past, promising future
CLARK COUNTY WASHINGTON

V: JOHNMA 02/16/04 5:42pm ---> R:\DWG\C978S023.DWG

V: JOHNMA 08/15/03 4:20pm --> R:\DWG\C978S026.DWG

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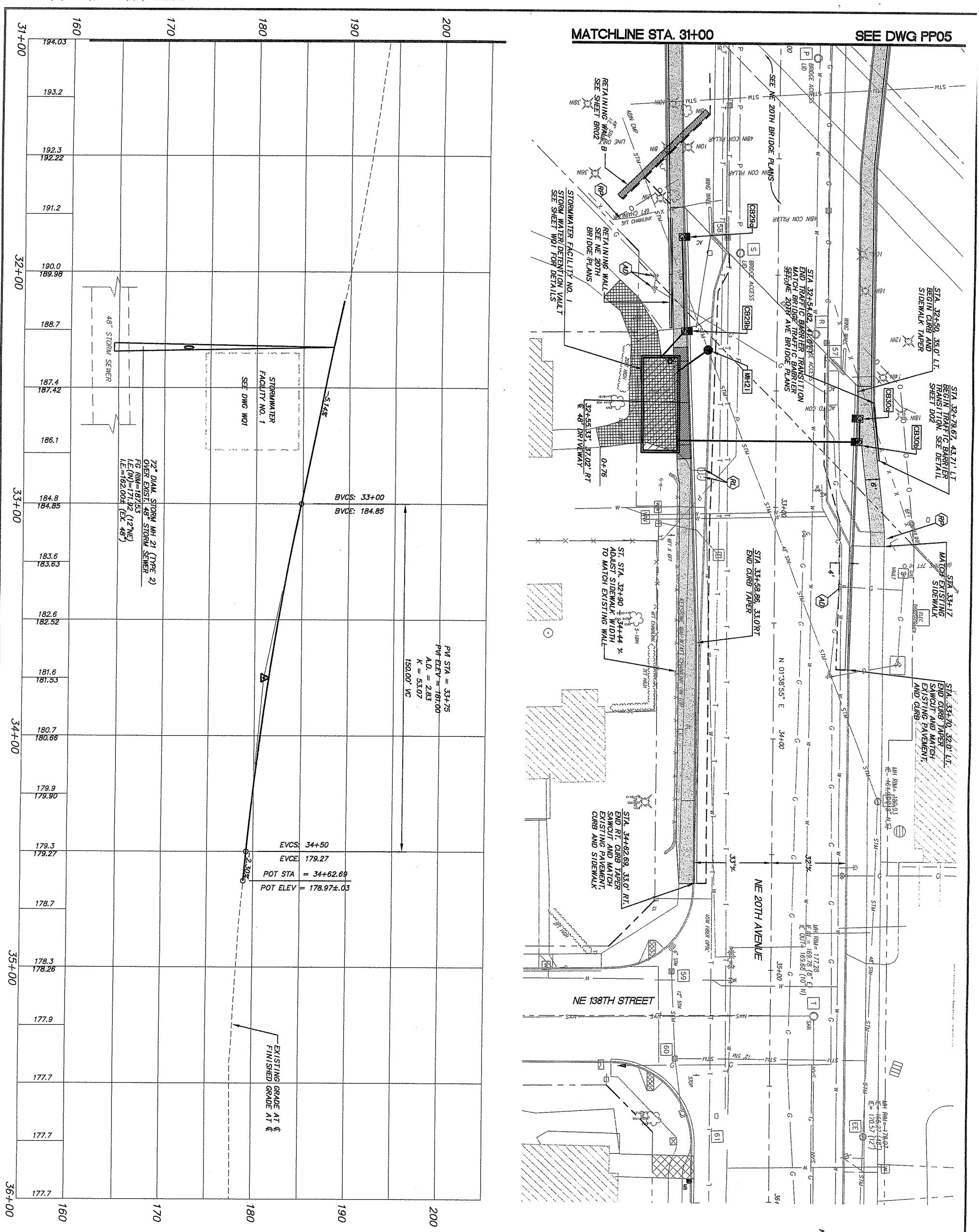

NOTES:
SEE DWG. S03 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.
SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.
SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

STORM STRUCTURE TABLE

MH21 STORM SADDLE MANHOLE 21
ST. STA. 32+32.52, 29.27' RT
(SEE DETAIL SHEET D03)

CB29a COMBINATION CURB INLET
ST. STA. 31+83.88, 39.80' RT
T.C. ELEV.=190.40
I.E.(OUT)=185.90 (10"NW)
40.69 LF 10" STM PIPE
SLOPE=0.0492 FT/FT

CB29b COMBINATION CURB INLET
ST. STA. 32+24.54, 38.22' RT
T.C. ELEV.=188.40
I.E.(IN)=183.90 (10"S)
I.E.(OUT)=183.90 (10"NE)
INSTALL 10" ELBOW (45°) AT OUTLET, 15.26 LF 10" STM PIPE
SLOPE=0.0917 FT/FT

CB30a COMBINATION CURB INLET
ST. STA. 32+61.60, 34.71' LT
T.C. ELEV.=186.59
I.E.(OUT)=182.09 (10"N)
10.00 LF 10" STM PIPE
SLOPE=0.0100 FT/FT

CB30b COMBINATION CURB INLET
ST. STA. 32+71.67, 34.50' LT
T.C. ELEV.=186.09
I.E.(IN)=181.99 (10"S)
I.E.(OUT)=180.09 (10"E)
77.96 LF 10" STM PIPE
SLOPE=0.0717 FT/FT

OBJECT TO BE:	
REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: CONTRACTOR; CITY/COUNTY FORCES; OTHERS

Fed. Aid No. STPF-4253[010]

proud past, promising future
CLARK COUNTY WASHINGTON

DESIGN & ENGINEERING DIVISION
DESIGN SECTION
PLAN AND PROFILE – NE 20th AVE.
STA. 31+00 TO STA. 36+00

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

PAMELA KIEL WIEDEMANN
STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: AUG. 31, 2005

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

DESIGNED:	PKW
DRAWN:	SLW
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP06
SHEET	24 OF 84

XREF LIST
Ltscale: 20
Resolved
C978X001
C978X116
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L978X700
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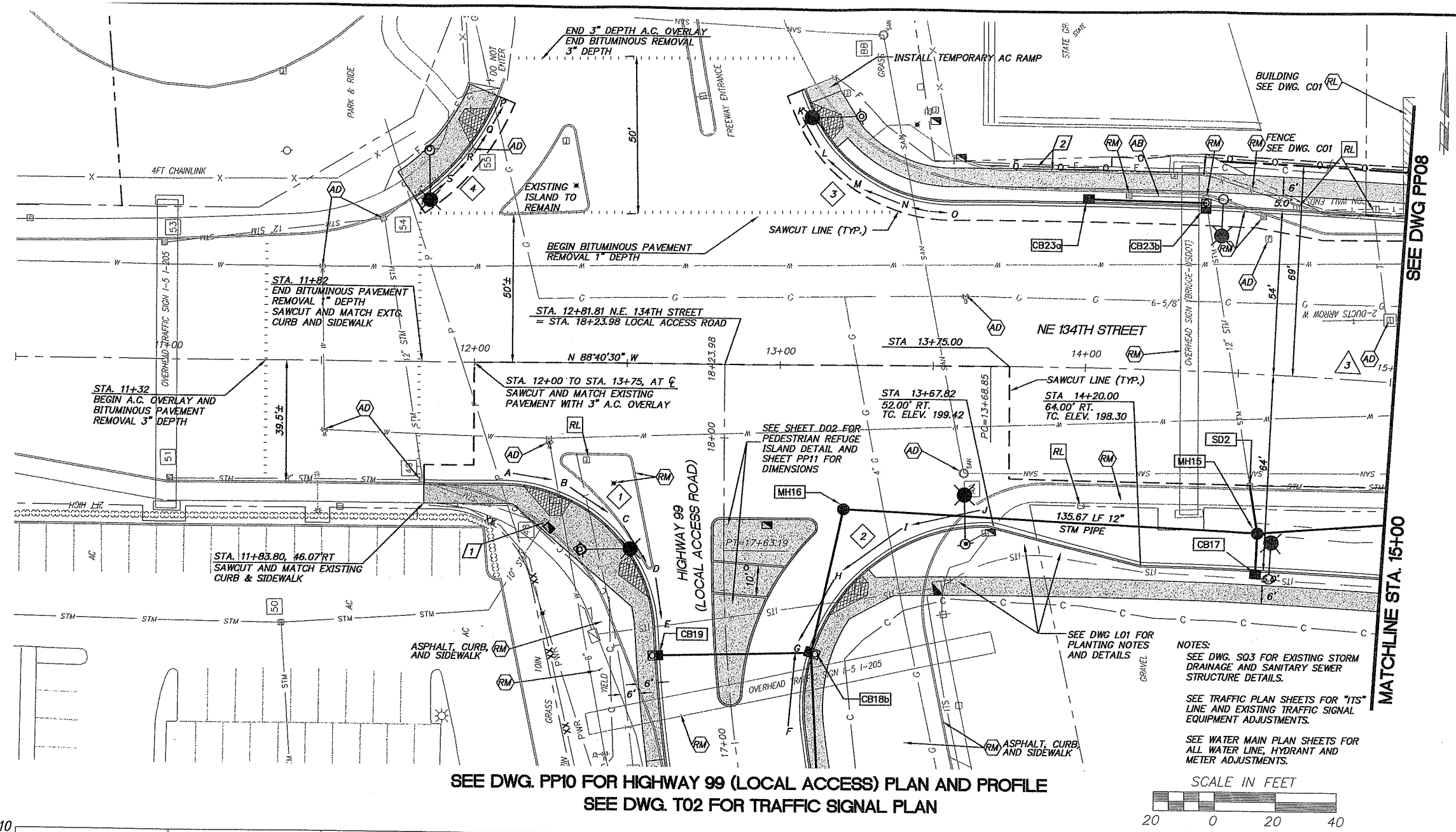
PKW WASH



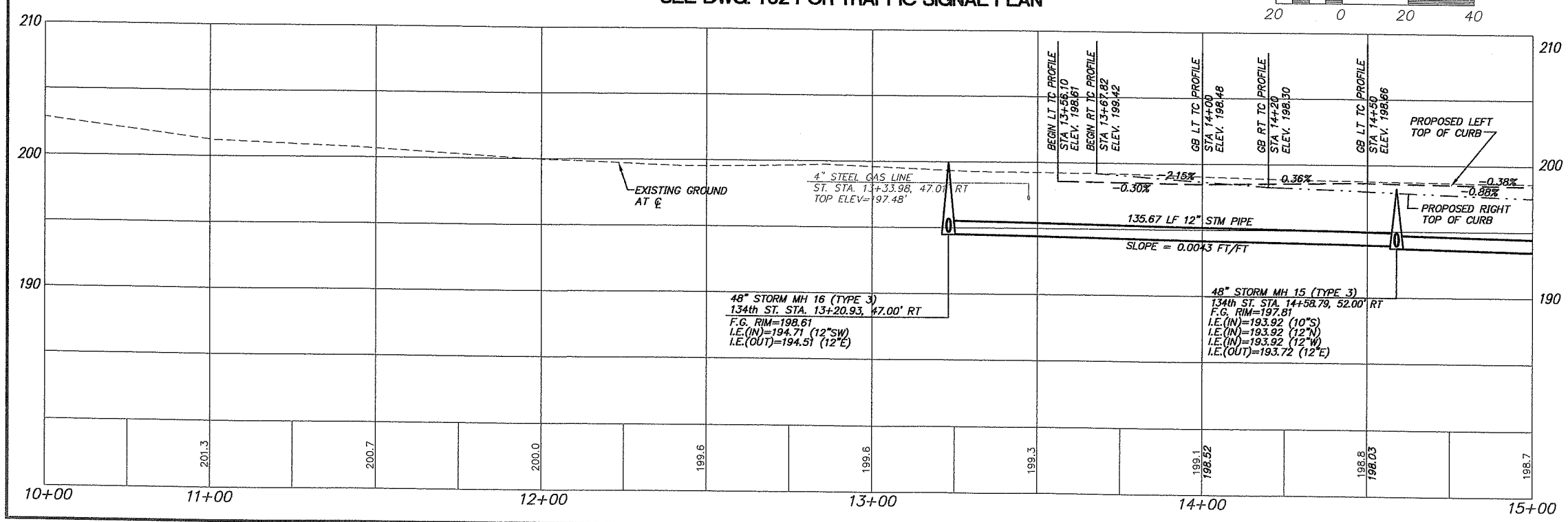
NOTES:
SEE DWG. S03 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.

SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.

SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

SCALE IN FEET
20 0 20 40

SEE DWG. PP10 FOR HIGHWAY 99 (LOCAL ACCESS) PLAN AND PROFILE
SEE DWG. T02 FOR TRAFFIC SIGNAL PLAN



Fed. Aid No.
STPF-4253[010]

CURB RETURN TABLE

CURVE	STATION/OFFSET	SYMBOL Δ/4	T.O.C. ELEV.
1	BCR 12+09.56	A	199.84
	39.54'RT±	B	199.62
		C	199.20
Δ = 87°11'18"		D	198.79
R = 50.00'	ECR 17+38.09	E	198.61
L = 76.09'	23.0'LT		
2	BCR 17+01.78	F	198.77
	23.0'RT	G	198.62
		H	198.88
Δ = 96°54'41"		I	199.15
R = 60.00'	ECR 13+67.82	J	199.42
L = 101.49'	52.0'RT		
3	BCR 13+09.62	K	198.02
	84.75'LT	L	198.25
		M	198.46
Δ = 67°45'58"		N	198.60
R = 50.00'	ECR 13+56.10	O	198.61
L = 59.14'	53.96'LT		
4	BCR 12+07.16	P	198.68
	86.86'LT	Q	198.92
		R	199.16
Δ = 67°45'58"		S	199.40
R = 50.00'	ECR 11+80.12	T	199.64
L = 59.14'	53.86'LT		

CENTERLINE CURVE TABLE
NE 134TH AVE.

3
Δ = 12°48'10"
R = 2000.00'
L = 446.90'

CONSTRUCTION NOTES

1. CONTRACTOR TO ADJUST CB TO GRADE AND INSTALL SOLID COVER.
2. REMOVE 70 LF OF EXISTING CHAINLINK FENCE. INSTALL 62 LF OF 6' CHAINLINK FENCE ALONG BACK OF SIDEWALK AS SHOWN.

STORM STRUCTURE TABLE

MH15 STORM MANHOLE 15
ST. STA. 14+58.79, 52.00' RT
STM. STA. 133+11.19

MH16 STORM MANHOLE 16
ST. STA. 13+20.93, 47.00' RT
STM. STA. 134+46.86

SD2 CONNECT TO EXISTING STORM DRAIN INLET, INSTALL SOLID LID (STD. PLAN B-28)
I.E.(EXIST.)=194.67 (12"NW)
I.E.(OUT)=194.47 (12"S)
16 LF 12" STM PIPE
S=0.034 FT/FT
(VERIFY EX. I.E.)

CB17 CURB INLET
ST. STA. 14+58.84, 64.00' RT
T.C. ELEV.=197.96
I.E.(OUT)=193.96 (10"N)
13.40 LF 10" STM PIPE
S=0.0045 FT/FT

CB23a CURB INLET
ST. STA. 14+00.00, 54.00' LT
T.C. ELEV.=198.48
I.E.(OUT)=194.98 (10"E)
38.34 LF 10" DI PIPE
S=0.0057 FT/FT

CB23b COMBINATION CURB INLET
ST. STA. 14+37.30, 54.00' LT
T.C. ELEV.=198.61
I.E.(IN)=194.76 (10"W)
I.E.(OUT)=194.76 (12" EX. SE)
EXISTING 12" STM PIPE
(VERIFY EX. I.E.)

CB18b, **CB19** } SEE SHEET PP11

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: ⬡ CONTRACTOR ○ CITY/COUNTY FORCES □ OTHERS

DESIGNED:	PKW
DRAWN:	SLW
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP07
SHEET	25 OF 84

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

KYLE W. LEHMANN STATE OF WASHINGTON 22445 REGISTERED PROFESSIONAL ENGINEER EXPIRES JULY 31, 2005

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Vancouver, WA 98660-2220
Phone: (360) 737-9813
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE – NE 134th ST.
STA. 10+00 TO STA. 15+00

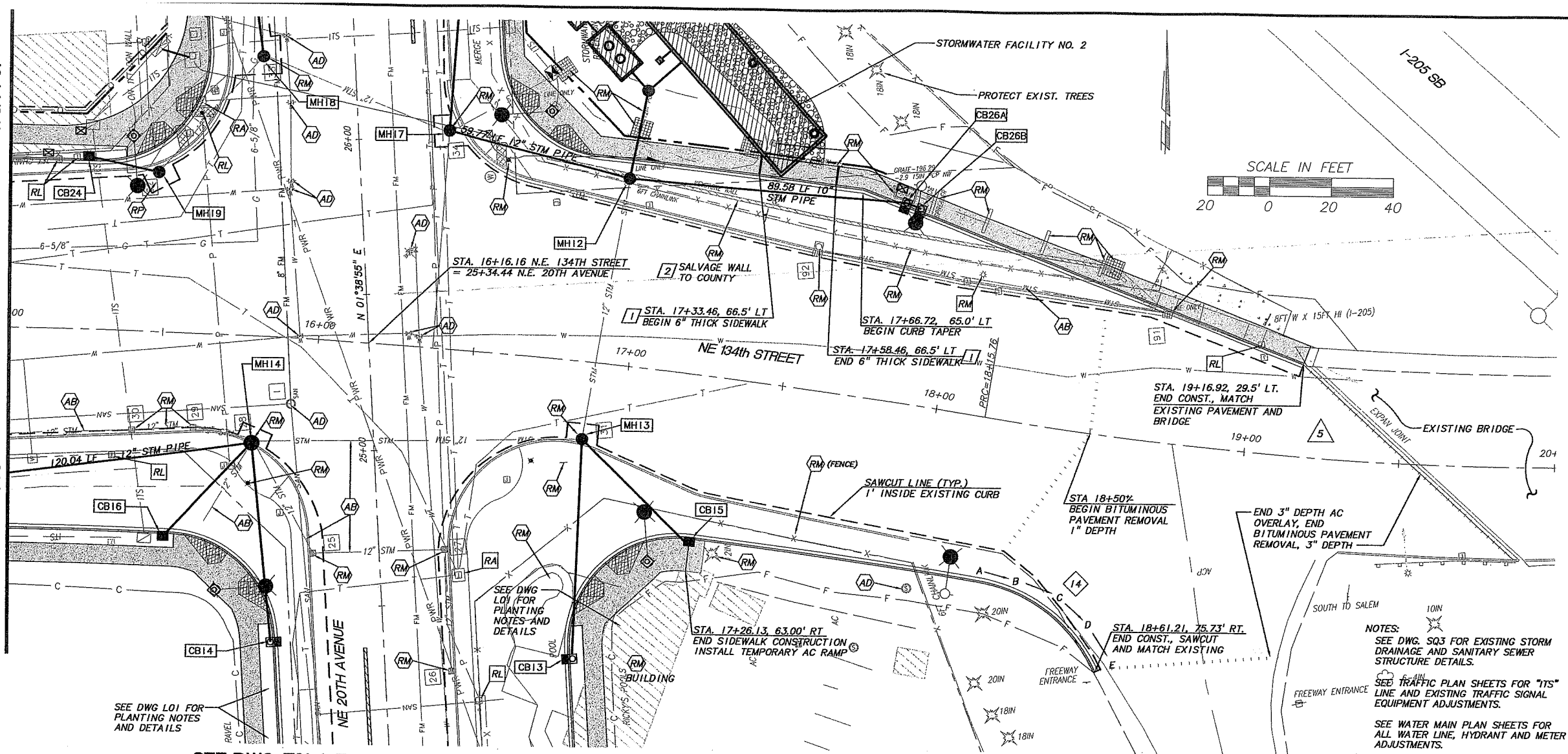
proud past, promising future
CLARK COUNTY WASHINGTON

V: JOHNMA 08/18/03 9:31am --> R:\DWG\C978S027.DWG

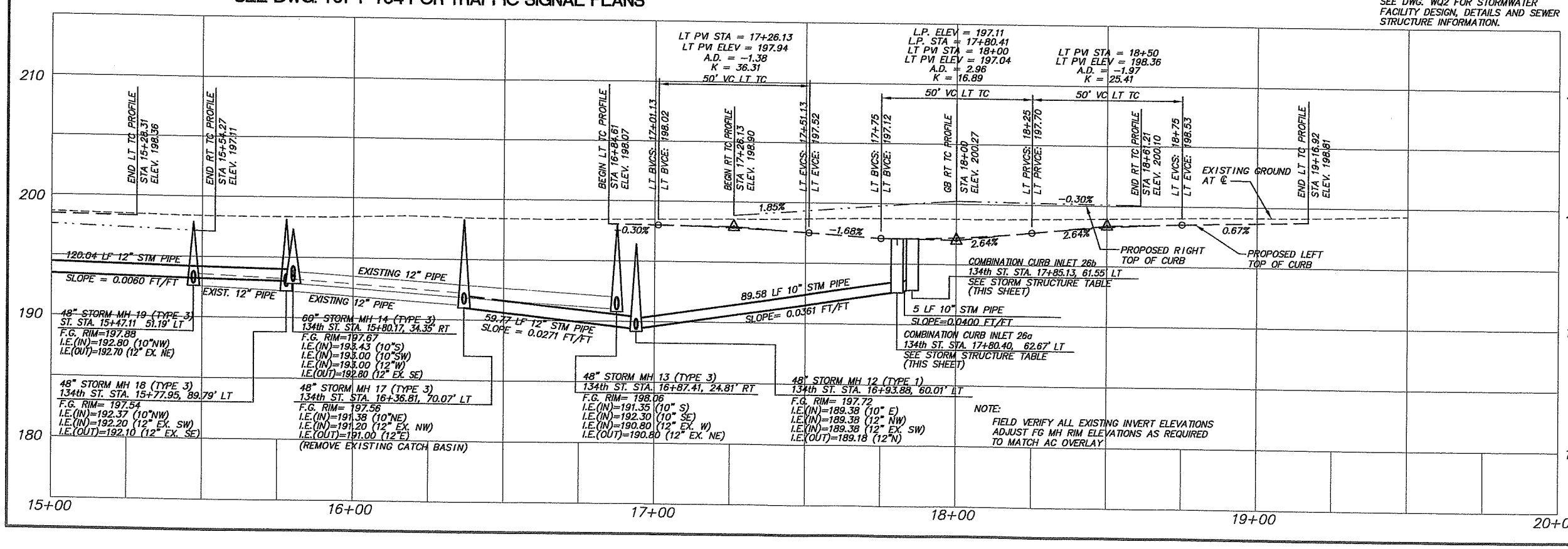
XREF LIST
Ltscale: 20
Resolved
C978X001
C978X116
C978X230
C978X231
C978X270
C978X300
C978X304
C978X430
L978X700
0978B191
PKW WASH

SEE DWG PP07

MATCHLINE STA. 15+00



SEE DWG. T01 + T04 FOR TRAFFIC SIGNAL PLANS



Fed. Aid No.
STPF-4253[010]

CURB RETURN TABLE

CURVE	STATION/OFFSET	SYMBOL △/4	T.O.C. ELEV.
14	BCR 18+22.16	A	200.20
Δ = 56°47'46"	52.00'RT	B	200.19
R = 50.00'		C	200.16
L = 49.56'	ECR 18+61.21	D	200.14
	75.73'RT	E	200.10

CENTERLINE CURVE TABLE NE 134TH STREET

5
Δ = 12°49'47"
R = 1145.92'
L = 256.60'

CONSTRUCTION NOTES

1 CONSTRUCT 6" THICK SIDEWALK PER DETAIL, SHEET D02

2 SALVAGE BLOCK WALL TO COUNTY AT 78TH STREET. STACK ON PALLETS AND SHRINK WRAP.

STORM STRUCTURE TABLE

MH12	STORM MANHOLE 12 ST. STA. 16+93.88, 60.00' LT STM. STA. 130+00.00=140+00.00
MH13	STORM MANHOLE 13 ST. STA. 16+87.41, 24.81' RT STM. STA. 130+85.08
MH14	STORM MANHOLE 14 (60" MH) ST. STA. 15+80.17, 34.35' RT STM. STA. 131+91.15
MH17	STORM MANHOLE 17 ST. STA. 16+36.81, 70.07' LT STM. STA. 140+59.77
MH18	STORM MANHOLE 18 ST. STA. 15+77.95, 89.79' LT STM. STA. 141+24.08
MH19	STORM MANHOLE 19 ST. STA. 15+47.11, 51.19' LT STM. STA. 141+74.08
CB15	CURB INLET ST. STA. 17+26.09 52.00' RT T.C. ELEV.=198.90 I.E.(OUT)=194.40 (10"S) 46.20 LF 12" STM PIPE S=0.0435 FT/FT
CB16	CURB INLET ST. STA. 15+52.20, 64.00' RT T.C. ELEV.=197.17 I.E.(OUT)=193.17 (10"NE) 41.30 LF 10" STM PIPE S=0.0040 FT/FT
CB24	CURB INLET ST. STA. 15+25.00, 54.00' LT T.C. ELEV.=198.41 I.E.(OUT)=193.91 (10"E) 23 LF 10" STM PIPE S=0.0483 FT/FT
CB26a	COMBINATION CURB INLET ST. STA. 17+80.40, 62.67' LT T.C. ELEV.=197.11 I.E.(IN)=192.61 (10"E) I.E.(OUT)=192.61 (10"W)
CB26b	COMBINATION CURB INLET ST. STA. 17+85.13, 61.55' LT T.C. ELEV.=197.12 I.E.(OUT)=192.82 (10"W)
CB13 CB14	SEE SHEET PP04

NOTES:
SEE DWG. SQ3 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.
SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.
SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.
SEE DWG. WQ2 FOR STORMWATER FACILITY DESIGN, DETAILS AND SEWER STRUCTURE INFORMATION.

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: ⬡ CONTRACTOR ◯ CITY/COUNTY FORCES ☐ OTHERS

DESIGNED:	PKW
DRAWN:	SLW
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP08
SHEET	26 OF 84

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

PAUL E. WIEDEMANN STATE OF WASHINGTON 22202 REGISTERED PROFESSIONAL ENGINEER EXPIRES APR. 27, 2005

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105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-8613
FAX: (360) 737-8651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE - NE 134th ST
STA. 15+00 TO STA. 20+00

proud past, promising future
CLARK COUNTY WASHINGTON

V: JOHNMA 08/15/03 4:36pm ---> R:\DWG\C978S025.DWG

XREF LIST
Ltscale: 20
Resolved
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C97BX116
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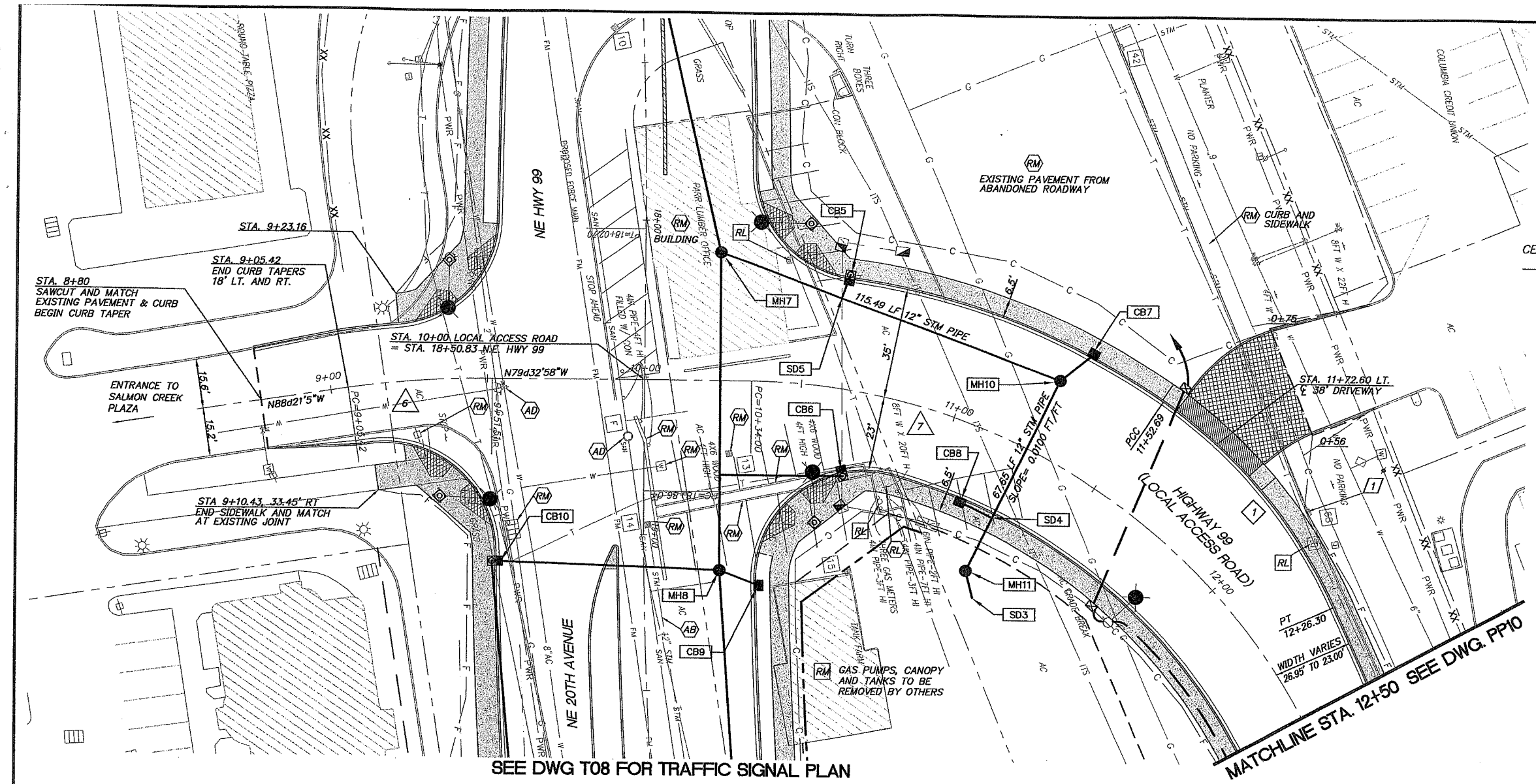
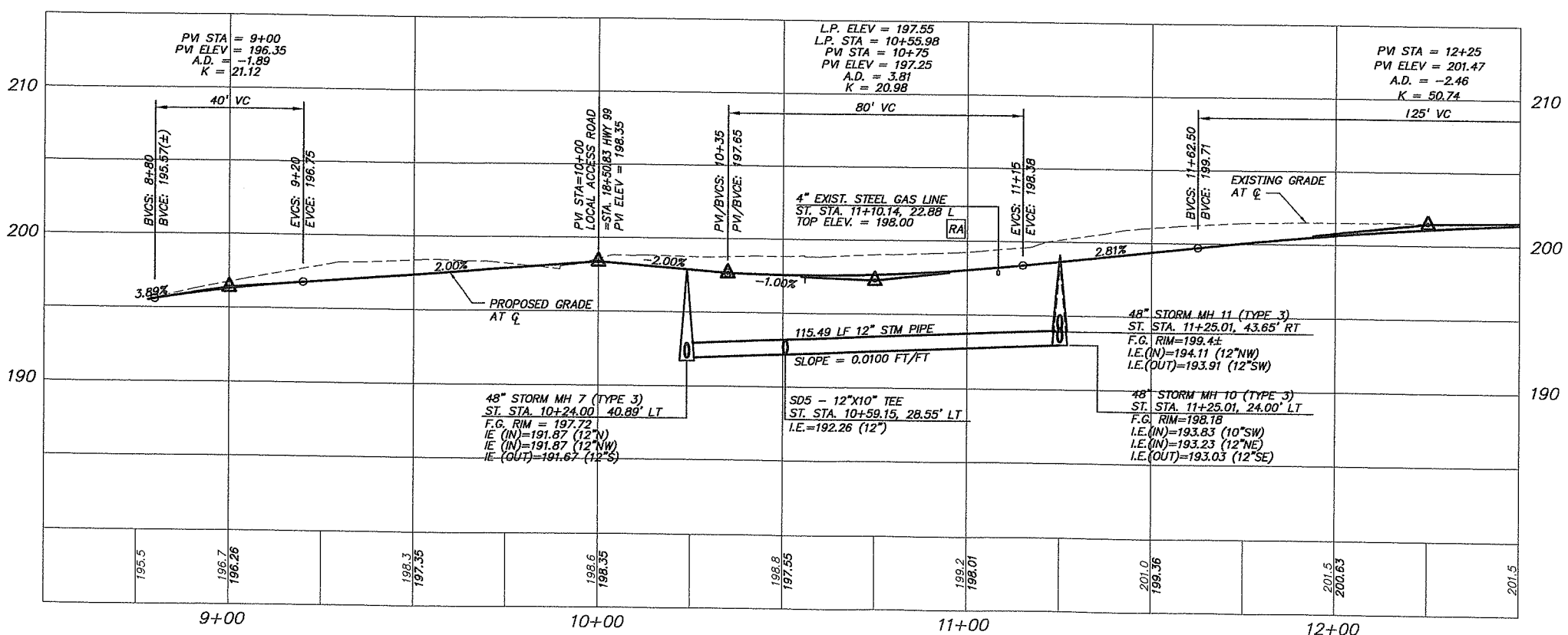
C97BX304
L97BX700
C97BB191
PKW WASH





Fed. Aid No.
STPF-4253[010]

SCALE IN FEET
20 0 20 40

CONSTRUCTION NOTE

1 CONTRACTOR TO ADJUST CB TO GRADE AND INSTALL SOLID COVER

CENTERLINE CURVE TABLE
LOCAL ACCESS ROAD

6	Δ = 8°48'8" R = 300.00' L = 46.09
7	Δ = 65°47'31" R = 200.00' L = 229.66'

CURB CURVE TABLE

1 PCC: STA. 11+52.69, 35.00' LT.
PT: STA. 12+26.30, 26.95' LT.
Δ = 31°47'18"
R = 155.00'
L = 86.00'

NOTES:
SEE DWG. SQ3 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.

SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.

SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

STORM STRUCTURE TABLE

MH7 STORM MANHOLE 7
ST. STA. 10+24.00, 40.89' LT
STM. STA. 120+00.00

MH10 STORM MANHOLE 10
ST. STA. 11+25.01, 24.00'LT
STM. STA. 121+15.49

MH11 STORM MANHOLE 11
ST. STA. 11+25.01, 43.65' RT
STM. STA. 121+83.14

CB5 COMBINATION CURB INLET
ST. STA. 10+60.65, 36.30' LT
T.C. ELEV.=197.33
I.E.(OUT)=192.83 (10"NE)
8 LF 10" STM PIPE W/12"X10" TEE
S=0.0608 FT/FT

CB7 CURB INLET
ST. STA. 11+30.00, 35.00' LT
T.C. ELEV.=198.58
I.E.(OUT)=194.08 (10"NE)
14 LF 10" STM PIPE
S=0.0179 FT/FT

CB8 CURB INLET
ST. STA. 11+12.00, 23.00' RT
T.C. ELEV.=198.32
I.E.(OUT)=193.86 (10"SW)
11 LF 10" STM PIPE W/ 12"X10" TEE
S=0.0950 FT/FT

SD3 STUB FOR FUTURE CONNECTION W/ PLUG
ST. STA. 11+32.70, 50.46' RT
I.E.=194.29
9.0 LF 12" STM PIPE
S=0.020 FT/FT

SD4 12" X 10" TEE
ST. STA. 11+25.01, 24.77' RT

SD5 12" X 10" TEE
ST. STA. 10+59.15, 28.55' LT

MH8, CB6, CB9, CB10 } SEE SHEET PP03

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: ⬡ CONTRACTOR ◯ CITY/COUNTY FORCES ▢ OTHERS

DESIGNED:	PKW
DRAWN:	JGN
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP09
SHEET	27 OF 84

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RAYMOND W. KELLEY STATE OF WASHINGTON 19800 PROFESSIONAL ENGINEER EXPIRES AUG. 31, 2005

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Vancouver, WA 98660-3220
Phone: (360) 737-8613
FAX: (360) 737-9851

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE - ACCESS ROAD
STA. 8+80 TO STA. 12+50

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CLARK COUNTY WASHINGTON

V: JOHNMA 06/15/03 4:35pm ---> R:\DWG\C97BS029.DWG

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Ltscale: 20
Resolved
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C978X116
C978X230
C978X231
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C978X300
C978X304
0978B191
PKW WASH
XLIGHT
Xsignal
Unresolved
L978X700

Fed. Aid No.
STPF-4253[010]

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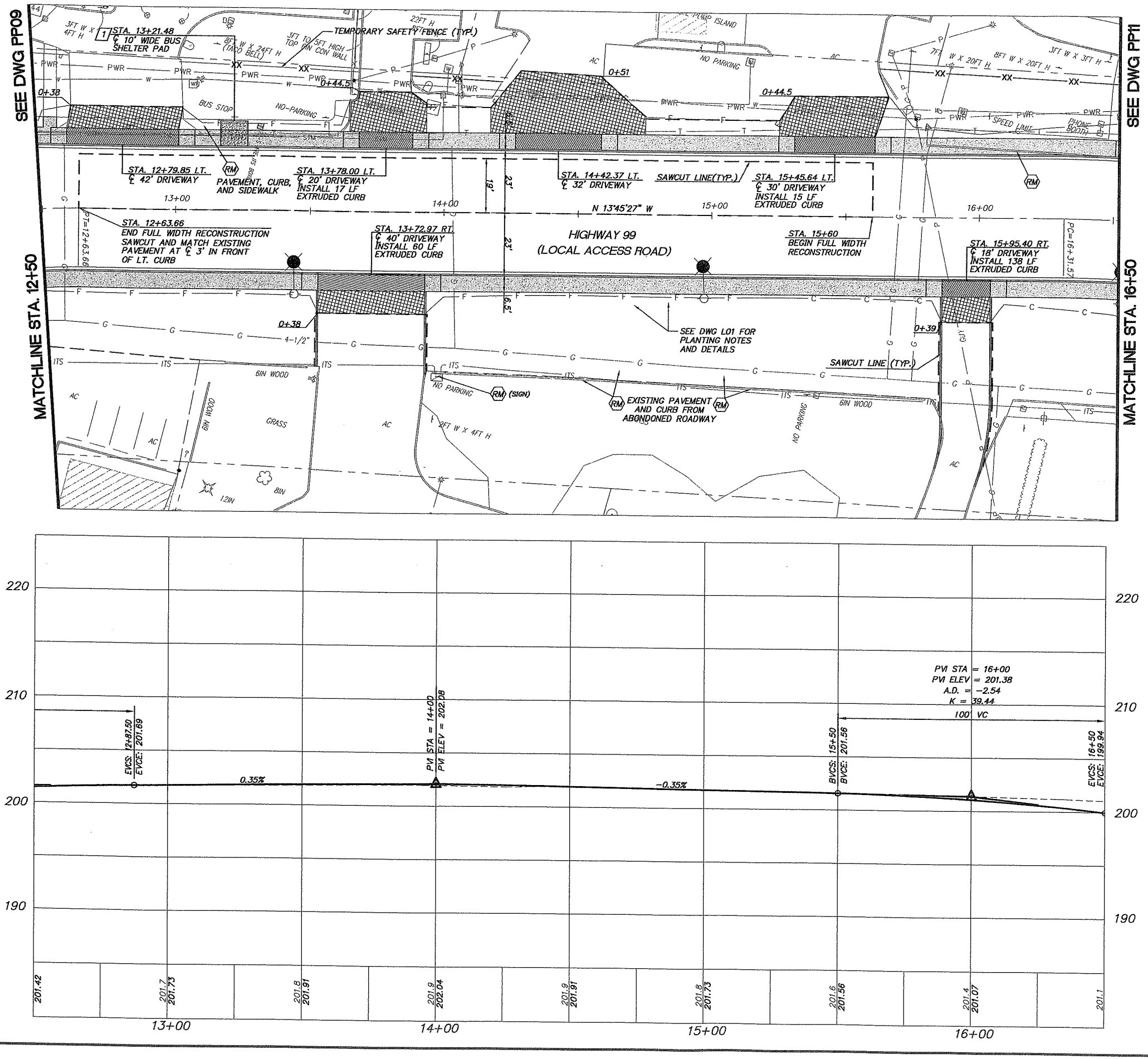

NOTES:

SEE DWG. SQ3 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.

SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.

SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

CONSTRUCTION NOTE

1 CONSTRUCT BUS SHELTER PAD PER DETAIL ON SHEET D01

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: CONTRACTOR / CITY/COUNTY FORCES / OTHERS

DESIGNED: PKW
DRAWN: SLW
CRP: 392922
HORIZ. 1" = 20'
VERT. 1" = 5'
DATE: 2/20/04
DWG: PP10
SHEET 28 OF 84

CALL 48 HOURS BEFORE YOU DIG
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PAMELA KIEL WIEDEMANN
STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

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105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE - ACCESS ROAD
STA. 12+50 TO STA. 16+50

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CLARK COUNTY WASHINGTON

V: SADIE 02/17/04 11:50am ~--> R:\DWG\C978S028.DWG

XREF LIST
Ltscale: 20
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C978X116
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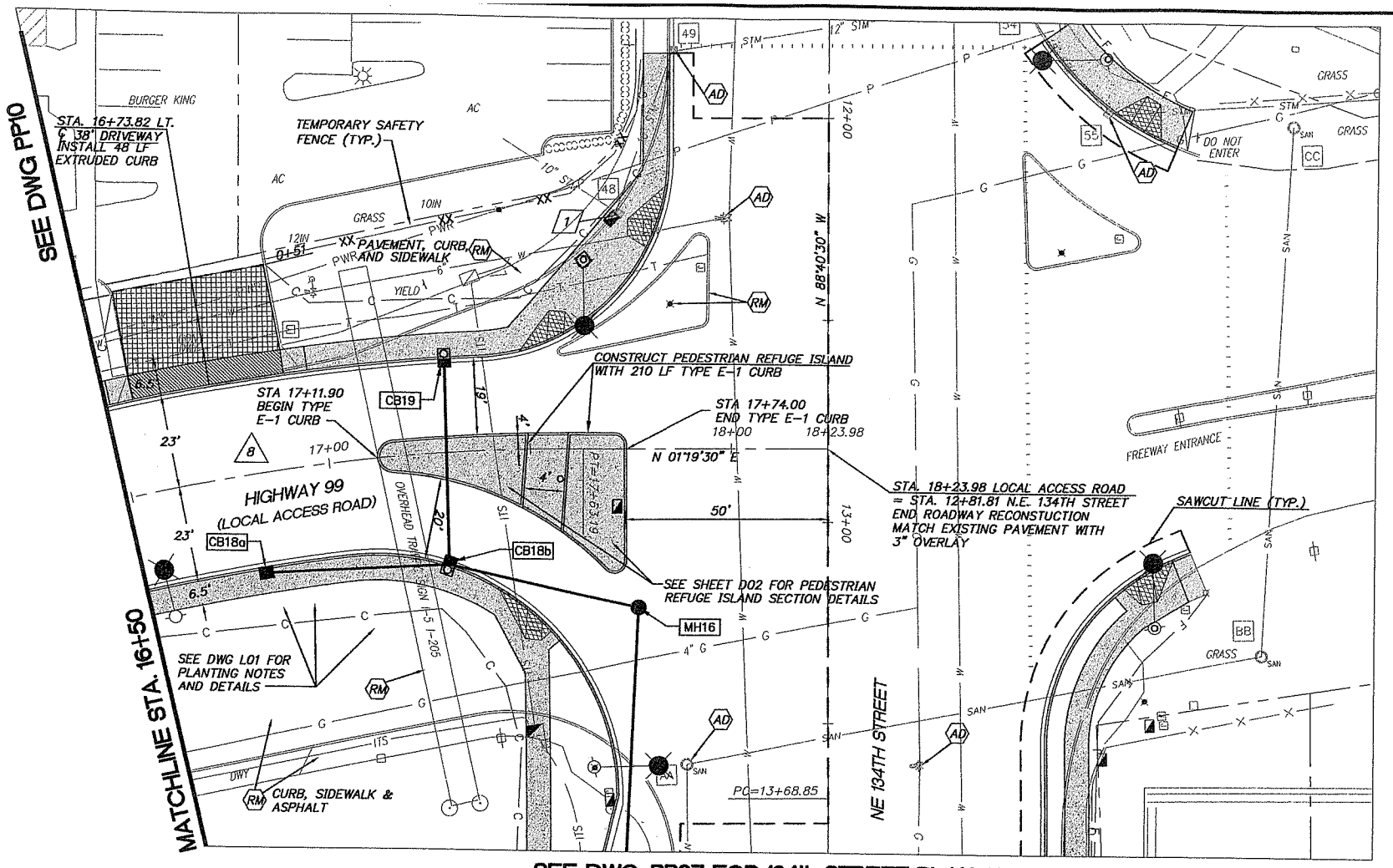
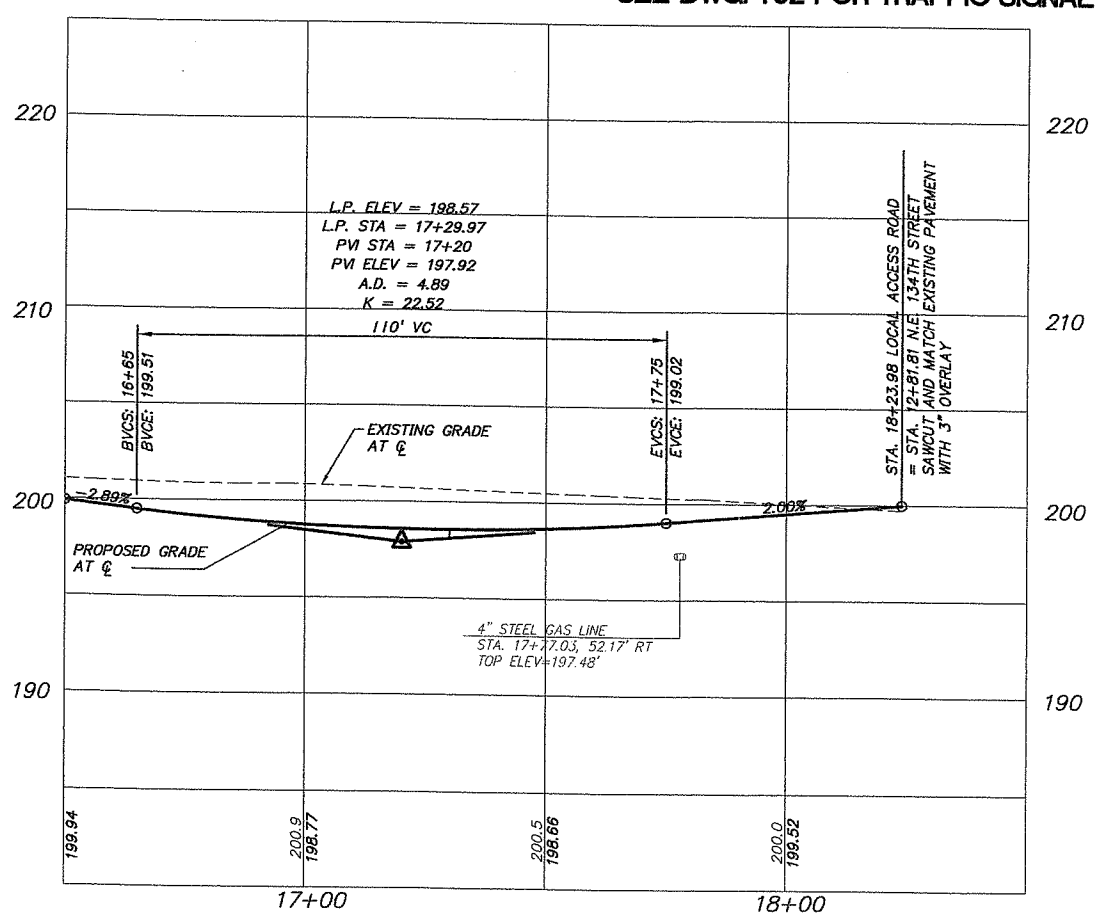
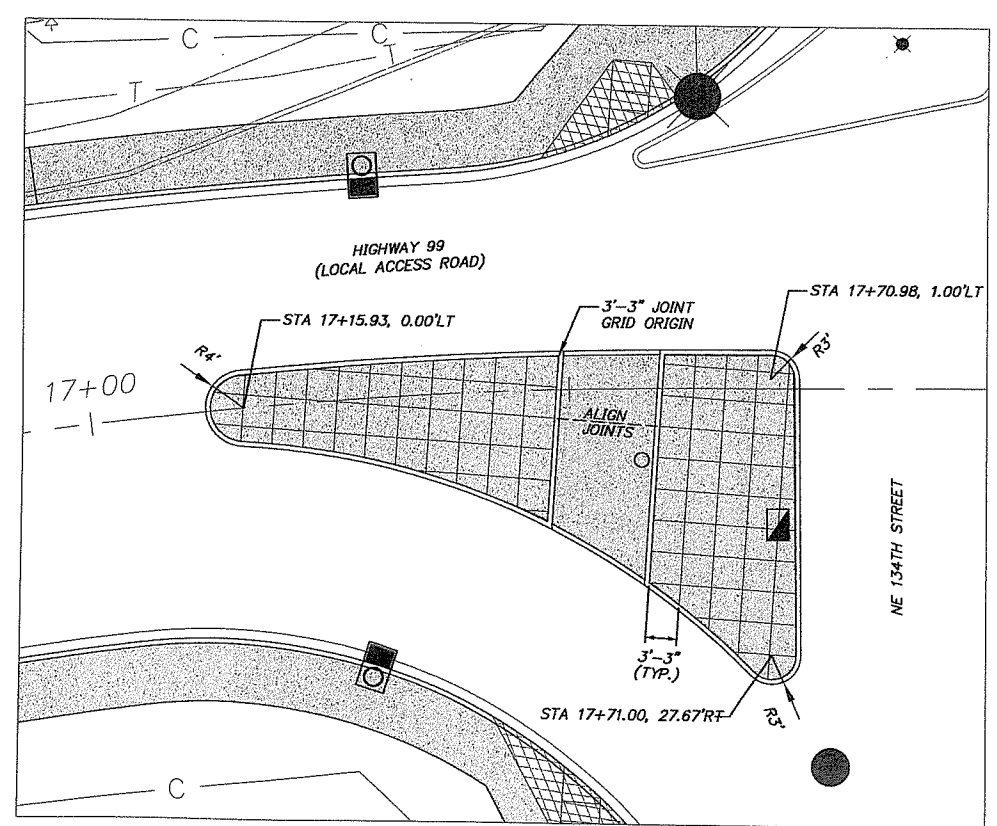
C978X300
C978X304
L978X700
O978B191
PKW WASH



SEE DWG. PP07 FOR 134th STREET PLAN AND PROFILE
SEE DWG. T02 FOR TRAFFIC SIGNAL PLANS





PAVEMENT JOINT PATTERN AT PEDESTRIAN REFUGE ISLAND
Scale: 1"=10'
SEE ADDITIONAL DETAILS DWG D02

Fed. Aid No.
STPF-4253[010]

SCALE IN FEET
20 0 20 40

NOTES:
SEE DWG. SQ3 FOR EXISTING STORM DRAINAGE AND SANITARY SEWER STRUCTURE DETAILS.

SEE TRAFFIC PLAN SHEETS FOR "ITS" LINE AND EXISTING TRAFFIC SIGNAL EQUIPMENT ADJUSTMENTS.

SEE WATER MAIN PLAN SHEETS FOR ALL WATER LINE, HYDRANT AND METER ADJUSTMENTS.

SEE DWG. PP07 FOR STANDARD CURB RETURN DETAILS.

CENTERLINE CURVE TABLE
LOCAL ACCESS ROAD

8	
Δ =	15°04'57"
R =	500.00'
L =	131.62'

CONSTRUCTION NOTE

1 CONTRACTOR TO ADJUST CB TO GRADE AND INSTALL SOLID COVER

STORM STRUCTURE TABLE

CB18a CURB INLET
STA. 16+80.07, 23.00' RT
T.C. ELEV.=199.14
I.E.(OUT)=195.14 (10"N)
45.43 LF 10" D.I.P. PIPE
S=0.0057 FT/FT

CB18b COMBINATION CURB INLET
STA. 17+27.89, 27.62' RT
T.C. ELEV.=198.62
I.E.(IN)=194.88 (10"W)
I.E.(IN)=195.12 (10"S)
I.E.(OUT)=194.88 (12"NE)
48.27 LF 12" D.I.P. PIPE
S=0.0033 FT/FT

CB19 COMBINATION CURB INLET
STA. 17+29.98, 23.00' LT
T.C. ELEV.=198.59
I.E.(OUT)=195.09 (10"E)
50.63 LF 10" D.I.P. PIPE
S=0.0040 FT/FT

MH16 SEE SHEET PP07

OBJECT TO BE:

REMOVED	= RM
RELOCATED	= RL
ABANDONED	= AB
REPLACED & RELOCATED	= RP
RELOCATED & ADJUSTED TO GRADE	= RA
ADJUSTED TO GRADE	= AD
TRIMMED	= T

BY: ⬡ CONTRACTOR ◯ CITY/COUNTY FORCES ☐ OTHERS

DESIGNED:	PKW
DRAWN:	SLW
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP11
SHEET	29 OF 84

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

PLAN AND PROFILE - ACCESS ROAD
STA. 16+50 TO STA. 18+24

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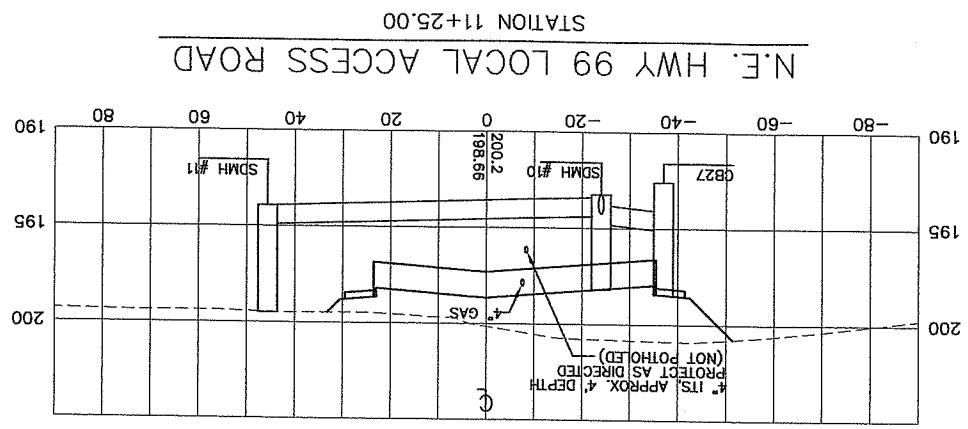
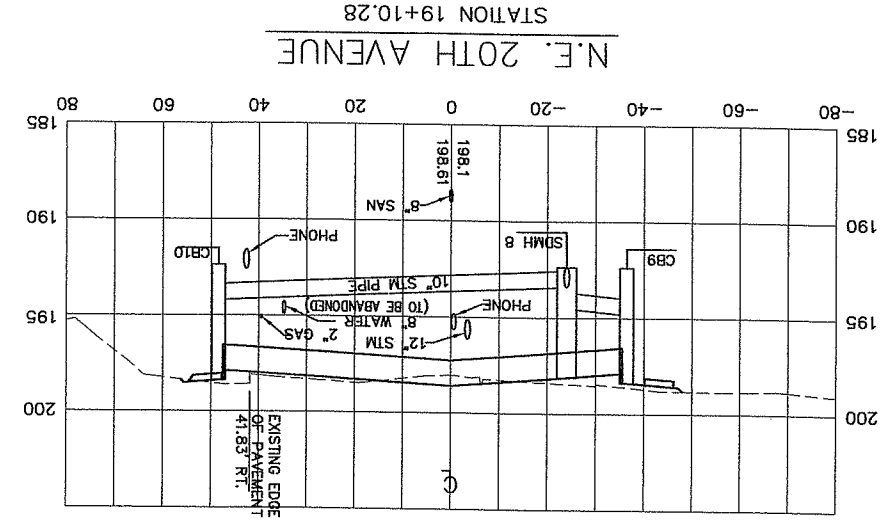
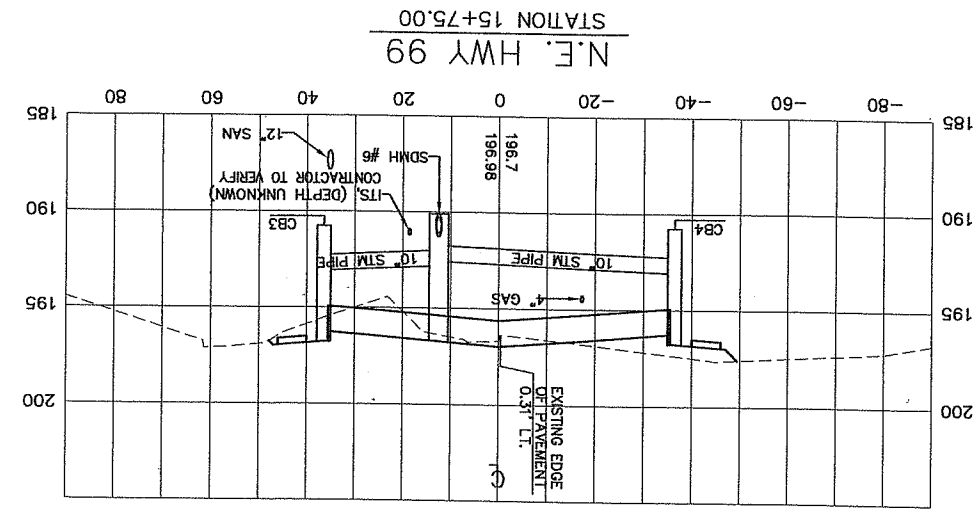
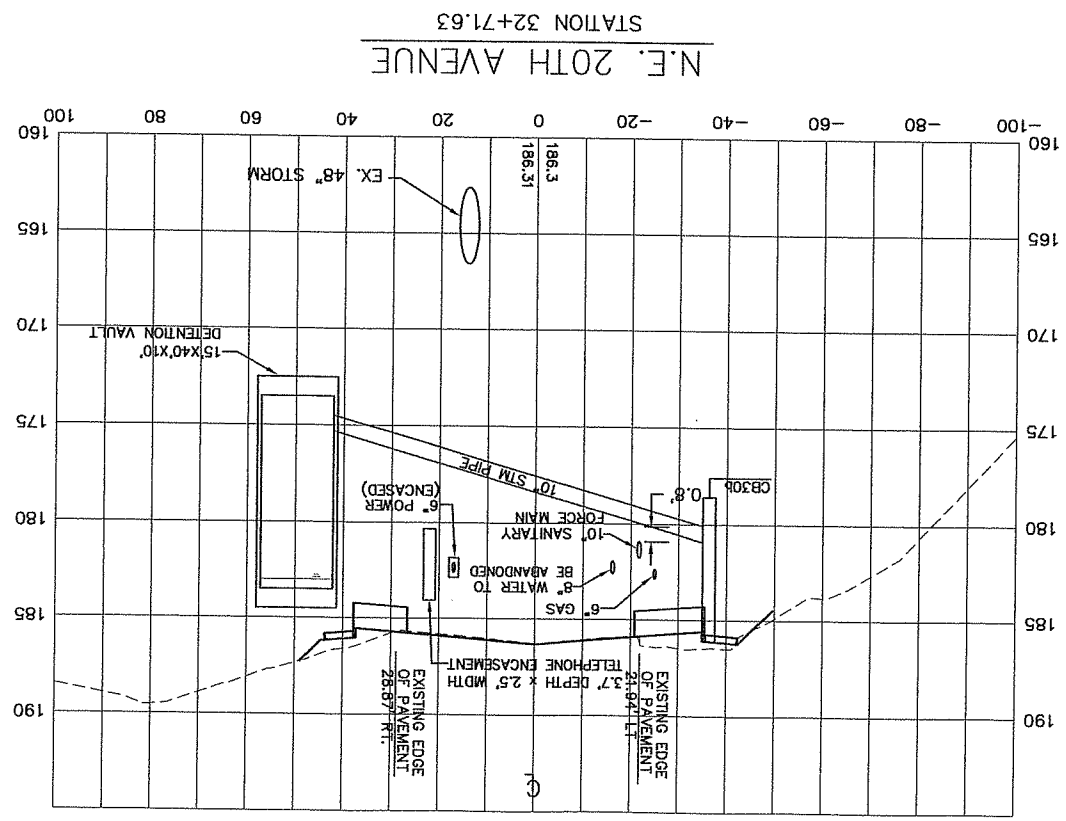
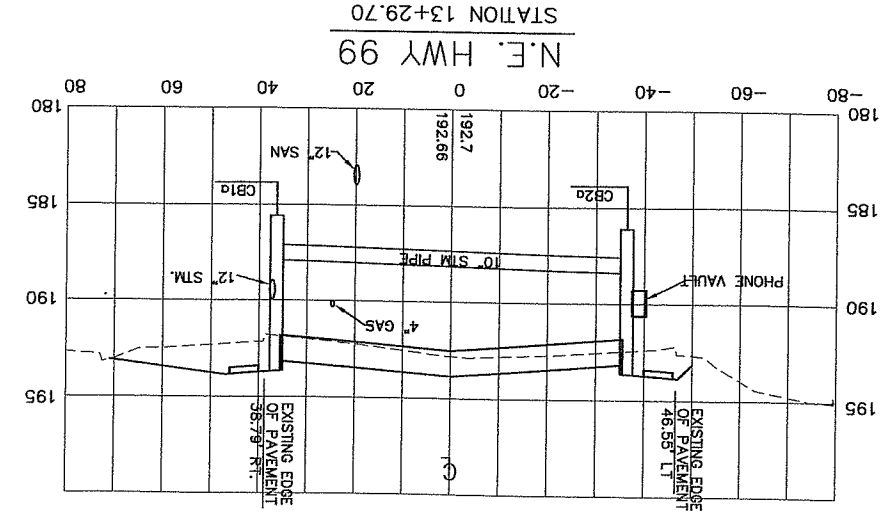
V: JOHNMA 09/11/03 4:49pm ---> R:\DWG\G978S028.DWG











CLARK COUNTY WASHINGTON

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DESIGN SECTION

CROSS SECTION AND POTHOLE DATA

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RAMELA KIEL WIEDEMANN
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
REGISTERED
EXPIRES AUG. 31, 2005

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DESIGNED:	PKW
DRAWN:	SLN
CRP:	392922
HORIZ.	1" = 20'
VERT.	1" = 5'
DATE:	2/20/04
DWG:	PP12
SHEET	30 OF 84

Fed. Aid No. STPF-4253[010]

V: SADIE 02/17/04 4:14pm ---> R:\DWG\C978S030.DWG

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Resolved
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C978X290
PKW WASH

XREF LIST
Ltscale: 10

Resolved
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Unresolved
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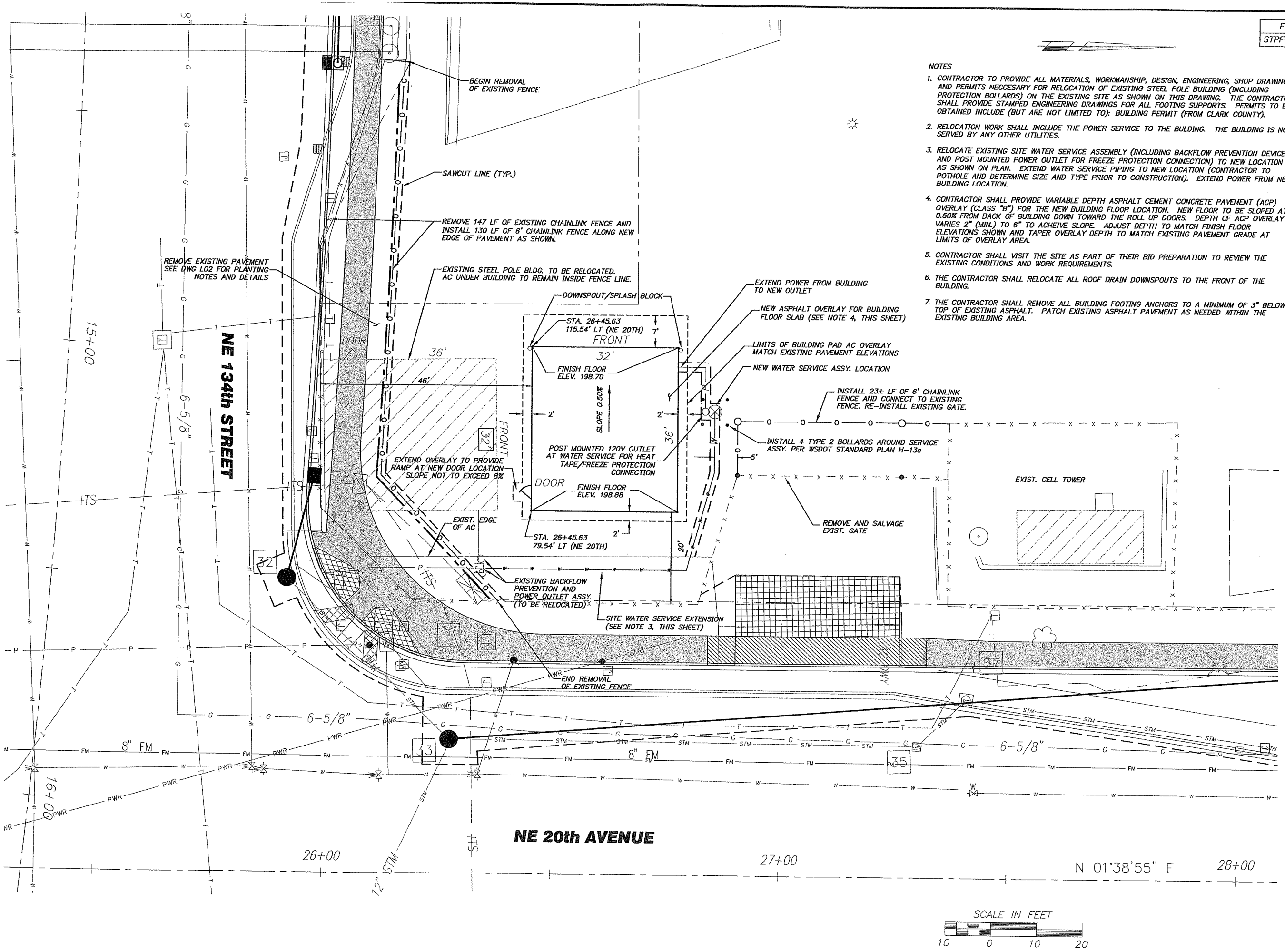
Fed. Aid No.
STPF-4253[010]



NOTES

1. CONTRACTOR TO PROVIDE ALL MATERIALS, WORKMANSHIP, DESIGN, ENGINEERING, SHOP DRAWINGS, AND PERMITS NECCESARY FOR RELOCATION OF EXISTING STEEL POLE BUILDING (INCLUDING PROTECTION BOLLARDS) ON THE EXISTING SITE AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL PROVIDE STAMPED ENGINEERING DRAWINGS FOR ALL FOOTING SUPPORTS. PERMITS TO BE OBTAINED INCLUDE (BUT ARE NOT LIMITED TO): BUILDING PERMIT (FROM CLARK COUNTY).
2. RELOCATION WORK SHALL INCLUDE THE POWER SERVICE TO THE BULDING. THE BUILDING IS NOT SERVED BY ANY OTHER UTILITIES.
3. RELOCATE EXISTING SITE WATER SERVICE ASSEMBLY (INCLUDING BACKFLOW PREVENTION DEVICE AND POST MOUNTED POWER OUTLET FOR FREEZE PROTECTION CONNECTION) TO NEW LOCATION AS SHOWN ON PLAN. EXTEND WATER SERVICE PIPING TO NEW LOCATION (CONTRACTOR TO POTHOLE AND DETERMINE SIZE AND TYPE PRIOR TO CONSTRUCTION). EXTEND POWER FROM NEW BUILDING LOCATION.
4. CONTRACTOR SHALL PROVIDE VARIABLE DEPTH ASPHALT CEMENT CONCRETE PAVEMENT (ACP) OVERLAY (CLASS "B") FOR THE NEW BUILDING FLOOR LOCATION. NEW FLOOR TO BE SLOPED AT 0.50% FROM BACK OF BUILDING DOWN TOWARD THE ROLL UP DOORS. DEPTH OF ACP OVERLAY VARIES 2" (MIN.) TO 6" TO ACHEIVE SLOPE. ADJUST DEPTH TO MATCH FINISH FLOOR ELEVATIONS SHOWN AND TAPER OVERLAY DEPTH TO MATCH EXISTING PAVEMENT GRADE AT LIMITS OF OVERLAY AREA.
5. CONTRACTOR SHALL VISIT THE SITE AS PART OF THEIR BID PREPARATION TO REVIEW THE EXISTING CONDITIONS AND WORK REQUIREMENTS.
6. THE CONTRACTOR SHALL RELOCATE ALL ROOF DRAIN DOWNSPOUTS TO THE FRONT OF THE BUILDING.
7. THE CONTRACTOR SHALL REMOVE ALL BUILDING FOOTING ANCHORS TO A MINIMUM OF 3" BELOW TOP OF EXISTING ASPHALT. PATCH EXISTING ASPHALT PAVEMENT AS NEEDED WITHIN THE EXISTING BUILDING AREA.

DESIGNED:	PKW
DRAWN:	JRM
CRP:	392922
HORIZ.	1" = 10'
VERT.	NONE
DATE:	2/20/04
DWG:	C01
SHEET 31 OF 84	

CALL 48 HOURS BEFORE YOU DIG
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NORTHWEST UTILITIES NOTIFICATION CENTER

KIEL W. FORMANN
STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

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105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

WSDOT BUILDING RELOCATION

proud past, promising future
CLARK COUNTY WASHINGTON

V: SADIE 02/17/04 11:38am ---> R:\DWG\D978S031.DWG

Ltscale: 30

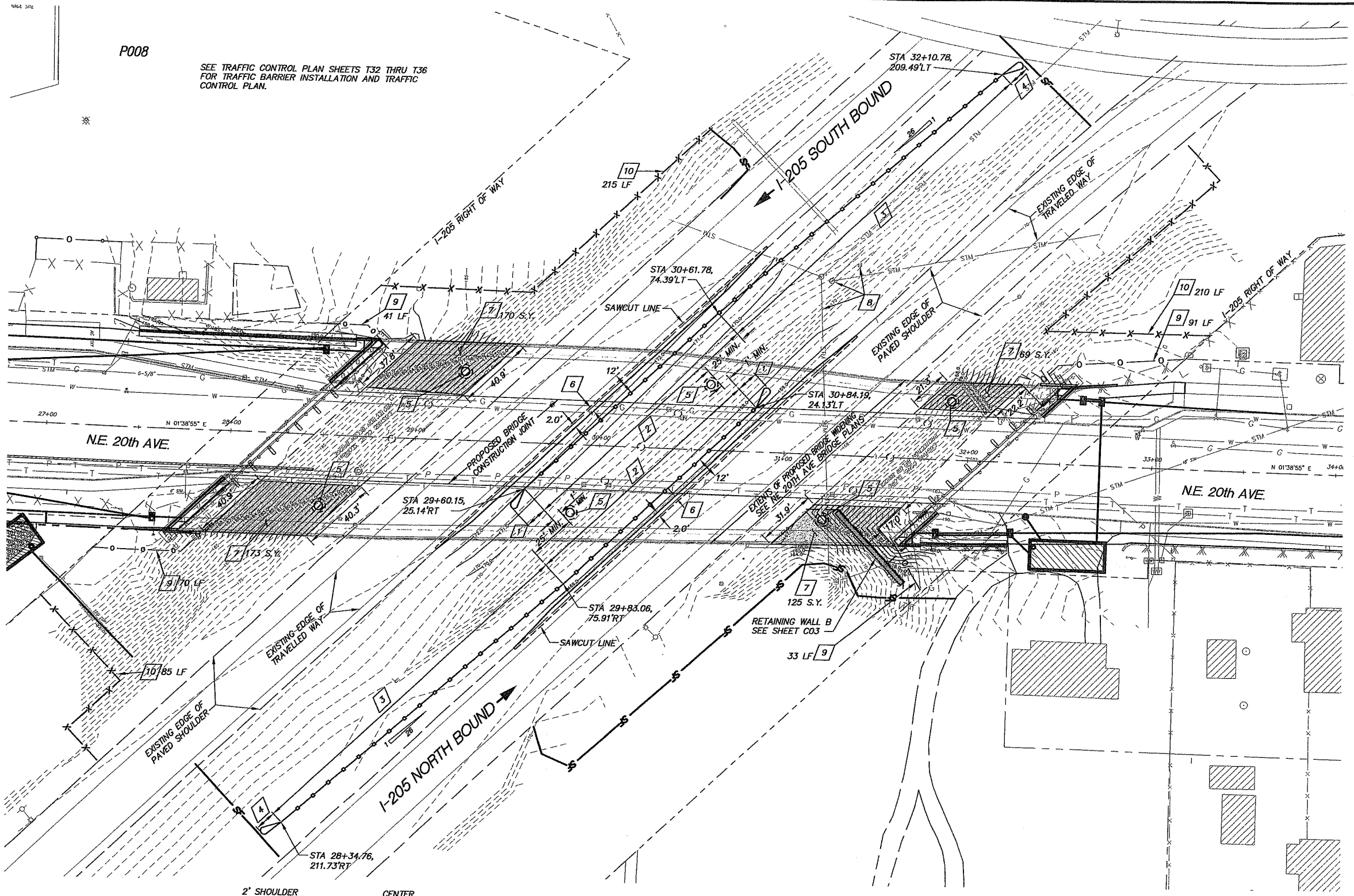
Resolved

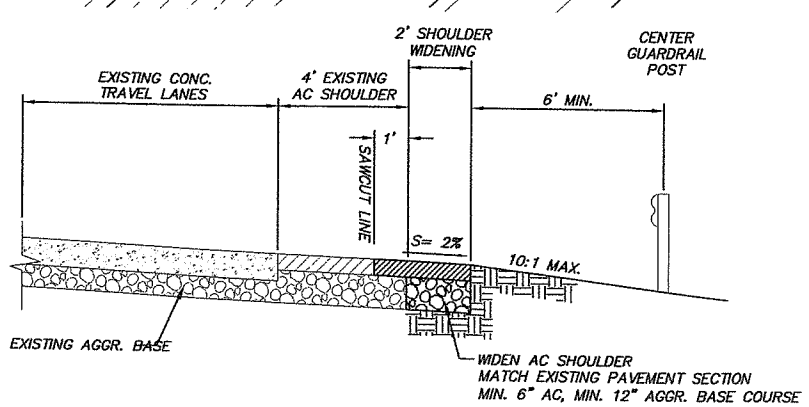
Bridge Under dtm
C978X001
C978x116
C978x230
c978x231
C978x300
C978X304
c978x430
C978X551
GUARDRAIL2
kpffxref
C978B191
PKW WASH

Unresolved

NE99XFRAME
NE99XRW
NE99XSURV

Fed. Aid No.
STPF-4253[010]





SHOULDER WIDENING DETAIL

SCALE: N.T.S.

CONSTRUCTION NOTES:

1. CONSTRUCT GUARDRAIL ANCHOR, TYPE 4. ONE EA. SIDE, (2 TOTAL). SEE WSDOT STD. PLAN C-2D AND C-6C.
2. CONSTRUCT BEAM GUARDRAIL. SEE WSDOT STD. PLAN C-2D. L=142' (EA. SIDE), TOTAL L=284'.
3. CONSTRUCT BEAM GUARDRAIL. TAPER RATE = 26:1. L=201' (EA. SIDE), TOTAL L=402'.
4. CONSTRUCT GUARDRAIL TERMINAL. ONE EA. SIDE, (2 TOTAL). SEE WSDOT STD. PLAN C-4B.
5. PROPOSED BRIDGE PIER, SEE BRIDGE STRUCTURAL PLANS.
6. CONSTRUCT 2' SHOULDER WIDENING, SEE DETAIL THIS SHEET.
7. EXTEND CONCRETE SLOPE PROTECTION TO LATERAL EXTREMITY OF PROPOSED BRIDGE EXTENSION (SEE NE 20TH AVE BRIDGE PLANS). SEE WSDOT STD. PLAN D-9. GRADE SLOPES AT 2 HOR. TO 1 VERT. (2:1) MAX.
8. STORM UTILITIES SHOWN WITHIN THE I-205 RIGHT OF WAY ARE BASED ON AS-BUILT DATA. CONTRACTOR SHALL FIELD VERIFY ALL STORM PIPE LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING WORK AND NOTIFY THE ENGINEER OF ANY CONFLICTS.
9. REMOVE EXISTING FENCE AND REPLACE WITH TYPE 1 CHAIN LINK FENCE. END FENCE FLUSH AGAINST OUTSIDE FACE OF NEW BRIDGE GIRDER (SEE NE 20TH AVE. BRIDGE PLANS).
10. INSTALL ORANGE CONSTRUCTION FENCE ALONG LIMITS OF CONSTRUCTION PRIOR TO BEGINNING WORK.

LEGEND

- 185 — EXISTING CONTOURS
- 168 — PROPOSED CONTOURS
- CONCRETE SLOPE PROTECTION
- CHAINLINK FENCE
- BEAM GUARDRAIL
- STRUCTURAL EARTH RETAINING WALL
- ORANGE CONSTRUCTION FENCE
- SF — SEDIMENT FENCE (SEE EROSION CONTROL PLANS)

DESIGNED:	PKW
DRAWN:	JRM
CRP:	392922
HORIZ:	1"=30'
VERT.	NA
DATE:	2/20/04
DWG:	C02
SHEET	32 OF 84

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

PAUL W. EDEMANN STATE OF WASHINGTON 19146 PROFESSIONAL ENGINEER EXPIRES AUG. 31, 2005

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-8613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

BRIDGE SAFETY AND GRADING PLAN

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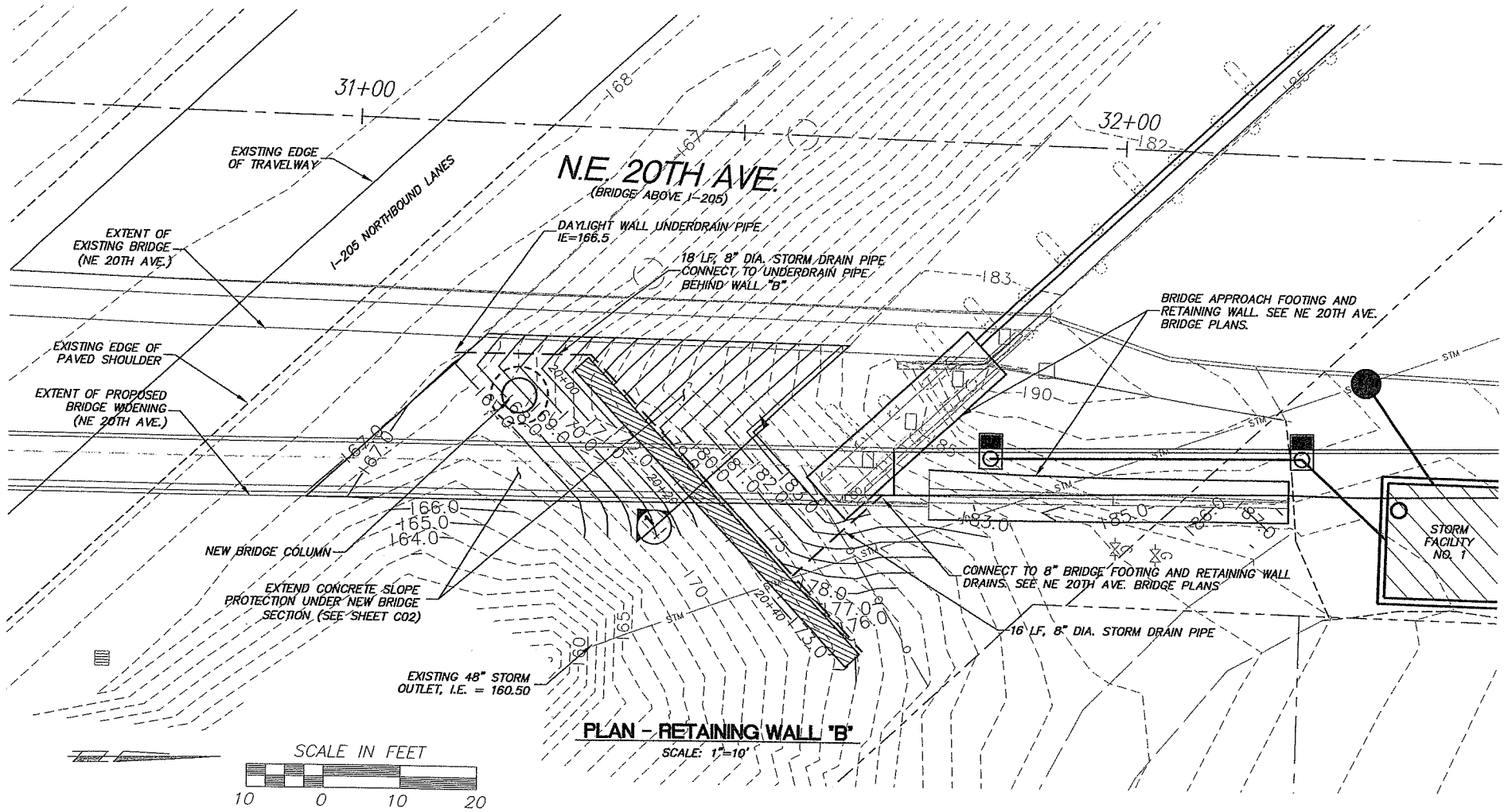
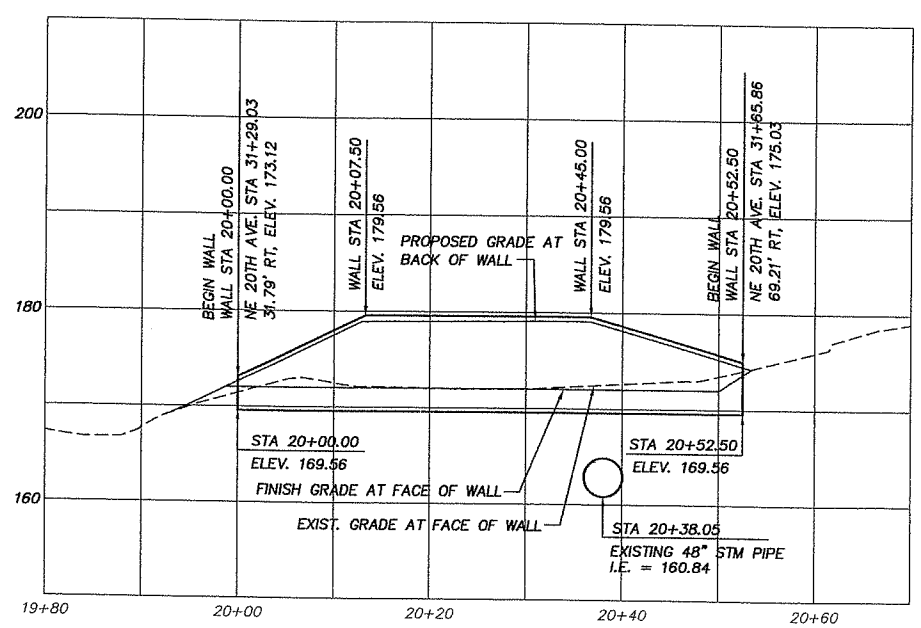
V: SADIE 02/17/04 4:20pm --> R:\DWG\C9785032.DWG

Ltscale: 10
Resolved
Bridge Under dtm
C978X001
C978x116
C978x230
c978x231
C978x300
C978X304
c978x430
C978X551
kpffxref
0978B191
PKW WASH
Unresolved
NE99XFRAME
NE99XRW
NE99XSURV

FED. AID. NO.
STPF-4253(010)

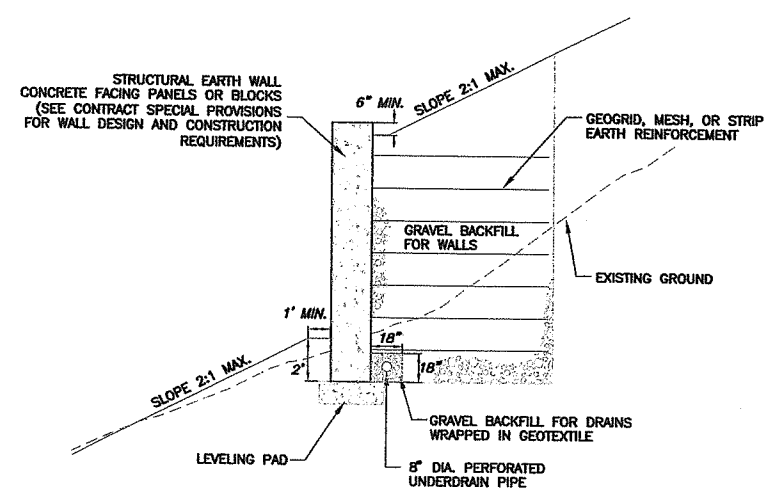


PLAN - RETAINING WALL "B"
SCALE: 1"=10'



PROFILE - RETAINING WALL "B"
SCALE: 1"=10' HOR. 1"=10' VERT.

NOTE: OFFSETS SHOWN ON PROFILE ARE FROM PROPOSED 20TH AVENUE CENTERLINE TO TOP FACE OF WALL



1 RETAINING WALL "B"
NOT TO SCALE

DESIGNED: PKW
DRAWN: JGN
CRP: 392922
HORIZ. 1"=10'
VERT. 1"=10'
DATE: 2/20/04
DWG: C003
SHEET 33 OF 84

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NORTHWEST UTILITIES NOTIFICATION CENTER

PAMELA KIEL WIEDEMANN
STATE OF WASHINGTON
22440
REGISTERED PROFESSIONAL ENGINEER
EXPIRES AUG. 31, 2005

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105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

STRUCTURAL EARTH WALL

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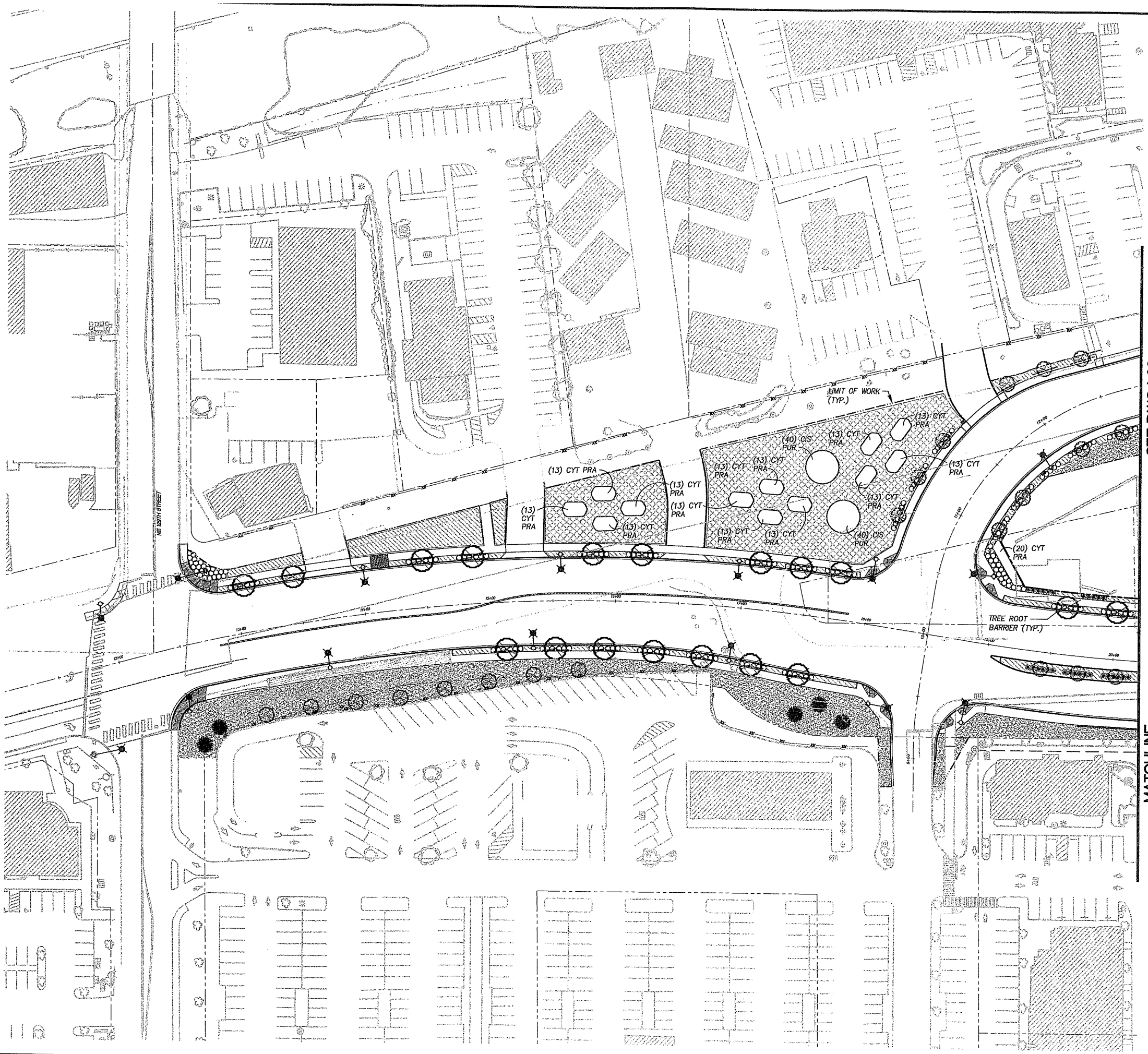
WASHINGTON

V: SADIE 02/17/04 11:44am---> R:\DWG\C9785033.DWG

XREF LIST
Ltscale: 20

Resolved
C978X001
C978X230
C978X231
C978X300
C978X304
L978x700b
O978B191
PKW WASH
XLIGHT

Unresolved
C978x116
L978X700



Fed. Aid No.
STPF-4253[010]

SCALE IN FEET
40 0 40 80

PLANT MATERIAL LEGEND

TREES

SYMBOL/ ABBREV.	QUANTITY (TTL ALL SHTS)	COMMON NAME
	49	CORINTHIAN LINDEN
	49	AMERICAN HORNBEAM
	5	HOGAN CEDAR

SHRUBS / GROUND COVERS

* / PIN MUG	126	MUGHO PINE
CYT PRA	318	WARMINSTER BROOM
SPI THU	87	SPIRAEA
O / CIS PUR	586	ORCHID ROCKROSE
ROS NUT	163	NOOTKA ROSE
	1,343	BEARBERRY COTONEASTER
	938	CASCADE OREGON GRAPE
	2,111	KINNIKINNICK

SHRUBS / GROUND COVERS

TURF GRASS

DESIGNED: DDH
DRAWN:
CRP: 392922
HORIZ. 1" = 30'
VERT. N/A
DATE: 2/20/04
DWG: L01
SHEET 34 OF 84

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NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
DAVID D. HAYNES
CERTIFICATE NO. 824

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9613
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

LANDSCAPE PLAN

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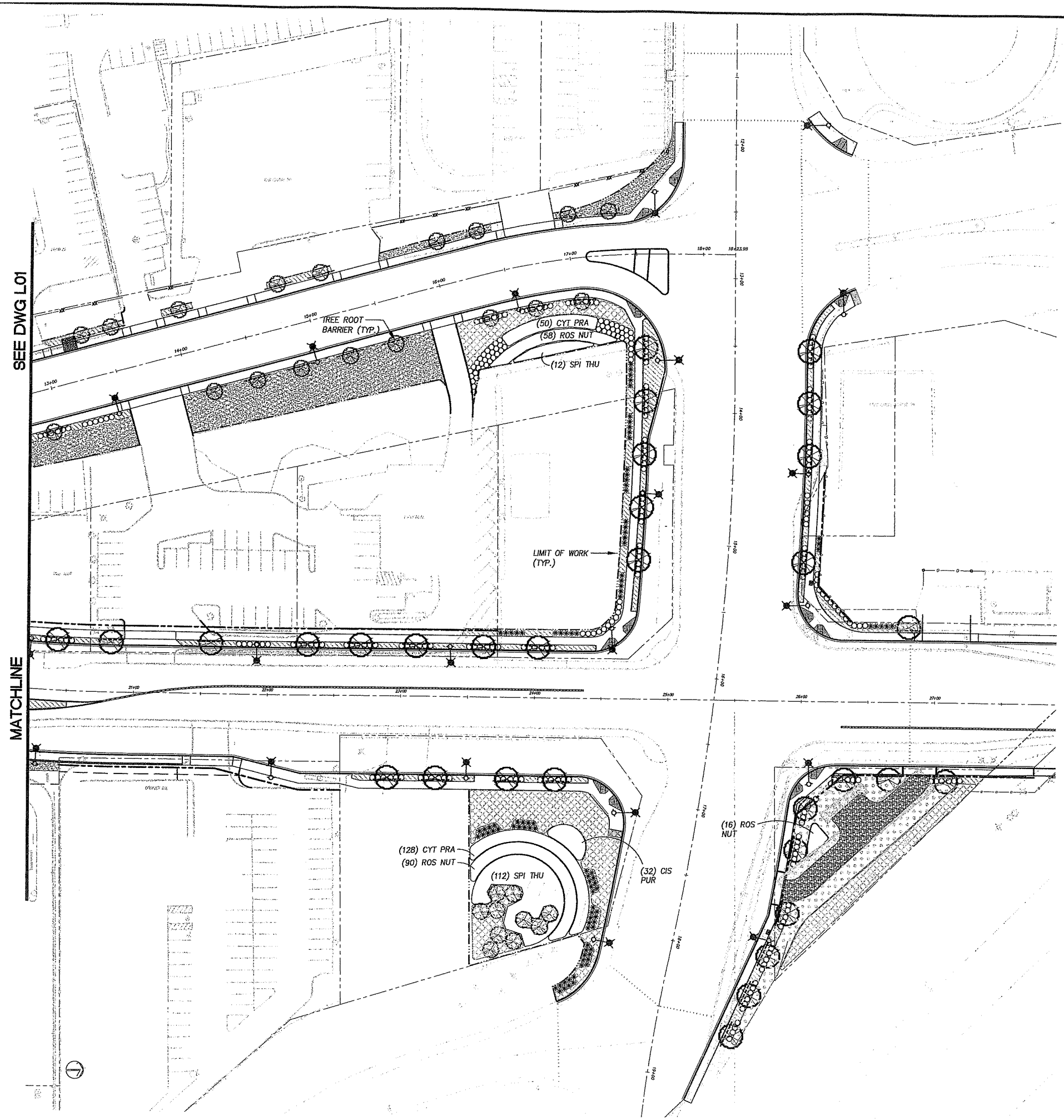
CLARK COUNTY WASHINGTON

V: DAVIDH 02/17/04 11:41am --> R:\DWG\C978S034.DWG

XREF LIST
Ltscale: 20

Resolved
C978X001
C978X230
C978X231
C978X300
C978X304
L978x700b
0978B191
PKW WASH
XLIGHT

Unresolved
C978x116



Fed. Aid No.
STPF-4253[010]

SCALE IN FEET
40 0 40 80

PLANT MATERIAL LEGEND

TREES

SYMBOL/ ABBREV.	QUANTITY (TTL ALL SHTS)	COMMON NAME
	49	CORINTHIAN LINDEN
	49	AMERICAN HORNBEAM
	5	HOGAN CEDAR

SHRUBS / GROUND COVERS

* / PIN MUG	126	MUGHO PINE
CYT PRA	318	WARMINSTER BROOM
SPI THU	87	SPIRAEA
O / CIS PUR	586	ORCHID ROCKROSE
ROS NUT	163	NOOTKA ROSE
	1,343	BEARBERRY COTONEASTER
	938	CASCADE OREGON GRAPE
	2,111	KINNIKINNICK

SHRUBS / GROUND COVERS

TURF GRASS

DESIGNED: DDH
DRAWN:
CRP: 3929922
HORIZ. 1" = 30'
VERT. NA
DATE: 2/20/04
DWG: L02
SHEET 35 OF 84

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CERTIFICATE NO. 824

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Vancouver, WA 98660-3220
Phone: (360) 737-8613
FAX: (360) 737-8651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

LANDSCAPE PLAN

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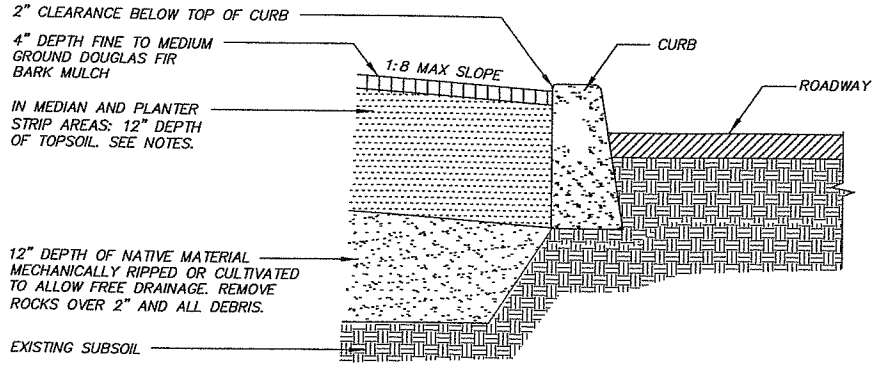
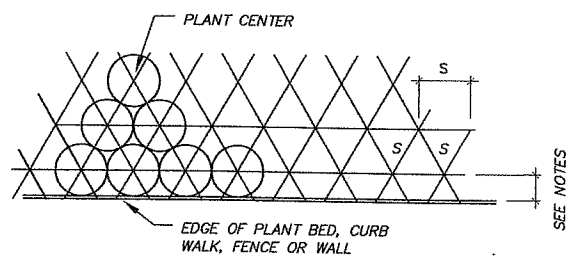
V: DAVIDH 02/17/04 11:47am ---> R:\DWG\C978S035.DWG

XREF LIST
Ltscale: 1
Resolved
C978X001
L978x700b
PKW WASH
Unresolved
L978x700
XLIGHT



PLANTING AREA SECTION AT MEDIANS

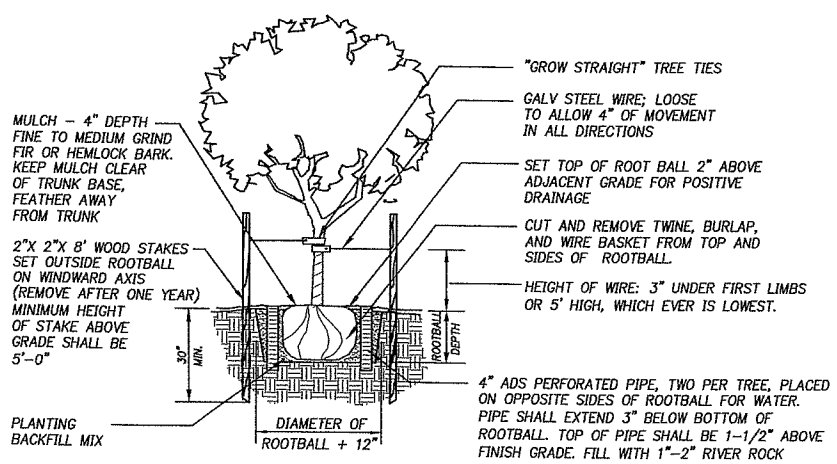
(NOT TO SCALE)



S = SPACING ON CENTER(O.C.) AS SHOWN ON PLANS

TRIANGULAR PLANT SPACING

(NOT TO SCALE)



NOTE:
INSTALL SPECIFIED ROOT BARRIER AT EDGE OF ADJACENT SIDEWALK. CENTER ON TREE TRUNK (20 LF PER TREE). SEE CIVIL DWGS.

TREE STAKING DETAIL

(NOT TO SCALE)

PLANTING NOTES

1. TREES IN PLANTING STRIPS TO BE CENTERED IN PLANTER WITH SPACING SHOWN ON PLAN. TREES INDICATED OUTSIDE OF SIDEWALK SHALL BE PLANTED 3'-0" FROM WALK EDGE.

2. LIMIT OF WORK FOR PLANTING STRIPS OUTSIDE OF SIDEWALK SHALL BE PARALLEL TO AND 6'-0" FROM WALK EDGE OR AS SHOWN ON PLAN.

3. INSTALL STREET TREES PER TREE STAKING DETAIL. PERFORATED PIPE FOR MANUAL IRRIGATION IS REQUIRED AS PART OF THIS WORK.

4. INSTALL TREE ROOT BARRIER IN CONFORMANCE WITH SPECIAL PROVISIONS.

5. LEAVE PLANT NAME IDENTIFICATION TAGS ON TEN PERCENT OF ALL TREES AND SHRUBS INSTALLED TO AID COUNTY INSPECTORS IN VERIFYING THAT SPECIFIED PLANTS HAVE BEEN INSTALLED.

6. PLANT CENTER OF SHRUBS A MINIMUM OF 24 INCHES FROM STREET CURBS. PLANT CENTER OF GROUND COVERS A MINIMUM OF 18" FROM STREET CURBS.

7. INSTALL 4-INCH MIN. DEPTH OF MEDIUM FIR BARK MULCH LAYER OVER ALL PLANTING AREAS AFTER INSTALLATION OF TREES, SHRUBS, AND GROUND COVERS. CLEAR MULCH FROM TREE AND SHRUB STEM BASES.

8. TOPSOIL: PLACE 12" DEPTH IN MEDIAN PLANTING AREAS AND IN PLANTER STRIP BETWEEN CURB AND SIDEWALK. PLACE 4" DEPTH IN ALL OTHER AREAS. BACKFILL PLANTING PITS WITH PLANTING BACKFILL MIX.

9. SPECIFIED SOIL PREPARATION SHALL OCCUR IN ALL AREAS INDICATED TO BE PLANTED WITH SHRUBS/ GROUNDCOVER OR LAWN.

PLANT MATERIAL LEGEND

Fed. Aid No.
STPF-4253[010]

TREES

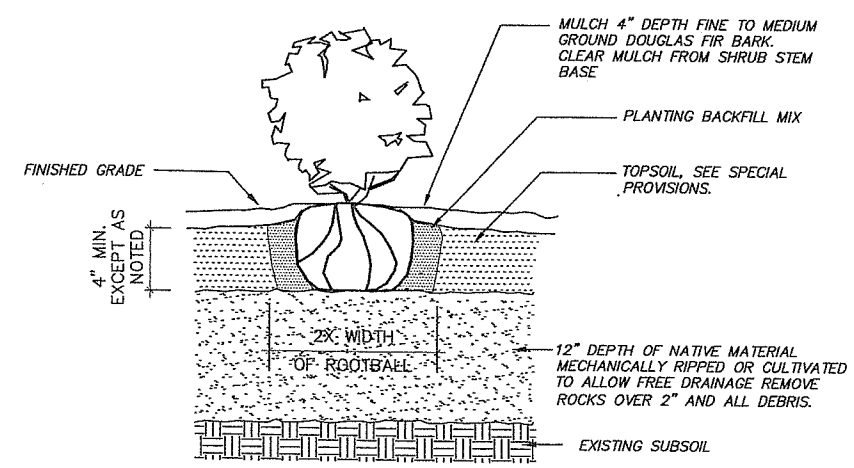
SYMBOL/ ABBREV.	QUANTITY (TTL ALL SHTS)	COMMON NAME	BOTANICAL NAME	SPACING	SIZE AND DESCRIPTION
	49	CORINTHIAN LINDEN	TILIA CORDATA 'CORZAM'	40' O.C. OR AS SHOWN	2" CALIPER
	49	AMERICAN HORNBEAM	CARPINUS CAROLINIANA	30' O.C. OR AS SHOWN	1.5" CALIPER
	5	HOGAN CEDAR	THUJA PLICATA 'FASTIGIATA'	30' O.C. OR AS SHOWN	6 FT. HEIGHT

SHRUBS / GROUND COVERS

* / PIN MUG	126	MUGHO PINE	PINUS MUGO 'MUGO'	48 IN. O.C.	2 GALLON
CYT PRA	318	WARMINSTER BROOM	CYTISUS PRAECOX	48 IN. O.C.	2 GALLON
SPI THU	87	SPIRAEA	SPIRAEA THUNBERGII	6 FT. O.C.	2 GALLON
O / CIS PUR	586	ORCHID ROCKROSE	CISTUS PURPUREOUS	48 IN. O.C.	2 GALLON
ROS NUT	163	NOOTKA ROSE	ROSA NUTKANA	48 IN.O.C.	2 GALLON
	1,343	BEARBERRY COTONEASTER	COTONEASTER DAMMERI 'LOWFAST'	5 FT. O.C.	1 GALLON
	938	CASCADE OREGON GRAPE	MAHONIA AQUIFOLIUM 'COMPACTA'	30 IN. O.C.	1 GALLON
	2,111	KINNIKINNICK	ARCOSTAPHYLOS UVA-URSI 'MASSACHUSETTS'	30 IN. O.C.	1 GALLON

SHRUBS / GROUND COVERS

	TURF GRASS	DANDY PERENNIAL RYE	8 LBS. / 1000 S.F.	SEEDED



SHRUB & GROUND COVER PLANTING DETAIL

(NOT TO SCALE)

DESIGNED: PKW
DRAWN: JPV
CRP: 392922
HORIZ. NA
VERT. NA
DATE: 2/20/04
DWG: L03
SHEET 36 OF 84

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DAVID D. HAWKES
CERTIFICATE NO. 824

otak Incorporated
105 West Evergreen Blvd. Suite 300
Vancouver, WA 98660-3220
Phone: (360) 737-9813
FAX: (360) 737-9651

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

LANDSCAPE DETAILS AND NOTES

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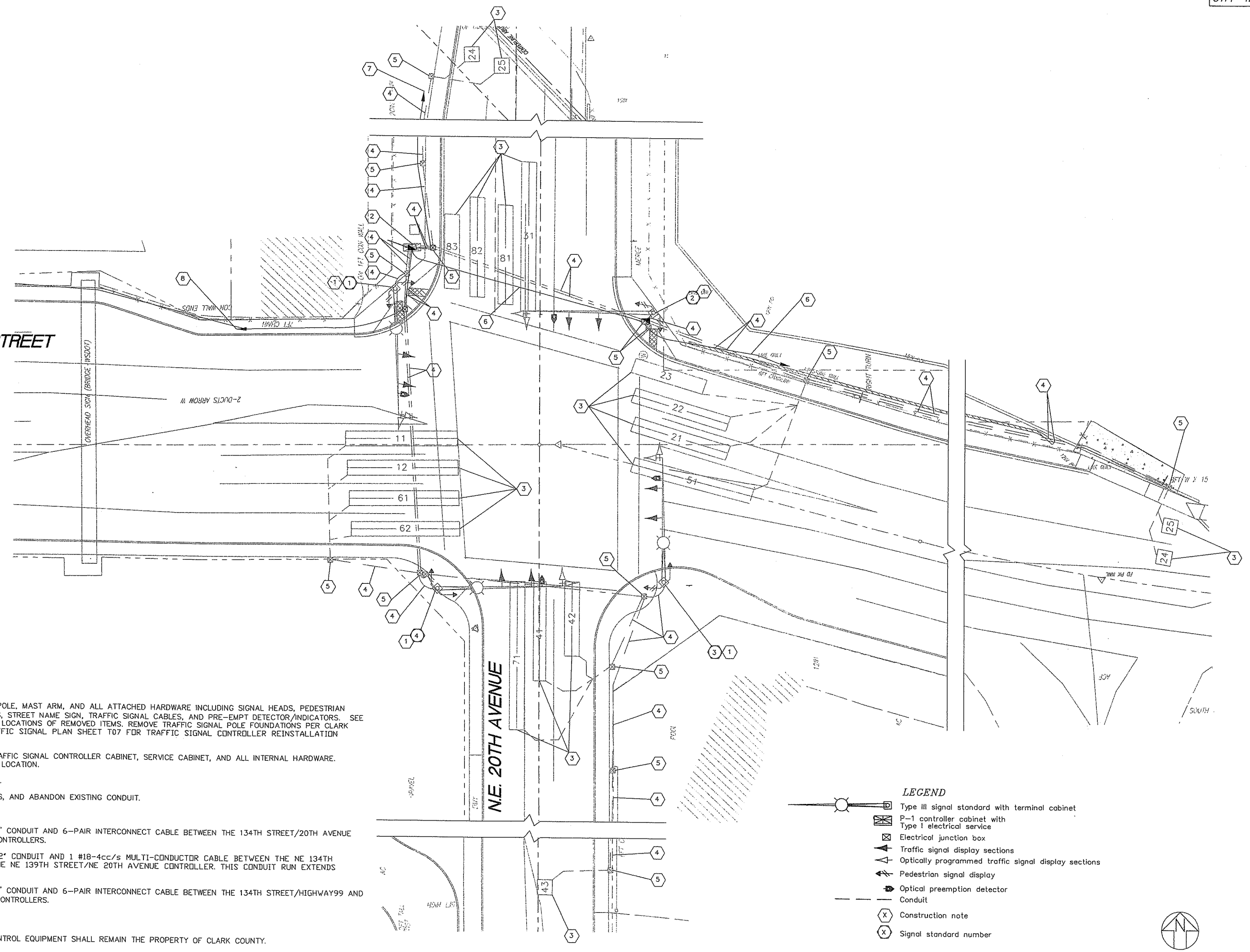
V: DAVIDH 02/17/04 11:51am --> R:\DWG\C978S036.DWG



CONSTRUCTION NOTES

1. REMOVE EXISTING TRAFFIC SIGNAL POLE, MAST ARM, AND ALL ATTACHED HARDWARE INCLUDING SIGNAL HEADS, PEDESTRIAN HEADS, PEDESTRIAN PUSH BUTTONS, STREET NAME SIGN, TRAFFIC SIGNAL CABLES, AND PRE-EMPT DETECTOR/INDICATORS. SEE SPECIAL PROVISIONS FOR DELIVERY LOCATIONS OF REMOVED ITEMS. REMOVE TRAFFIC SIGNAL POLE FOUNDATIONS PER CLARK COUNTY SPECIFICATIONS. SEE TRAFFIC SIGNAL PLAN SHEET T07 FOR TRAFFIC SIGNAL CONTROLLER REINSTALLATION DETAILS.
2. REMOVE AND SAVE EXISTING P1 TRAFFIC SIGNAL CONTROLLER CABINET, SERVICE CABINET, AND ALL INTERNAL HARDWARE. SEE DWG T04 FOR REINSTALLATION LOCATION.
3. ABANDON EXISTING DETECTOR LOOP.
4. REMOVE EXISTING WIRING, UPSWEEPS, AND ABANDON EXISTING CONDUIT.
5. REMOVE EXISTING JUNCTION BOX.
6. RETAIN AND PROTECT EXISTING 1.5" CONDUIT AND 6-PAIR INTERCONNECT CABLE BETWEEN THE 134TH STREET/20TH AVENUE AND 134TH STREET/I-205 RAMP CONTROLLERS.
7. RETAIN AND PROTECT EXISTING 12" CONDUIT AND 1 #18-4cc/s MULTI-CONDUCTOR CABLE BETWEEN THE NE 134TH STREET/NE 20TH AVENUE AND THE NE 139TH STREET/NE 20TH AVENUE CONTROLLER. THIS CONDUIT RUN EXTENDS ACROSS THE EXISTING BRIDGE.
8. RETAIN AND PROTECT EXISTING 1.5" CONDUIT AND 6-PAIR INTERCONNECT CABLE BETWEEN THE 134TH STREET/HIGHWAY99 AND 134TH STREET/NE 20TH AVENUE CONTROLLERS.

NOTES:

ALL SALVAGED TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL REMAIN THE PROPERTY OF CLARK COUNTY.

LEGEND

- Type III signal standard with terminal cabinet
- P-1 controller cabinet with Type I electrical service
- Electrical junction box
- Traffic signal display sections
- Optically programmed traffic signal display sections
- Pedestrian signal display
- Optical preemption detector
- Conduit
- Construction note
- Signal standard number

20' 10' 0' 20' 40'
SCALE: 1" = 20'

Fed. Aid No.
STPF-4253[010]

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T01
SHEET 37 OF 84

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NORTHWEST UTILITIES NOTIFICATION CENTER

PETER L. COFFEY
STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

DKS Associates
TRANSPORTATION SOLUTIONS
1400 SW Fifth Avenue, Suite 600
Portland, Oregon 97201-5502
Telephone: (503) 243-3500
Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 20TH AVENUE/N.E. 134TH STREET
TRAFFIC SIGNAL REMOVAL PLAN

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WASHINGTON

WIRING SCHEDULE

RUN NO.* △	ENCLOSURE OR ATTACHMENT	TRAFFIC SIGNALS	PEDES-TRIAN SIGNALS	DETECTION: INDUCTIVE LOOPS	DETECTION: PEDES-TRIAN	ILLUMINATION: POWER	ILLUMINATION: BRANCH	OPTICAL PRE-EMPTION	SIGNAL INTER-CONNECT	SYSTEM POWER	WIRED SPARES	RUN NO. △	
1	SAWCUT			4 #12 TP								1	
2	SAWCUT			2 #12 TP								2	
3	2" PVC			18 #12 TP								3	
4	1" PVC			4 #12 TP								4	
5	1 1/2" PVC			12 #12 TP								5	
6	1" PVC			2 #12 TP								6	
7	1 1/2" PVC			10 #12 TP								7	
8	2" PVC											8	
9	1 1/2" PVC			1 #18-4cc/s								9	
10	2" PVC			6 #18-4cc/s			2 #8					10	
11	1 1/2" PVC			1 #18-4cc/s								11	
12	1 1/2" RM		1-5cc	1 #18-4cc/s	1 #18-4cc/s						2 #12	12	
13	1 1/2" PVC			2 #18-4cc/s								13	
14	2" RM	2-5cc	1-5cc		1 #18-4cc/s		2 #12	1 #20-3cc/s			2 #12	14	
15	2.5" RM (e)	2-5cc (e)					2 #8 (e)	1 #20-3cc/s(e)				15	***
16	1 1/2" RM		1-5cc		1 #18-4cc/s						2 #12	16	
17	1 1/2" RM		1-5cc		1 #18-4cc/s		2 #12				2 #12	17	
18	2" RM (e)	2-5cc (e)	1-5cc (e)		2 2cc/s (e)			1 2cc/s (e) 1 3cc/s (e)				18	
19	3" RM	2-5cc	2-5cc	6 #18-4cc/s	2 #18-4cc/s		2 #8 2 #12	1 #20-3cc/s			2 #12	19	
20	3 1/2" RM (e)	2-5cc (e) 2-5cc	2-5cc	6 #18-4cc/s	2 #18-4cc/s		2 #8 (e) 2 #8 2 #12	1 #20-3cc/s(e) 1 #20-3cc/s	INTC		4 #12	20	***
21	1 1/2" RM (e)									3 #2		21	
22	3 1/2" RM (e)	FUTURE USE										22	
23	3" RM (e)		1-5cc		1 #18-4cc/s						2 #12	23	
24	ILL. MAST ARM						2 #10 PB					24	
25	3" RM (e)	2-5cc (e)	1-5cc (e)	5 #18-4cc/s	2 2cc/s (e)			1 2cc/s (e) 1 3cc/s (e)				25	
26	3" RM (e)	2-5cc (e)	1-5cc (e)	5 #18-4cc/s	2 2cc/s (e)		2 #12	1 2cc/s (e) 1 3cc/s (e)				26	***
27	1 1/2" RM (e)			2 #18-4cc/s			2 #12					27	**
28	1" PVC						2 #12					28	
29	3 1/2" RM (e)			10 #18-4cc/s								29	
30	2" RM (e)	4-5cc	2-5cc		2 #18-4cc/s			1 #20-3cc/s			4 #12	30	
31	3 1/2" PVC (e)	2-5cc (e) 2-5cc	2-5cc	10 #18-4cc/s	2 #18-4cc/s		2 #8 (e) 2 #8 2 #12	1 #20-3cc/s(e) 1 #20-3cc/s	INTC		4 #12	31	***
32	1" RM (e)						4 #12					32	
33	1" RM (e)						2 #8 (e) 2 #8 6 #12					33	
34	2" PVC (e)			4 #18-4cc/s								34	
35	ILL. MAST ARM (e)						2 #10 PB(e)					35	
36	MAST ARM (e)	1-5cc (e)										36	
37	MAST ARM (e)	1-5cc (e)						1 2cc/s (e) 1 3cc/s (e)				37	
38	MAST ARM (e)	2-5cc (e)						1 2cc/s (e) 1 3cc/s (e)				38	
39	MAST ARM (e)	3-5cc (e)						1 2cc/s (e) 1 3cc/s (e)				39	
40	MAST ARM (e)	3-5cc (e) 1-5cc						1 2cc/s (e) 1 3cc/s (e)				40	
41	MAST ARM	1-5cc										41	
42	MAST ARM	2-5cc										42	
43	MAST ARM	2-5cc						1 #20-3cc/s				43	
44	MAST ARM	3-5cc						1 #20-3cc/s				44	
45	MAST ARM	4-5cc						1 #20-3cc/s				45	
46	3" RM	2-5cc	1-5cc	6 #18-4cc/s	1 #18-4cc/s		2 #8 2 #12	1 #20-3cc/s			2 #12	46	
47	1 1/2" RM (e)								INTC			47	++
48	3" PVC (e)								INTC			48	++
49	3" PVC (e)								INTC			49	++
50	2" PVC (e)								INTC			50	++
51	1" RM (e)						2 #8 (e)					51	**
52	2" PVC (e)								INTC			52	++
53	2" PVC (e)								INTC			53	++
54	1 1/2" PVC (e)								INTC			54	++

* Conduit runs not reused for signal modification shall be abandoned unless otherwise noted in wiring schedule. Remove all existing wiring not used. Cap or remove existing upsweeps not used.
** Remove all existing wiring from conduit.
*** Remove all existing wiring that is not to be reused.
++ Retain and protect all existing wiring in conduit.

WIRING SCHEDULE LEGEND:

PB = Pole and bracket cable
TP = Twisted Pair(s) of type USE loop wires
RM = Rigid Metal conduit
PVC = Rigid Polyvinyl Chloride (plastic) conduit
INTC = See interconnect/fiber cable plan
5cc = Five-conductor traffic signal cable
cc/s = Multi-conductor communication cable having stranded copper conductors, aluminum/polyester foil shield, and high-density polyethylene jacket insulation.
(e) = existing

LEGEND

- Type III signal standard with terminal cabinet
- Roadway light standard with terminal cabinet
- P-1 controller cabinet with Type I electrical service
- Type I electrical junction box
- Type II electrical junction box
- Conventional traffic signal display sections
- Optically programmed traffic signal display sections
- Pedestrian signal display
- Optical preemption detector
- Rigid metal (RM) conduit
- Rigid polyvinyl chloride (PVC) conduit
- Existing rigid polyvinyl chloride (PVC) conduit
- (X) Construction note
- △X Wire note
- (X) Signal standard number
- PP CPU Pole
- Mast arm mounted sign

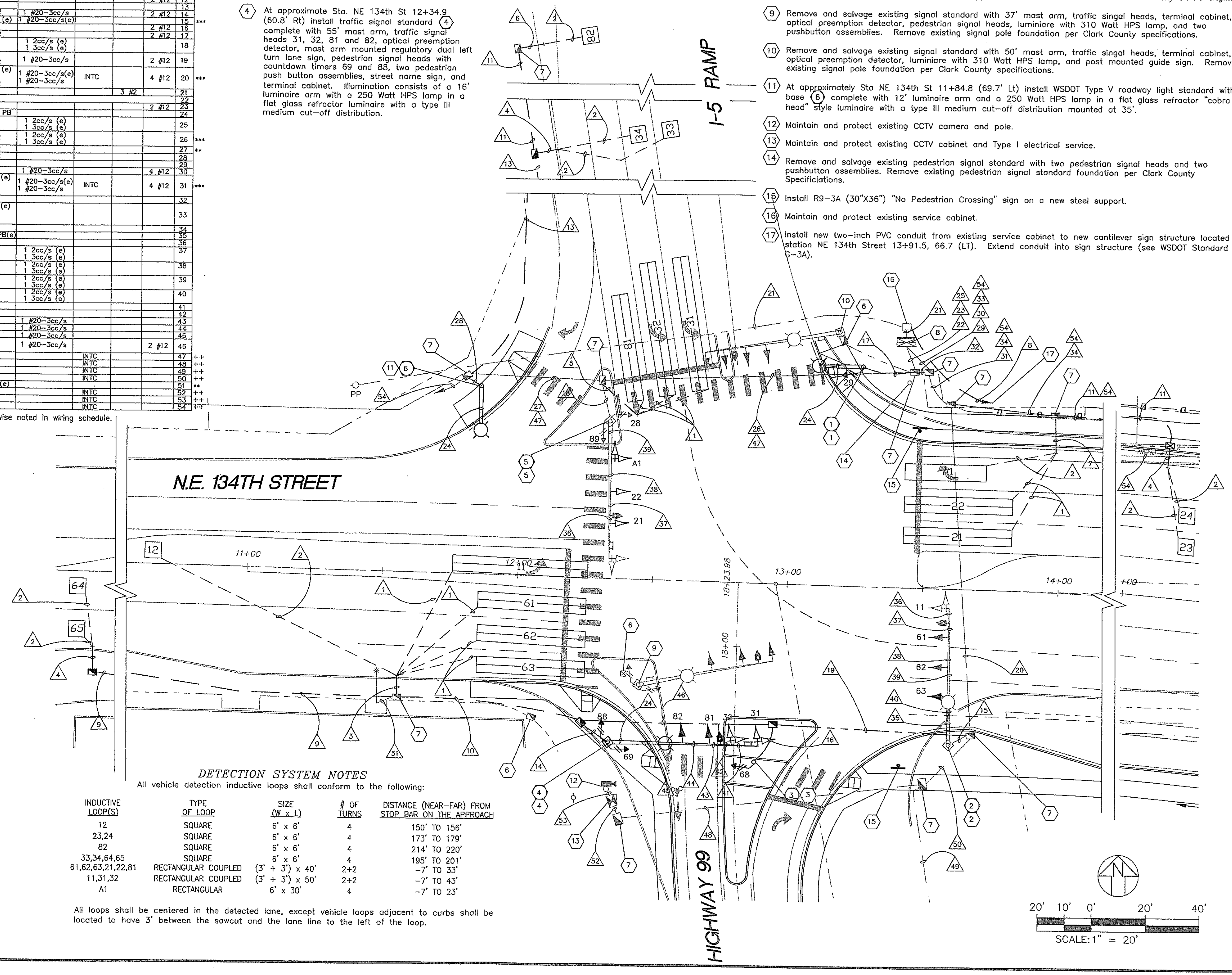
CONSTRUCTION NOTES

1. At approximate Sta. NE 134th St 13+26.1 (81.4' Lt) install WSDOT Type V roadway light standard with slip base (1) complete with pedestrian signal head with countdown timer 29 , one pushbutton assembly, photo electric cell illumination circuit control, and a terminal cabinet with a 30 amp illumination system test switch. Illumination consists of a 16' luminaire arm with a 250 Watt HPS lamp in a flat glass refractor "cobra head" style luminaire with a type III medium cut-off distribution mounted at 35'.
2. Retain and protect existing signal standard (2) complete with 50' mast arm, traffic signal heads 11 (existing), 61 (existing), 62 (existing), and 63 (new), one existing optical preemption detector, mast arm mounted street name sign (existing), terminal cabinet (existing), and luminaire with 250 Watt HPS lamp (existing). Remove and salvage existing pedestrian signal heads and associated pushbutton assemblies (see note 3). Plug all holes left from equipment removal to the satisfaction of Clark County.
3. At approximate Sta. NE 134th St 12+89.4 (66.5' Rt) install new pedestrian signal standard (3) complete with new pedestrian signal head with countdown timer 68 and one pushbutton assemby from pole 2.
4. At approximate Sta. NE 134th St 12+34.9 (60.8' Rt) install traffic signal standard (4) complete with 55' mast arm, traffic signal heads 31, 32, 81 and 82, optical preemption detector, mast arm mounted regulatory dual left turn lane sign, pedestrian signal heads with countdown timers 69 and 88, two pedestrian push button assemblies, street name sign, and terminal cabinet. Illumination consists of a 16' luminaire arm with a 250 Watt HPS lamp in a flat glass refractor luminaire with a type III medium cut-off distribution.

CONSTRUCTION NOTES (CONT.)

Fed. Aid No. STPF-4253[010]

5. Modify existing signal standard (5) by replacing existing traffic signal heads 21 and 22 (as shown) and installing new traffic signal head A1. Install two new pedestrian signal heads with countdown timers 28 and 89. Remove and salvage existing pedestrian signals. Maintain existing optical preemption detector, terminal cabinet, and two pedestrian pushbutton assemblies. Remove and salvage existing protected left-turn signal heads (two) and sign. Install new mast arm mounted "No Left Turn" symbol sign (MUTCD R3-2, 24"x24").
6. Remove and salvage existing junction box.
7. Maintain and protect existing junction box.
8. Maintain and protect existing controller. Revisions made to the controller cabinet shall be made by a qualified representative of the equipment supplier with the assistance of the Clark County traffic engineer.
9. Remove and salvage existing signal standard with 37' mast arm, traffic singal heads, terminal cabinet, optical preemption detector, pedestrian signal heads, luminiare with 310 Watt HPS lamp, and two pushbutton assemblies. Remove existing signal pole foundation per Clark County specifications.
10. Remove and salvage existing signal standard with 50' mast arm, traffic singal heads, terminal cabinet, optical preemption detector, luminiare with 310 Watt HPS lamp, and post mounted guide sign. Remove existing signal pole foundation per Clark County specifications.
11. At approximately Sta NE 134th St 11+84.8 (69.7' Lt) install WSDOT Type V roadway light standard with slip base (6) complete with 12' luminaire arm and a 250 Watt HPS lamp in a flat glass refractor "cobra head" style luminaire with a type III medium cut-off distribution mounted at 35'.
12. Maintain and protect existing CCTV camera and pole.
13. Maintain and protect existing CCTV cabinet and Type I electrical service.
14. Remove and salvage existing pedestrian signal standard with two pedestrian signal heads and two pushbutton assemblies. Remove existing pedestrian signal standard foundation per Clark County Specifications.
15. Install R9-3A (30"X36") "No Pedestrian Crossing" sign on a new steel support.
16. Maintain and protect existing service cabinet.
17. Install new two-inch PVC conduit from existing service cabinet to new cantilever sign structure located at station NE 134th Street 13+91.5, 66.7 (LT). Extend conduit into sign structure (see WSDOT Standard Plan G-3A).



DETECTION SYSTEM NOTES

All vehicle detection inductive loops shall conform to the following:

INDUCTIVE LOOP(S)	TYPE OF LOOP	SIZE (W x L)	# OF TURNS	DISTANCE (NEAR-FAR) FROM STOP BAR ON THE APPROACH
12	SQUARE	6' x 6'	4	150' TO 156'
23,24	SQUARE	6' x 6'	4	173' TO 179'
82	SQUARE	6' x 6'	4	214' TO 220'
33,34,64,65	SQUARE	6' x 6'	4	195' TO 201'
61,62,63,21,22,81	RECTANGULAR COUPLED	(3' + 3') x 40'	2+2	-7' TO 33'
11,31,32	RECTANGULAR COUPLED	(3' + 3') x 50'	2+2	-7' TO 43'
A1	RECTANGULAR	6' x 30'	4	-7' TO 23'

All loops shall be centered in the detected lane, except vehicle loops adjacent to curbs shall be located to have 3' between the sawcut and the lane line to the left of the loop.

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99/N.E. 134TH STREET
TRAFFIC SIGNAL PLAN

DKS Associates
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C978x001.dwg

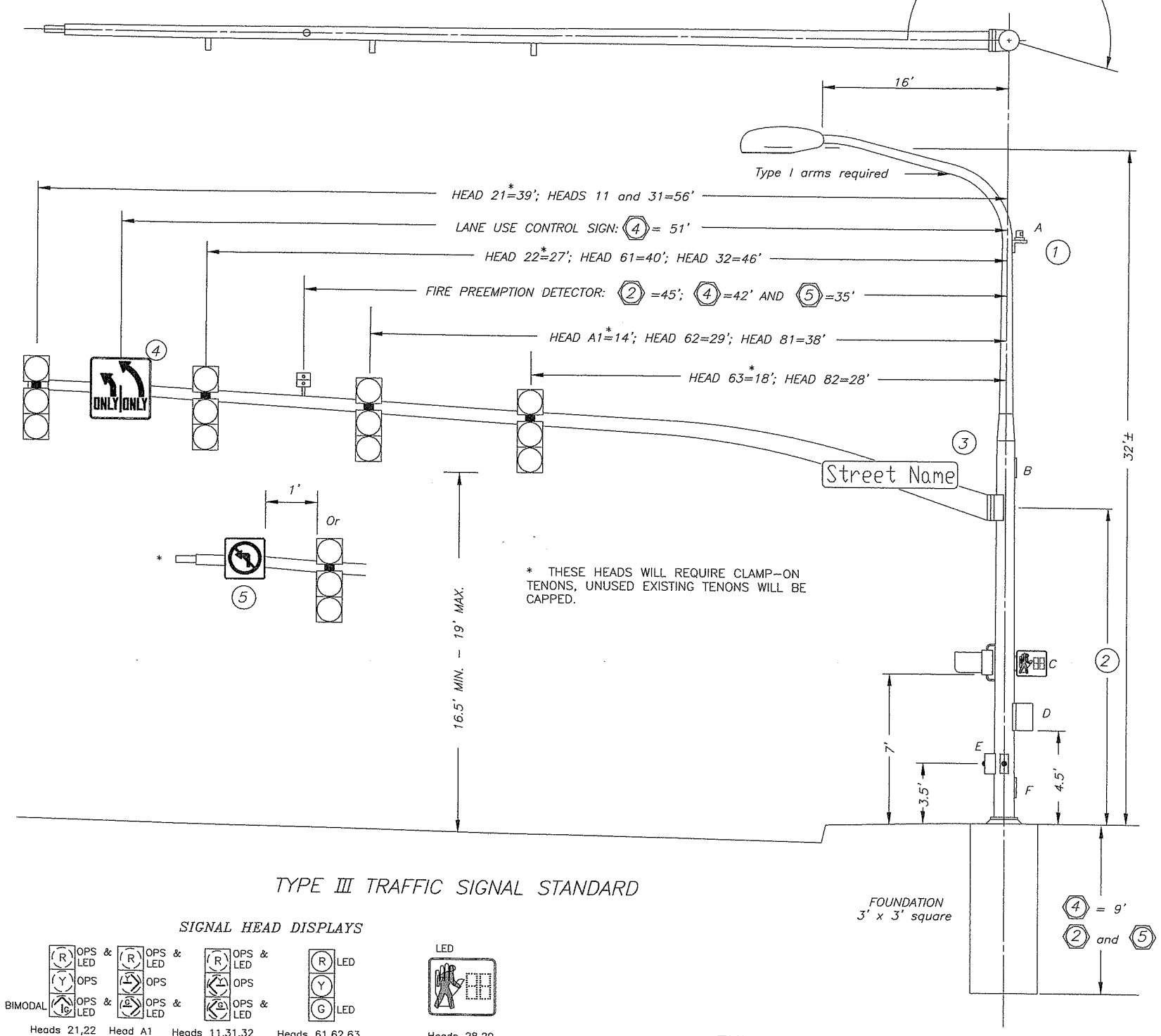
DWG NAME:
P99369T03.dwg

LTSCALE:
1.0000

LAST UPDATE:
9:55 am
Thursday
Dec 11 2003

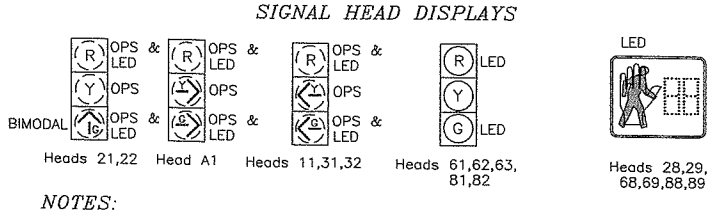
PLOT TIME:
9:56 am
Thursday
Dec 11 2003

Mounting of appurtenances is measured in degrees clockwise from the traffic signal mast arm (the traffic signal mast arm is given in true azimuth).



TYPE III TRAFFIC SIGNAL STANDARD

SIGNAL HEAD DISPLAYS



NOTES:

1. All sections of traffic signal heads 11, 21, 22, 31, 32, and A1 shall be optically programmed. The green sections of heads 21 and 22 shall have bimodal circular/straight through arrow lenses that are optically programmed to transition from circular green to a green straight through arrow at a point approximately 300 feet in advance of the stop bar on the approach at a height of approximately 4 feet above the roadway. Note- It is imperative that the vertical orientation of each bimodal section be somewhere between horizontal and 2 degrees down from horizontal or else the resulting light intensity of the displays will be below acceptable levels.

2. Traffic signal heads shall have 12" sections, square doors, Type M mounts, backplates and tunnel visors.

3. Pedestrian signal heads are 16" (H) x 19-1/2" (W) x 10-1/2" (L) with Type E mounts, Z-crate visor, and hand/walker display with orange LED solid filled hand and white LED solid filled walker, and countdown display.

EXISTING DETECTION RACKS

MODULE NO. / MODULE TYPE / CHANNEL

	1	2	3	4	5	6	7	8A	8B
	PWR. SUPPLY	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	PREEMPT.	
1	MODULE 2/3	11	41	45	61	81	85	NB CH A	EB CH A
2	MODULE 4/5	12	42	21	62	82	52		
3	MODULE 6/7	31	43	51	63	SPARE	55	SB CH B	WB CH B
4	MODULE 8/9	32	44	71	64	SPARE	54		

RACK A

9	10
VEHICLE	VEHICLE
22	SPARE
23	72
24	73
25	74

RACK B

common home-run cable (4cc/s)

REVISED DETECTION RACKS

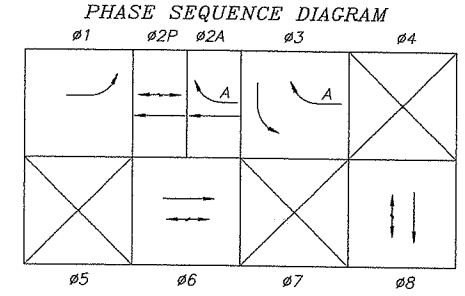
1	2	3	4	5	6	7	8A	8B
PWR. SUPPLY	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	PREEMPT.	
MODULE 2/3	11	SPARE	SPARE	61	81	SPARE	SPARE CH A	EB CH A
MODULE 4/5	12	A1	SPARE	62	82	SPARE		
MODULE 6/7	31	33	SPARE	63	64	SPARE	SB CH B	WB CH B
MODULE 8/9	32	34	SPARE	SPARE	65	SPARE		

RACK A

9	10
VEHICLE	VEHICLE
21	SPARE
22	SPARE
23	SPARE
24	SPARE

RACK B

PHASE SEQUENCE DIAGRAM



APPURTENANCE ORIENTATION

SIGNAL STANDARD	(1) *	(3) **	(4)	(6)
SIGNAL MAST ARM	N/A	N/A	80° T.A.	N/A
A	270° T.A.	N/A	0°	180° T.A.
B	N/A	N/A	180°	N/A
C	170° T.A.	185° T.A.	100°/190°	N/A
D	90° T.A.	N/A	180°	N/A
E	350° T.A.	185° T.A.	0°/270°	N/A
F	180°	N/A	180°	N/A

T.A.=True Azimuth
A=Illumination mast arm
B=Handhole
C=Pedestrian signal heads
D=Terminal cabinet
E=Pedestrian pushbuttons with signs
F=Handhole

* Appurtenance orientation based on true azimuth of luminaire arm.
** Appurtenance orientation based on true azimuth.

Fed. Aid No.
STPF-4253(010)3

NOTES:

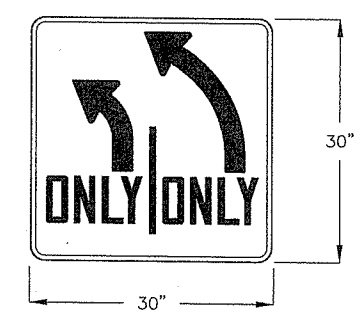
(1) Photoelectric cell illumination circuit control (Signal standard (1) only).

(2) Mast arm attachment varies with manufacturer.

(3) Street name signs attached per standard plan J-6h. Street name signs are 18" high and have 8" u.c./6" l.c. series "C" black letters on reflectorized yellow background. Signs shall include boarders, margins, and corner radii. Legends are as follows:

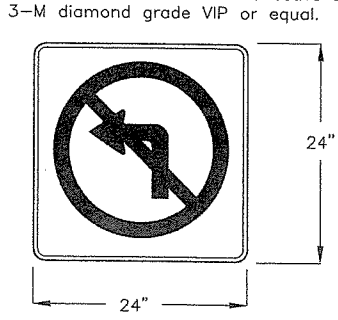
(2) - NE Highway 99
(4) - NE 134th St

(4) Regulatory sign Dual Left Turn Lane per detail below. Sign shall be attached per standard plan J-6h with field installed tenon located on the laneline between left turn lanes. Reflective surface shall be 3-M diamond grade VIP or equal.



R3-8 (MODIFIED)

(5) Regulatory sign No Left Turn Symbol per detail below. Sign shall be attached per standard plan J-6h with field installed tenon located on the laneline between left turn lanes. Reflective surface shall be 3-M diamond grade VIP or equal.



R3-2

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99/N.E. 134TH STREET
SIGNAL STANDARD DETAIL

proud past, promising future
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WASHINGTON

CONSTRUCTION NOTES

1. At approximate Sta. NE 134th St 15+38.8 (62.5' Lt) install traffic signal standard (1) complete with 65' mast arm, traffic signal heads A1, 21, 22, 23, 51, and 52, one optical preemption detector, mast arm mounted street name sign, mast arm mounted regulatory dual left turn lane sign, pedestrian signal heads 28 and 89, two pedestrian pushbutton assemblies, and terminal cabinet with 30 amp test switch for illumination system and photo electric cell illumination circuit control. Illumination consists of a photoelectric cell illumination circuit control and a 16' luminaire arm with a 250 watt HPS lamp in a flat glass refractor luminaire with type III medium cut-off light distribution.

3. At approximate Sta. NE 20th Ave 26+06.0 (62.5' Rt) install traffic signal standard (3) complete with 60' mast arm, traffic sinal heads A1, 41, 42, 71, and 72, one optical preemption detector, mast arm mounted street name sign, mast arm mounted regulatory dual left turn lane sign, pedestrian signal heads 29 and 48, two pedestrian pushbutton assemblies and terminal cabinet. Illumination consists of a 16' luminaire arm with a 250 watt HPS lamp in a flat glass refractor luminaire with type III medium cut-off light distribution.

4. At approximate Sta. NE 134th St 17+13.1 (61.4' Rt) install traffic signal standard (4) complete with 65' mast arm, traffic signal heads C1, 11, 12, 61, 62, and 63, one optical preemption detector, mast arm mounted street name sign, mast arm mounted regulatory dual left turn lane sign, pedestrian signal head 49 and 68, two pedestrian pushbutton assemblies, and terminal cabinet. Illumination consists of a 16' luminaire arm with a 250 watt HPS lamp in a flat glass refractor luminaire with type III medium cut-off light distribution.

6. At approximate Sta. NE 20th Ave 24+57.6 (53.4' Lt) install traffic signal standard (6) complete with 65' mast arm, traffic signal heads B1, 31, 32, 81, and 82, one optical preemption detector, mast arm mounted street name sign, mast arm mounted regulatory dual left turn lane sign, pedestrian signal heads 69 and 88, two pedestrian pushbutton assemblies, and terminal cabinet. Illumination consists of a 16' luminaire arm with a 250 watt HPS lamp in a flat glass refractor luminaire with type III medium cut-off light distribution.

7. At approximate Sta. NE 20th Ave 26+32.8 (62.4' Lt) install a new P-1 controller cabinet (with attached Type I electrical service) on modified M-pad foundation as per the standard plans, standard specifications, and the special provisions. The door for this cabinet shall open to the southeast, the pedestal height shall be 17.5 inches and the footing pad in front of the cabinet shall match the adjacent sidewalk. Install 2" conduit and 2 #4 wires between the electrical service and a CPU pad mounted transformer to be installed at station 26+30 (approximate). Coordinate with CPU (Dale Mickelson 360-992-8819) for final location of the transformer.

8. Maintain and protect existing fiber optic junction box.

9. Install new two-inch PVC conduit into cantilever sign structure located at station NE 134th Street 15+09.7, 76.5 (RT). Extend conduit into sign structure (see WSDOT standard plan G-3A).

9. Install new two-inch PVC conduit into sign bridge structure located at station NE 20th Avenue 22+63.3. Extend conduit into sign structure (see WSDOT standard plan G-2A).

DETECTION SYSTEM NOTES

All vehicle detection inductive loops shall conform to the following:

INDUCTIVE LOOP(S)	TYPE OF LOOP	SIZE (W x L)	# OF TURNS	DISTANCE (NEAR-FAR) FROM STOP BAR ON THE APPROACH
13,14,53,54,33,34,73,74	SQUARE	6' x 6'	4	150' TO 156'
64,65,66	SQUARE	6' x 6'	4	190' TO 196'
24,25,44,45	SQUARE	6' x 6'	4	225' TO 231'
84,85	SQUARE	6' x 6'	4	200' TO 206'
A1,B1,C1,D1	RECTANGULAR	6' x 30'	4	-7' TO 23'
43,83	RECTANGULAR COUPLED	(1.5' + 1.5') x 15'	3+3	-4' TO 11'
21,22,23,41,42 61,62,63,81,82	RECTANGULAR COUPLED	(3' + 3') x 40'	2+2	-7' TO 33'
11,12,51,52	RECTANGULAR COUPLED	(3' + 3') x 50'	2+2	-7' TO 43'
31,32,71,72	RECTANGULAR COUPLED	(3' + 3') x 60'	2+2	-7' TO 53'

All loops shall be centered in the detected lane, except vehicle loops adjacent to curbs shall be located to have 3' between the sawcut and the lane line to the left of the loop.

LEGEND

- Type III signal standard with terminal cabinet
- P-1 controller cabinet with Type I electrical service
- Type I electrical junction box
- Type II electrical junction box
- Interconnect junction box
- Optically programmed traffic signal display sections
- Pedestrian signal display
- Optical preemption detector
- Mast arm mounted sign
- Rigid metal (RM) conduit
- Rigid polyvinyl chloride (PVC) conduit
- Construction note
- Wire note
- Signal standard number
- CCTV Camera

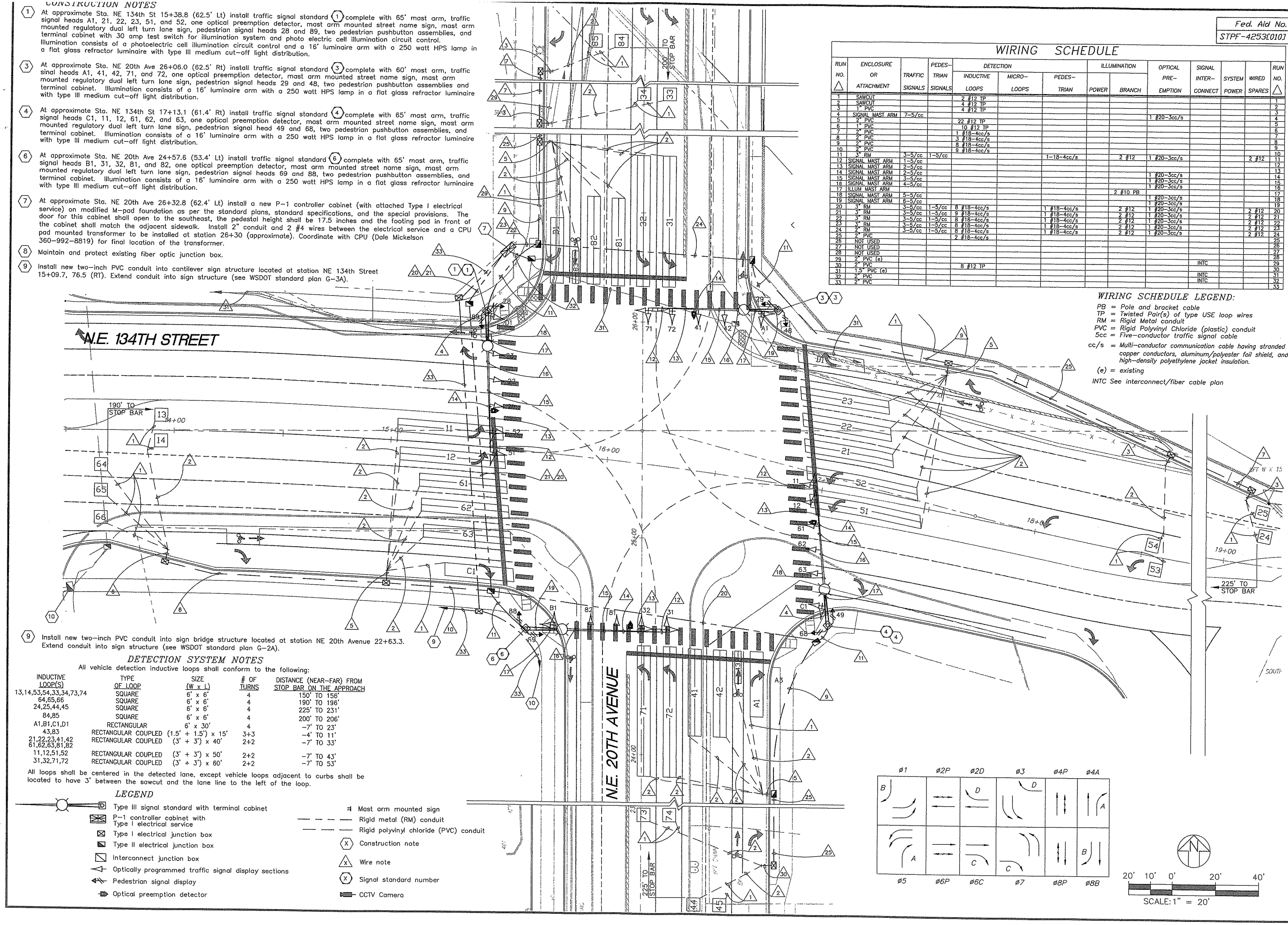
Fed. Aid No.
STPF-4253(010)

WIRING SCHEDULE

RUN NO.	ENCLOSURE OR ATTACHMENT	TRAFFIC SIGNALS	PEDES-TRIAN SIGNALS	DETECTION: INDUCTIVE LOOPS	DETECTION: MICRO-LOOPS	DETECTION: PEDES-TRIAN	ILLUMINATION: POWER	ILLUMINATION: BRANCH	OPTICAL PRE-EMPTION	SIGNAL INTER-CONNECT	SYSTEM POWER	WIRED SPARES	RUN NO.
1	SAWCUT			2 #12 TP									1
2	SAWCUT			4 #12 TP									2
3	1" PVC			4 #12 TP									3
4	SIGNAL MAST ARM	7-5/cc							1 #20-3cc/s				4
5	2" PVC			22 #12 TP									5
6	1" PVC			10 #12 TP									6
7	2" PVC			1 #18-4cc/s									7
8	2" PVC			3 #18-4cc/s									8
9	2" PVC			8 #18-4cc/s									9
10	2" PVC			9 #18-4cc/s									10
11	3" RM	3-5/cc	1-5/cc			1-18-4cc/s		2 #12	1 #20-3cc/s			2 #12	11
12	SIGNAL MAST ARM	1-5/cc											12
13	SIGNAL MAST ARM	2-5/cc											13
14	SIGNAL MAST ARM	2-5/cc							1 #20-3cc/s				14
15	SIGNAL MAST ARM	3-5/cc							1 #20-3cc/s				15
16	SIGNAL MAST ARM	4-5/cc							1 #20-3cc/s				16
17	ILLUM MAST ARM							2 #10 PB					17
18	SIGNAL MAST ARM	5-5/cc							1 #20-3cc/s				18
19	SIGNAL MAST ARM	6-5/cc							1 #20-3cc/s				19
20	3" RM	3-5/cc	1-5/cc	8 #18-4cc/s		1 #18-4cc/s		2 #12	1 #20-3cc/s			2 #12	20
21	3" RM	3-5/cc	1-5/cc	9 #18-4cc/s		1 #18-4cc/s		2 #12	1 #20-3cc/s			2 #12	21
22	3" RM	3-5/cc	1-5/cc	8 #18-4cc/s		1 #18-4cc/s		2 #12	1 #20-3cc/s			2 #12	22
23	3" RM	3-5/cc	1-5/cc	8 #18-4cc/s		1 #18-4cc/s		2 #12	1 #20-3cc/s			2 #12	23
24	2" RM	3-5/cc	1-5/cc	8 #18-4cc/s		1 #18-4cc/s		2 #12	1 #20-3cc/s			2 #12	24
25	2" PVC			2 #18-4cc/s									25
26	NOT USED												26
27	NOT USED												27
28	NOT USED												28
29	2" PVC (e)												29
30	2" PVC			8 #12 TP						INTC			30
31	1.5" PVC (e)												31
32	2" PVC									INTC			32
33	2" PVC									INTC			33

WIRING SCHEDULE LEGEND:

PB = Pole and bracket cable
TP = Twisted Pair(s) of type USE loop wires
RM = Rigid Metal conduit
PVC = Rigid Polyvinyl Chloride (plastic) conduit
5cc = Five-conductor traffic signal cable
cc/s = Multi-conductor communication cable having stranded copper conductors, aluminum/polyester foil shield, and high-density polyethylene jacket insulation.
(e) = existing
INTC See interconnect/fiber cable plan



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DESIGN SECTION

N.E. 20TH AVENUE/N.E. 134TH STREET
TRAFFIC SIGNAL PLAN

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DETECTION RACK A

MODULE NO.
MODULE TYPE
CHANNEL

	1	2	3	4	5	6	7	8
	PWR. SUPPLY	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	PREEMPT.
1	MODULE 2/3	81	31	84	43	71	SPARE	NORTHBOUND CH A
2	MODULE 4/5	82	32	85	A1	72	SPARE	SOUTHBOUND CH B
3	MODULE 6/7	83	33	41	44	73	SPARE	EASTBOUND CH C
4	SPARE	81	34	42	45	74	SPARE	WESTBOUND CH D

(xx)=FUTURE SENSOR

common home-run cable (4cc/s)

DETECTION RACK B

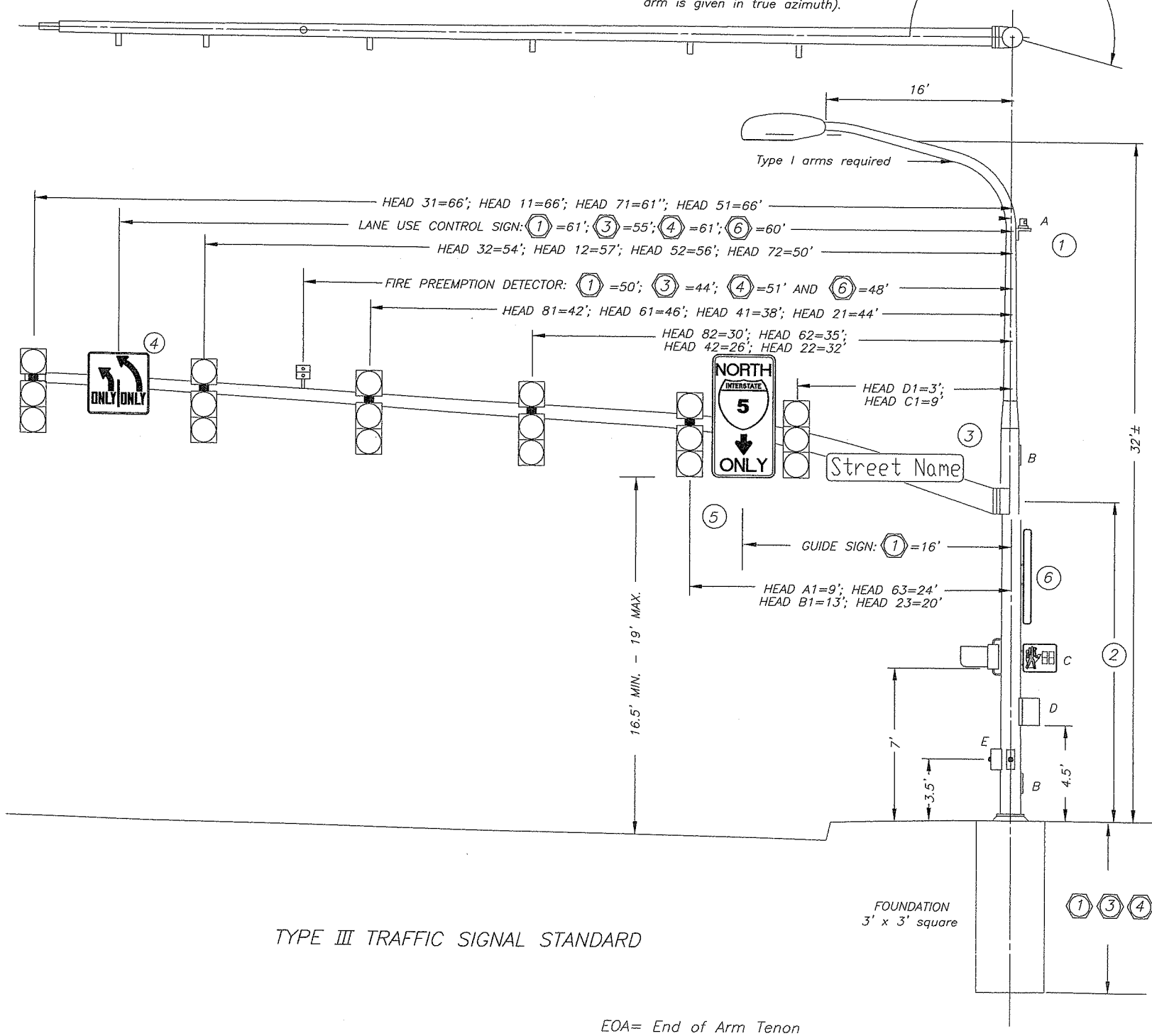
MODULE NO.
MODULE TYPE
CHANNEL

	1	2	3	4	5	6	7
	PWR. SUPPLY	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE
1	MODULE 2/3	11	63	65	51	21	24
2	MODULE 4/5	12	SPARE	66	52	22	25
3	MODULE 6/7	61	C1	13	53	23	SPARE
4	SPARE	62	64	14	54	D1	SPARE

(xx)=FUTURE SENSOR

common home-run cable (4cc/s)

Mounting of appurtenances is measured in degrees clockwise from the traffic signal mast arm (the traffic signal mast arm is given in true azimuth).



TYPE III TRAFFIC SIGNAL STANDARD

EOA= End of Arm Tenon

APPURTENANCE ORIENTATION

SIGNAL STANDARD	(1)	(3)	(4)	(6)
SIGNAL MAST ARM	183° T.A.	270° TA	3° T.A.	93° T.A.
A	0°	0°	0°	0°
B	180°	180°	180°	180°
C	90° 180°	90° 180°	90° 180°	90° 180°
D	180°	180°	180°	180°
E	180°/270°	90° 180°	180° 270°	0° 270°

T.A.=True Azimuth
A=Illumination mast arm
B=Handhole
C=Pedestrian signal heads
D=Terminal cabinet
E=Pedestrian pushbuttons with signs

NOTES:

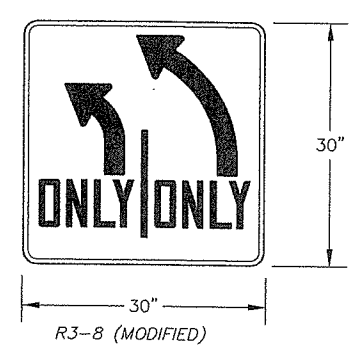
(1) Photoelectric cell illumination circuit control (Signal standard (1) only).

(2) Mast arm attachment varies with manufacturer.

(3) Street name signs attached per standard plan J-6h. Street name signs are 18" high and have 8" u.c./6" l.c. series "C" black letters on reflectorized yellow background. Signs shall include boarders, margins, and corner radii. Legends are as follows:

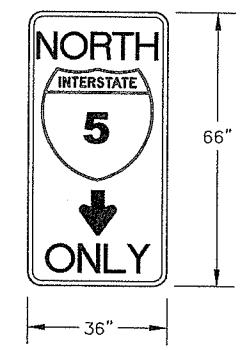
(1) & (4) - NE 20th Ave
(3) & (6) - NE 134th St

(4) Regulatory sign Dual Left Turn Lane per detail below. Sign shall be attached per standard plan J-6h with field installed tenon located on the laneline between left turn lanes. Reflective surface shall be 3-M diamond grade VIP or equal.

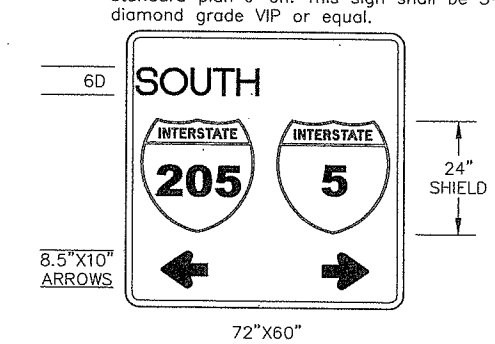


R3-8 (MODIFIED)

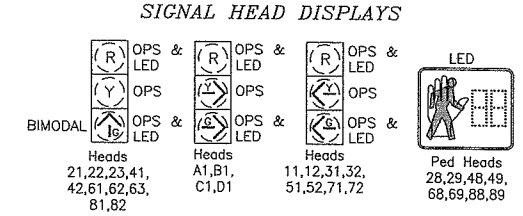
(5) Install mast arm mounted guide sign I-5 North Only per detail below. This sign shall be 3-M diamond grade VIP or equal.



(6) Install pole mounted guide sign I-205 South/I-5 per detail below. Sign shall be attached per standard plan J-6h. This sign shall be 3-M diamond grade VIP or equal.



SIGNAL HEAD DISPLAYS



NOTES:

1. All sections of traffic signal head 11, 12, 21, 22, 23, 31, 32, 41, 42, 51, 52, 61, 62, 63, 71, 72, 81, 82, A1, B1, C1 AND D1 shall be optically programmed. The green sections of heads 21, 22, 23, 41, 42, 61, 62, 63, 81 and 82 shall have bimodal circular/straight through arrow lenses that are optically programmed to transition from circular green to a green straight through arrow at a point approximately 300 feet in advance of the stop bar on the approach at a height of approximately 4 feet above the roadway. Note- It is imperative that the vertical orientation of each bimodal section be somewhere between horizontal and 2 degrees down from horizontal or else the resulting light intensity of the displays will be below acceptable levels.

2. Traffic signal heads shall have 12" sections, square doors, Type M mounts, backplates and tunnel visors.

3. Pedestrian signal heads are 16" (H) x 19-1/2" (W) x 10-1/2" (L) with Type E mounts, Z-crate visor, and hand/walker display with orange LED solid filled hand and white LED solid filled walker with countdown display.

Fed. Aid No.
STPF-4253(010)

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T05
SHEET 41 OF 84

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PROFESSIONAL ENGINEER STATE OF WASHINGTON 27235 REGISTERED EXPIRES: JAN. 30, 2005

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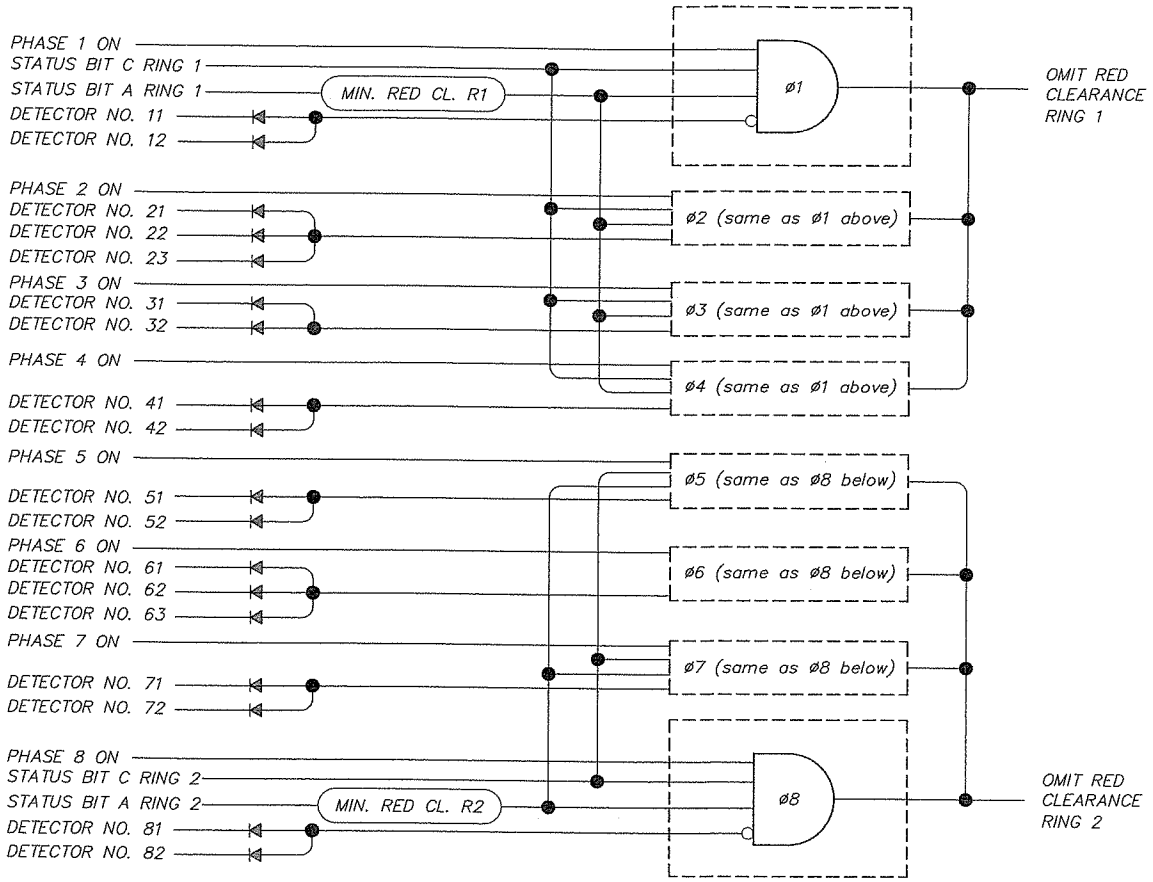
DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 20TH AVENUE/N.E. 134TH STREET
SIGNAL STANDARD DETAIL

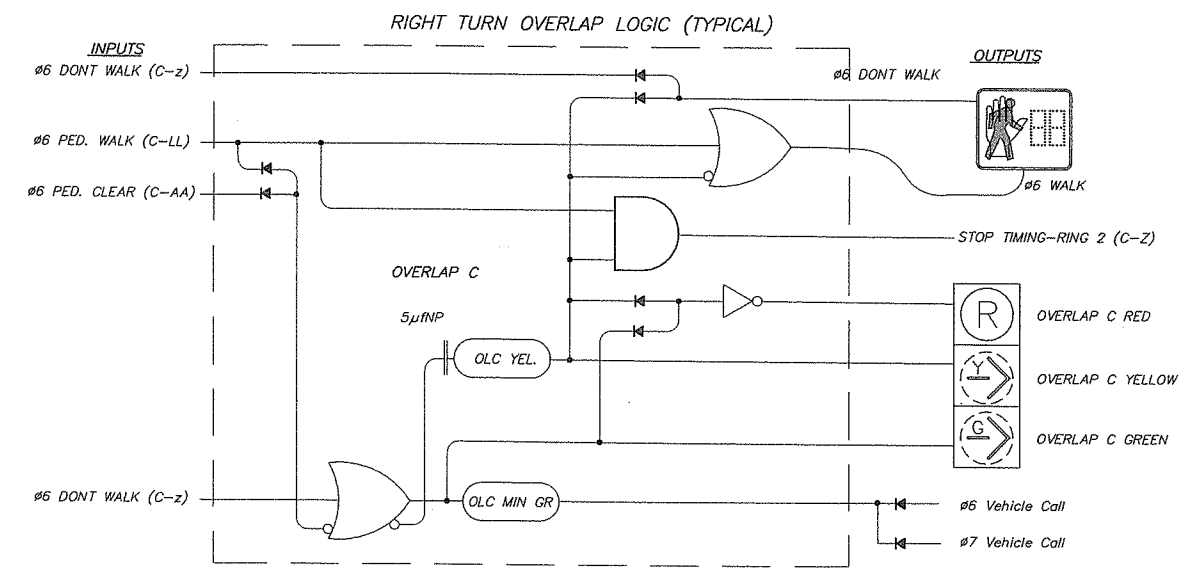
proud past, promising future
CLARK COUNTY WASHINGTON

ICFS:
97BX051.dwg
JG NAME:
99389705S.dwg
SCALE:
1000
LST UPDATE:
36 pm
esday
ov 11 2003
OT TIME:
36 pm
esday
ov 11 2003

Fed. Aid No.
STPF-4253(010)



DETECTION LOGIC SCHEMATIC – NE 134TH AVE/NE 20TH AVE



DETECTION SYSTEM LEGEND

INPUTS	SYMBOL	OUTPUTS	DEVICE AND/ OR FUNCTION
loop(s) or probe(s) timing gate		output (collector)	inductive loop detection amplifier D=delay timing E=extension timing D/E=delay and extension timing P=pulse
input		output	logic inverter
			detection amplifier number
cathode		anode	silicon diode (400v PIV)

INPUTS	SYMBOL	OUTPUTS	DEVICE AND/ OR FUNCTION
cyc gen (C) count (V) start (P) reset (S) clear (T)		output 1 (X) output 2 (Y)	digital timer/counter

INPUTS	SYMBOL	OUTPUTS	DEVICE AND/ OR FUNCTION
inputs inhibit	A B C K J	output	AND gate

INPUTS	SYMBOL	OUTPUTS	DEVICE AND/ OR FUNCTION
			circuit junction
			wiring terminal

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T06
SHEET 42 OF 84

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27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

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DESIGN SECTION

N.E. 20TH AVENUE/N.E. 134TH STREET
DETECTION LOGIC SCHEMATIC

proud past, promising future
CLARK COUNTY
WASHINGTON

XREFS:
c978x001.dwg
c978x239.dwg
C978x300.dwg
D978e191.dwg
Xsignal.dwg
Xstripe.dwg
Xinterconnect.dwg

DWG NAME:
P993891707.dwg

LTSCALE:
1.6800

LAST UPDATE:
4:21 pm
Thursday
Dec 11 2003

PLOT TIME:
4:21 pm
Thursday
Dec 11 2003

WIRING SCHEDULE

RUN NO. △	ENCLOSURE OR ATTACHMENT	TRAFFIC SIGNALS	PEDES-TRIAN SIGNALS	DETECTION INDUCTIVE LOOPS	DETECTION VIDEO CAMERA SIGNAL	DETECTION PED. PUSH PUSHBUTTON	SIGNAL INTER-CONNECT	ILLUMINATION POWER	ILLUMINATION BRANCH	SIGNAL SYSTEM POWER	OPTICAL PRE EMPTION	RUN NO. △
1	SAWCUT (e)			2 #12 CUTP (e)								1
2	MAST ARM (e)	4 #12(e)									2 #20-3cc/s	2
3	NOT USED											3
4	SAWCUT (e)			4 #12 CUTP (e)								4
5	NOT USED											5
6	MAST ARM (e)	4 #12(e)										6
7	MAST ARM (e)	8 #12(e)									1 #20-3cc/s (e)	7
8	1" (e)									2 #4(e)		8
9	1" (e)											9
10	1" (e)			1 #18-4cc/s(e)								10
11	1" (e)			1 #18-4cc/s								11
12	NOT USED											12
13	1" (e)			2 #12 CUTP (e)								13
14	NOT USED											14
15	NOT USED											15
16	NOT USED											16
17	NOT USED											17
18	NOT USED											18
19	2" (e)	4 #12(e)	6 #12(e)			1 #18-4cc/s(e)		2 #10(e)				19
20	2" (e)	8 #12(e)	6 #12(e)			1 #18-4cc/s(e)		2 #10(e)			1 #20-3cc/s (e)	20
21	2" (e)	8 #12(e)	6 #12(e)			1 #18-4cc/s(e)		2 #10(e)	2 #6(e)		1 #20-3cc/s (e)	21
22	2" (e)	8 #12(e)	6 #12(e)	3 #18-4cc/s		1 #18-4cc/s(e)		2 #10(e)			1 #20-3cc/s (e)	22
23	2" (e)	4 #12(e)	6 #12(e)	2 #18-4cc/s 1 #18-4cc/s(e)		1 #18-4cc/s(e)		2 #10(e)			2 #20-3cc/s	23
24	2-1/2" (e)	4 #12(e)	6 #12(e)	4 #18-4cc/s 2 #18-4cc/s(e)		1 #18-4cc/s(e)		2 #10(e)			2 #20-3cc/s	24
25	3" (e)	12 #12(e)	12 #12(e)	6 #18-4cc/s		2 #18-4cc/s(e)		4 #10(e)			1 #20-3cc/s (e)	25
26	NOT USED											26
27	SAWCUT			2 #12 TP								27
28	SAWCUT			4 #12 TP								27
29	1" PVC			4 #12 TP								28
30	2" PVC			1 #18-4cc/s								29
31	2" PVC			2 #18-4cc/s								30
32	2" PVC			3 #18-4cc/s								31
33	1" PVC			8#12TP								32
34	1" PVC			2 #12 TP								33
35	2" PVC (e)	4 #12(e)	6 #12(e)			1 #18-4cc/s(e)		2 #10(e)			2 #20-3cc/s	34
36	MAST ARM (e)	4 #12(e)									2 #20-3cc/s	35
37	MAST ARM (e)	4 #12(e)									1 #20-3cc/s (e)	36
38	1"			1 #18-4cc/s								37
39	3" (e)						INTC					38
40	3" PVC						INTC					39
												40

WIRING SCHEDULE LEGEND:

PB = Pole and bracket cable
TP = Twisted Pair(s) of type USE loop wires
RM = Rigid Metal conduit
PVC = Rigid Polyvinyl Chloride (plastic) conduit
5cc = Five-conductor traffic signal cable
CUTP = Cross-linked polyethylene type USE insulated stranded copper conductors in twisted pair(s).
INTC = See interconnect/fiber cable plan
cc/s = Multi-conductor communication cable having stranded copper conductors, aluminum/polyester foil shield, and high-density polyethylene jacket insulation.
(e) = existing

PHASE SEQUENCE DIAGRAM

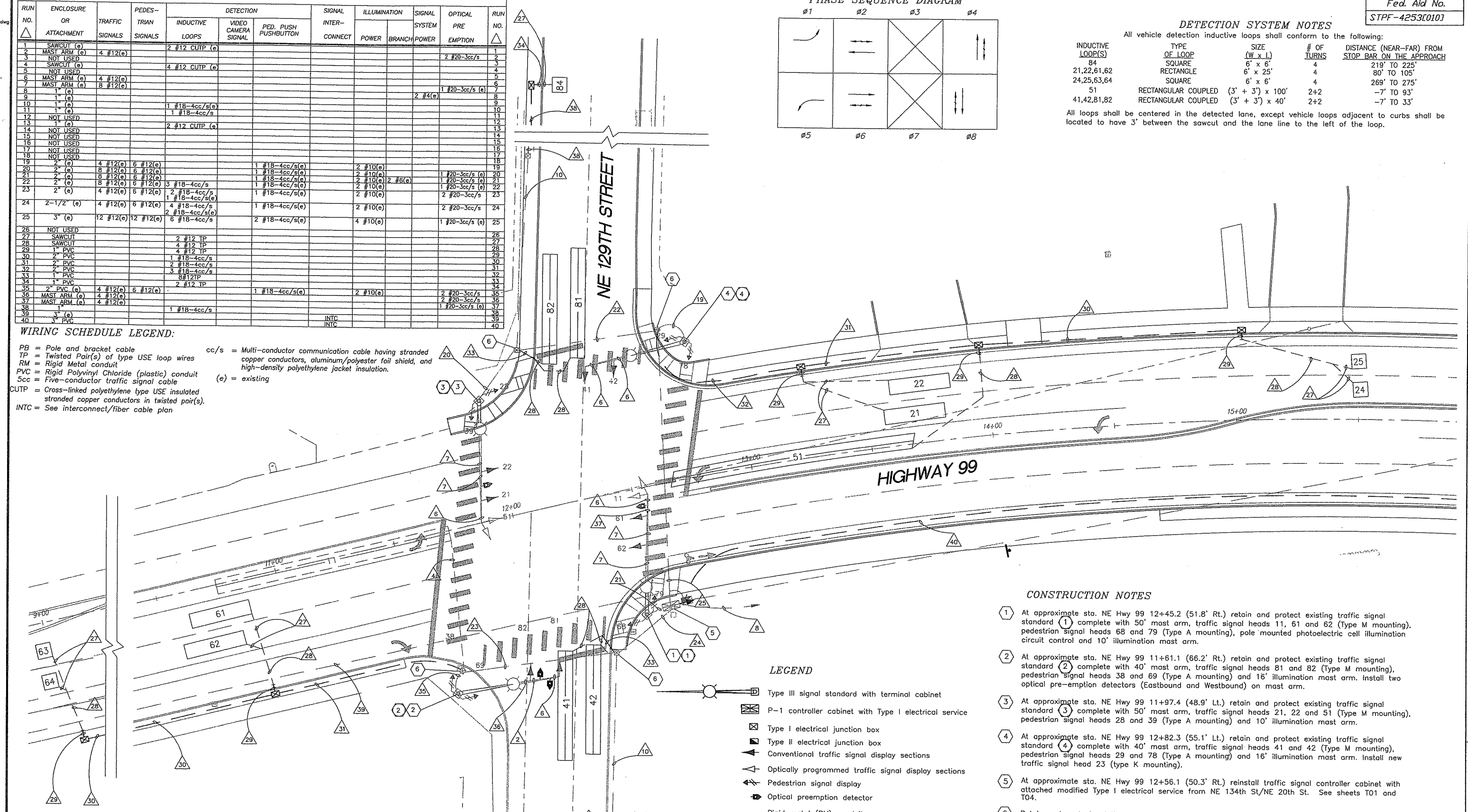
DETECTION SYSTEM NOTES

All vehicle detection inductive loops shall conform to the following:

INDUCTIVE LOOP(S)	TYPE OF LOOP	SIZE (W x L)	# OF TURNS	DISTANCE (NEAR-FAR) FROM STOP BAR ON THE APPROACH
84	SQUARE	6' x 6'	4	219' TO 225'
21,22,61,62	RECTANGLE	6' x 25'	4	80' TO 105'
24,25,63,64	SQUARE	6' x 6'	4	269' TO 275'
51	RECTANGULAR COUPLED	(3' + 3') x 100'	2+2	-7' TO 93'
41,42,81,82	RECTANGULAR COUPLED	(3' + 3') x 40'	2+2	-7' TO 33'

All loops shall be centered in the detected lane, except vehicle loops adjacent to curbs shall be located to have 3' between the sawcut and the lane line to the left of the loop.

Fed. Aid No.
STPF-4253(010)



EXISTING/REVISED DETECTION RACK

MODULE NO. / MODULE TYPE / CHANNEL	1	2	3	4	5	6	7	8A	8B
	PWR. SUPPLY	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	PREEMPT.	
1	MODULE 2	11	21	(31)	(71)	24	43	NB CH A	EB CH A
2	MODULE 3	(12)	22	81	(72)	25	(44)		
3	MODULE 4	61	(23)	82	41	63	84	SB CH B	WB CH B
4	MODULE 5	62	51	(83)	42	64	(85)		

(xx)=FUTURE SENSOR

common home-run cable (4cc/s)

LEGEND

- Type III signal standard with terminal cabinet
- P-1 controller cabinet with Type I electrical service
- Type I electrical junction box
- Type II electrical junction box
- Conventional traffic signal display sections
- Optically programmed traffic signal display sections
- Pedestrian signal display
- Optical preemption detector
- Rigid metal (RM) conduit
- Rigid polyvinyl chloride (PVC) conduit
- Existing rigid polyvinyl chloride (PVC) conduit
- (X) Construction note
- △X Wire note
- (X) Signal standard number

CONSTRUCTION NOTES

1. At approximate sta. NE Hwy 99 12+45.2 (51.8' Rt.) retain and protect existing traffic signal standard (1) complete with 50' mast arm, traffic signal heads 11, 61 and 62 (Type M mounting), pedestrian signal heads 68 and 79 (Type A mounting), pole mounted photoelectric cell illumination circuit control and 10' illumination mast arm.
2. At approximate sta. NE Hwy 99 11+61.1 (66.2' Rt.) retain and protect existing traffic signal standard (2) complete with 40' mast arm, traffic signal heads 81 and 82 (Type M mounting), pedestrian signal heads 38 and 69 (Type A mounting) and 16' illumination mast arm. Install two optical pre-emption detectors (Eastbound and Westbound) on mast arm.
3. At approximate sta. NE Hwy 99 11+97.4 (48.9' Lt.) retain and protect existing traffic signal standard (3) complete with 50' mast arm, traffic signal heads 21, 22 and 51 (Type M mounting), pedestrian signal heads 28 and 39 (Type A mounting) and 10' illumination mast arm.
4. At approximate sta. NE Hwy 99 12+82.3 (55.1' Lt.) retain and protect existing traffic signal standard (4) complete with 40' mast arm, traffic signal heads 41 and 42 (Type M mounting), pedestrian signal heads 29 and 78 (Type A mounting) and 16' illumination mast arm. Install new traffic signal head 23 (type K mounting).
5. At approximate sta. NE Hwy 99 12+56.1 (50.3' Rt.) reinstall traffic signal controller cabinet with attached modified Type I electrical service from NE 134th St/NE 20th St. See sheets T01 and T04.
6. Retain and protect existing junction box.

GENERAL NOTES:

1. ABANDON EXISTING MAGNETOMETERS AND REMOVE ALL ASSOCIATED WIRING.

20' 10' 0' 20' 40'
SCALE: 1" = 20'

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T07
SHEET 43 OF 84

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STATE OF WASHINGTON
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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99/N.E. 129TH STREET
TRAFFIC SIGNAL MODIFICATION PLAN

proud past, promising future
CLARK COUNTY
WASHINGTON

REFS:
978x091.dwg
978u191.dwg
978x200.dwg
978x230.dwg
signal.dwg
stripe.dwg
interconnect.dwg

VG NAME:
993897GB.dwg

TSCALE:
80

AST UPDATE:
:54 am
ednesday
eb 18 2004

LOT TIME:
:58 am
ednesday
eb 18 2004

DETECTION SYSTEM NOTES

All vehicle detection inductive loops shall conform to the following:

INDUCTIVE LOOP(S)	TYPE OF LOOP	SIZE (W x L)	# OF TURNS	DISTANCE (NEAR-FAR) FROM STOP BAR ON THE APPROACH
23,24	SQUARE	6' x 6'	4	140' TO 146'
44,45,84,85	SQUARE	6' x 6'	4	204' TO 210'
21,22,61,62	RECTANGULAR	(3'x3') x 40'	4	−7' TO 33'
42,43,82,83	RECTANGULAR	6' x 25'	4	80' TO 105'
32,72	RECTANGULAR COUPLED	(3 x 3') x 30'	2+2	−11' TO −41'
41/71, 31/81	RECTANGULAR COUPLED	(3 x 3') x 100'	2+2	−7' TO 93'
33, 73	RECTANGULAR COUPLED	6' x 15'	4	51' TO 66'

All loops shall be centered in the detected lane, except vehicle loops adjacent to curbs shall be located to have 3' between the sawcut and the lane line to the left of the loop.

DETECTION RACK

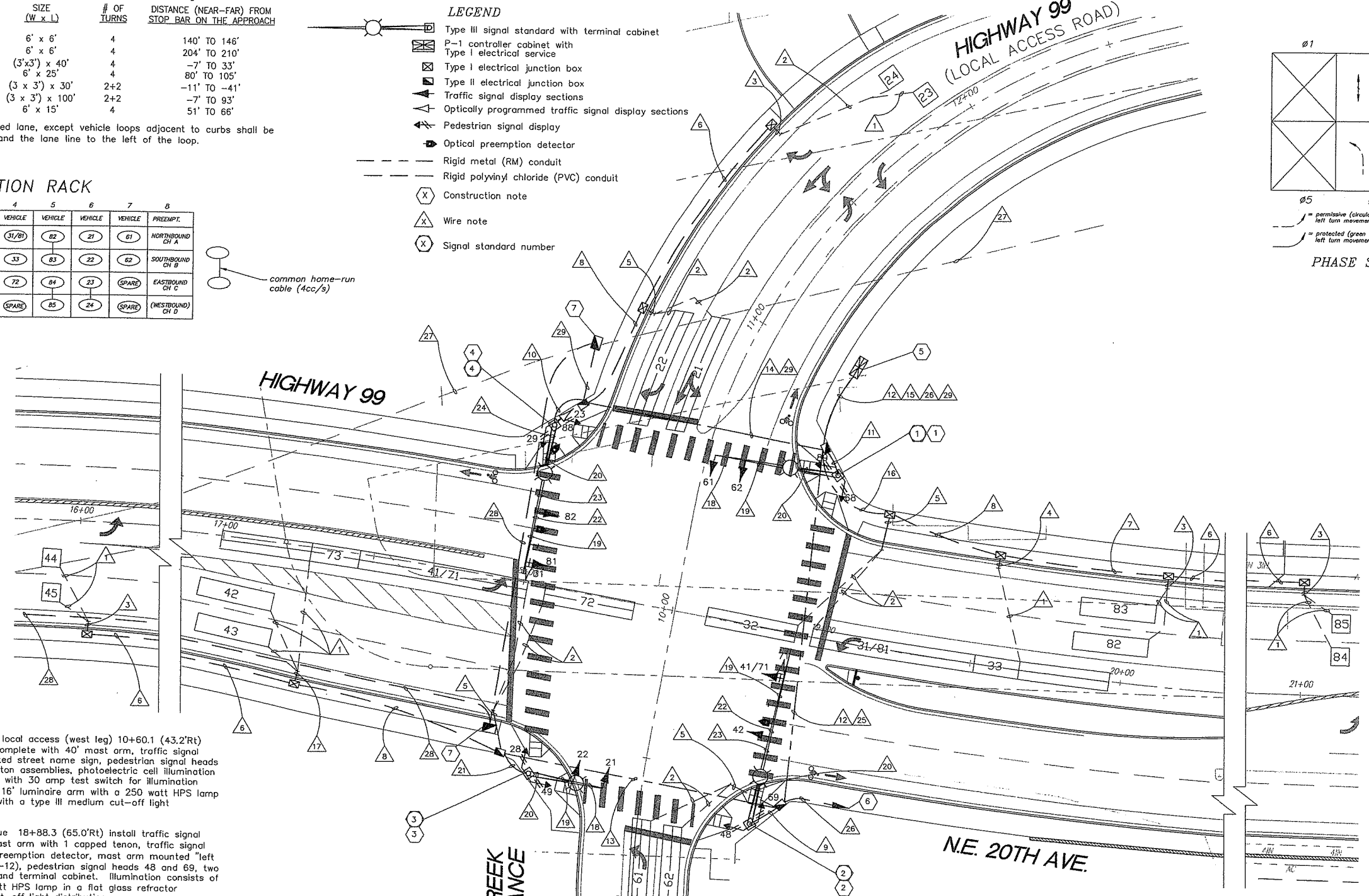
MODULE NO. / MODULE TYPE / CHANNEL	1	2	3	4	5	6	7	8
PWR. SUPPLY	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	VEHICLE	PREEMPT.
MODULE 2/3	(41/71)	(42)	(31/81)	(82)	(21)	(61)		NORTHBOUND CH A
MODULE 4/5	(73)	(43)	(33)	(83)	(22)	(62)		SOUTHBOUND CH B
MODULE 6/7	(32)	(44)	(72)	(84)	(23)	(SPARE)		EASTBOUND CH C
SPARE	(SPARE)	(45)	(SPARE)	(85)	(24)	(SPARE)		(WESTBOUND) CH D

(xx)=FUTURE SENSOR

common home-run cable (4cc/s)

LEGEND

- Type III signal standard with terminal cabinet
- P-1 controller cabinet with Type I electrical service
- Type I electrical junction box
- Type II electrical junction box
- Traffic signal display sections
- Optically programmed traffic signal display sections
- Pedestrian signal display
- Optical preemption detector
- Rigid metal (RM) conduit
- Rigid polyvinyl chloride (PVC) conduit
- (X) Construction note
- (X) Wire note
- (X) Signal standard number



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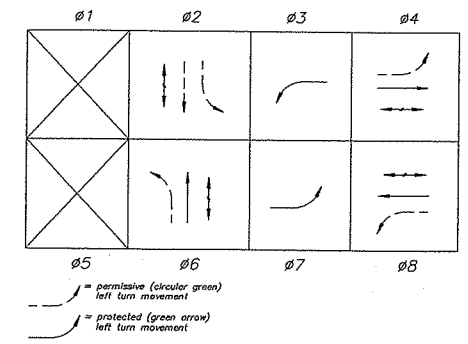
STPF-4253(010)



PHASE SEQUENCE DIAGRAM

CONSTRUCTION NOTES

1. At approximate Sta. Highway 99 / local access (west leg) 10+60.1 (43.2'Rt) install traffic signal standard (1) complete with 40' mast arm, traffic signal heads 61 and 62, mast arm mounted street name sign, pedestrian signal heads 68 and 89, two pedestrian pushbutton assemblies, photoelectric cell illumination circuit control and terminal cabinet with 30 amp test switch for illumination system. Illumination consists of a 16' luminaire arm with a 250 watt HPS lamp in a flat glass refractor luminaire with a type III medium cut-off light distribution.

2. At approximate Sta. NE 20th Avenue 18+88.3 (65.0'Rt) install traffic signal standard (2) complete with 60' mast arm with 1 capped tenon, traffic signal heads 41/71 and 42, one optical preemption detector, mast arm mounted "left turn yield on green ● " sign (R10-12), pedestrian signal heads 48 and 69, two pedestrian pushbutton assemblies, and terminal cabinet. Illumination consists of a 16' luminaire arm with a 250 watt HPS lamp in a flat glass refractor luminaire with a type III medium cut-off light distribution.

3. At approximate Sta. Salmon Creek Plaza entrance 9+39.1 (37.7'Lt) install traffic signal standard (3) complete with 25' mast arm, traffic signal heads 21 and 22, mast arm mounted street name sign, pedestrian signal heads 28 and 49, two pedestrian pushbutton assemblies, and terminal cabinet. Illumination consists of a 16' luminaire arm with a 250 watt HPS lamp in a flat glass refractor luminaire with a type III medium cut-off light distribution.

4. At approximate Sta. Highway 99 (south leg) (S) 18+00.3 (52.7'Lt) install signal standard (4) complete with 50' mast arm with 1 capped tenon, traffic signal heads 31/81, 82, and 23 two optical preemption detectors, mast arm mounted street name sign, mast arm mounted "left turn yield on green ● " sign (R10-12), pedestrian signal heads 29 and 88, two pedestrian pushbutton assemblies, and terminal cabinet. Illumination consists of a 16' luminaire arm with a 250 Watt HPS Lamp in a flat glass refractor luminaire with a type III with a medium cut-off distribution.

5. At approximate Sta. Highway 99 (west leg) 11+03.6 (34.6'Rt.) install P-1 controller cabinet (with attached Type I electrical service) on modified M-pad foundation as per the standard plans, standard specifications, and the special provisions. The door for this cabinet shall open to the south, the pedestal height shall be 17.5 inches and the footing pad in front of the cabinet shall match the adjacent sidewalk.

6. Extend 2" PVC conduit and 2 #4 wires to a CPU transformer to be installed on the east side of NE 20th Avenue located between Sta. 19+00 and 22+00. Contact Dale Mickelson at CPU for final location at (360) 992-8819.

7. Communications junction box. (See Interconnect/Fiber Cable plan).

20' 10' 0' 20' 40'
SCALE: 1" = 20'

WIRING SCHEDULE

RUN NO.	ENCLOSURE OR ATTACHMENT	TRAFFIC SIGNALS	PEDES-TRIAN SIGNALS	DETECTION: INDUCTIVE LOOPS	DETECTION: PEDES-TRIAN	ILLUMINATION: POWER	ILLUMINATION: BRANCH	OPTICAL PRE-EMPTION	SIGNAL INTER-CONNECT	SYSTEM POWER	WIRED SPARES	RUN NO.
1	SAWCUT			2 #12 TP								1
2	SAWCUT			4 #12 TP								2
3	1" PVC			4 #12 TP								3
4	1" PVC			2 #12 TP								4
5	1.5" PVC			8 #12 TP								5
6	2" PVC			1 #18-4cc/s								6
7	2" PVC			2 #18-4cc/s								7
8	2" PVC			3 #18-4cc/s								8
9	2" RM	2-5/cc	1-5/cc		1 #18-4cc/s		2 #12	1 #20-3cc/s			2 #12	9
10	2" RM	3-5/cc	1-5/cc		1 #18-4cc/s		2 #12	2 #20-3cc/s			2 #12	10
11	2" RM	1-5/cc	1-5/cc		1 #18-4cc/s		2 #12				2 #12	11
12	Two-3" RM	3-5/cc	2-5/cc	7 #18-4cc/s	2 #18-4cc/s		4 #12	1 #20-3cc/s			4 #12	12
13	3" RM	1-5/cc	1-5/cc	5 #18-4cc/s	1 #18-4cc/s		2 #12				2 #12	13
14	3" RM	3-5/cc	1-5/cc	3 #18-4cc/s	1 #18-4cc/s		2 #12	2 #20-3cc/s			2 #12	14
15	3" RM	4-5/cc	2-5/cc	8 #18-4cc/s	2 #18-4cc/s		4 #12	2 #20-3cc/s			4 #12	15
16	2" PVC			5 #18-4cc/s								16
17	1.5" PVC			6 #12 TP								17
18	SIGNAL MAST ARM	1-5/cc										18
19	SIGNAL MAST ARM	2-5/cc										19
20	ILLUM MAST ARM						2 #10 PB					20
21	2" RM	1-5/cc	1-5/cc		1 #18-4cc/s		2 #12				2 #12	21
22	SIGNAL MAST ARM	2-5/cc						1 #20-3cc/s				22
23	SIGNAL MAST ARM	3-5/cc						1 #20-3cc/s				23
24	SIGNAL MAST ARM	3-5/cc						2 #20-3cc/s				24
25	2" RM									2 #4		25
26	2" PVC									2 #4		26
27	3" PVC (e)								INTC			27
28	3" PVC								INTC			28
29	2" PVC								INTC			29

WIRING SCHEDULE LEGEND:

PB = Pole and bracket cable
TP = Twisted Pair(s) of type USE loop wires
RM = Rigid Metal conduit
PVC = Rigid Polyvinyl Chloride (plastic) conduit
5cc = Five-conductor traffic signal cable
cc/s = Multi-conductor communication cable having stranded copper conductors, aluminum/polyester foil shield, and high-density polyethylene jacket insulation
INTC = See Interconnect/Fiber Cable plan

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T08
SHEET 44 OF 84

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DESIGN SECTION

HIGHWAY 99/N.E. 20TH AVENUE
TRAFFIC SIGNAL PLAN

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REFS:
970x001.dwg

VG NAME:
99389109.dwg

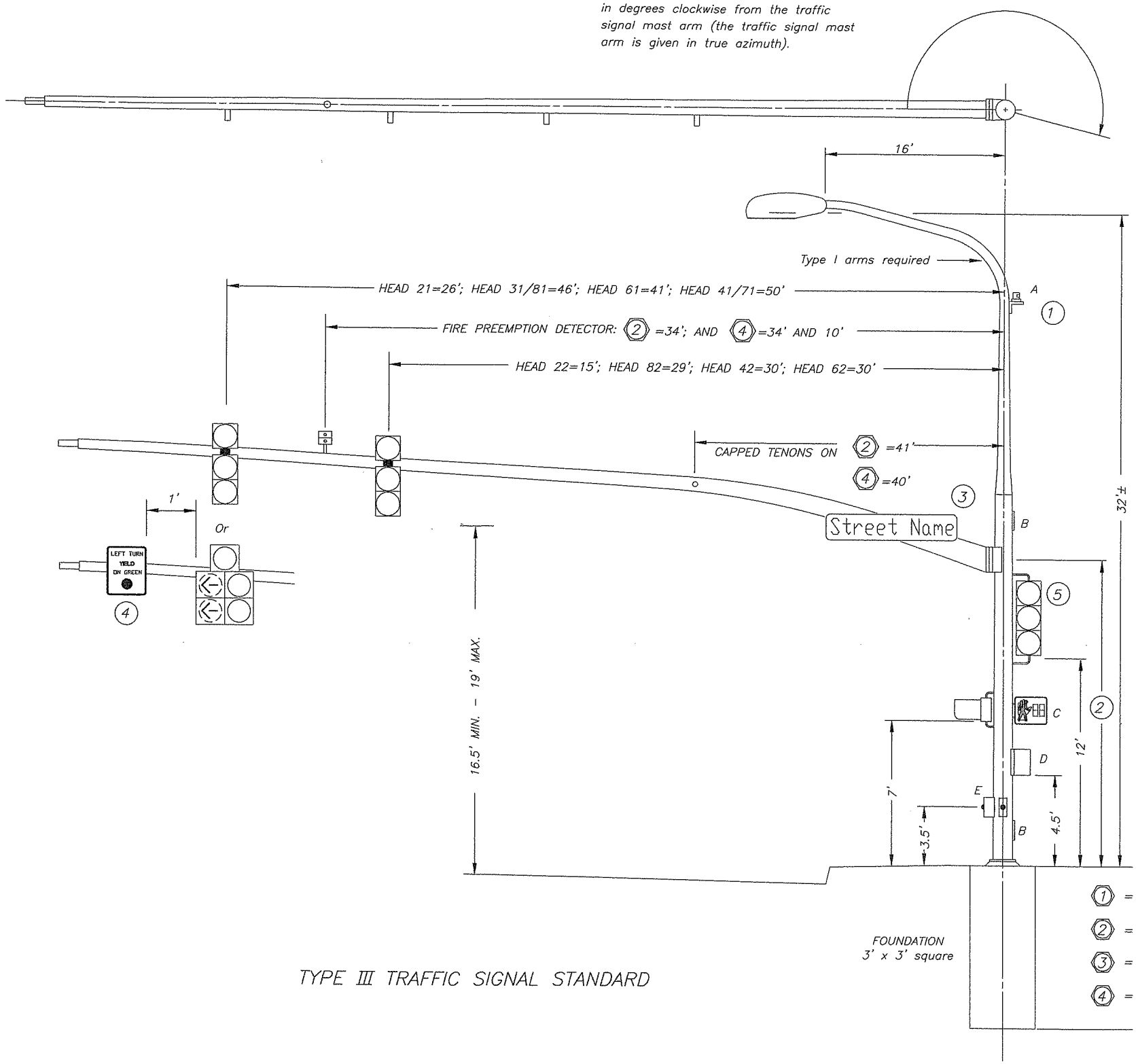
TSCALE:
0669

LAST UPDATE:
08 on
riday
ec 12 2003

LOT TIME:
:57 on
ednesday
eb 18 2004

Fed. Aid No.
STPF-4253(010)

Mounting of appurtenances is measured in degrees clockwise from the traffic signal mast arm (the traffic signal mast arm is given in true azimuth).



TYPE III TRAFFIC SIGNAL STANDARD

(1) = 7'

(2) = Contractor to provide special structural design. (See special provisions).

(3) = 7'

(4) = 9'

* EOA = End of Arm

APPURTENANCE ORIENTATION

SIGNAL STANDARD	(1)	(2)	(3)	(4)
SIGNAL MAST ARM	189° T.A.	283° T.A.	10° T.A.	102° T.A.
A	0°	0°	0°	0°
B	180°	180°	180°	180°
C	90° 180°	90° 180°	90° 180°	90° 180°
D	180°	180°	180°	180°
E	0° 270°	0° 270°	0° 270°	0° 270°

T.A.=True Azimuth
A=Illumination mast arm
B=Handhole
C=Pedestrian Signal Heads
D=Terminal Cabinet
E=Pedestrian Pushbuttons with Signs

NOTES:

(1) Photoelectric cell illumination circuit control (Signal standard (1) only).

(2) Mast arm attachment varies with manufacturer.

(3) Street name signs attached per standard plan J-6h. Street name signs are 36" high and have 8" u.c./6" l.c. series "C" black letters on reflectorized yellow background. Signs shall include boarders, margins, and corner radii. Legends are as follows:

(1) ← NE HIGHWAY 99 / NE 20TH AV. → 36"

(2) ← NE HIGHWAY 99 / SALMON CREEK PLAZA → 36"

(3) ← NE 20TH AV. / NE HIGHWAY 99 → 36"

(4) NE HIGHWAY 99 → / ← SALMON CREEK PLAZA 36"

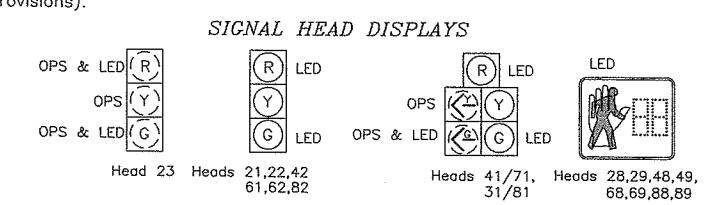
(4) 30" × 36"
LEFT TURN
YIELD
ON GREEN

R10-12
TRAFFIC SIGNAL SIGN DETAIL

Note: Reflective surface shall be 3-M Diamond Grade V.I.P. or approved equal

(5) Install vehicle signal head 23 to traffic signal pole (4) per WSDOT standard plan J-6f (type K mount).

SIGNAL HEAD DISPLAYS



NOTES:

1. The arrow sections of heads 31/81 and 41/71 shall be optically programmed. All sections of head 23 shall be optically programmed.

2. Traffic signal heads shall have 12" sections, square doors, Type M mounts (except head 23 which has a type K mount), and tunnel visors. Three section heads shall have backplates.

3. Pedestrian signal heads are 16" (H) x 19-1/2" (W) x 10-1/2" (D) with Type E mounts, Z-crate visors and hand walker display with orange LED solid filled hand and white LED solid filled walker, and numerical countdown timer display.

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T09
SHEET 45 OF 84

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DESIGN SECTION

HIGHWAY 99/N.E. 20TH AVENUE
SIGNAL STANDARD DETAIL

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XREFS:
C978x001.dwg

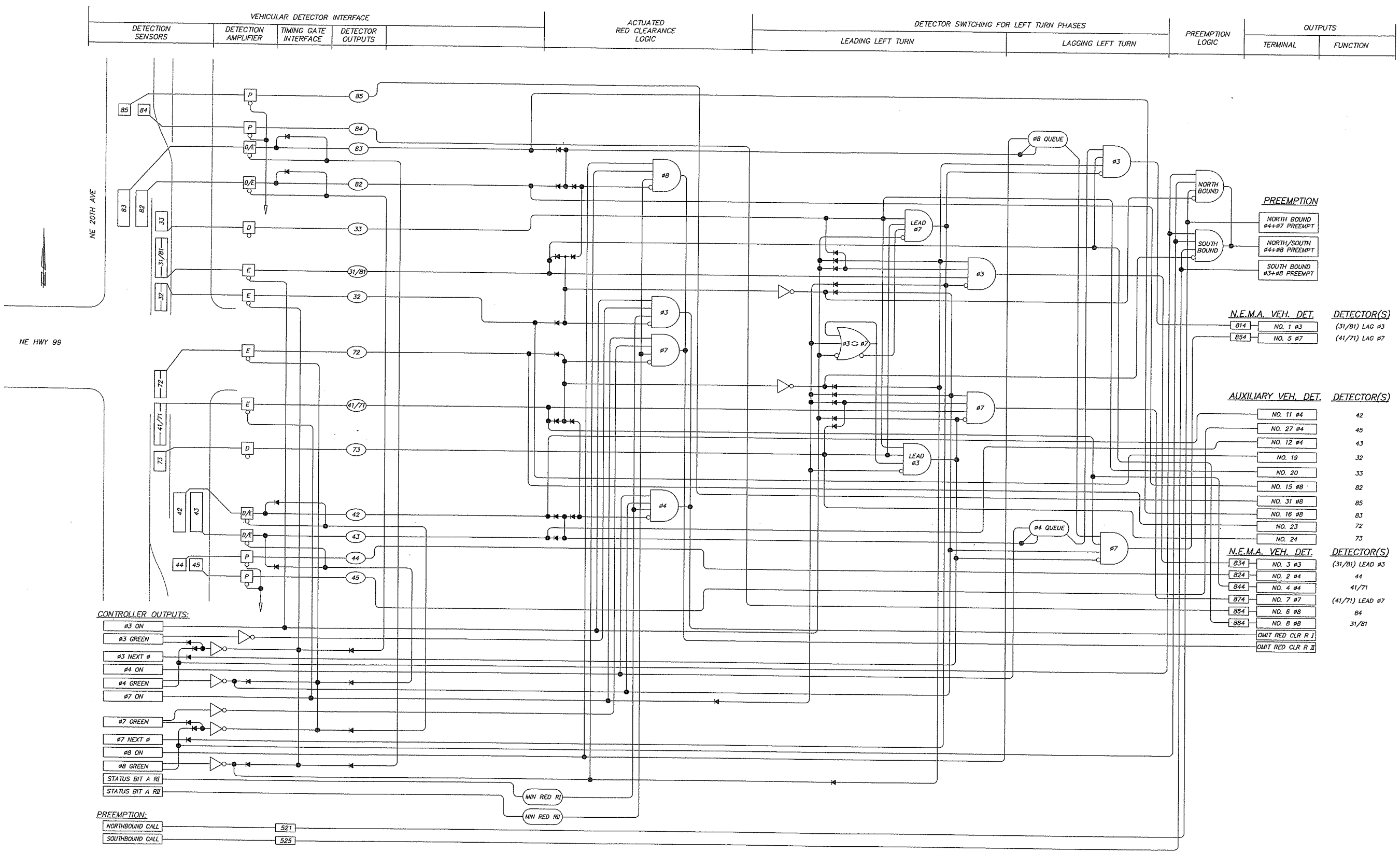
DWG NAME:
P99389T10.dwg

LTSCALE:
1.000

LAST UPDATE:
4:29 pm
Thursday
Dec 11 2003

PLOT TIME:
4:29 pm
Thursday
Dec 11 2003

Fed. Aid No.
STPF-4253(010)



DETECTION LOGIC SCHEMATIC – NE 20TH AVENUE/HIGHWAY 99 LOCAL ACCESS ROAD

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
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SHEET 46 OF 84

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DESIGN SECTION

HIGHWAY 99/N.E. 20TH AVENUE
DETECTION LOGIC SCHEMATIC

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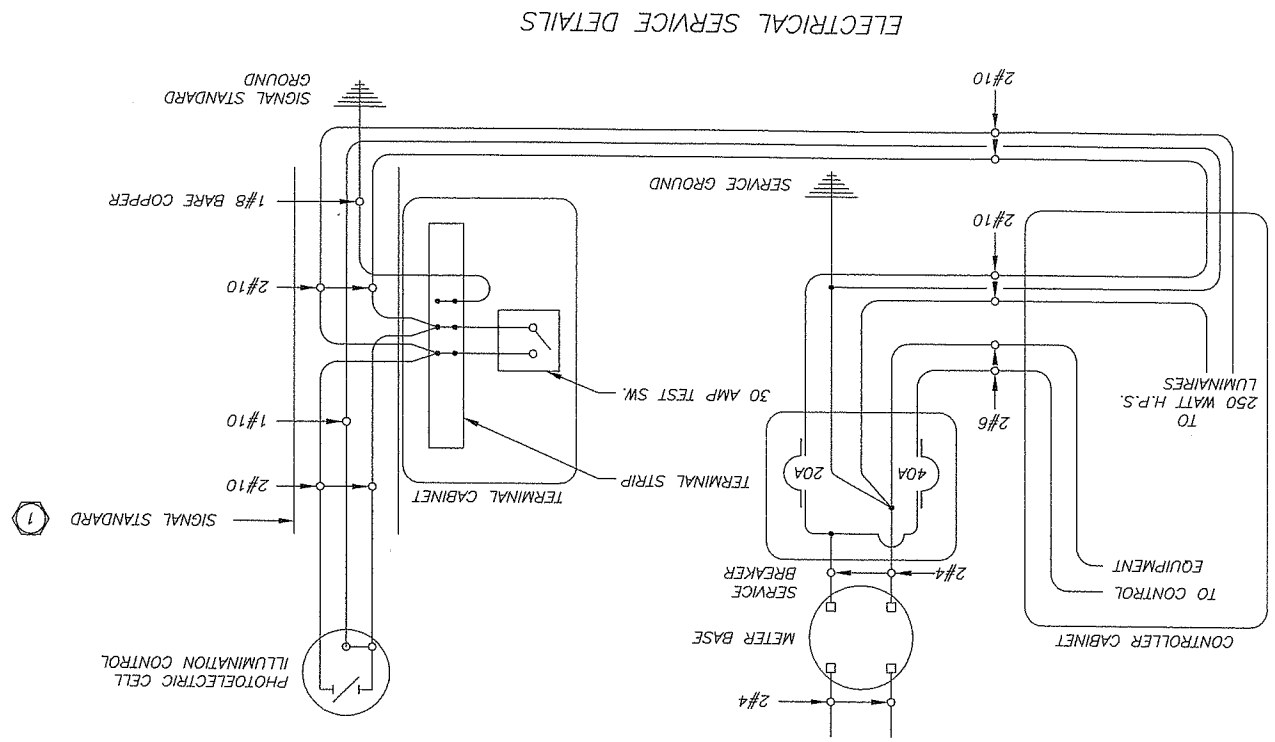

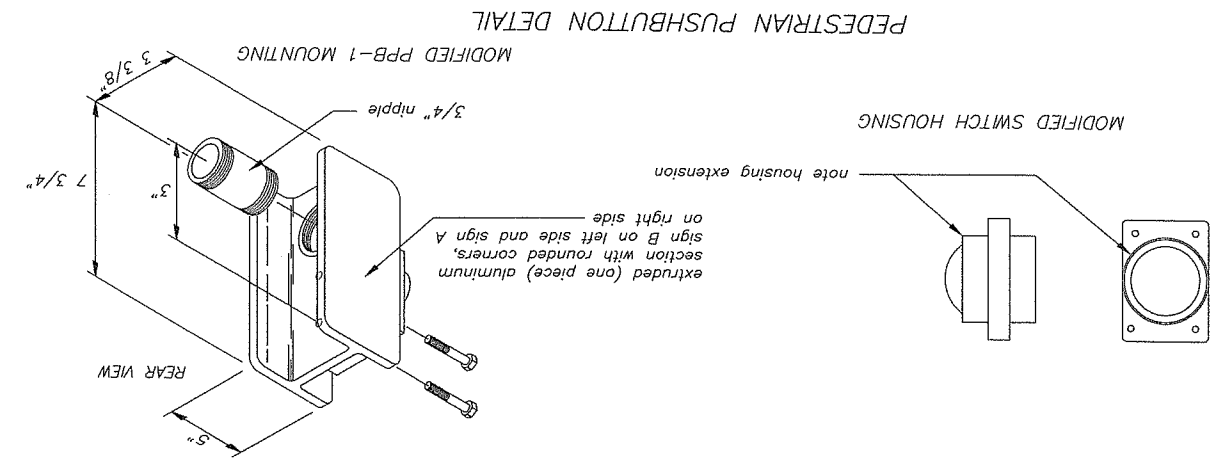

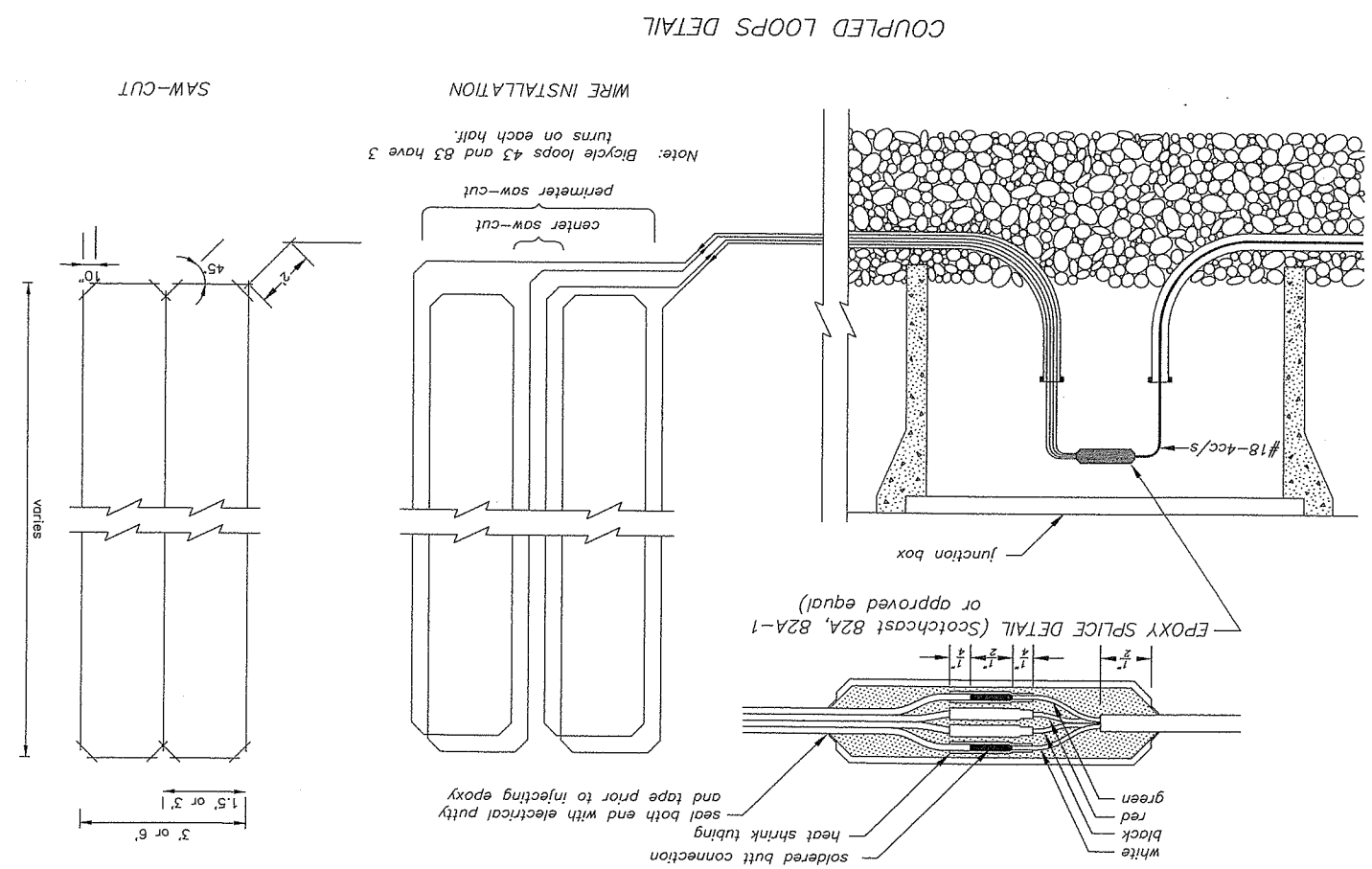

CLARK COUNTY WASHINGTON

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DESIGN SECTION

HIGHWAY 99 REALIGNMENT

TRAFFIC SIGNAL DETAILS

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CRP:	392922
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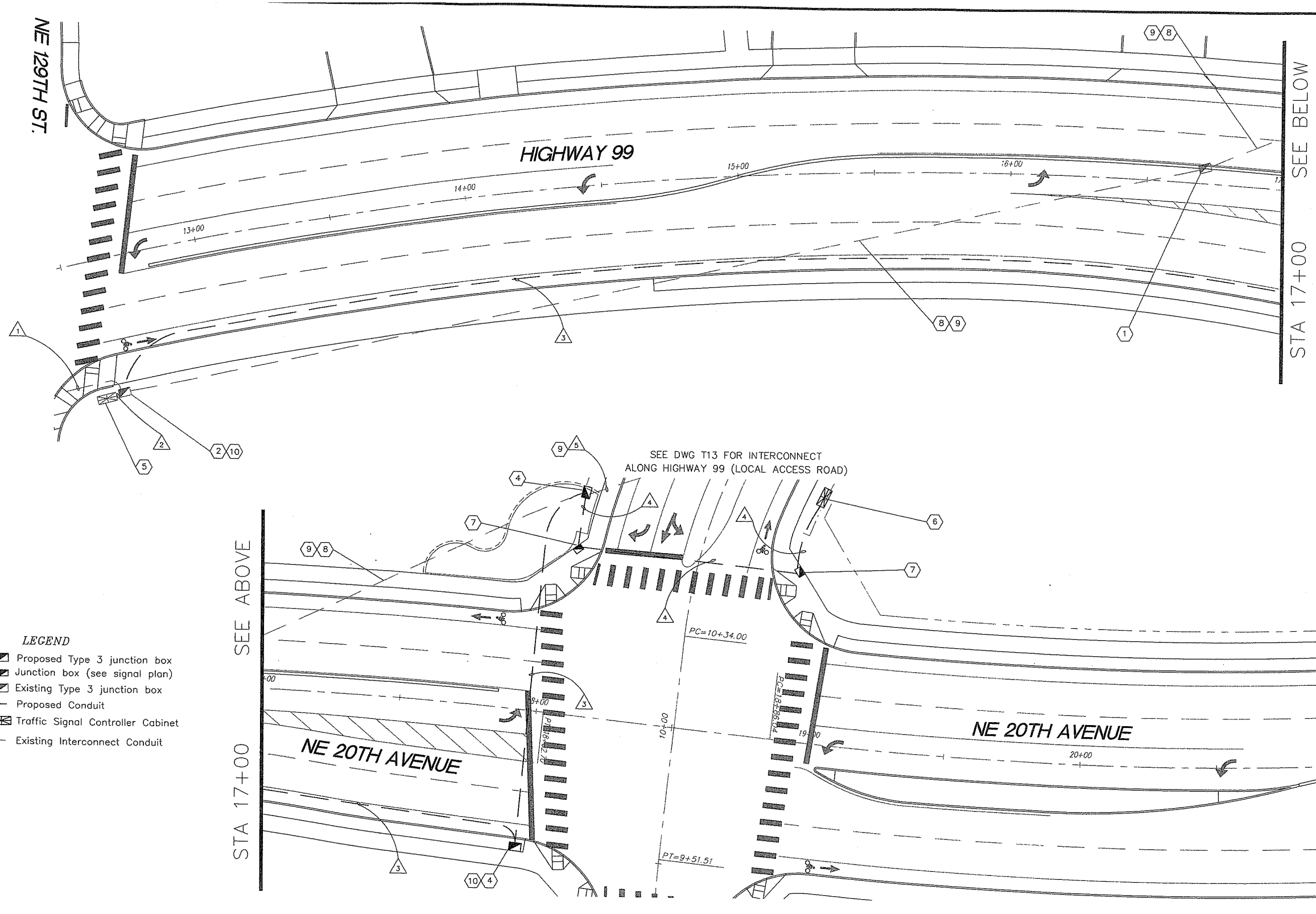
VERT.	
DATE:	2/20/04
DWG:	T11
SHEET	47 OF 84

Fed. Aid No.
STPF-4253[010]

XREFS: C978x001.dwg
PLOT TIME: 11:58 am Friday Oct 17 2003
LAST UPDATE: 11:58 am Friday Oct 17 2003
LTSCALE: 1.0000
PLOT NAME: P99389T11.dwg



LEGEND

- Proposed Type 3 junction box
- Junction box (see signal plan)
- Existing Type 3 junction box
- Proposed Conduit
- Traffic Signal Controller Cabinet
- Existing Interconnect Conduit

20' 10' 0' 20' 40'

SCALE: 1" = 20'

CONSTRUCTION NOTES

1. Remove and salvage existing communications junction box.
2. Retain and protect existing communications junction box. Maintain existing 36 fiber from the south. Coil and protect existing excess cable for future splicing.
4. Install new type 3 junction box with galvanized steel cover over existing conduit. See F/O Junction Box Detail on Sheet T16.
5. Existing traffic signal controller.
6. Proposed traffic signal controller (see Traffic Signal plan dwg T08).
7. Proposed traffic signal junction box (See Traffic Signal plan dwg T08).
8. Abandon existing 3 inch HDPE interconnect conduit.
9. Remove and salvage existing fiber optic cable and copper wires. Disconnect splices in communications junction box at NE Highway 99/NE 134th Street and pull back existing fiber optic cable to junction box at NE Highway 99/NE 129th Street. Protect existing 36 fiber cable to the south, cut off excess fiber and coil a minimum of 50 feet of cable for future splicing.
10. Coil a minimum 50 feet of fiber optic cable.

INTERCONNECT WIRING SCHEDULE

RUN NO. △	ENCLOSURE OR ATTACHMENT	SIGNAL INTERCONNECT	FIBER
1	3" HDPE (e)	3 #18-4 cc/s	1-36 SMFO CABLE (e)
2	2" RM (e)	6 #18-4 cc/s	
3	3" PVC	3 #18-4 cc/s	1-36 SMFO CABLE
4	2" PVC	6 #18-4 cc/s	
5	3" HDPE (e)	3 #18-4 cc/s	1-36 SMFO CABLE
6	NOT USED		

WIRING SCHEDULE LEGEND:

PVC = Rigid Polyvinyl Chloride (plastic) conduit
(b) = Bare wire
(e) = Existing
(n) = New
SMFO = Single-Mode Fiber Optic
HDPE = High density polyethylene conduit

Fed. Aid No.
STPF-4253[010]

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T12
SHEET 48 OF 84

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DESIGN SECTION

HIGHWAY 99/N.E. 20TH AVENUE
INTERCONNECT/FIBER CABLE PLAN

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XREFS:
c978x001.dwg
c978x230.dwg
Xinterconnect.dwg

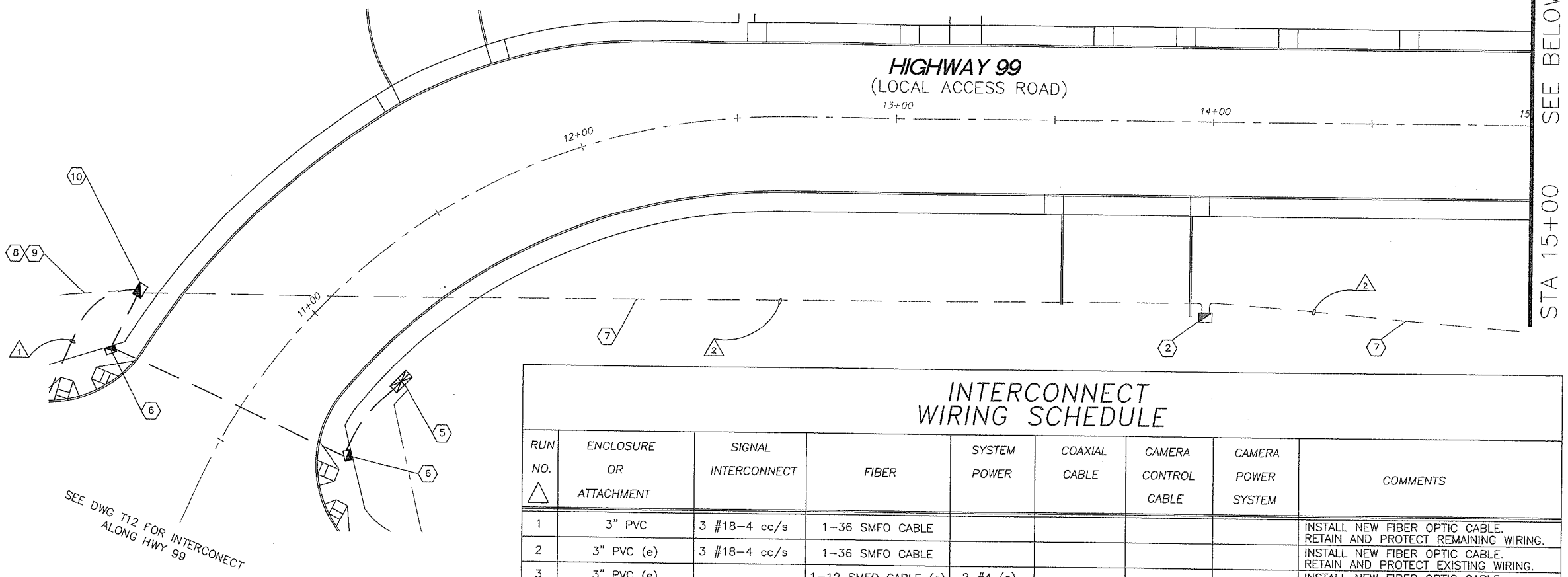
DWG NAME:
P99389713.dwg

LTSCALE:
1.0000

LAST UPDATE:
7:04 pm
Thursday
Dec 11 2003

PLOT TIME:
7:04 pm
Thursday
Dec 11 2003

Fed. Aid No.
STPF-4253(010)



INTERCONNECT WIRING SCHEDULE

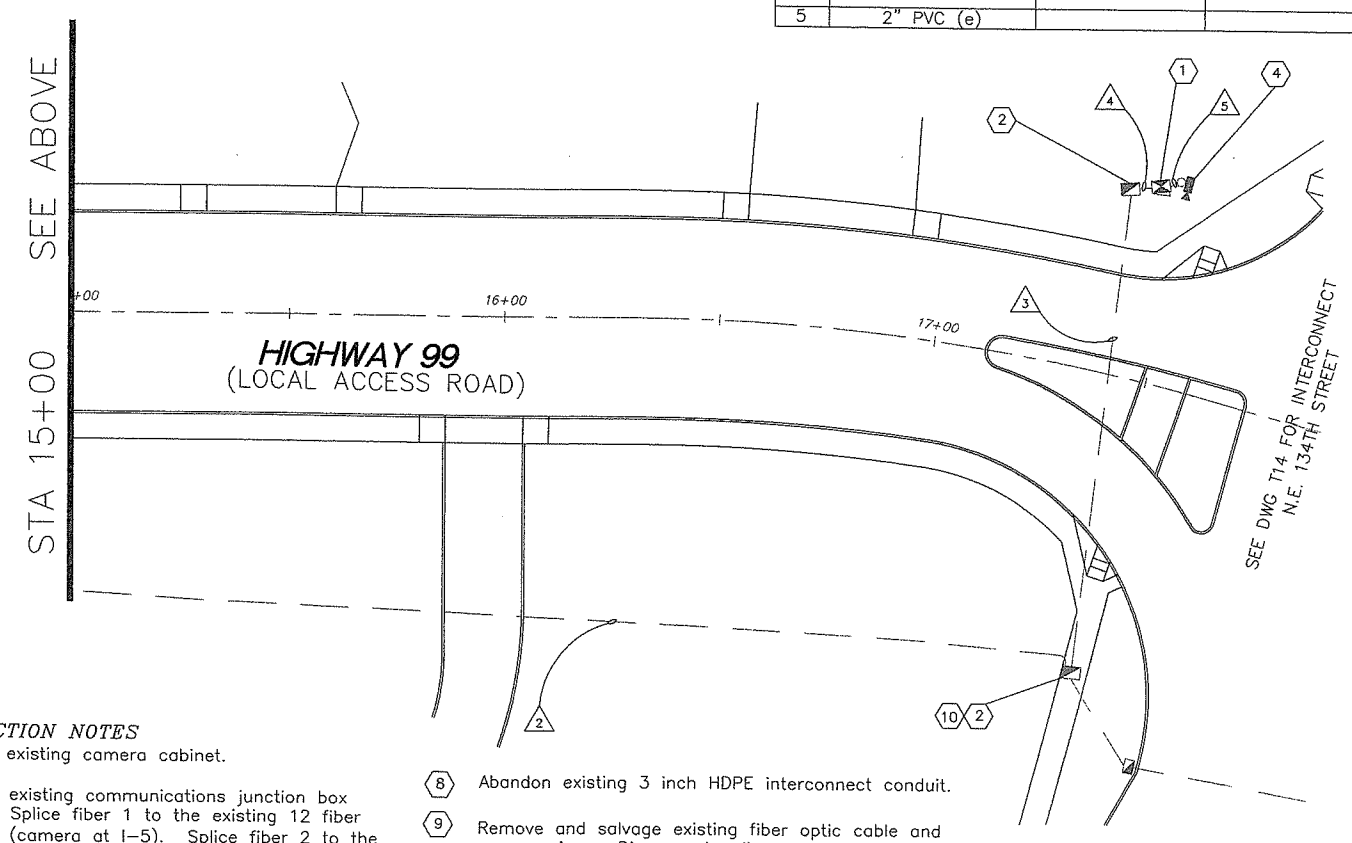
RUN NO. △	ENCLOSURE OR ATTACHMENT	SIGNAL INTERCONNECT	FIBER	SYSTEM POWER	COAXIAL CABLE	CAMERA CONTROL CABLE	CAMERA POWER SYSTEM	COMMENTS
1	3" PVC	3 #18-4 cc/s	1-36 SMFO CABLE					INSTALL NEW FIBER OPTIC CABLE. RETAIN AND PROTECT REMAINING WIRING.
2	3" PVC (e)	3 #18-4 cc/s	1-36 SMFO CABLE					INSTALL NEW FIBER OPTIC CABLE. RETAIN AND PROTECT EXISTING WIRING.
3	3" PVC (e)		1-12 SMFO CABLE (e)	2 #4 (e)				INSTALL NEW FIBER OPTIC CABLE. RETAIN AND PROTECT EXISTING WIRING.
4	2" PVC (e)		1-12 SMFO CABLE (e)	2 #4 (e)				INSTALL NEW FIBER OPTIC CABLE. RETAIN AND PROTECT EXISTING WIRING.
5	2" PVC (e)				1-RG-6A/U (e)	4 #18 (e)	3 #14 (e)	RETAIN AND PROTECT EXISTING WIRING.

WIRING SCHEDULE LEGEND:

PVC= Rigid Polyvinyl Chloride (plastic) conduit
(b)= Bare wire
(e)= Existing
(n)= New
SMFO= Single-Mode Fiber Optic

LEGEND

- Proposed Type 3 junction box
- Junction box (see signal plan)
- Existing Type 3 junction box
- Existing junction box (see signal plan)
- Proposed Conduit
- Traffic Signal Controller
- Existing Interconnect Conduit
- Existing CCTV Camera
- Existing Fiber Optic Cabinet



20' 10' 0' 20' 40'
SCALE: 1" = 20'

CONSTRUCTION NOTES

1. Retain and protect existing camera cabinet.
2. Retain and protect existing communications junction box and splice closure. Splice fiber 1 to the existing 12 fiber cable to the north (camera at I-5). Splice fiber 2 to the existing 12 fiber cable to the west (camera at NE Highway 99).
4. Retain and protect existing CCTV camera and pole.
5. Proposed traffic signal controller (See Traffic Signal Plan dwg T08).
6. Junction Box (See Traffic Signal Plan dwg T08).
8. Abandon existing 3 inch HDPE interconnect conduit.
9. Remove and salvage existing fiber optic cable and copper wires. Disconnect splices in communications junction box at NE Highway 99/NE 134th Street and pull back existing fiber optic cable to junction box at NE Highway 99/NE 129th Street. Proect existing 36 fiber cable to the south, cut off excess fiber and coil a minimum of 50 feet of cable for future splicing.
10. Coil a minimum 50 feet of fiber optic cable.

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T13
SHEET 49 OF 84

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99
INTERCONNECT/FIBER CABLE PLAN

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REFS:
978x001.dwg
978x230.dwg
ewall.dwg
interconnect.dwg
signal.dwg
stripe.dwg

WG NAME:
99389T14.dwg

TSCALE:
00

AST UPDATE:
27 pm
onday
eb 2 2004

LOT TIME:
58 am
uesday
eb 3 2004

INTERCONNECT WIRING SCHEDULE

RUN NO. △	CONDUIT OR ENCLOSURE	SIGNAL INTERCONNECT	FIBER	SYSTEM POWER	
1	1.5" PVC (e)	1-6 TWP (e)	1-12 SMFO CABLE (e)		
2	3.5" PVC (e)	3 # 18-4cc/s	1-12 SMFO CABLE (e)	2 #4 (e)	*
3	3" PVC (e)	3 # 18-4cc/s		2 #4 (e)	*
4	2" PVC (e)	3 # 18-4cc/s	1-12 SMFO CABLE (e)	2 #4 (e)	
5	1.5" PVC (e)				
6	2" PVC (e)	1 # 18-4cc/s			
7	1.5" PVC	1-6 TWP (e)/1 #18-4cc/s			

WIRING SCHEDULE LEGEND:

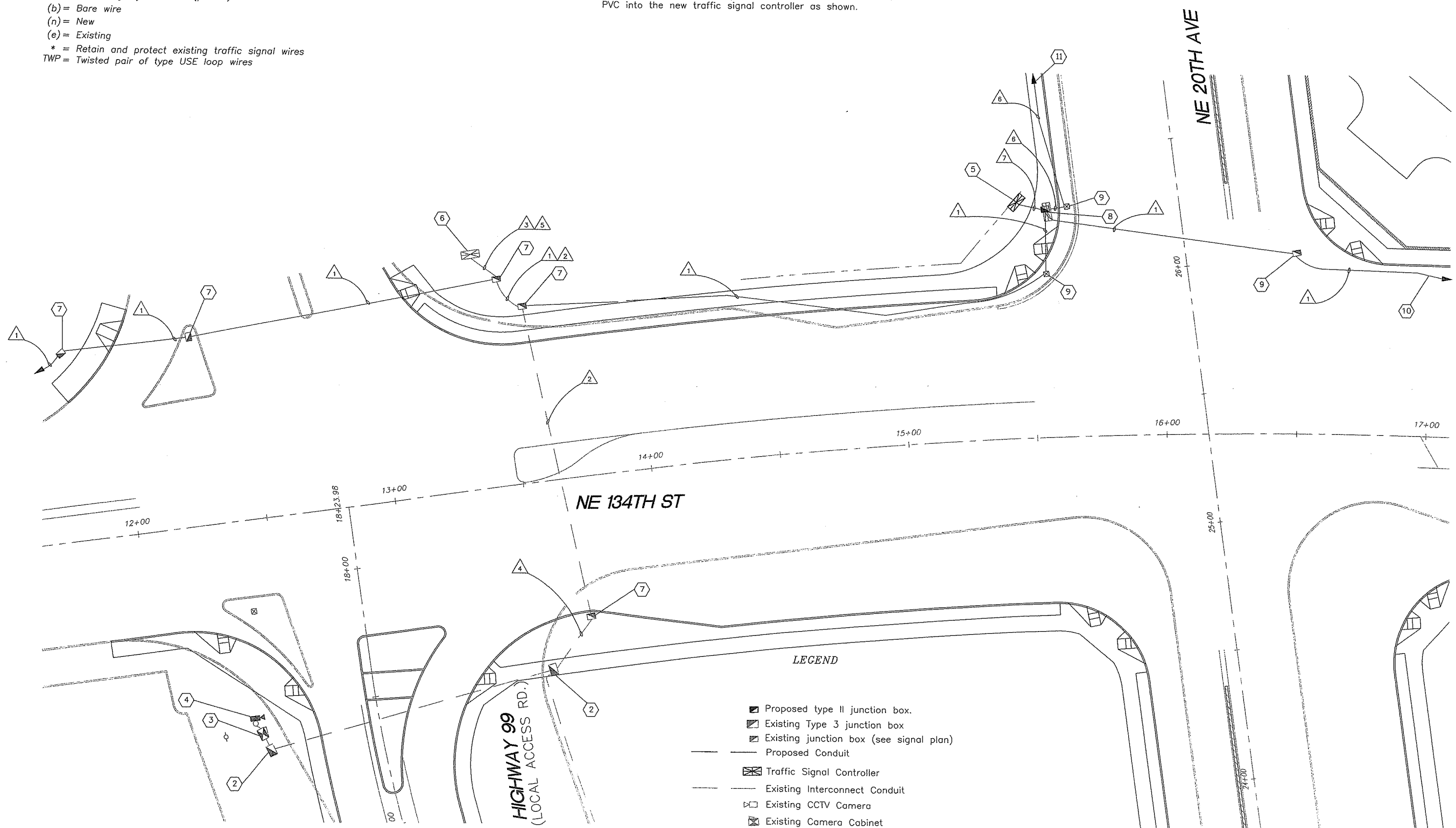
PVC= Rigid Polyvinyl Chloride (plastic) conduit
(b)= Bare wire
(n)= New
(e)= Existing
* = Retain and protect existing traffic signal wires
TWP= Twisted pair of type USE loop wires

CONSTRUCTION NOTES

1. Install type 3 junction box with galvinized steel cover. Coil a minimum six (6) feet of fiber optic cable.
2. Retain and protect existing communications junction box.
3. Retain and protect existing camera cabinet.
4. Retain and protect existing CCTV camera and pole.
5. Proposed traffic signal controller. (See Traffic Signal Plan dwg T05).
6. Retain and protect existing traffic signal controller.
7. Retain and protect existing traffic signal junction box.
8. Intercept existing 1.5 inch interconnect conduits in the existing traffic signal controller. Install a type 2 junction box on top of the intercepted conduit. Extend new 1.5 inch PVC into the new traffic signal controller as shown.
9. Remove existing junction box. Connect existing 1.5 inch interconnect conduit for future use. Repair disturbed surface per Clark County Specifications.
10. Remove the existing 6-pair interconnect cable between the existing 134th Street/20th Ave. and 134th Street/ I-205 ramp traffic signal controllers. Pull new interconnect cable between the existing 134th Street/I-205 controller and the new traffic signal controller at 134th Street/20th Ave. (approximately 2000') as shown on the plans.
11. Pull new interconnect wires (1 #18-4cc/s) between the existing NE 20th Avenue/NE 139th Street controller and the NE 20th Avenue/NE 134th Street new traffic signal controller as shown on the plans.

Fed. Aid No.
STPF-4253[010]

20' 10' 0' 20' 40'
SCALE: 1" = 20'



SEE DWG T13 FOR INTERCONNECT ALONG HIGHWAY 99

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T14
SHEET 50 OF 84

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N.E. 134TH STREET/N.E. 20TH AVENUE
INTERCONNECT/FIBER CABLE PLAN

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FILES:
378x001.dwg
378x230.dwg
signal.dwg
stripe.dwg
378X304.dwg
378x300.dwg
378x116.dwg
interconnect.dwg

JOB NAME:
39389T15.dwg

PLOTSCALE:
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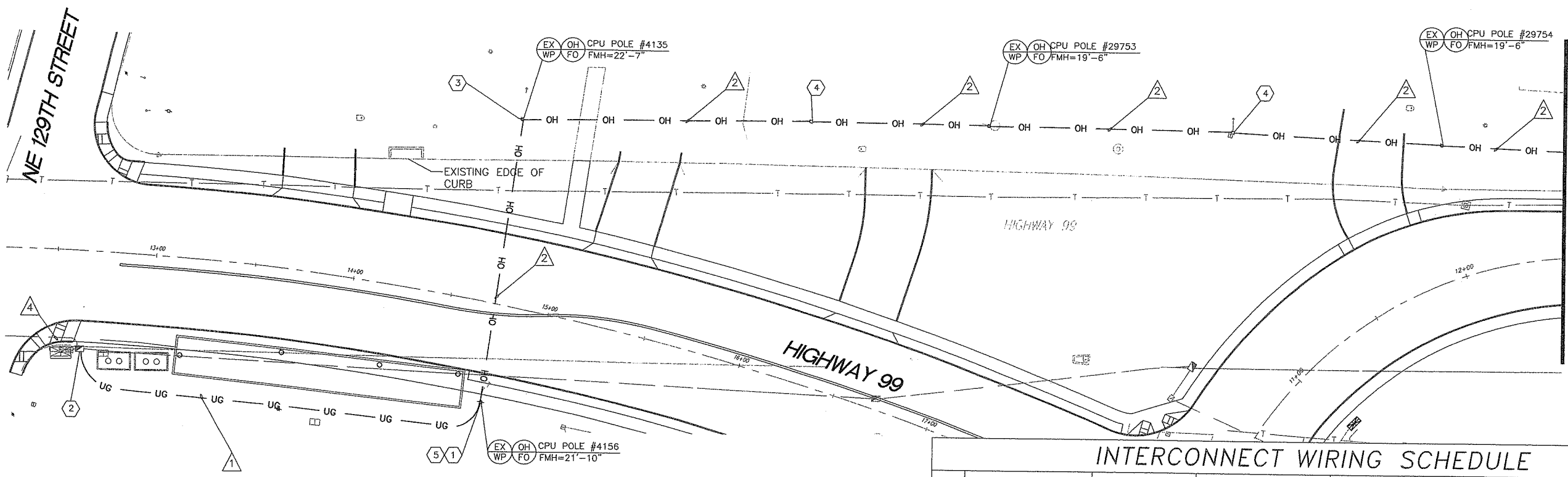
LAST UPDATE:
8:57 am
Tuesday
Feb 3 2004

PLOT TIME:
8:00 am
Tuesday
Feb 3 2004



Fed. Aid No.
STPF-4253(010)

GENERAL NOTES:

1. Maintain and protect the existing WSDOT/Clark County fiberoptic cable's in place. The contractor shall disconnect the existing fiber and connect the temporary fiber. This planned disruption shall be scheduled with Clark County/WSDOT and shall take place on week nights or weekends between the hours of 9:00pm–4:00am.

2. Once the permanent video communications system is functional, the contractor shall remove the temporary fiber cable to the Engineer's satifaction.

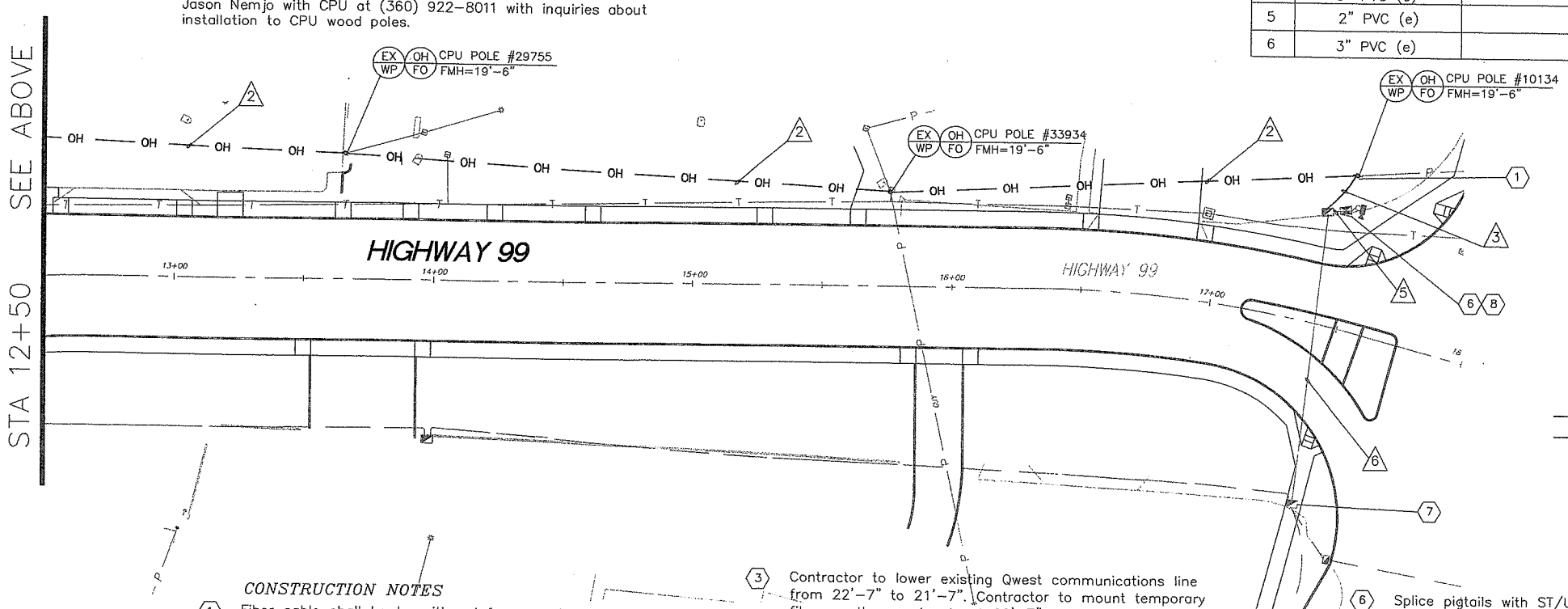
3. Contact Scott Mansur with DKS Associates at (503) 243–3500 and Jason Nemjo with CPU at (360) 922–8011 with inquiries about installation to CPU wood poles.

INTERCONNECT WIRING SCHEDULE

RUN NO. △	ENCLOSURE OR ATTACHMENT	SIGNAL INTERCONNECT	FIBER	POWER	COMMENTS
1	3" PVC	3 #18–4 cc/s	1–12 SMFO CABLE		CONDUIT MUST BE PLACED ALONG THE EAST ROW LINE TO AVOID PROPOSED VAULT
2	AERIAL		1–12 SMFO CABLE		OVERHEAD INTERCONNECT CABLE SHALL BE ATTACHED TO CPU WOOD POLE ACCORDING TO CPU AND NESC SPECIFICATIONS.
3	3" PVC		1–12 SMFO CABLE		
4	3" PVC (e)		1–36 SMFO CABLE (e)		
5	2" PVC (e)		1–12 SMFO CABLE (e)	2 #6 (e)	
6	3" PVC (e)		1–12 SMFO CABLE (e)	2 #4 (e)	

WIRING SCHEDULE LEGEND:

PVC = Rigid Polyvinyl Chloride (plastic) conduit
(e) = Existing
SMFO = Single–Mode Fiber Optic



LEGEND

- (EX/WP) Retain and protect existing CPU wood pole.
- (OH/FO) Overhead fiber optic cable with messenger cable shall be attached to CPU power pole according to CPU and NESC specifications. Height of connection point shall be per CPU specifications. See CPU details JU1 and JU2 for mounting details. All attachments of fiber optic cable to CPU wood poles shall have ID tags per CPU requirements.
- Existing Traffic Signal Controller
- Existing Type 3 junction box
- Existing junction box
- —OH—OH— Proposed Aerial Interconnect with messenger cable
- —UG—UG— Proposed Underground Interconnect
- CPU POLE # — CPU pole number
- FMH = — Fiber mounting height to CPU wood pole.

CONSTRUCTION NOTES

1. Fiber cable shall be transitioned from overhead to underground mounted in a riser conduit per CPU standard detail JU2. Mounting brackets shall be spaced 5' apart with the lowest most bracket no lower than 7'–6".
2. Install splice closure and splice 12 fiber cable to the fibers 1–12 of the existing 36 fiber cable in the junction box. Coil a minimum fof 15 feet of the 36 fiber cable in the junction box.
3. Contractor to lower existing Qwest communications line from 22'–7" to 21'–7". Contractor to mount temporary fiber on the wood pole at 22'–7".
4. Service (non–CPU) wood pole. Contractor shall not attach to Service (non–CPU) wood pole.
5. CPU pole #4156 will be relocated to a new location in the general proximity to the existing location. The contractor shall coordinate with CPU (Dale Mickelson 360–992–8819) to attach the temporary fiber to the new location.
6. Splice pigtails with ST/UPC connectors to fibers 1–3 of the new 12 fiber cable.
7. In existing splice closure splice fibers 1–3 from existing 12 fiber cable to the north to fibers 1–3 of the existing cable to the west.
8. Disconnect existing fibers from port 4–6 on the existing fiber patch panel. Terminate fibers 1–3 from the new 12 fiber cable at ports 4–6. Install fiber patch cord between ports 1 and 4 to reestablish video communications with CCTV camera at I–5 and NE 134th Avenue.

15' 7.5' 0' 15' 30'
SCALE: 1" = 30'

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T15
SHEET 51 OF 84

CALL 48 HOURS BEFORE YOU DIG 1–800–553–4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

STEVEN L. COFFEY 27235 STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER EXPIRES: JAN. 30, 2005

DKS Associates
TRANSPORTATION SOLUTIONS
1400 SW Fifth Avenue, Suite 900 Portland, Oregon 97201-5535
Telephone: (503) 243-3500
Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99
TEMPORARY AERIAL FIBER CABLE PLAN

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CLARK COUNTY WASHINGTON

XREFS:
C978x001.dwg

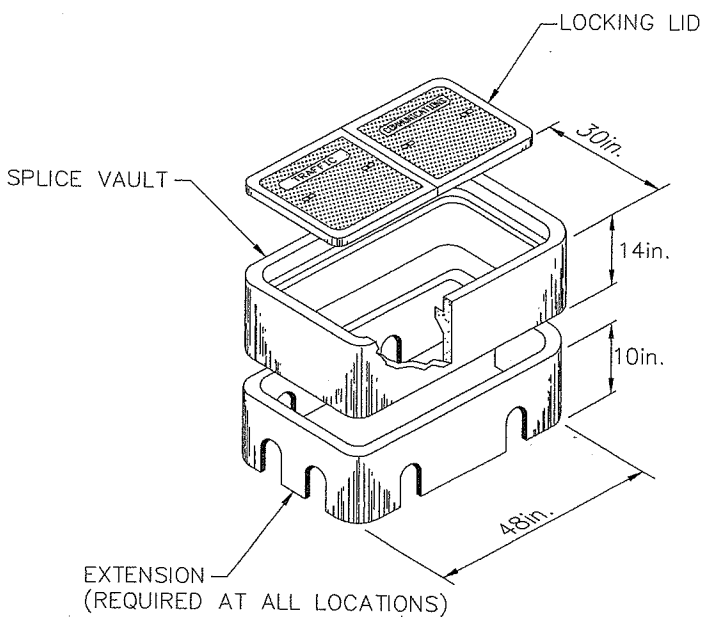
DWG NAME:
P99389T16.dwg

LTSCALE:
1.0000

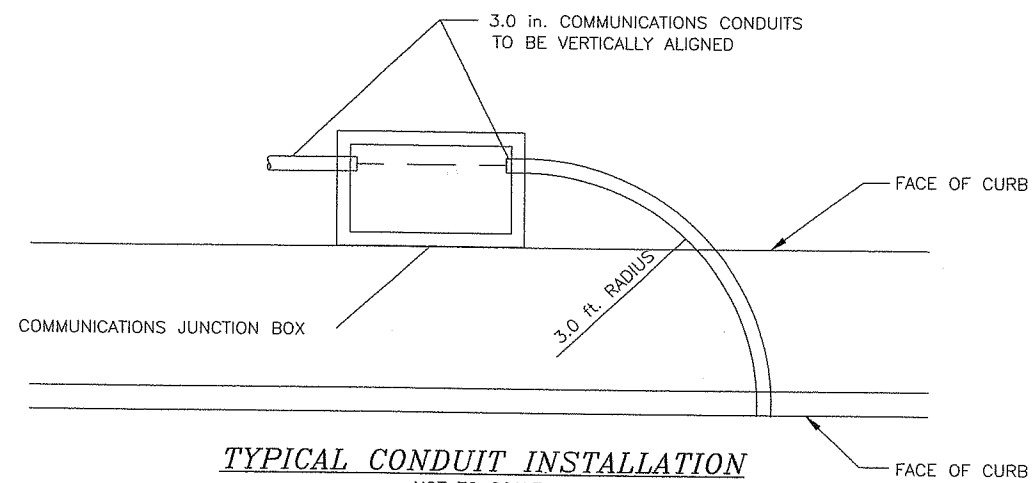
LAST UPDATE:
11:58 am
Friday
Oct 17 2003

PLOT TIME:
11:58 am
Friday
Oct 17 2003

Fed. Aid No.
STPF-4253[010]



DETAIL: F/O JUNCTION BOX WITH EXTENSION
NOT TO SCALE



TYPICAL CONDUIT INSTALLATION
NOT TO SCALE

NOTES (THIS SHEET ONLY)

1. Dimensions vary according to size of conduit etc. but the minimum bend radius of 3 feet shall be maintained on all conduits containing fiber optic cable and six times the conduit diameter for all other conduits.

2. All bends shall be factory bends.

3. Contractor shall adapt conduit stubouts for specific project requirements.

4. Additional conduit entrances as required.

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T16
SHEET 52 OF 84

CALL 48 HOURS BEFORE YOU DIG
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NORTHWEST UTILITIES NOTIFICATION CENTER

PETER L. COFFEY
STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

DKS Associates
TRANSPORTATION SOLUTIONS
1400 SW Fifth Avenue, Suite 500
Portland, Oregon 97201-5502
Telephone: (503) 243-3500
Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99 REALIGNMENT
INTERCONNECT JUNCTION BOX DETAILS

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WASHINGTON

EFS:
78x230.dwg
(rip).dwg
78x001.dwg
78x300.dwg

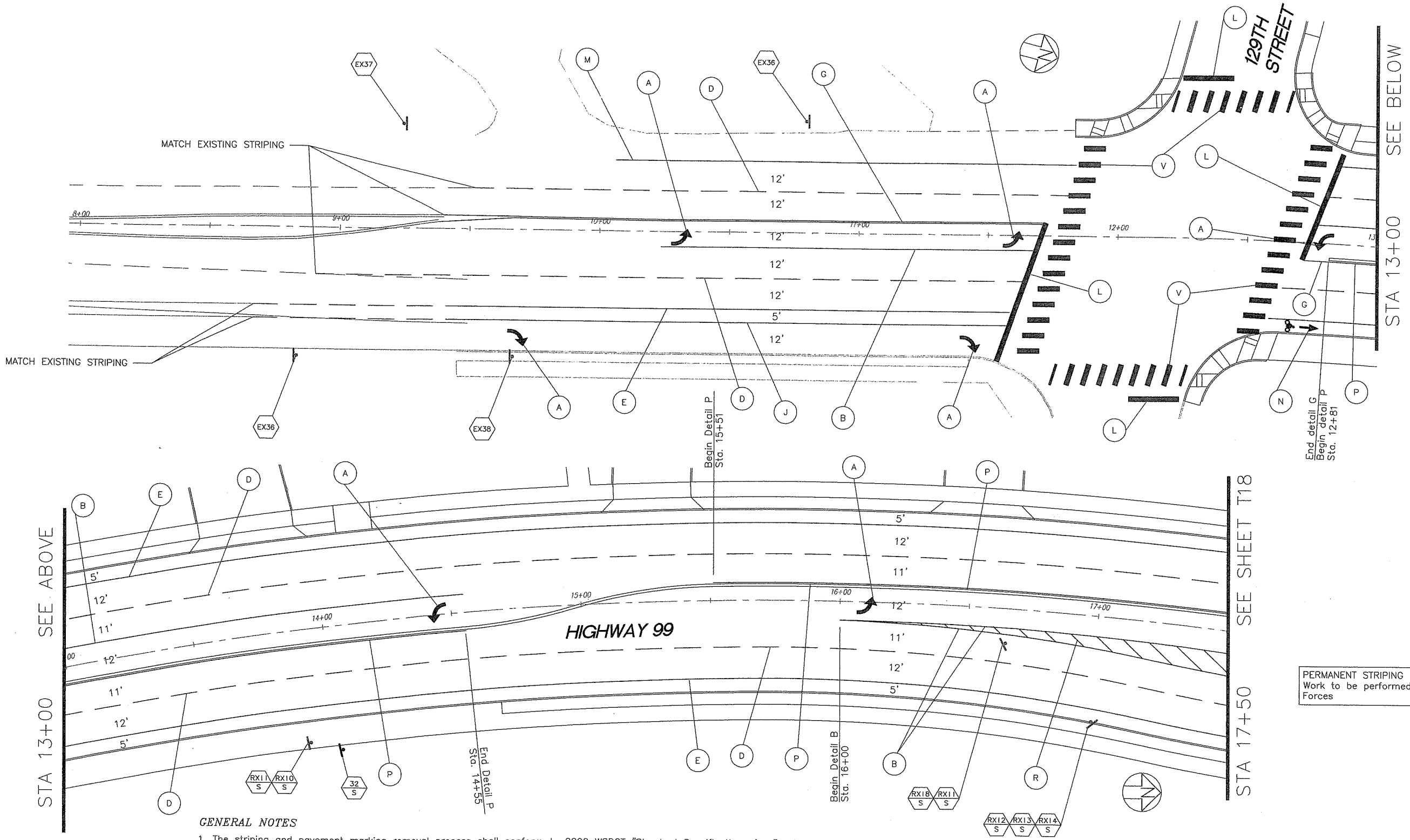
(G NAME:
9389117.dwg

SCALE:
10

ST UPDATE:
10 pm
ursday
b 12 2004

OT TIME:
11 pm
ursday
b 12 2004

Fed. Aid No.
STPF-4253(010)



PERMANENT STRIPING NOT IN CONTRACT
Work to be performed by County Forces

GENERAL NOTES

1. The striping and pavement marking removal process shall conform to 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 8-22.3(6). The County's accepted practice of removal of existing painted pavement marking is by shot blasting. All other markings are removed by grinding. The contractor shall have a written approval by the engineer for any other method of removal.

2. The contractor shall maintain existing permanent signing in accordance with 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 1-07.23(1).

3. The contractor shall provide temporary pavement markings in accordance with 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 8.23.

4. Dimensions are approximate. All traffic sign positions and pavement markings shall be approved in the field by the engineer prior to installation. For restripe conditions, if dimensions for existing striping vary from those shown on plans, contractor will provide engineer the existing dimensions and gain engineer approval prior to restriping.

5. Crosswalks, stop bars, and arrows shall be thermoplastic.

6. Refer to signing, striping and pavement marking details on dwg T22.

7. Contractor to coordinate with C-Tran two weeks in advance for bus stop sign removal/installation.

SHEET LEGEND

- (X) Striping detail, see dwg T22 for details.
- (N/M) Install new sign (N) on sign support (M).
- (RSN/M) Remove and save existing sign (N) and sign support (M).
- (RXN/M) Remove and salvage existing sign (N) and sign support (M).
- (RIN/M) Reinstall existing sign (N) on new/existing sign support (M). See sign schedule for details.
- (EXN) Retain and protect existing sign (N) and support.
- New sign on new steel breakaway sign post.
- Existing sign on existing support.

M = Material: (W) = Wood
(S) = Steel
(SP) = Signal Pole

20' 10' 0' 20' 40'
SCALE: 1" = 20'

DESIGNED:	SMM
DRAWN:	DKS CAD
CRP:	392922
HORIZ.	
VERT.	
DATE:	2/20/04
DWG:	T17
SHEET	53 OF 84

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NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON
JEFFREY DOFFEY
22823
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: MAR. 30, 2005

DKS Associates
TRANSPORTATION SOLUTIONS
1420 SW Fifth Avenue, Suite 500
Portland, Oregon 97201-5902
Telephone: (503) 243-3500
Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99/N.E. 20TH AVENUE
SIGNING/STRIPING PLAN

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WASHINGTON

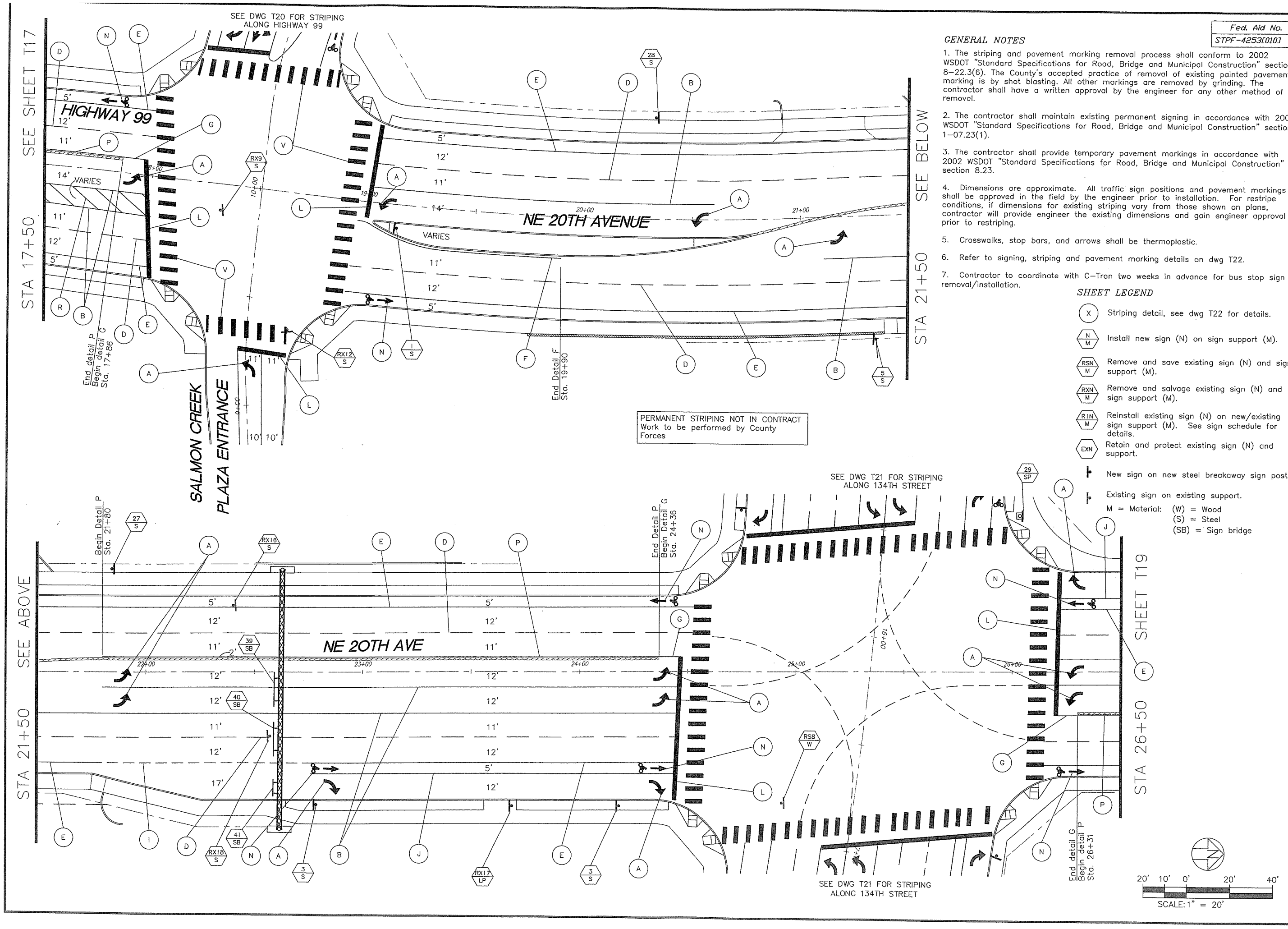
BEFS:
978x001.dwg
978x230.dwg
stripe.dwg

WG NAME:
99389T18.dwg

TSCALE:
.00

AST UPDATE:
:27 pm
hursday
eb 12 2004

LOT TIME:
:27 pm
hursday
eb 12 2004



Fed. Aid No.
STPF-4253[010]

GENERAL NOTES

1. The striping and pavement marking removal process shall conform to 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 8-22.3(6). The County's accepted practice of removal of existing painted pavement marking is by shot blasting. All other markings are removed by grinding. The contractor shall have a written approval by the engineer for any other method of removal.

2. The contractor shall maintain existing permanent signing in accordance with 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 1-07.23(1).

3. The contractor shall provide temporary pavement markings in accordance with 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 8.23.

4. Dimensions are approximate. All traffic sign positions and pavement markings shall be approved in the field by the engineer prior to installation. For restripe conditions, if dimensions for existing striping vary from those shown on plans, contractor will provide engineer the existing dimensions and gain engineer approval prior to restriping.

5. Crosswalks, stop bars, and arrows shall be thermoplastic.

6. Refer to signing, striping and pavement marking details on dwg T22.

7. Contractor to coordinate with C-Tran two weeks in advance for bus stop sign removal/installation.

SHEET LEGEND

- (X) Striping detail, see dwg T22 for details.
- (N/M) Install new sign (N) on sign support (M).
- (RSN/M) Remove and save existing sign (N) and sign support (M).
- (RXN/M) Remove and salvage existing sign (N) and sign support (M).
- (RIN/M) Reinstall existing sign (N) on new/existing sign support (M). See sign schedule for details.
- (EXN) Retain and protect existing sign (N) and support.
- New sign on new steel breakaway sign post.
- Existing sign on existing support.

M = Material: (W) = Wood
(S) = Steel
(SB) = Sign bridge

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T18
SHEET 54 OF 84

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PETER L. COFFEY
STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

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1400 SW 5th Avenue, Suite 900
Portland, Oregon 97201-5922
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Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 20TH AVENUE/N.E. 134TH STREET
SIGNING/STRIPING PLAN

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WASHINGTON

FILES:
178x001.dwg
178x230.dwg
stripe.dwg

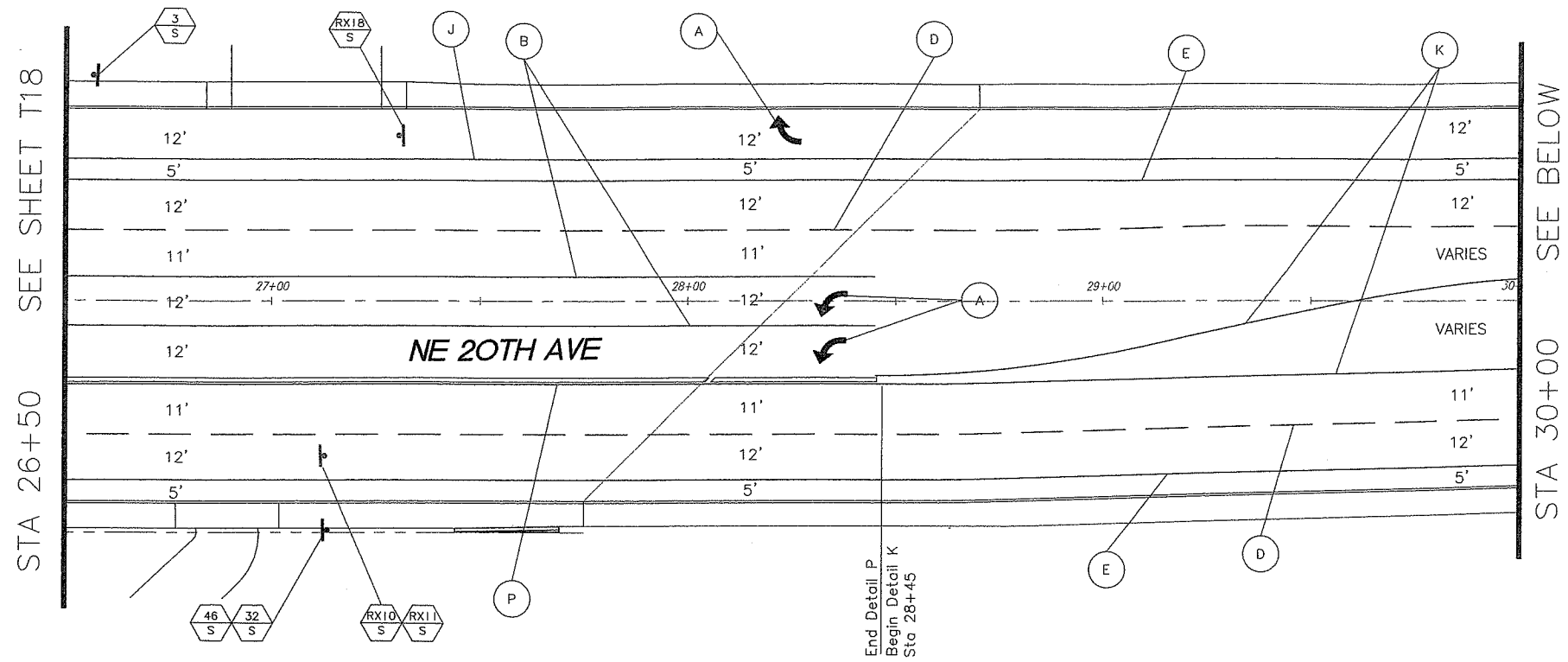
FILE NAME:
39389T19.dwg

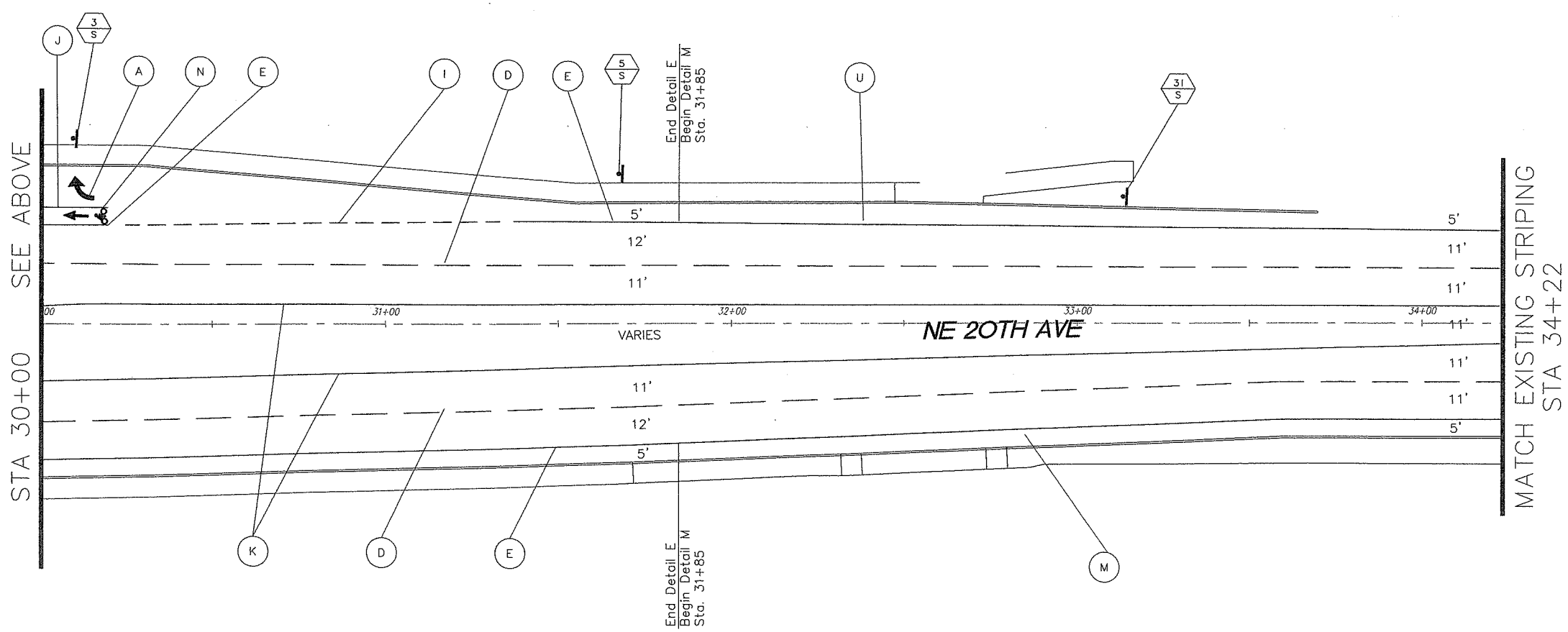
SCALE:
00

LST UPDATE:
33 pm
ursday
ib 12 2004

PLOT TIME:
33 pm
ursday
ib 12 2004

Fed. Aid No.
STPF-4253(010)





GENERAL NOTES

1. The striping and pavement marking removal process shall conform to 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 8-22.3(6). The County's accepted practice of removal of existing painted pavement marking is by shot blasting. All other markings are removed by grinding. The contractor shall have a written approval by the engineer for any other method of removal.

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3. The contractor shall provide temporary pavement markings in accordance with 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 8.23.

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5. Crosswalks, stop bars, and arrows shall be thermoplastic.

6. Refer to signing, striping and pavement marking details on dwg T22.

7. Contractor to coordinate with C-Tran two weeks in advance for bus stop sign removal/installation.

SHEET LEGEND

- (X) Striping detail, see dwg T22 for details.
- (N / M) Install new sign (N) on sign support (M).
- (RSN / M) Remove and save existing sign (N) and sign support (M).
- (RXN / M) Remove and salvage existing sign (N) and sign support (M).
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- (EXN) Retain and protect existing sign (N) and support.
- New sign on new steel breakaway sign post.
- Existing sign on existing support.
- M = Material: (W) = Wood (S) = Steel

PERMANENT STRIPING NOT IN CONTRACT
Work to be performed by County Forces

20' 10' 0' 20' 40'
SCALE: 1" = 20'

DESIGNED:	SMM
DRAWN:	DKS CAD
CRP:	392922
HORIZ.	
VERT.	
DATE:	2/20/04
DWG:	T19
SHEET	55 OF 84

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STATE OF WASHINGTON
PROFESSIONAL ENGINEER
EXPIRES JAN. 30, 2005

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Portland, Oregon 97201-5522
Telephone: (503) 243-3500
Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 20TH AVENUE
SIGNING/STRIPING PLAN

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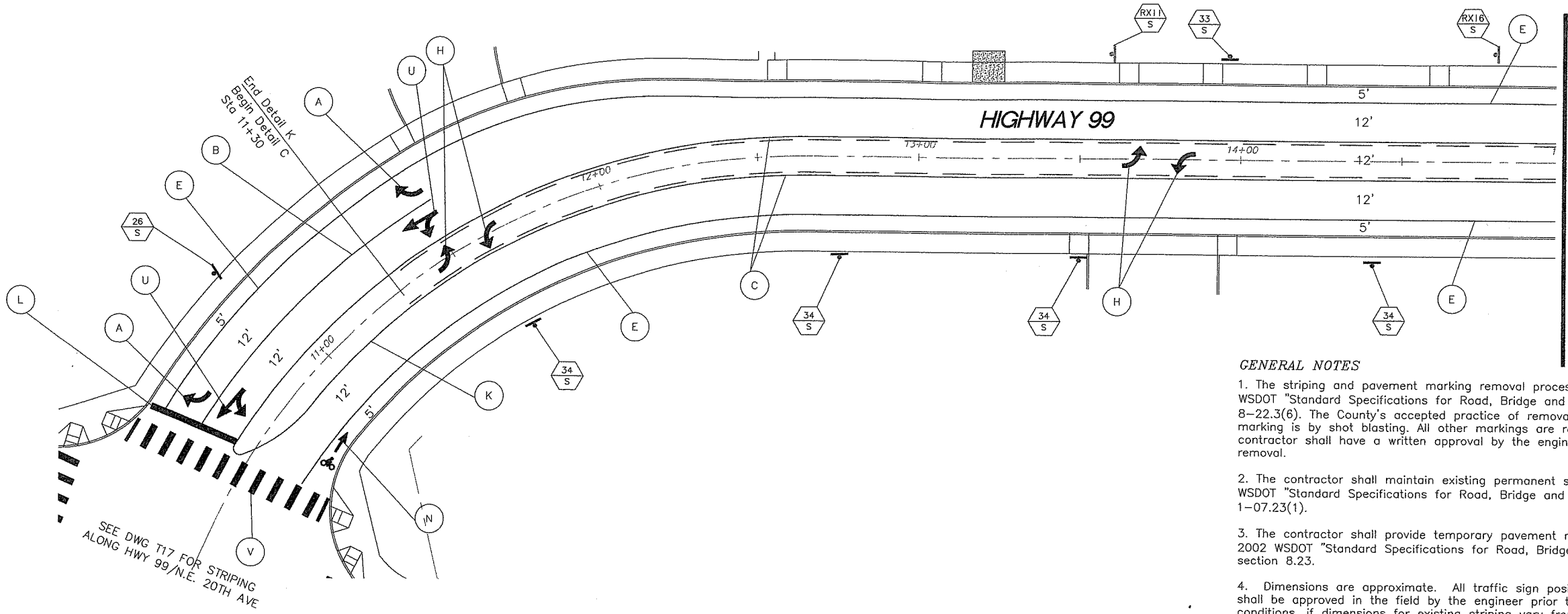
WASHINGTON



Fed. Aid No.
STPF-4253[010]

GENERAL NOTES

1. The striping and pavement marking removal process shall conform to 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 8-22.3(6). The County's accepted practice of removal of existing painted pavement marking is by shot blasting. All other markings are removed by grinding. The contractor shall have a written approval by the engineer for any other method of removal.

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5. Crosswalks, stop bars, and arrows shall be thermoplastic.

6. Refer to signing, striping and pavement marking details on dwg T22.

7. Contractor to coordinate with C-Tran two weeks in advance for bus stop sign removal/installation.

SHEET LEGEND

- (X) Striping detail, see dwg T22 for details.
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- Existing sign on existing support.

M = Material: (W) = Wood
(S) = Steel

20' 10' 0' 20' 40'
SCALE: 1" = 20'

PERMANENT STRIPING NOT IN CONTRACT
Work to be performed by County Forces

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T20
SHEET 56 OF 84

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PETER L. COFFEY
STATE OF WASHINGTON
27235
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EXPIRES: JAN. 30, 2005

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Portland, Oregon 97201-5502
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Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99
SIGNING/STRIPING PLAN

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WASHINGTON

XREFS:
c978x001.dwg
c978x230.dwg
xstripe.dwg
C978x300.dwg

DWG NAME:
P99389T21.dwg

LTSCALE:
1.0000

LAST UPDATE:
9:26 pm
Thursday
Dec 11 2003

PLOT TIME:
9:26 pm
Thursday
Dec 11 2003

GENERAL NOTES

1. The striping and pavement marking removal process shall conform to 2002 WSDOT "Standard Specifications for Road, Bridge and Municipal Construction" section 8-22.3(6). The County's accepted practice of removal of existing painted pavement marking is by shot blasting. All other markings are removed by grinding. The contractor shall have a written approval by the engineer for any other method of removal.

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6. Refer to signing, striping and pavement marking details on dwg T22.

7. Contractor to coordinate with C-Tran two weeks in advance for bus stop sign removal/installation.

SHEET LEGEND

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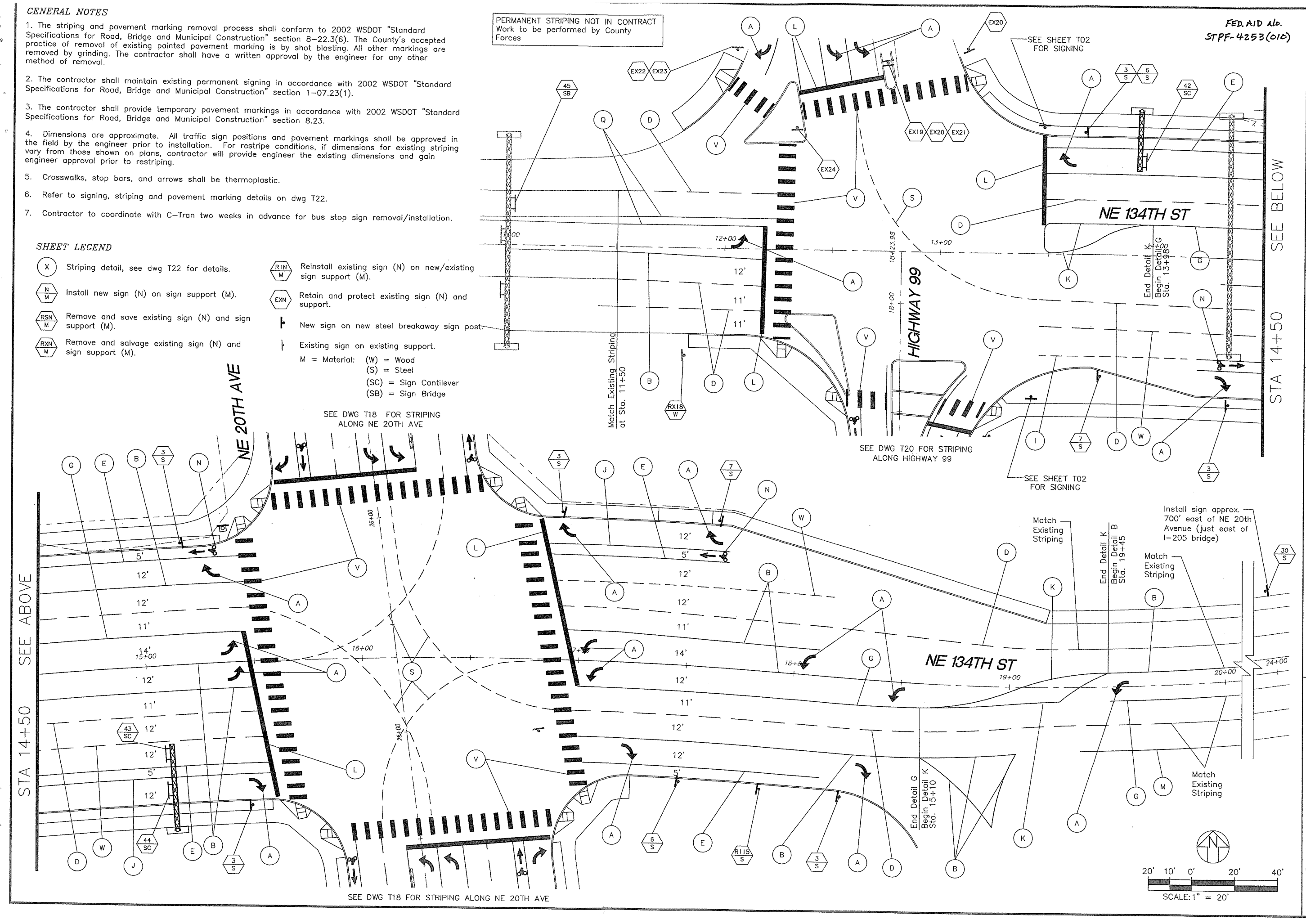
- (RXN/M) Remove and salvage existing sign (N) and sign support (M).
- (RIN/M) Reinstall existing sign (N) on new/existing sign support (M).
- (EXN) Retain and protect existing sign (N) and support.
- New sign on new steel breakaway sign post.
- Existing sign on existing support.

M = Material: (W) = Wood
(S) = Steel
(SC) = Sign Cantilever
(SB) = Sign Bridge



DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T21
SHEET 57 OF 84

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PETER L. COFFEY
STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

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Portland, Oregon 97201-5502
Telephone: (503) 243-3500
Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 134TH STREET/N.E. 20TH AVENUE
SIGNING/STRIPING PLAN

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CLARK COUNTY
WASHINGTON

XREFS:
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DWG NAME:
P99389722.dwg

LTSCALE:
0.4000

LAST UPDATE:
9:41 pm
Thursday
Dec 11 2003

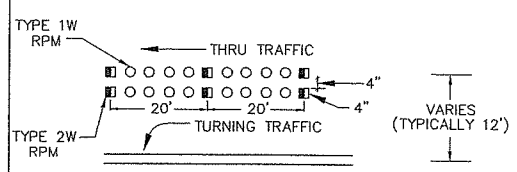
PLOT TIME:
9:41 pm
Thursday
Dec 11 2003

STRIPING LEGEND

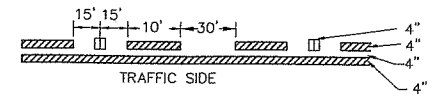
Fed. Aid No.
STPF-4253(010)

ARROWS SHALL BE TYPE 2L OR 2R (SEE WSDOT STANDARD PLAN H-5c).
ARROWS SHALL BE THERMOPLASTIC PAVEMENT MARKING MATERIAL.

PAVEMENT ARROW MARKINGS (A)
NTS

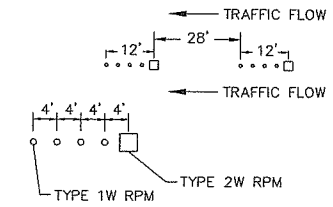


GORE STRIPE (B)
NTS

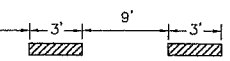


4" YELLOW LINES (PAINT) WITH TYPE 2YY RPMS AT 80' O.C. OUTSIDE LINE IS SOLID.

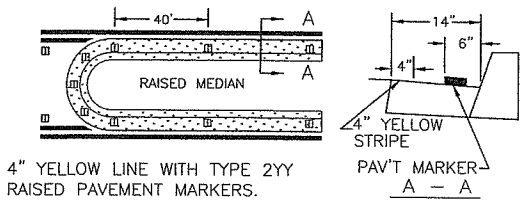
TWO WAY LEFT TURN STRIPE (C)
NTS



LANE LINE (D)
NTS

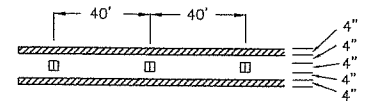


BIKE LANE STRIPE (E)
NTS



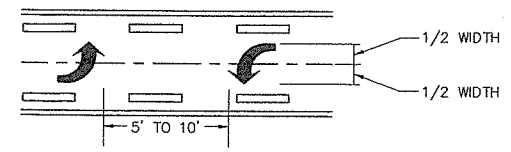
4" YELLOW LINE WITH TYPE 2YY RAISED PAVEMENT MARKERS.

RAISED MEDIAN (F)
NTS



TWO 4"YELLOW LINES (PAINT) WITH 2YY RPMS AT 40' O.C.

ALTERNATE DOUBLE YELLOW CENTER (G)
NTS

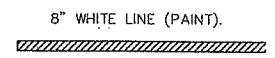


ARROWS SHALL BE TYPE 2L (SEE WSDOT STANDARD PLAN H-5c). ARROWS SHALL BE THERMOPLASTIC PAVEMENT MARKING MATERIAL, CENTERED IN TURN LANE.

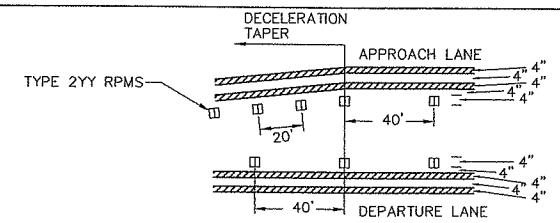
TWO WAY LEFT TURN ARROWS (H)
NTS

8" WHITE LINE (PAINT).

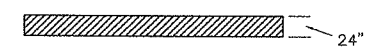
BIKE LANE SKIP STRIPE (I)
NTS



BIKE LANE STRIPE NEXT TO RIGHT TURN LANE (J)
NTS

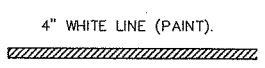


DOUBLE YELLOW CENTER STRIPE (K)
NTS

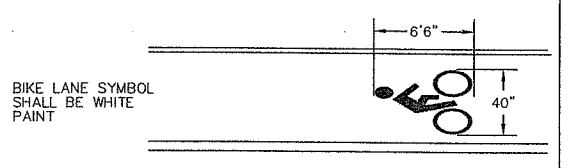


STOPBAR SHALL BE THERMOPLASTIC PAVEMENT MARKING MATERIAL.

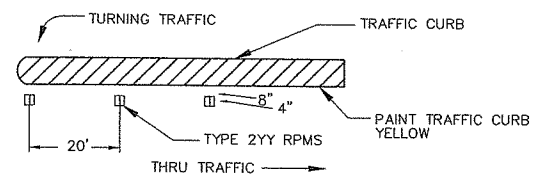
STOPBAR (L)
NTS



EDGE STRIPE (M)
NTS

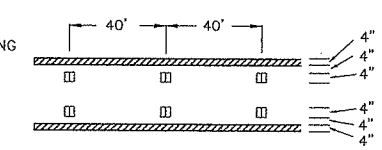


BIKE LANE SYMBOL (N)
NTS



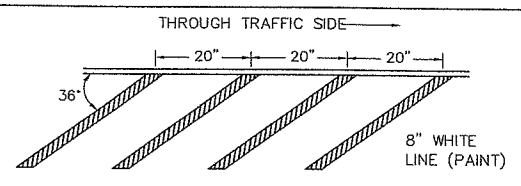
TRAFFIC CURB STRIPE (P)
NTS

PLACE SUCH THAT STRIPING LIES WITHIN LEFT TURN LANE AND ON EDGE OF ADJACENT THROUGH LANE

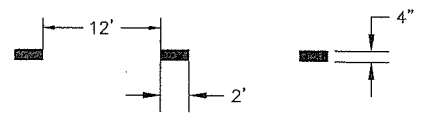


TWO 4"YELLOW LINES (PAINT) WITH 2YY RPMS AT 40' O.C.

ALTERNATE DOUBLE YELLOW CENTER (Q)
NTS

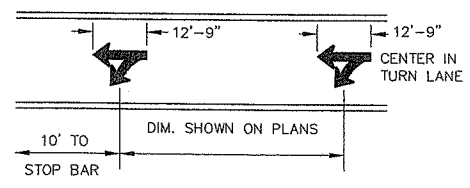


DIAGONAL MARKERS (R)
NTS



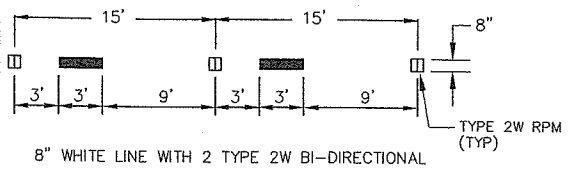
4" WHITE THERMOPLASTIC LINE

SKIP LINE THROUGH INTERSECTION (S)
NTS



THERMOPLASTIC PAVEMENT MARKING MATERIAL

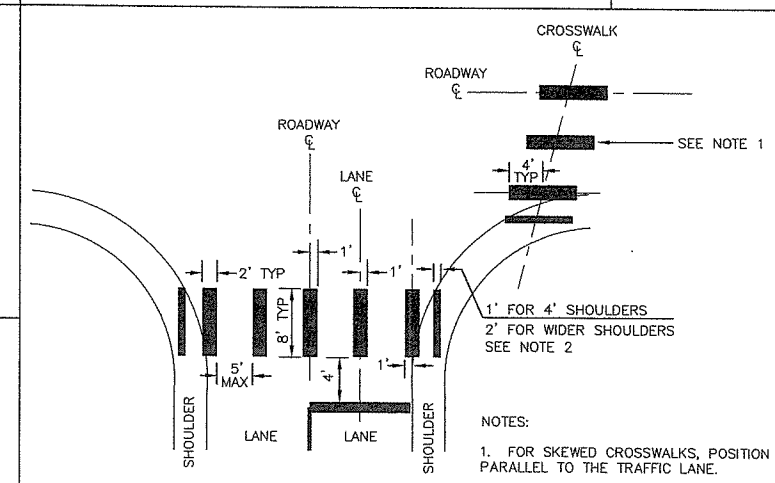
THRU AND TURN LANE MARKINGS (U)
NTS



8" WHITE LINE WITH 2 TYPE 2W BI-DIRECTIONAL PAVEMENT MARKERS SIDE BY SIDE.

DROP LANE LINE (W)
NTS

PERMANENT STRIPING NOT IN CONTRACT
Work to be performed by County Forces



NOTES:

1. FOR SKEWED CROSSWALKS, POSITION THE LINES PARALLEL TO THE TRAFFIC LANE.

2. INSTALL CROSSWALK LINE IN SHOULDER AREA ONLY WHEN ADJACENT TO SIDEWALK OR SEPARATE WALKWAY.

3. CROSSWALK SHALL BE WHITE THERMOPLASTIC PAVEMENT MARKING MATERIAL.

CROSSWALK (V)
NTS

DESIGNED:	SMM
DRAWN:	DKS CAD
CRP:	392922
HORIZ.	
VERT.	
DATE:	2/20/04
DWG:	T22
SHEET	58 OF 84

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HIGHWAY 99 REALIGNMENT
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WASHINGTON

REFS:
995X8D1.dwg

DWG NAME:
904519.dwg

TSCALE:
"= 1.0000

CREATED AT:
DKS/PDX

LAST UPDATED
:06 pm
uesday
ULY 29 2003

PLOTTED BY:

STATION #:

PLOT TIME:
:06 pm
uesday
ct 28 2003

Fed. Aid No.
STPF-4253(010)

SIGN SCHEDULE

NO.	CODE	QTY	LEGEND/ DESCRIPTION	SIZE	REMARKS	RESPONSIBLE FOR INSTALLATION
1	R4-7	1	KEEP RIGHT (SYMBOL)	24"x30"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
2			NOT USED			
3	R3-7	9	RIGHT LANE MUST TURN RIGHT	30"x30"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
4	R3-5	1	RIGHT TURN "ONLY" (SYMBOL)	30"x36"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
5	R4-4	2	BEGIN RIGHT TURN LANE YIELD TO BIKES	36"x30"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
6	R3-16a	2	BIKE LANE ENDS (SYMBOL)	24"x30"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
7	R3-16	2	BIKE LANE AHEAD (SYMBOL)	24"x30"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
8		1	NO PEDESTRIANS		REMOVE AND SAVE EXISTING SIGN. SALVAGE EXISTING SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
9		1	STOP AHEAD		REMOVE AND SALVAGE EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
10		3	SPEED LIMIT 40		REMOVE AND SALVAGE EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
11		4	RIGHT LANE BIKE ONLY		REMOVE AND SALVAGE EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
12		2	STOP SIGN		REMOVE AND RETURN EXISTING SIGN AND SUPPORT TO SALMON CREEK PLAZA OWNER	WORK TO BE PERFORMED BY CONTRACTOR
13		1	NE 20TH STREET		REMOVE AND SALVAGE EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
14		1	HIGHWAY 99		REMOVE AND SALVAGE EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
15		1	NO PEDESTRIANS		REINSTALL EXISTING SIGN ON NEW STEEL SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
16		1	NO PARKING		REMOVE AND SALVAGE EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
17		1	RIGHT LANE MUST TURN RIGHT		REMOVE AND SALVAGE EXISTING SIGN FROM STREET LIGHT	WORK TO BE PERFORMED BY CONTRACTOR
18		5	RIGHT LANE MUST TURN RIGHT		REMOVE AND SALVAGE EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
19		1	KEEP RIGHT (SYMBOL)		RETAIN AND PROTECT EXISTING SIGN AND SUPPORT	NOT IN CONTRACT-NO WORK TO BE PERFORMED
20		2	FREEWAY ENTRANCE		RETAIN AND PROTECT EXISTING SIGN AND SUPPORT	NOT IN CONTRACT-NO WORK TO BE PERFORMED
21		1	I5/205 DIRECTIONAL SIGN		RETAIN AND PROTECT EXISTING SIGN AND SUPPORT	NOT IN CONTRACT-NO WORK TO BE PERFORMED
22		1	YIELD SIGN		RETAIN AND PROTECT EXISTING SIGN AND SUPPORT	NOT IN CONTRACT-NO WORK TO BE PERFORMED
23		1	DO NOT ENTER		RETAIN AND PROTECT EXISTING SIGN AND SUPPORT	NOT IN CONTRACT-NO WORK TO BE PERFORMED
24		1	DO NOT ENTER		RETAIN AND PROTECT EXISTING SIGN ON TRAFFIC SIGNAL PLAN	NOT IN CONTRACT-NO WORK TO BE PERFORMED
25		1	YIELD SIGN		REMOVE AND SALVAGE EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
26		1	FREEWAY GUIDE SIGNS (SEE DETAIL "E" ON DWG T24)	60"X60"	INSTALL NEW SIGN ON NEW STEEL SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
27		1	BUSINESS SIGN (SEE BUSINESS SIGN DETAIL A ON SHEET T24)	30"X66"	INSTALL NEW SIGN ON NEW STEEL SUPPORT (SEE STANDARD PLAN G-8b)	NOT IN CONTRACT-WORK TO BE PERFORMED BY SEPERATE CONTRACTOR AT A LATER DATE
28		1	BUSINESS SIGN (SEE BUSINESS SIGN DETAIL B ON SHEET T24)	30"X66"	INSTALL NEW SIGN ON NEW STEEL SUPPORT (SEE STANDARD PLAN G-8b)	NOT IN CONTRACT-WORK TO BE PERFORMED BY SEPERATE CONTRACTOR AT A LATER DATE
29		1	FREEWAY GUIDE SIGN (SEE DETAIL "C" ON SHEET T24)	60"X72"	INSTALL NEW SIGN ON PROPOSED TRAFFIC SIGNAL POLE (SEE PLAN SHEET T05) SEE TRAFFIC SIGNAL STANDARD DETAIL J6-H FOR SIDE POLE MOUNT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
30		1	BUSINESS SIGN (SEE BUSINESS SIGN DETAIL C ON SHEET T24)	60"X72"	INSTALL NEW SIGN ON NEW STEEL SUPPORT (SEE STANDARD PLAN G-8b)	NOT IN CONTRACT-WORK TO BE PERFORMED BY SEPERATE CONTRACTOR AT A LATER DATE
31		1	FREEWAY GUIDE SIGN (SEE DETAIL "D" ON DWG T24)	60"X60"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
32	R2-1	2	SPEED LIMIT 40	24"x30"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
33		2	FREEWAY GUIDE SIGN (SEE DETAIL "G" ON DWG T24)	30"X30"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
34		6	FREEWAY GUIDE SIGN (SEE DETAIL "H" ON DWG T24)	30"X30"	INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
35	R1-1	1	STOP SIGN	30"X30"	INSTALL NEW SIGN ON NEW STEEL SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES
36		2	NO PARKING ANYTIME		RETAIN AND PROTECT EXISTING SIGN AND SUPPORT	NOT IN CONTRACT-NO WORK TO BE PERFORMED
37		1	SPEED LIMIT 40		RETAIN AND PROTECT EXISTING SIGN AND SUPPORT	NOT IN CONTRACT-NO WORK TO BE PERFORMED
38		1	RIGHT LANE MUST TURN RIGHT		RETAIN AND PROTECT EXISTING SIGN AND SUPPORT	WORK TO BE PERFORMED BY CONTRACTOR
39		1	FREEWAY GUIDE SIGN (SEE DETAIL "L" ON DWG T25)		INSTALL NEW SIGN ON SIGN BRIDGE STRUCTURE	WORK TO BE PERFORMED BY CONTRACTOR
40		1	FREEWAY GUIDE SIGN (SEE DETAIL "M" ON DWG T25)		INSTALL NEW SIGN ON SIGN BRIDGE STRUCTURE	WORK TO BE PERFORMED BY CONTRACTOR
41		1	FREEWAY GUIDE SIGN (SEE DETAIL "K" ON DWG T25)		INSTALL NEW SIGN ON SIGN BRIDGE STRUCTURE	WORK TO BE PERFORMED BY CONTRACTOR
42		1	FREEWAY GUIDE SIGN (SEE DETAIL "F" ON DWG T25)		INSTALL NEW SIGN ON CANTILEVER SIGN STRUCTURE	WORK TO BE PERFORMED BY CONTRACTOR
43		1	FREEWAY GUIDE SIGN (SEE DETAIL "I" ON DWG T25)		INSTALL NEW SIGN ON CANTILEVER SIGN STRUCTURE	WORK TO BE PERFORMED BY CONTRACTOR
44		1	FREEWAY GUIDE SIGN (SEE DETAIL "J" ON DWG T25)		INSTALL NEW SIGN ON CANTILEVER SIGN STRUCTURE	WORK TO BE PERFORMED BY CONTRACTOR
45		1	FREEWAY GUIDE SIGN (SEE DETAIL "N" ON DWG T25)		INSTALL NEW SIGN ON EXISTING SIGN BRIDGE STRUCTURE	WORK TO BE PERFORMED BY CONTRACTOR
46	R3-17	1	RIGHT BIKE LANE (SYMBOL) ONLY		INSTALL NEW SIGN ON NEW SUPPORT	NOT IN CONTRACT-WORK TO BE PERFORMED BY COUNTY FORCES

GENERAL SIGNING NOTES:

1. ALL SIGNING SHALL CONFORM TO WASHINGTON STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS (2002) AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

2. ALL POSTS SHALL BE PERFORATED TUBULAR POSTS OR "UNISTRUT'S TELESPAR" POSTS UNLESS OTHERWISE SPECIFIED. SEE NOTES UNDER INSTALLATION DETAIL.

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T23
SHEET 59 OF 84

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JOHN L. CORTEZ
22235
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XREFS:
C978x001.dwg

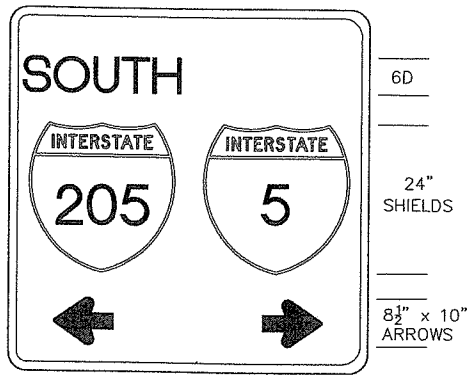
DWG NAME:
P9938124.dwg

LTSCALE:
1.0000

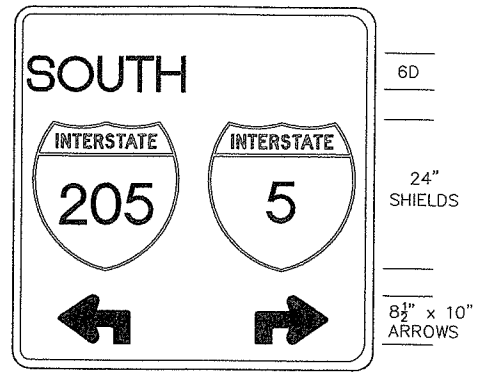
LAST UPDATE:
11:48 am
Friday
Jul 13 2001

PLOT TIME:
12:04 pm
Friday
Jul 13 2001

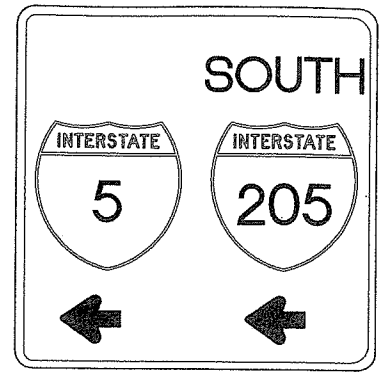
Fed. Aid No.
STPF-4253(010)



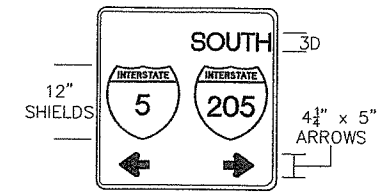
DETAIL "C"
60" x 72"
Background–Green (REFL)
Legend–White (REFL)



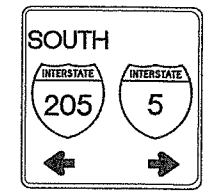
DETAIL "D"
60" x 60"
Background–Green (REFL)
Legend–White (REFL)



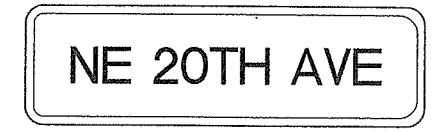
DETAIL "E"
(Dimension same as Detail "C")
Background–Green (REFL)
Legend–White (REFL)



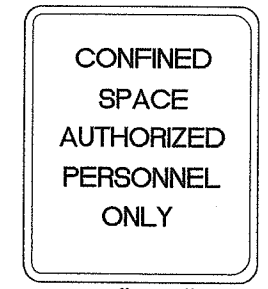
DETAIL "G"
30" x 30"
Background–Green (REFL)
Legend–White (REFL)



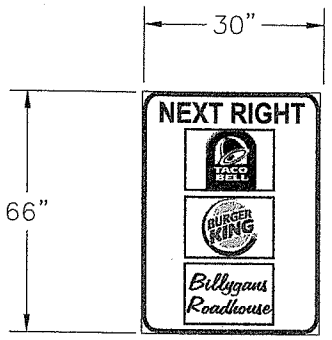
DETAIL "H"
(Dimension same as Detail "G")
Background–Green (REFL)
Legend–White (REFL)



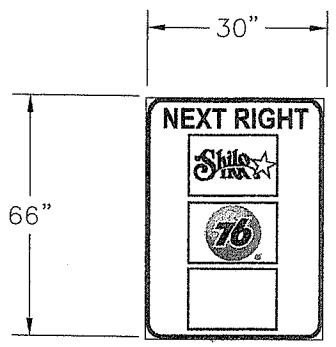
48"x12"
(See bridge plan S68)
Background–Green (REFL)
Legend–White (REFL)



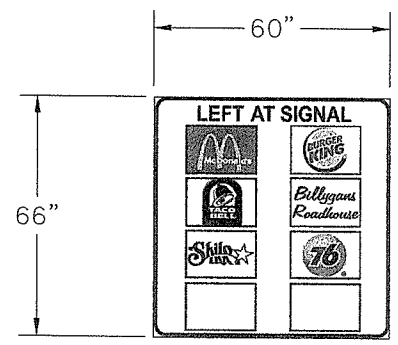
20"x20"
(See bridge plan S58)
Background–Yellow
Legend–Black



BUSINESS SIGN DETAIL "A"

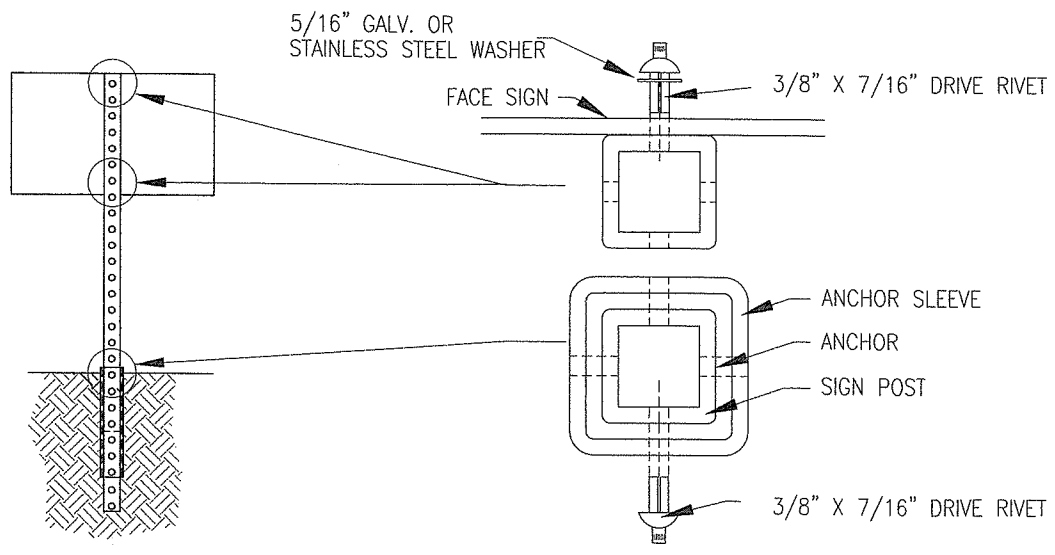


BUSINESS SIGN DETAIL "B"

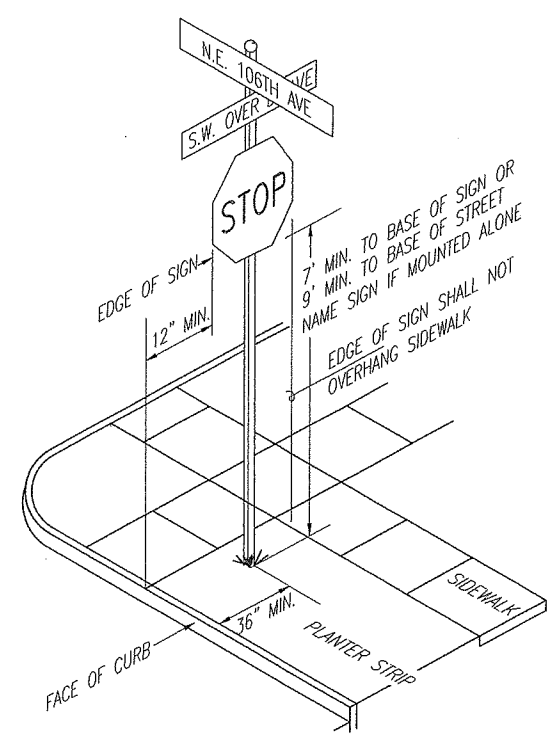


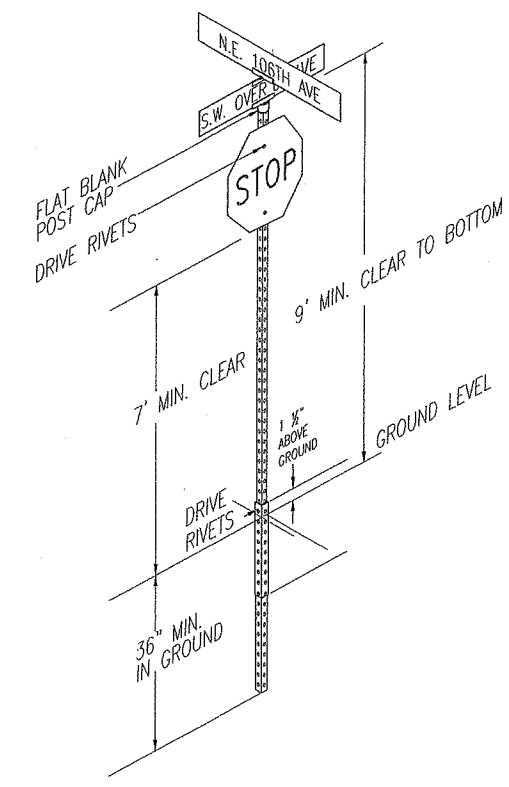
BUSINESS SIGN DETAIL "C"

NOT IN CONTRACT



TYPICAL SIGN INSTALLATION
NTS





TYPICAL SIGN ASSEMBLY
NTS

GENERAL SIGNING NOTES:

1. ALL SIGNING SHALL CONFORM TO WASHINGTON STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS (2002) AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T24
SHEET 60 OF 84

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FRED L. COFFEY
STATE OF WASHINGTON
17285
REGISTERED PROFESSIONAL ENGINEER
EXPIRES JAN. 30, 2005

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1400 SW Fifth Avenue, Suite 500
Portland, Oregon 97201-5922
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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99 REALIGNMENT
SIGNING DETAILS

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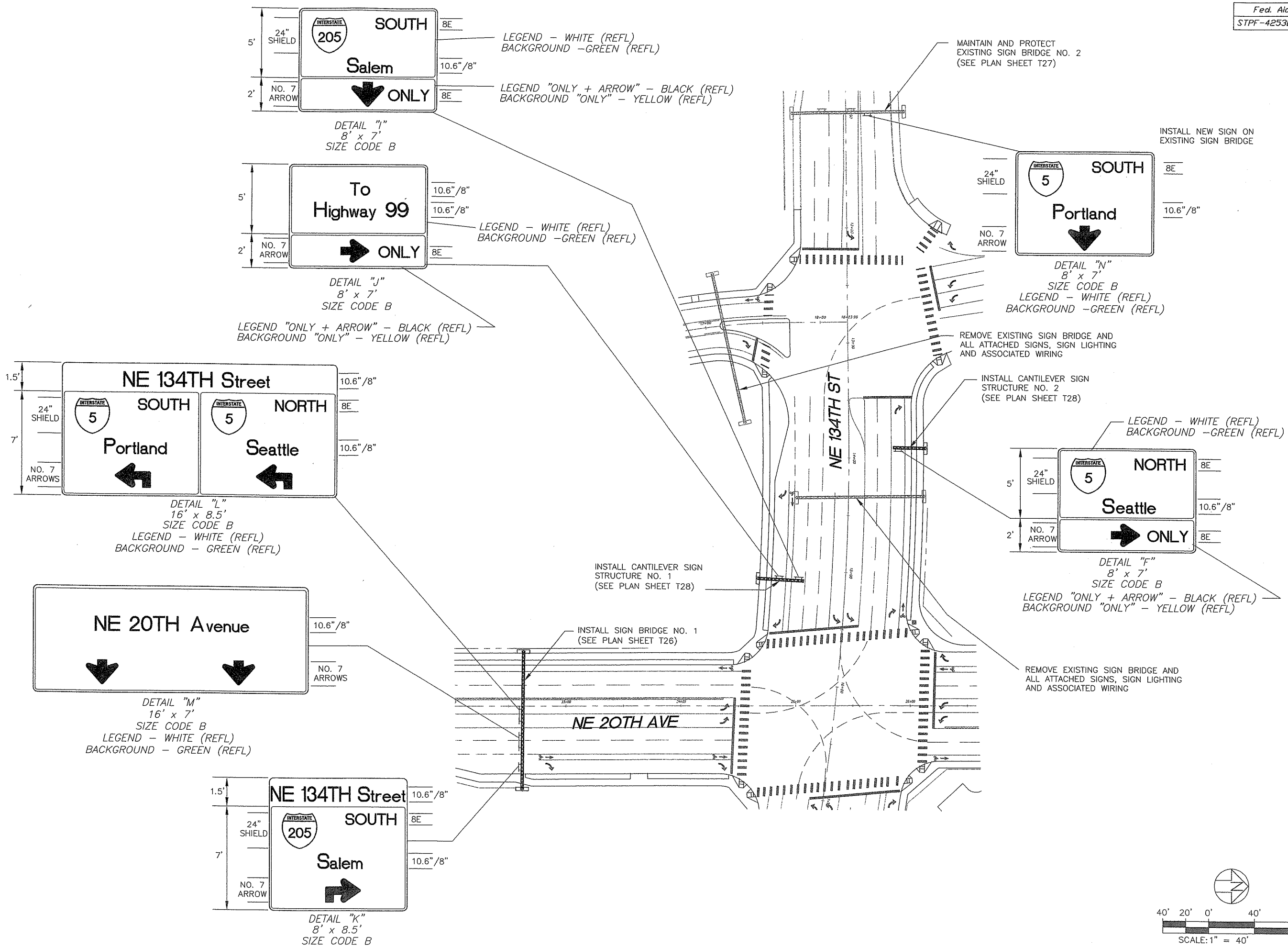

DESIGNED: SMM
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CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T25
SHEET 61 OF 84

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STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 20TH AVENUE/N.E. 134TH STREET
STRUCTURE SIGNING PLAN

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WASHINGTON

EFS:
78x001.dwg
IG NAME:
9389126.dwg
SCALE:
10
ST UPDATE:
47 am
ursday
b 12 2004
OT TIME:
47 am
ursday
b 12 2004

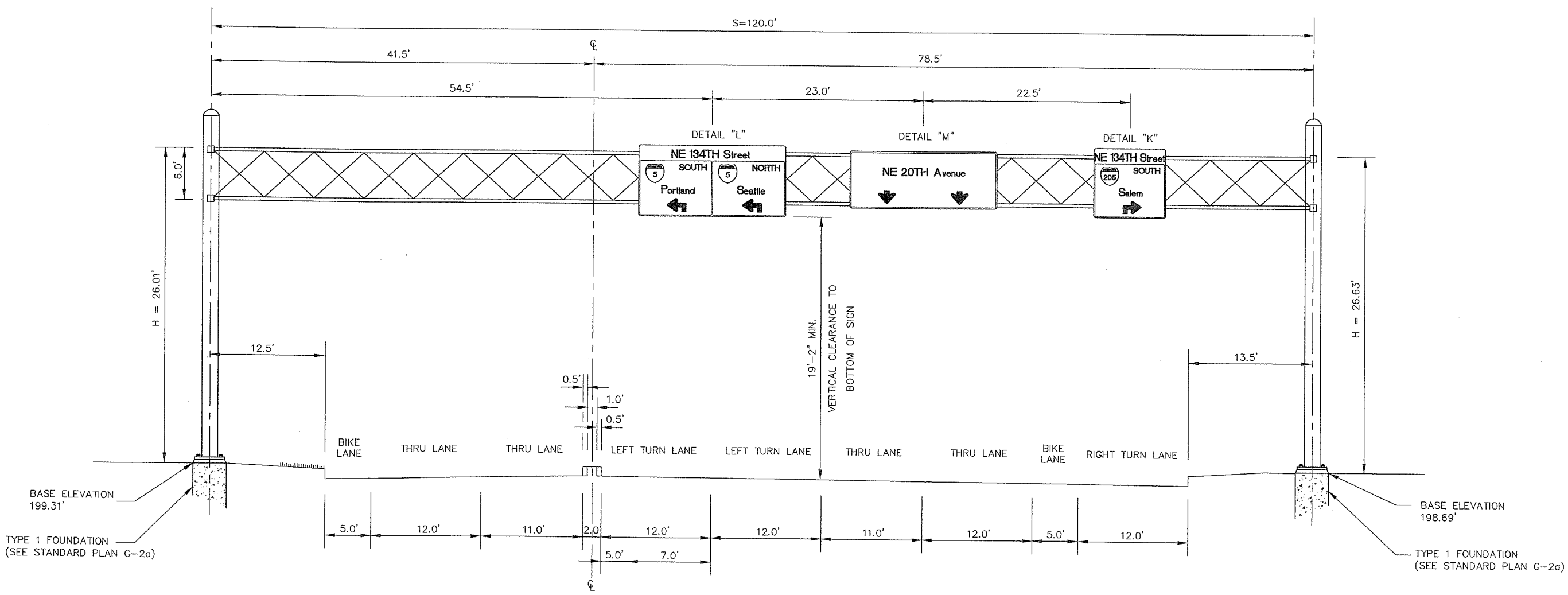
Fed. Aid No.
STPF-4253[010]

INSTALLATION SPECIFICATIONS
SIGN BRIDGE STRUCTURE

SIGN BRIDGE NO.	STATION LOCATION	SPAN "S"	END POST HEIGHT "H"		FOUNDATION TYPE		VERTICAL CLEARANCE
			LEFT	RIGHT	LEFT	RIGHT	
1	NE 20TH AVE 22+63.3	120.0'	26.01	26.63	1	1	19'-2" MIN.

NOTE:

ELEVATIONS AND POST HEIGHTS SHOWN ARE APPROXIMATE. FINAL VALUES SHALL BE FURNISHED BY THE ENGINEER PRIOR TO FABRICATION. FOR STRUCTURE DETAILS SEE STANDARD PLANS G-2 (SHEETS 1-3) AND G-2a.



SIGN BRIDGE NO. 1
NE 20TH AVENUE
(LOOKING NORTH)

NOTE:

THE MAXIMUM SIGN AREA ON THIS STRUCTURE SHALL BE 864 SQ. FT.

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T26
SHEET 62 OF 84

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STATE OF WASHINGTON
27235
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N.E. 20TH AVENUE
SIGN BRIDGE DETAILS

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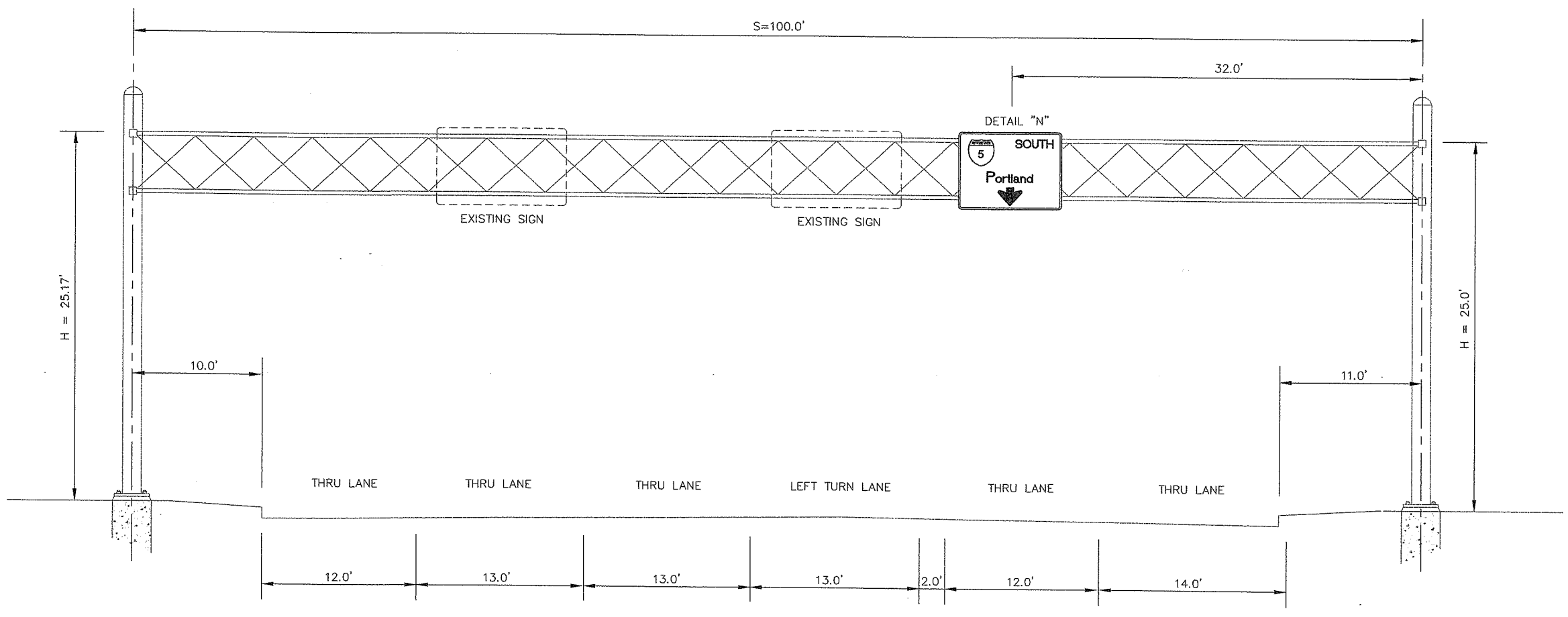
STPF-4253[010]

EXISTING SIGN BRIDGE SPECIFICATIONS

SIGN BRIDGE NO.	STATION LOCATION	SPAN "S"	END POST HEIGHT "H"		FOUNDATION TYPE		VERTICAL CLEARANCE
			LEFT	RIGHT	LEFT	RIGHT	
2	NE 134TH ST 11+00	100.0'	25.17'	25.0'	1	1	19'-0" MIN

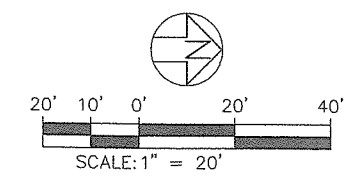
NOTE: ALL DIMENSIONS BASED ON WSDOT AS-BUILT DRAWINGS.



EXISTING SIGN BRIDGE NO. 2
NE 134TH STREET STA 11+00.00
(LOOKING WEST)

NOTE:

THE MAXIMUM SIGN AREA ON THIS STRUCTURE SHALL BE 864 SQ. FT.



DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T27
SHEET 63 OF 84

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27233
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 134TH STREET
SIGN BRIDGE DETAILS

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CLARK COUNTY
WASHINGTON

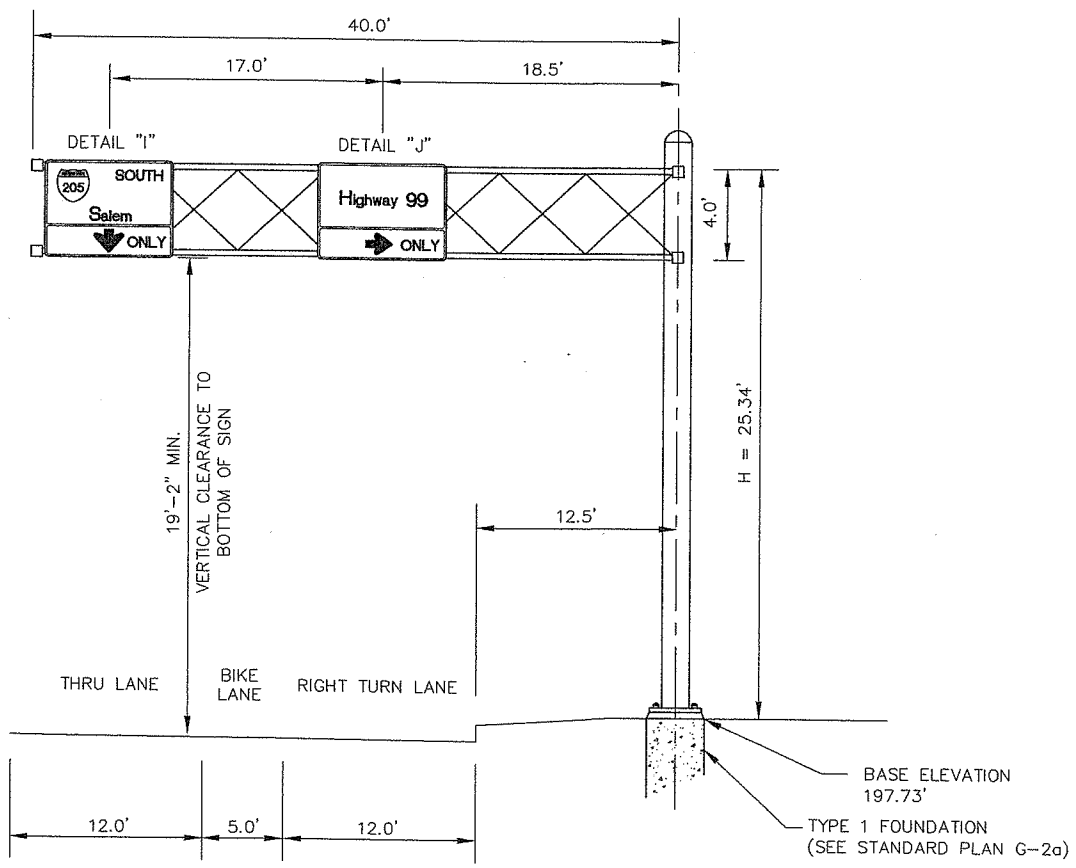
EFS: 78x001.dwg
JG NAME: 9389128.dwg
SCALE: 10
ST UPDATE: 04 pm ursday b 12 2004
OT TIME: 04 pm ursday b 12 2004

INSTALLATION SPECIFICATIONS
CANTILIVER SIGN STRUCURE

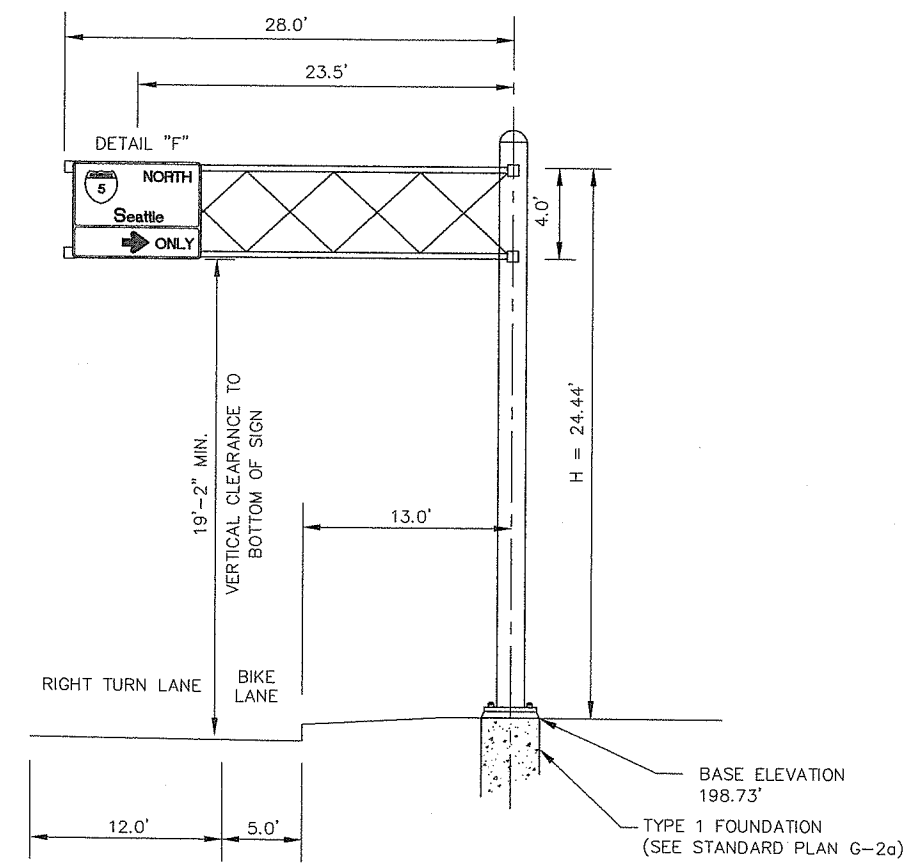
CANTILIVER SIGN NO.	STATION LOCATION	OFFSET FROM CENTERLINE	SPAN "S"	END POST HEIGHT "H"	FOUNDATION TYPE	VERTICAL CLEARANCE
1	NE 134TH ST 15+09.7	76.5' (RT)	40.0'	25.34'	1	19'-2" MIN.
2	NE 134TH ST 13+91.5	66.7' (LT)	28.0'	24.44'	1	19'-2" MIN.

NOTE:

ELEVATIONS AND POST HEIGHTS SHOWN ARE APPROXIMATE. FINAL VALUES SHALL BE FURNISHED BY THE ENGINEER PRIOR TO FABRICATION. FOR STRUCTURE DETAILS SEE STANDARD PLANS G-2 (SHEETS 1-3) AND G-2a.



CANTILEVER SIGN STRUCTURE NO. 1
NE 134TH STREET
(LOOKING EAST)



CANTILEVER SIGN STRUCTURE NO. 2
NE 134TH STREET
(LOOKING WEST)

NOTE:

THE MAXIMUM SIGN AREA ON THESE STRUCTURES SHALL BE 200 SQ. FT.

20' 10' 0' 20' 40'
SCALE: 1" = 20'

Fed. Aid No.
STPF-4253(010)

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T28
SHEET 64 OF 84

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PETER L. COFFEY
STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 134TH STREET
CANTILEVER SIGN DETAILS

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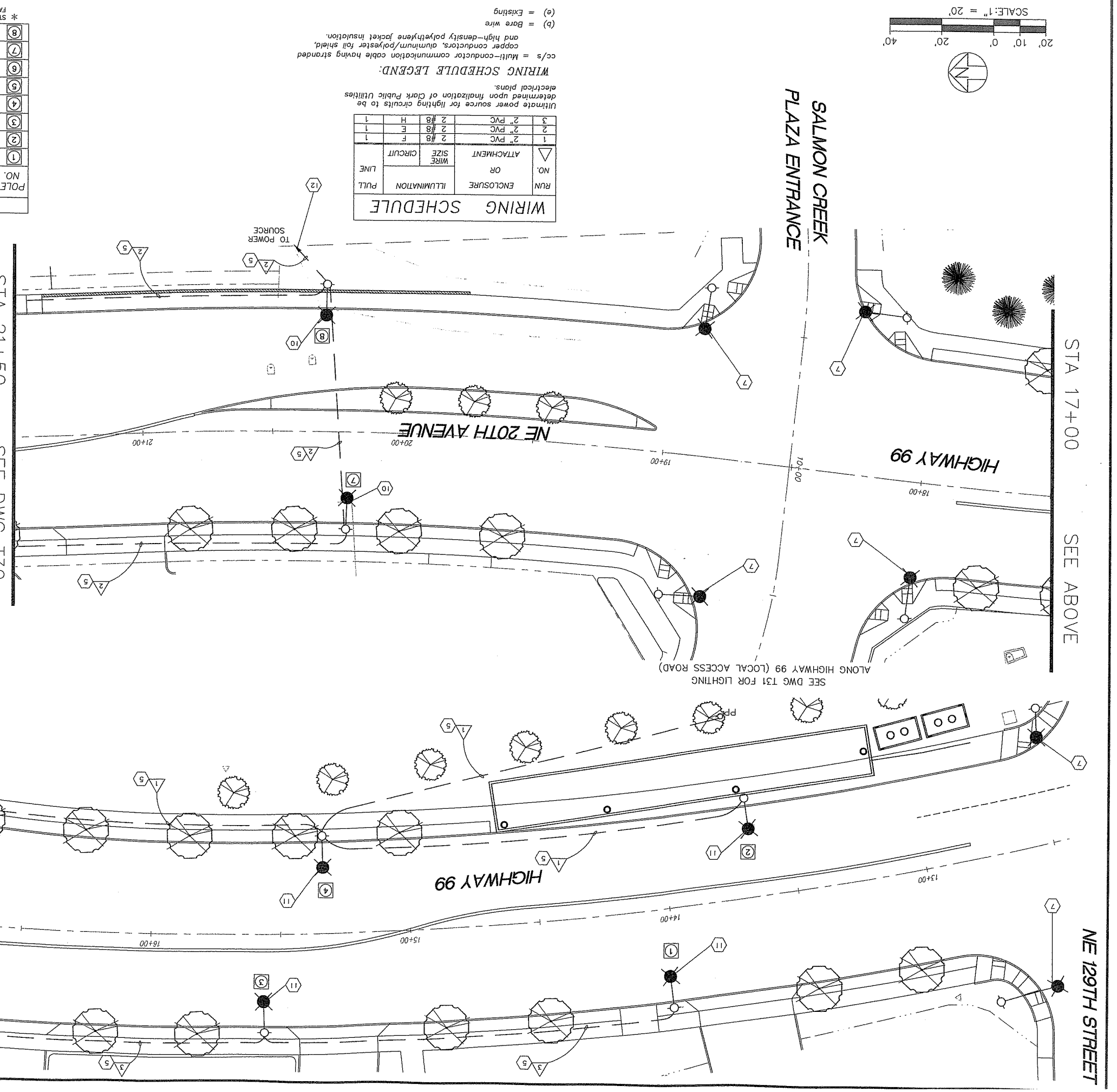

WIRING SCHEDULE

RUN NO.	ENCLOSURE OR ATTACHMENT	ILLUMINATION WIRE SIZE	ILLUMINATION CIRCUIT	PULL LINE
1	2" PVC	2 #8	F	1
2	2" PVC	2 #8	E	1
3	2" PVC	2 #8	H	1

Ultimate power source for lighting circuits to be determined upon finalization of Clark Public Utilities electrical plans.

WIRING SCHEDULE LEGEND:

cc/s = Multi-conductor communication cable having stranded copper conductors, aluminum/polyester foil shield, and high-density polyethylene jacket insulation.

(b) = Bare wire

(e) = Existing

LUMINAIRES

POLE NO.	LUMINAIRE LABEL	* STATION	* OFFSET	HEIGHT	ASSOC. CIRCUIT
1	200W HPS TYPE III	14+02.9	CURB 2.5' LT	32.5'	H
2	200W HPS TYPE III	13+65.9	CURB 2.5' RT	32.5'	F
3	200W HPS TYPE III	15+56.7	CURB 2.5' LT	32.5'	H
4	200W HPS TYPE III	15+33.2	CURB 2.5' RT	32.5'	F
5	200W HPS TYPE III	16+95.5	CURB 2.5' LT	32.5'	H
6	200W HPS TYPE III	16+93.9	CURB 2.5' RT	32.5'	F
7	250W HPS TYPE III	20+20.8	CURB 2.5' LT	32.5'	E
8	250W HPS TYPE III	20+29.6	CURB 10' RT	32.5'	E

* STAKE IN THE FIELD FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION. OFFSET IS FROM FACE OF THE CURB TO CENTER OF POLE.

CONSTRUCTION NOTES

5. Install 2-inch schedule 40 PVC conduit complete with wiring (see wiring schedule). Install conduit in same trench as interconnect and traffic signal conduit whenever possible.
7. Roadway light on traffic signal pole. See traffic signal plan sheet.
10. Install new flat lens "Cobra Head" style luminaire on new light standard with 12 foot luminaire arm, at 32.5 foot mounting height. Luminaire shall have a 250 Watt HPS bulb, 120 volt ballast, short cut-off, type III distribution with photoelectric cell. Light standard shall be per CPU standards.
11. Install new flat lens "Cobra Head" style luminaire on new light standard with 12 foot luminaire arm, at 32.5 foot mounting height. Luminaire shall have a 200 Watt HPS bulb, 120 volt ballast, short cut-off, type III distribution with photoelectric cell. Light standard shall be per CPU standards.
12. Install 2" PVC and 2 #8 wires to a new CPU transformer to be located on the East side of NE 20th Avenue between Sta. 19+00 and 22+00.
13. Install 2" PVC and wiring (see wiring schedule) approx. 100' to a CPU transformer on CPU pole #29753.

LEGEND

- Proposed street light
- CPU approved junction box
- Proposed Conduit
- PP Existing CPU Power Pole
- Existing illumination circuit junction box

Fed. Aid No. STPF-4253(010)

CLARK COUNTY WASHINGTON

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99/N.E. 20TH AVENUE
STREET LIGHTING PLAN

DKS Associates
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PETER L. COFFEY
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EXPIRES: JAN. 30, 2005

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DESIGNED:	SMM
DRAWN:	DKS CAD
CRP:	392922
HORIZ.	
VERT.	
DATE:	2/20/04
DWG:	T29
SHEET	65 OF 84

XREFS:
c978x001.dwg
c978x230.dwg
C978x300.dwg
xlight.dwg
L978x700.dwg

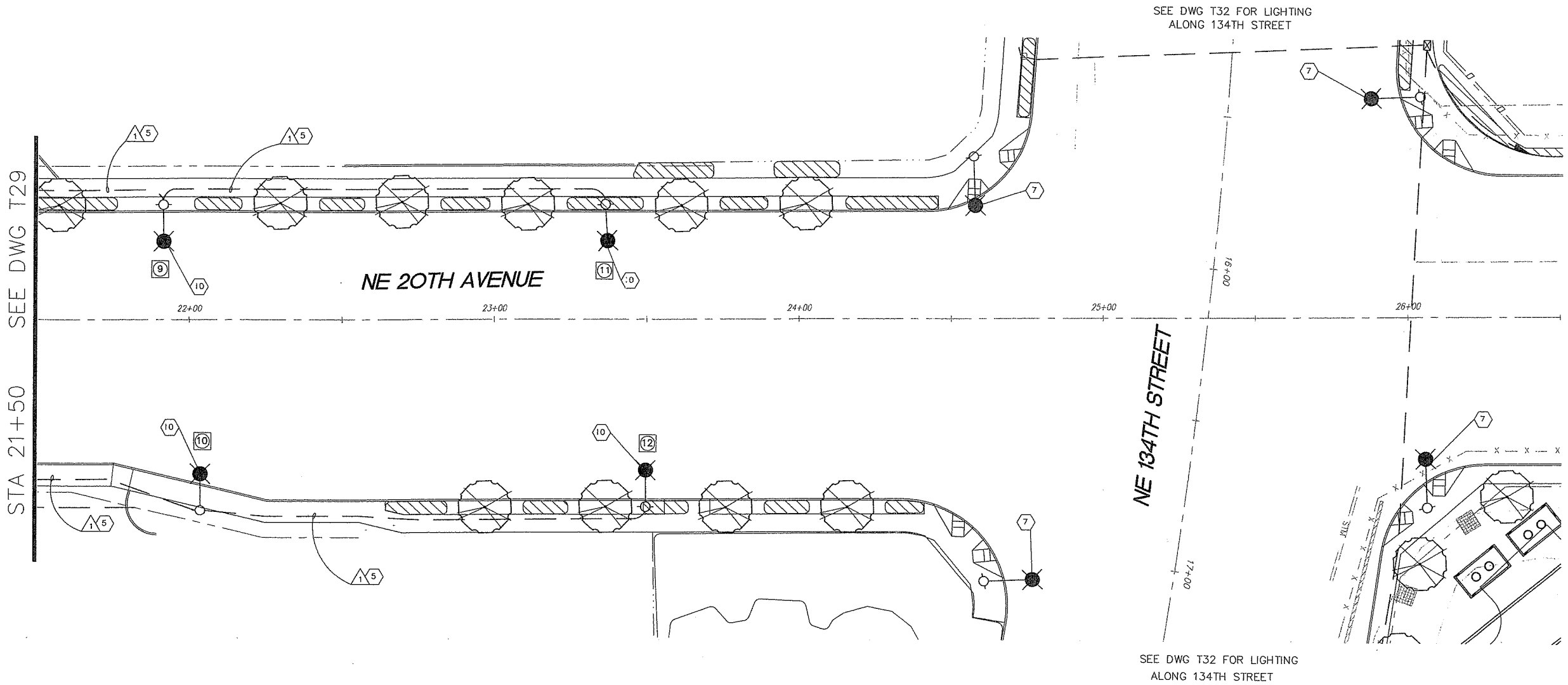
DWG NAME:
P9938912C.dwg

LTSCALE:
1.0000

LAST UPDATE:
12:02 pm
Friday
Jul 13 2001

PLOT TIME:
12:53 pm
Friday
Jul 13 2001

Fed. Aid No.
STPF-4253(010)



WIRING SCHEDULE

RUN NO. △	ENCLOSURE OR ATTACHMENT	ILLUMINATION WIRE SIZE	ILLUMINATION CIRCUIT	PULL LINE
1	2" PVC	2 #8	E	1

Ultimate power source for lighting circuits locations to be determined upon finalization of Clark Public Utilities electrical plans.

WIRING SCHEDULE LEGEND:

cc/s = Multi-conductor communication cable having stranded copper conductors, aluminum/polyester foil shield, and high-density polyethylene jacket insulation.

CONSTRUCTION NOTES

(5) Install 2-inch schedule 40 PVC conduit complete with wiring (see wiring schedule). Install conduit in same trench as interconnect and traffic signal conduit whenever possible.

(7) Roadway light on traffic signal pole. See traffic signal plan sheet.

(10) Install new flat lens "Cobra Head" style luminaire on new light standard with 12 foot luminaire arm, at 32.5 foot mounting height. Luminaire shall have a 250 Watt HPS bulb, 120 volt ballast, short cut-off, type III distribution with photoelectric cell. Light standard shall be per CPU standards.

LUMINAIRES

POLE NO.	LUMINAIRE LABEL	* STATION	* OFFSET	HEIGHT	ASSOC. CIRCUIT
(9)	250W HPS TYPE III	21+91.8	CURB 2.5' LT	32.5'	E
(10)	250W HPS TYPE III	22+03.1	CURB 8.5' RT	32.5'	E
(11)	250W HPS TYPE III	23+36.6	CURB 2.5' LT	32.5'	E
(12)	250W HPS TYPE III	23+49.2	CURB 2.5' RT	32.5'	E

* STAKE IN THE FIELD FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION. OFFSET IS FROM FACE OF THE CURB TO CENTER OF POLE.

LEGEND

- Proposed street light
- CPU approved junction box
- Proposed Conduit
- PP Existing CPU Power Pole
- Existing illumination circuit junction box

20' 10' 0' 20' 40'
SCALE: 1" = 20'

DESIGNED:	SMM
DRAWN:	DKS CAD
CRP:	392922
HORIZ.	
VERT.	
DATE:	2/20/04
DWG:	T30
SHEET	66 OF 84

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STATE OF WASHINGTON
PETER L. COOPER
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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 20TH AVENUE/N.E. 134TH STREET
STREET LIGHTING PLAN

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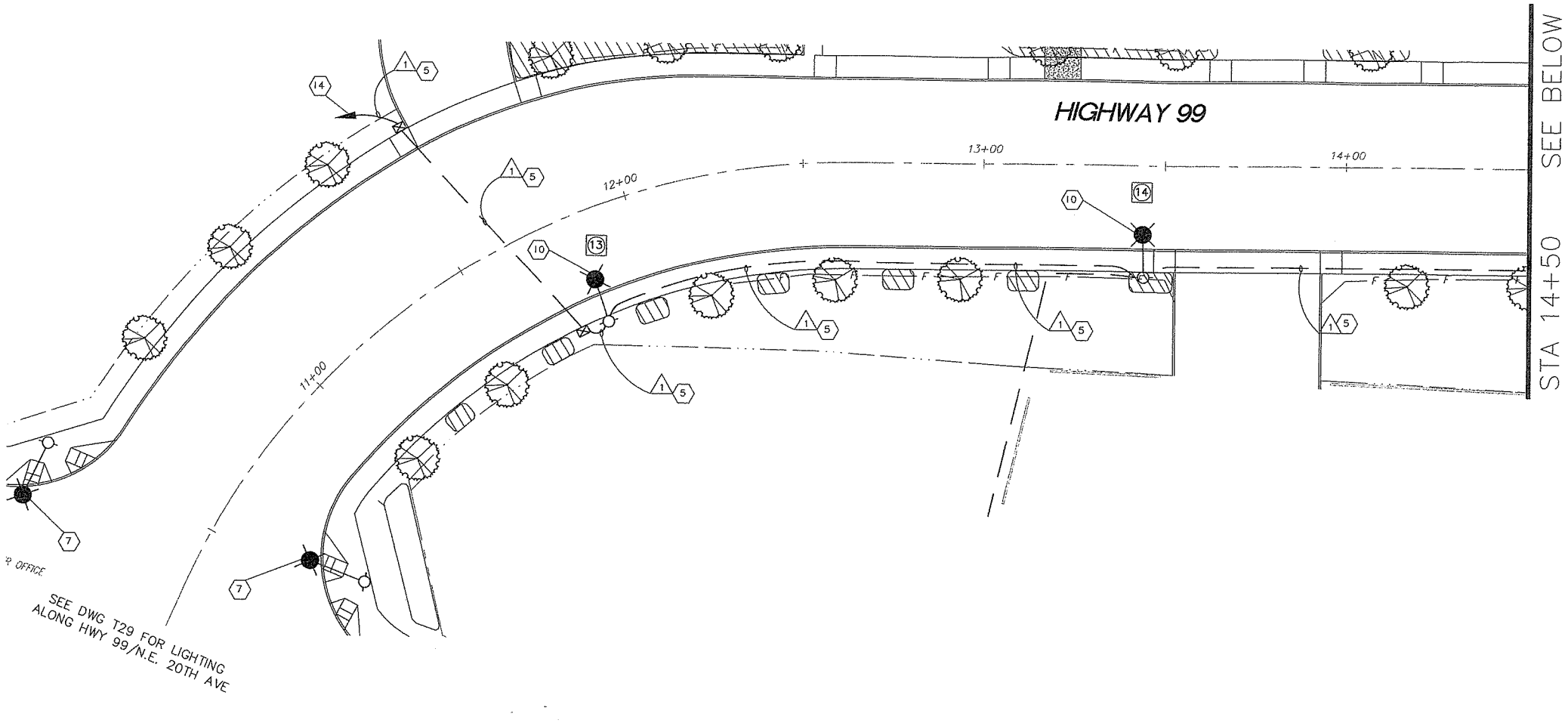
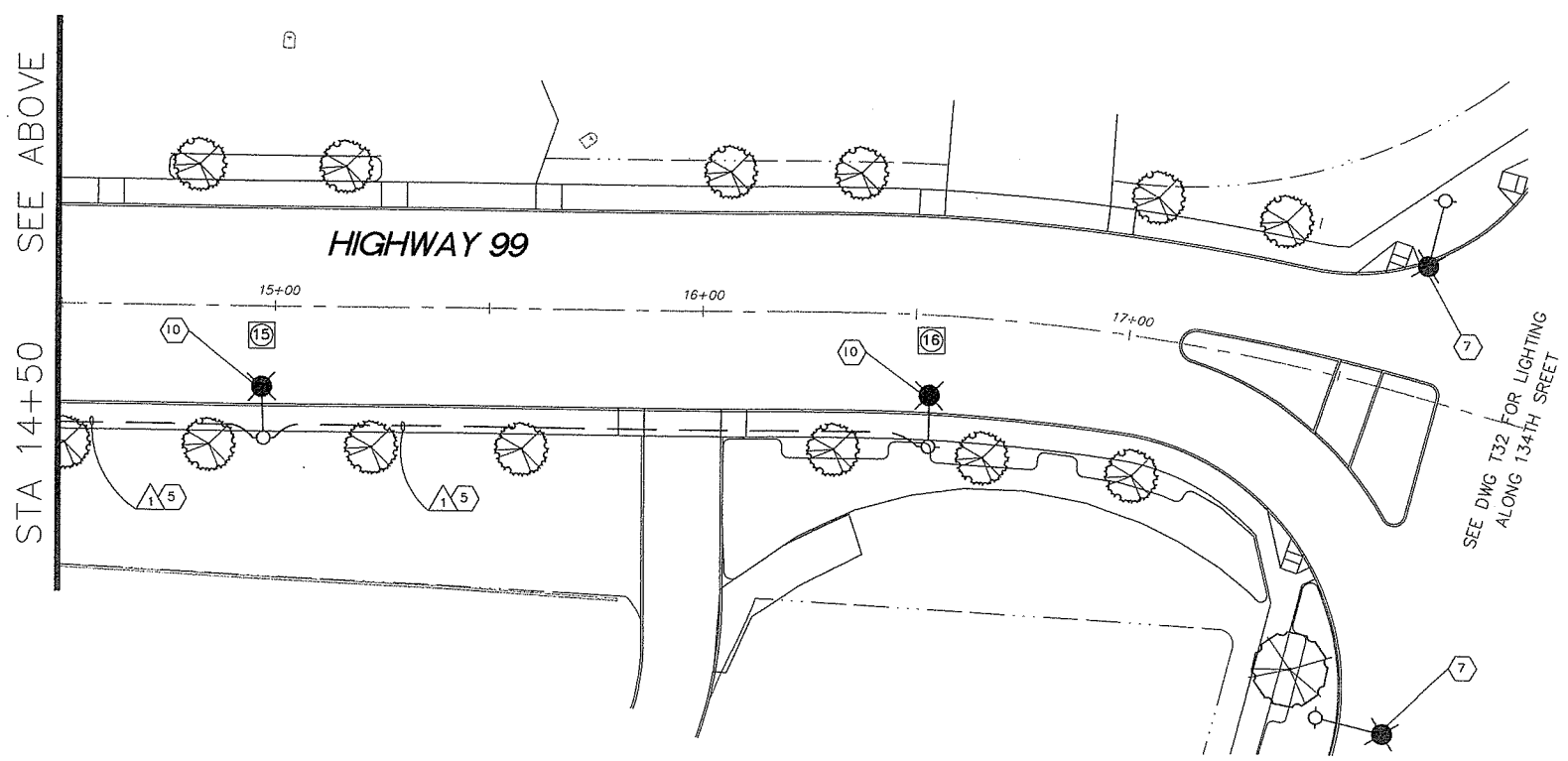
CLARK COUNTY
WASHINGTON





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STPF-4253[010]

WIRING SCHEDULE

RUN NO. △	ENCLOSURE OR ATTACHMENT	ILLUMINATION WIRE SIZE	ILLUMINATION CIRCUIT	PULL LINE
1	2" PVC	2 #8	G	1

Ultimate power source for lighting circuits to be determined upon finalization of Clark Public Utilities electrical plans.

WIRING SCHEDULE LEGEND:

cc/s = Multi-conductor communication cable having stranded copper conductors, aluminum/polyester foil shield, and high-density polyethylene jacket insulation.

CONSTRUCTION NOTES

(5) Install 2-inch schedule 40 PVC conduit complete with wiring (see wiring schedule). Install conduit in same trench as interconnect and traffic signal conduit whenever possible.

(7) Roadway light on traffic signal pole. See traffic signal plan sheet.

(10) Install new flat lens "Cobra Head" style luminaire on new light standard with 12 foot luminaire arm, at 32.5 foot mounting height. Luminaire shall have a 250 Watt HPS bulb, 120 volt ballast, short cut-off, type III distribution with photoelectric cell. Light standard shall be per CPU standards.

(14) Install 2" PVC and wiring (see wiring schedule) approx. 250' to a CPU transformer on CPU pole #29753.

LEGEND

- Proposed street light
- CPU approved junction box
- Proposed Conduit
- PP Existing CPU Power Pole
- Existing illumination circuit junction box

LUMINAIRES

POLE NO.	LUMINAIRE LABEL	* STATION	* OFFSET	HEIGHT	ASSOC. CIRCUIT
13	250W HPS TYPE III	11+82.7	CURB 7.0' RT	32.5'	G
14	250W HPS TYPE III	13+44.1	CURB 7.0' RT	32.5'	G
15	250W HPS TYPE III	14+97.3	CURB 7.0' RT	32.5'	G
16	250W HPS TYPE III	16+54.3	CURB 7.0' RT	32.5'	G

* STAKE IN THE FIELD FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION. OFFSET IS FROM FACE OF THE CURB TO CENTER OF POLE.

20' 10' 0' 20' 40'
SCALE: 1" = 20'

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T31
SHEET 67 OF 84

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99
STREET LIGHTING PLAN

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CLARK COUNTY
WASHINGTON

XREFS:
c978x001.dwg
c978x230.dwg
xlight.dwg
C978x300.dwg
L978x700.dwg

DWG NAME:
P99389T28.dwg

LTSCALE:
1.0000

LAST UPDATE:
12:36 pm
Friday
Jul 13 2001

PLOT TIME:
1:03 pm
Friday
Jul 13 2001

CONSTRUCTION NOTES

1. Remove existing wiring, upsweeps, and abandon existing conduit once new lighting circuit conduit and wiring is installed and operational.
2. Remove existing illumination system junction box.
3. Maintain and protect existing roadway lighting conduit and wiring.
4. Run new conduit and illumination circuit wiring into existing junction box. Splice new wiring into existing as required to maintain existing lighting system.
5. Install 2-inch schedule 40 PVC conduit complete with wiring (see wiring schedule). Install conduit in same trench as interconnect and traffic signal conduit whenever possible.
6. New Roadway light standard. See traffic signal plan sheet.
7. Roadway light on traffic signal pole. See traffic signal plan sheet.
8. Remove and salvage existing luminaire, luminaire arm and street light pole. Remove existing foundation to a minimum depth of 24 inches below finished grade.
9. Install illumination circuit junction box per CPU standards.
10. Install new flat lens "Cobra Head" style luminaire on new light standard with 12 foot luminaire arm, at 32.5 foot mounting height. Luminaire shall have a 250 Watt HPS bulb, 120 volt ballast, short cut-off, Type III distribution with photoelectric cell. Light standard shall be per CPU standards.
15. Install two 2" conduits and wiriing to a new CPU pad mounted transformer to be installed on the West side of NE 20th Avenue at approx. Sta. 26+30

LUMINAIRES

POLE NO.	LUMINAIRE LABEL	* STATION	* OFFSET	HEIGHT	ASSOC. CIRCUIT
17	250W HPS TYPE III	14+42.8	CURB 2.5' LT	32.5'	D
18	250W HPS TYPE III	14+63.4	CURB 2.5' RT	32.5'	D
19	250W HPS TYPE III	17+83.8	CURB 7.0' LT	32.5'	B
20	250W HPS TYPE III	18+31.6	CURB 7.0' RT	32.5'	B

* STAKE IN THE FIELD FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION. OFFSET IS FROM FACE OF CURB TO CENTER OF POLE.

LEGEND

- Proposed street light
- CPU approved junction box
- Proposed Conduit
- PP Existing CPU Power Pole
- Existing illumination circuit junction box

WIRING SCHEDULE

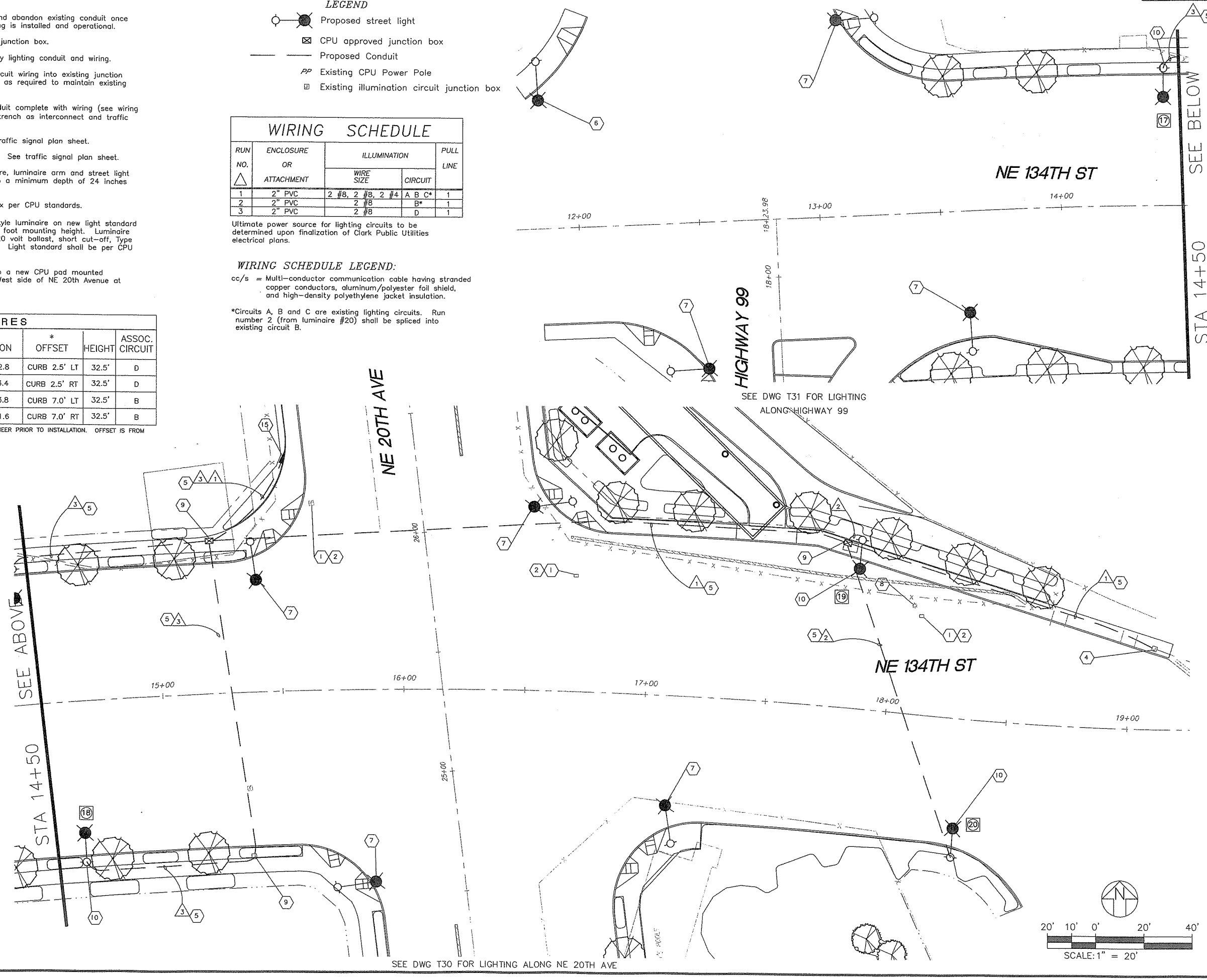
RUN NO. △	ENCLOSURE OR ATTACHMENT	ILLUMINATION WIRE SIZE	ILLUMINATION CIRCUIT	PULL LINE
1	2" PVC	2 #8, 2 #8, 2 #4	A B C*	1
2	2" PVC	2 #8	B*	1
3	2" PVC	2 #8	D	1

Ultimate power source for lighting circuits to be determined upon finalization of Clark Public Utilities electrical plans.

WIRING SCHEDULE LEGEND:

cc/s = Multi-conductor communication cable having stranded copper conductors, aluminum/polyester foil shield, and high-density polyethylene jacket insulation.

*Circuits A, B and C are existing lighting circuits. Run number 2 (from luminaire #20) shall be spliced into existing circuit B.



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STPF-4253[010]

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

N.E. 134TH STREET/N.E. 20TH AVENUE
STREET LIGHTING PLAN

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WASHINGTON

FES:
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78X304.dwg
78x116.dwg
idinghatching.dwg
78X001.dwg
78x230.dwg
AFFIC-CONTROL.dwg

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93891729.dwg

SCALE:
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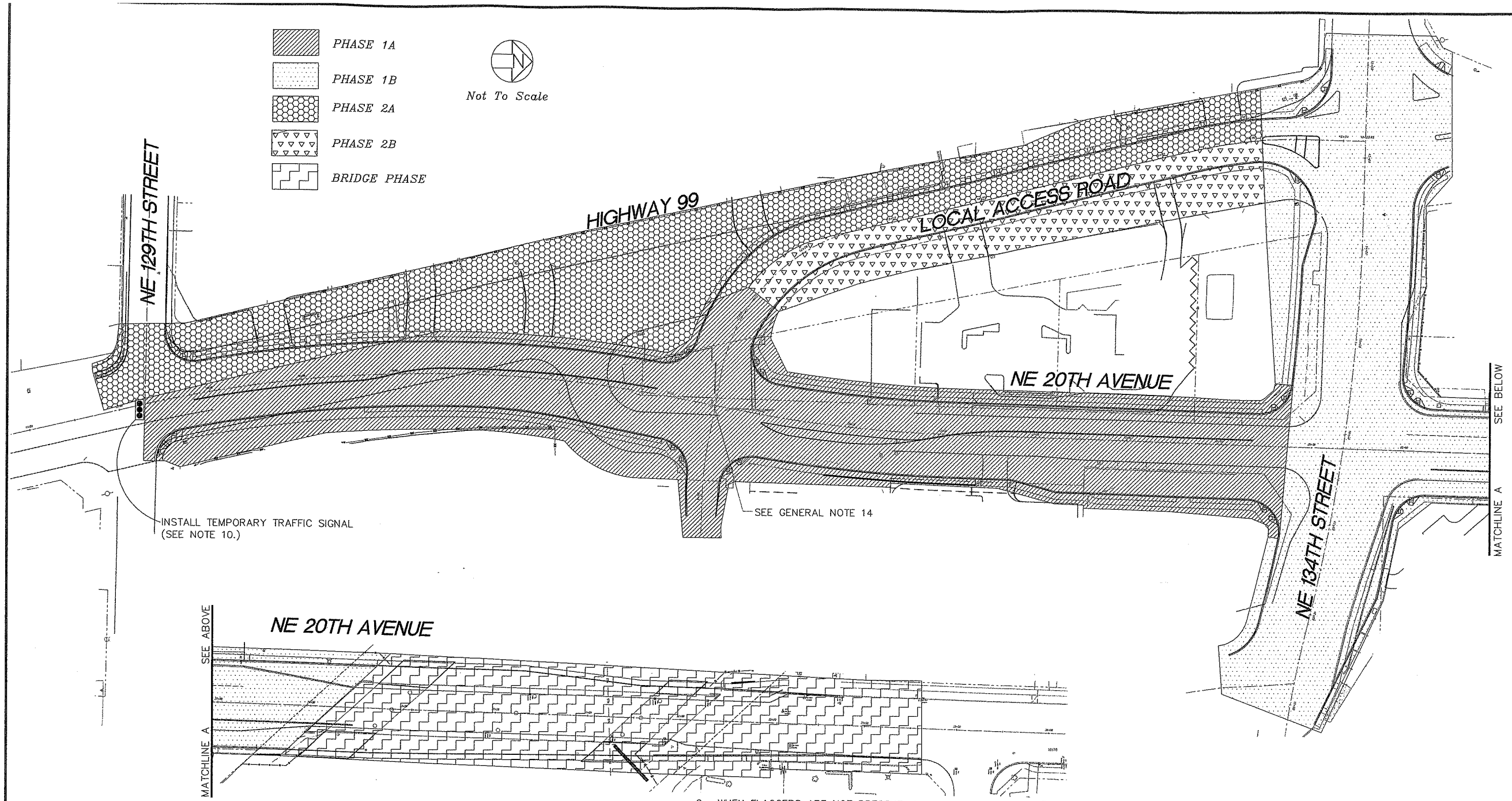
ST UPDATE:
54 am
sday
y 3 2004

OT TIME:
56 am
sday
y 3 2004



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DATE: 2/20/04
DWG: 733
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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

TRAFFIC CONTROL PHASING PLAN

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CLARK COUNTY
WASHINGTON

GENERAL NOTES

1. NO CONSTRUCTION ALLOWED UNTIL ALL TRAFFIC CONTROL IN PLACE.

2. INSPECT AND MAINTAIN ALL SIGNS, BARRICADES AND TUBULAR MARKERS AT LEAST TWICE A DAY, INCLUDING SATURDAY, SUNDAY, HOLIDAYS, AND NON-WORKING DAYS. DURING NIGHT-WORK, ONE ADDITIONAL INSPECTION SHALL BE CONDUCTED AT NIGHT (IN ADDITION TO THE TWO DAYTIME INSPECTIONS).

3. ACCESS TO ALL BUSINESSES TO REMAIN OPEN AT ALL TIMES, EXCEPT AS NOTED IN SPECIAL PROVISIONS.

4. CONTRACTOR REQUIRED TO PROVIDE 4 FT. WIDE CLEAR PEDESTRIAN ACCESS AROUND WORK ZONES.

5. ALL MERGING AND SHIFTING TAPERS SHALL MEET THE REQUIREMENTS OF MUTCD.

6. ALL WORK (INCLUDING LABOR, MATERIAL AND DEVICES) RELATED TO TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC, SHALL COMPLY WITH THE MOST CURRENT VERSION OF THE WSDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AS MODIFIED BY CONTRACT SPECIAL PROVISIONS, THE STANDARD DRAWINGS FOR DESIGN AND CONSTRUCTION (MOST CURRENT) AND THE PROVISIONS OF PART VI OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS (CURRENT EDITION).

7. TEMPORARY STRIPING SHALL BE REQUIRED TO DELINEATE TRAVEL LANES FOR EACH PHASE. THE CONTRACTOR SHALL PROVIDE A STRIPING PLAN (TO BE APPROVED BY THE ENGINEER) PRIOR TO EACH PHASE. TEMPORARY FLEXIBLE RAISED PAVEMENT MARKERS MAY BE USED WITH APPROVAL OF THE ENGINEER, TO MAKE SHORT TERM (10 HOURS OR LESS) CHANGES TO THE STRIPING FOR EACH STAGE. THE STRIPING FOR EACH PHASE SHALL BE ADEQUATELY MAINTAINED AND SHALL BE PRESENT UNTIL THE PERMANENT STRIPING IS INSTALLED. REMOVE ALL CONFLICTING STRIPING PAINT BY SHOT BLASTING METHOD AND DURABLE STRIPING BY GRINDING.

8. SPACING OF TUBULAR MARKERS AND PLASTIC DRUMS SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

9. WHEN FLAGGERS ARE NOT PRESENT, COVER OR REMOVE ANY "FLAGGER AHEAD" AND "BE PREPARED TO STOP" SIGNS IN EACH DIRECTION.

10. THE CONTRACTOR SHALL PROVIDE A TEMPORARY SIGNAL AT THE HIGHWAY 99/129TH STREET INTERSECTION. THE TEMPORARY TRAFFIC SIGNAL PLAN CAN UTILIZE THE EXISTING TRAFFIC SIGNAL THAT WILL REMAIN. THE TEMPORARY TRAFFIC SIGNAL SHALL BE MODIFIED AS NECESSARY DURING CONSTRUCTION TO ACCOMMODATE VARIOUS PHASES OF CONSTRUCTION. THE TEMPORARY TRAFFIC SIGNAL SHALL BE OPERATIONAL AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A PLAN FOR THE TEMPORARY TRAFFIC SIGNAL THAT MUST BE APPROVED PRIOR TO ANY TRAFFIC SIGNAL MODIFICATIONS. AT LEAST FIVE WORKING DAYS ARE REQUIRED FOR REVIEW OF THE TEMPORARY TRAFFIC SIGNAL PLAN.

11. ALL CONCRETE MEDIANS AND ISLANDS TO BE CONSTRUCTED AT THE END OF THE FINAL PHASE.

12. DURING PHASE 1B, LANE CLOSURES SHALL ONLY TAKE PLACE DURING THE NIGHT WORK PERIODS. NIGHT WORK PERIODS SHALL OCCUR BETWEEN 8PM AND 5AM ON WEEKDAYS, AND FROM 8PM TO 7AM ON WEEKENDS.

13. DURING PHASE 1A, AND 2A, A 3-LANE SECTION (36' MINIMUM) WILL BE ALLOWED ON HIGHWAY 99 THROUGH THE 129TH AVENUE INTERSECTION. RETAIN ALL EXISTING NORTHBOUND LANES ON HIGHWAY 99 AT 134TH STREET.

14. DURING PHASE 1A, NO THROUGH TRAFFIC WILL BE ALLOWED ON NE 20TH AVENUE BETWEEN 134TH STREET AND HIGHWAY 99. LOCAL ACCESS TO BUSINESSES (SALMON CREEK PLAZA AND COMFORT INN) MUST BE PROVIDED AT ALL TIMES. EAST/WEST ACCESS ACROSS 20TH AVENUE TO SALMON CREEK PLAZA FROM HIGHWAY 99 (APPROX STA. 18+05) SHALL BE ESTABLISHED AND MAINTAINED THROUGHOUT CONSTRUCTION PRIOR TO IN-ROADWAY WORK IN PHASE 1A BEGINS..

15. CONTRACTOR TO PROVIDE 2 NORTHBOUND TRAVEL LANES, ONE SOUTHBOUND TRAVEL LANE, AND A 4' PEDESTRIAN AREA ON THE 20TH AVENUE BRIDGE PHASE AT ALL TIMES. SEE BRIDGE TRAFFIC CONTROL PLAN.

16. PHASE 1A SHALL BE THE FIRST CONSTRUCTION PHASE. PHASE 2A AND 2B CANNOT BE STARTED UNTIL PHASE 1A IS COMPLETED. PHASE 1B AND THE BRIDGE PHASE CAN BE CONSTRUCTED SIMULTANEOUSLY WITH ALL PHASES.

17. SEE SPECIAL PROVISIONS FOR DURATION AND TIMING OF PHASING.

GENERAL NOTES

1. ALL TRAFFIC CONTROL FOR THIS PROJECT SHALL CONFORM TO THE LATEST EDITIONS OF THE WASHINGTON DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD PLANS AND SPECIFICATIONS, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND THE SPECIFICATIONS AND SPECIAL PROVISIONS FOR THIS CONTRACT.

2. THIS PLAN IS PROVIDED FOR MAINTAINING TRAFFIC DURING CONSTRUCTION FOR THE HIGHWAY 99/129TH STREET INTERSECTION (PHASES 1A AND 2A). CONTRACTOR IS REQUIRED TO PROVIDE DETAILED TRAFFIC CONTROL PLANS FOR APPROVAL BY THE ENGINEER AND WSDOT.

3. SPACING FOR CHANNELIZATION DEVICES SHALL BE 30' ON A TAPER AND 60' ON A TANGENT.

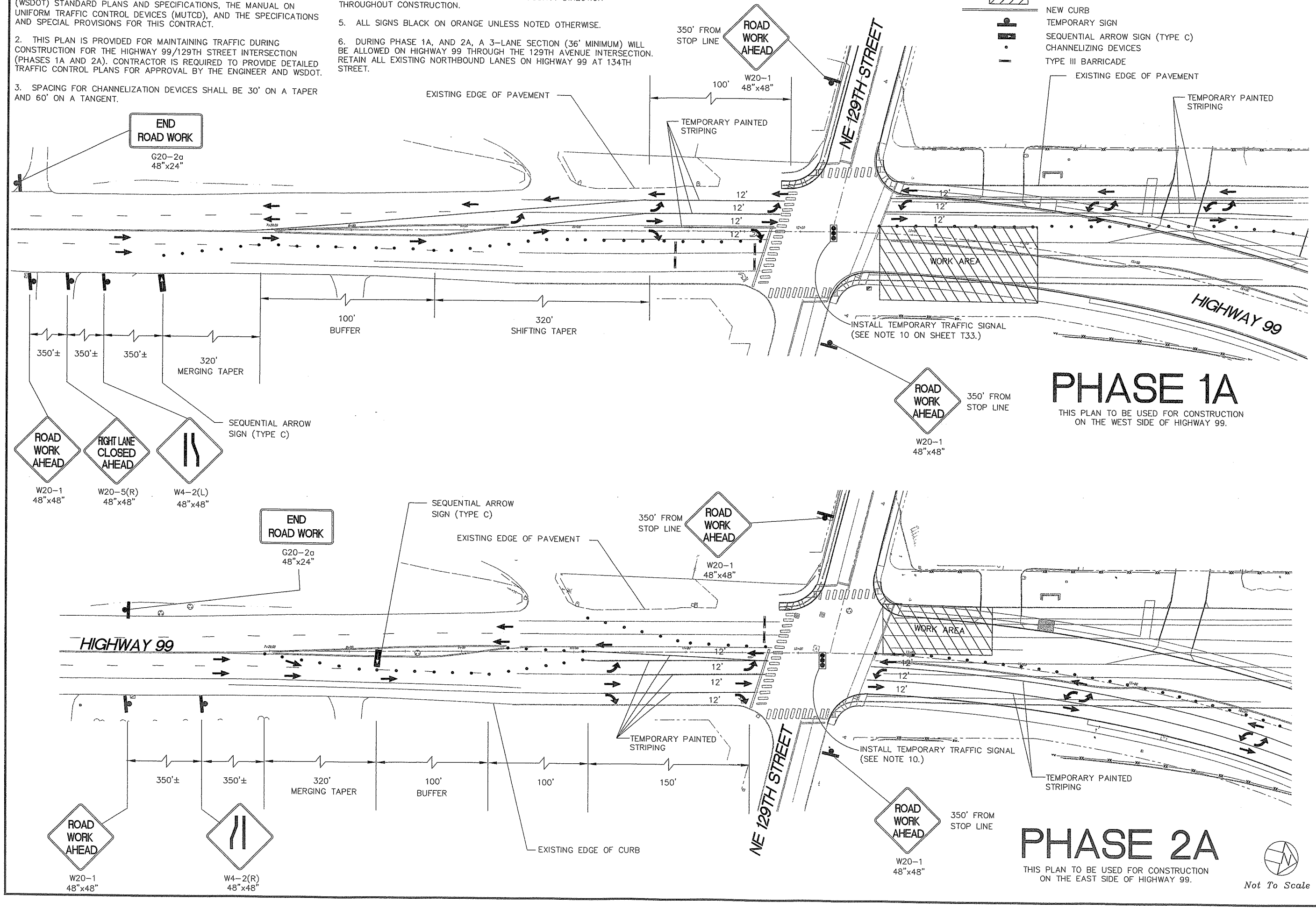
4. CONTRACTOR REQUIRED TO MAINTAIN OPERATION OF TRAFFIC SIGNAL AT HIGHWAY 99/129TH STREET PER CLARK COUNTY DIRECTION THROUGHOUT CONSTRUCTION.

5. ALL SIGNS BLACK ON ORANGE UNLESS NOTED OTHERWISE.

6. DURING PHASE 1A, AND 2A, A 3-LANE SECTION (36' MINIMUM) WILL BE ALLOWED ON HIGHWAY 99 THROUGH THE 129TH AVENUE INTERSECTION. RETAIN ALL EXISTING NORTHBOUND LANES ON HIGHWAY 99 AT 134TH STREET.

SHEET LEGEND

- WORK ZONE
- NEW CURB
- TEMPORARY SIGN
- SEQUENTIAL ARROW SIGN (TYPE C)
- CHANNELIZING DEVICES
- TYPE III BARRICADE



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CRP: 392922
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DATE: 2/20/04
DWG: T34
SHEET 70 OF 84

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PETER L. COFFEY STATE OF WASHINGTON 27235 REGISTERED PROFESSIONAL ENGINEER EXPIRES: JAN. 30, 2005

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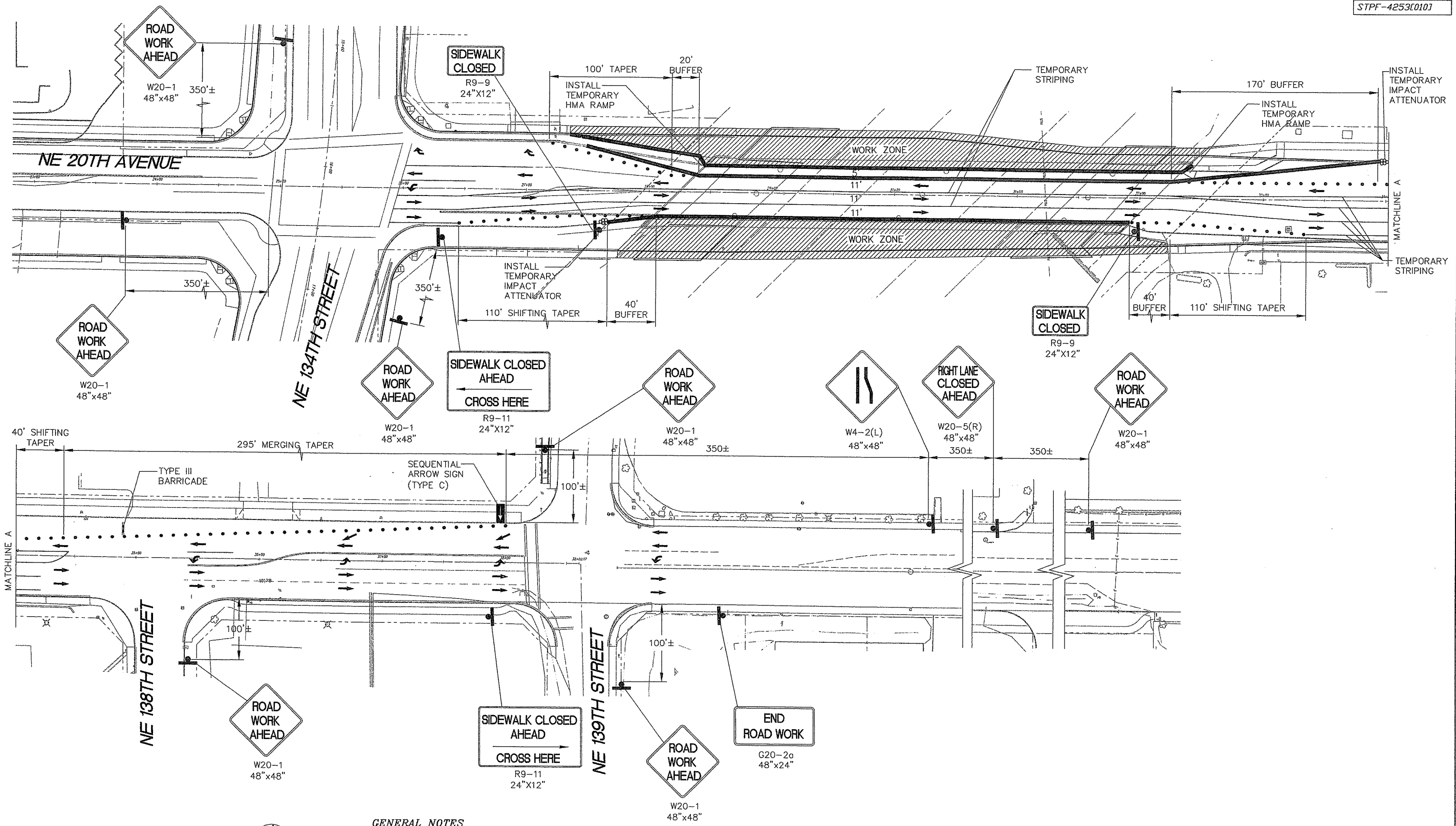
DESIGN & ENGINEERING DIVISION
DESIGN SECTION

TRAFFIC CONTROL PLAN

proud past, promising future

CLARK COUNTY WASHINGTON



Fed. Aid No.
STPF-4253[010]

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T35
SHEET 71 OF 84

CALL 48 HOURS BEFORE YOU DIG
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NORTHWEST UTILITIES NOTIFICATION CENTER

PETER L. COFFEY
STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

DKS Associates
TRANSPORTATION SOLUTIONS
1400 SW Fifth Avenue, Suite 900
Portland, Oregon 97201-5502
Telephone: (503) 243-3500
Fax: (503) 243-1934

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

BRIDGE TRAFFIC CONTROL PLAN

proud past, promising future

CLARK COUNTY
WASHINGTON

SHEET LEGEND

- WORK ZONE
- NEW CURB
- TEMPORARY SIGN
- SEQUENTIAL ARROW SIGN (TYPE C)
- CHANNELIZING DEVICES
- TYPE III BARRICADE
- TEMPORARY CONCRETE BARRIER
- TEMPORARY IMPACT ATTENUATOR
- TEMPORARY STRIPING

Not To Scale

GENERAL NOTES

1. ALL TRAFFIC CONTROL FOR THIS PROJECT SHALL CONFORM TO THE LATEST EDITIONS OF THE WASHINGTON DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD PLANS AND SPECIFICATIONS, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND THE SPECIFICATIONS AND SPECIAL PROVISIONS FOR THIS CONTRACT.

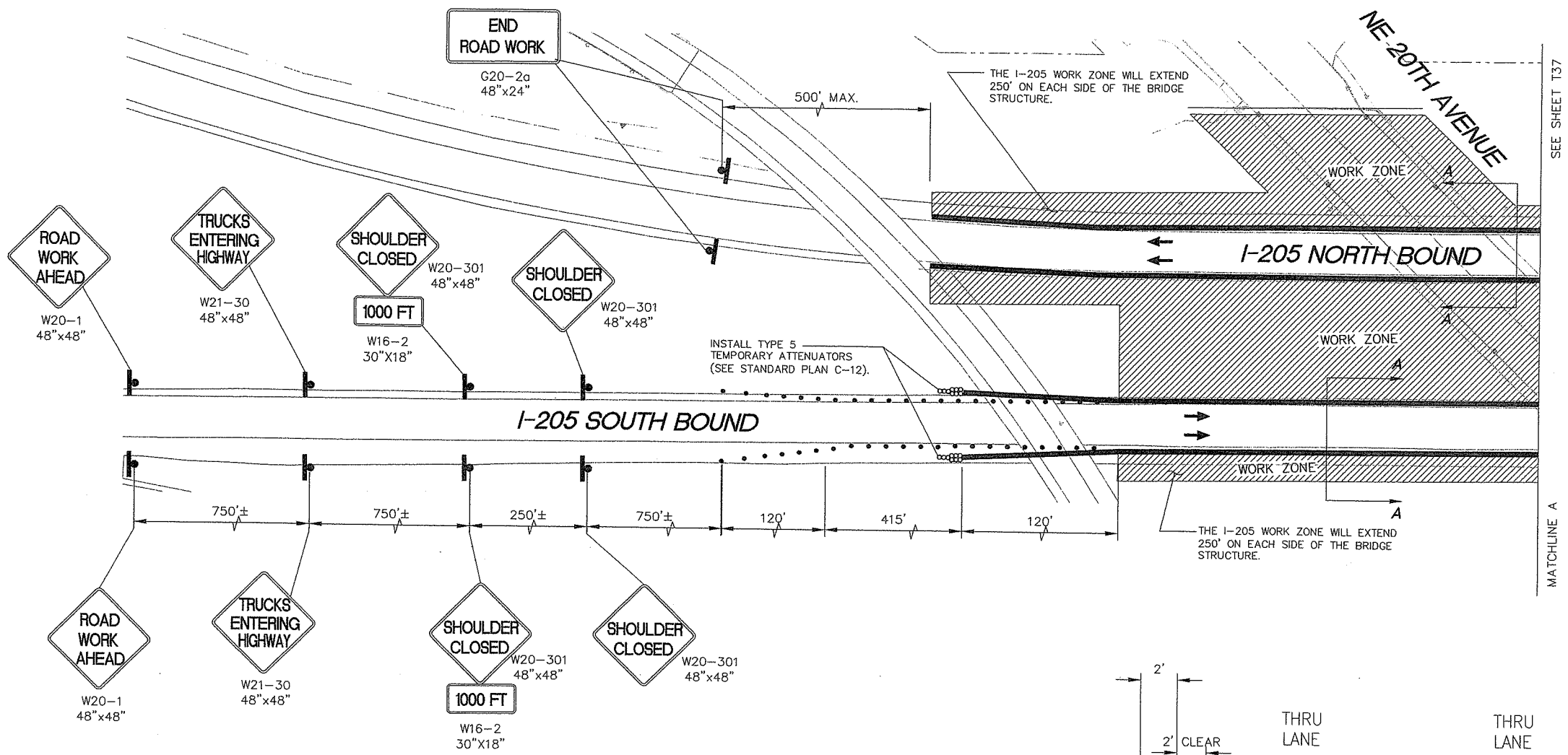
2. THIS PLAN IS PROVIDED FOR MAINTAINING TRAFFIC DURING CONSTRUCTION FOR THE NE 20TH AVENUE BRIDGE. CONTRACTOR IS REQUIRED TO PROVIDED DETAILED TRAFFIC CONTROL PLANS FOR APPROVAL BY THE ENGINEER AND WSDOT.

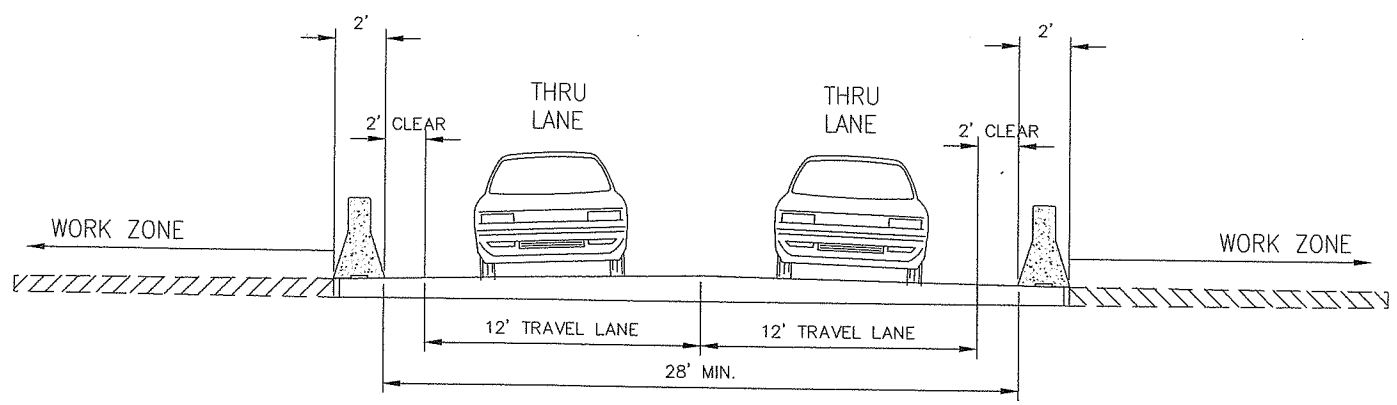
3. SPACING FOR CHANNELIZATION DEVICES SHALL BE 30' ON A TAPER AND 60' ON A TANGENT.

4. ALL SIGNS BLACK ON ORANGE UNLESS NOTED OTHERWISE.

5. CONTRACTOR TO PROVIDE 2 NORTHBOUND TRAVEL LANES, AND 1 SOUTHBOUND TRAVEL LANE, AND A 5' PEDESTRIAN AREA 20TH AVENUE BRIDGE AT ALL TIMES.

6. FOR COMPLETION OF CLOSURE POURS AND THE EXPANSION JOINTS ON THE NE 20TH AVENUE BRIDGE STRUCTURE, THE CONTRACTOR WILL BE ALLOWED TO REDUCE THE TRAVEL LANES TO ONE LANE IN EACH DIRECTION OVER AN 84 HOUR PERIOD (BETWEEN THURSDAY 9:00PM TO MONDAY 9:00AM). THE CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS TO THE ENGINEER FOR APPROVAL SHOWING HOW TRAFFIC IS TO BE MAINTAINED DURING CONSTRUCTION OF CLOSURE POURS AND EXPANSION JOINTS. THE DATES OF THE WORK SHALL BE PRE-APPROVED BY THE ENGINEER.





SECTION A

SHEET LEGEND

- WORK ZONE
- TEMPORARY SIGN
- CHANNELIZING DEVICES
- TEMPORARY CONCRETE BARRIER
- TEMPORARY IMPACT ATTENUATOR

Not To Scale

GENERAL NOTES

1. ALL TRAFFIC CONTROL FOR THIS PROJECT SHALL CONFORM TO THE LATEST EDITIONS OF THE WASHINGTON DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD PLANS AND SPECIFICATIONS, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND THE SPECIFICATIONS AND SPECIAL PROVISIONS FOR THIS CONTRACT.

2. THIS PLAN IS PROVIDED FOR MAINTAINING TRAFFIC DURING CONSTRUCTION FOR THE NE 20TH AVENUE BRIDGE. CONTRACTOR IS REQUIRED TO PROVIDE DETAILED TRAFFIC CONTROL PLANS INCLUDING ENTRY AND EXIT LOCATIONS FOR TRUCKS FOR APPROVAL BY THE ENGINEER AND WSDOT.

3. SPACING FOR CHANNELIZATION DEVICES SHALL BE 40' ON A TAPER AND 80' ON A TANGENT.

4. ALL SIGNS BLACK ON ORANGE UNLESS NOTED OTHERWISE.

5. CONTRACTOR TO PROVIDE 2 NORTHBOUND TRAVEL LANES, AND 2 SOUTHBOUND TRAVEL LANES ON I-205 UNLESS OTHERWISE AUTHORIZED BY ENGINEER.

6. TAPER AND BUFFER RATES ARE BASED ON WSDOT STANDARD PLAN K-9.

7. CONTRACTOR TO INSTALL REFLECTIVE TEMPORARY RAISED PAVEMENT MARKERS ON THE TEMPORARY CONCRETE BARRIERS.

8. CONTRACTOR TO REPLACE ALL ROCK OR PAVED SHOULDERS THAT ARE DAMAGED DURING CONSTRUCTION TO THE ENGINEERS SATISFACTION.

9. TEMPORARY CHANNELIZING DEVICES ON THE FREEWAY SHALL BE TRAFFIC SAFETY DRUMS 36" TALL AND REFLECTIVE.

Fed. Aid No.
STPF-4253[010]

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T36
SHEET 72 OF 84

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PETER L. COFFEY
STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

BRIDGE TRAFFIC CONTROL PLAN

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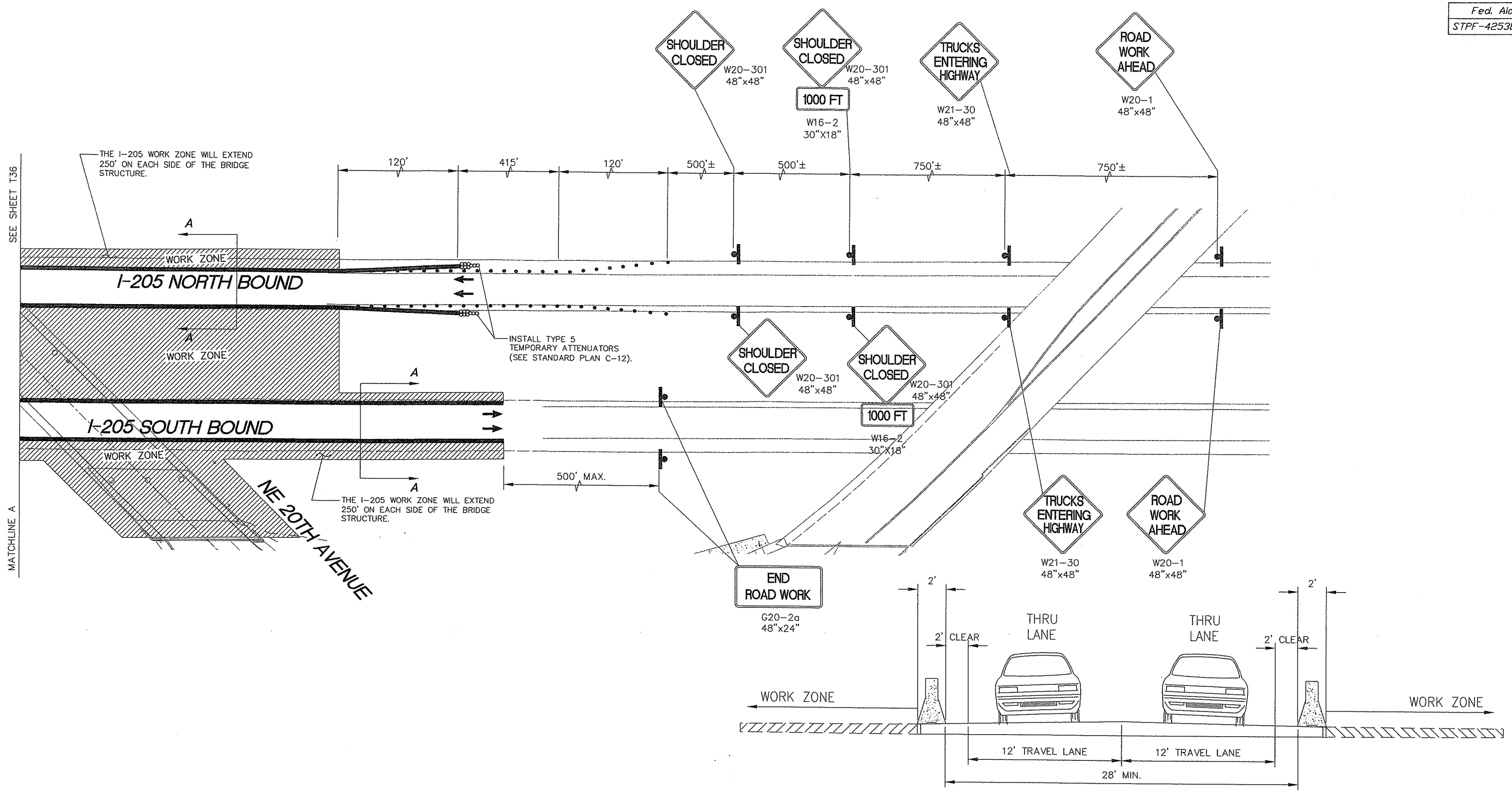
CLARK COUNTY
WASHINGTON



SHEET LEGEND

- WORK ZONE
- TEMPORARY SIGN
- CHANNELIZING DEVICES
- TEMPORARY CONCRETE BARRIER
- TEMPORARY IMPACT ATTENUATOR

Not To Scale

GENERAL NOTES

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6. TAPER AND BUFFER RATES ARE BASED ON WSDOT STANDARD PLAN K-9.

7. CONTRACTOR TO INSTALL REFLECTIVE TEMPORARY RAISED PAVEMENT MARKERS ON THE TEMPORARY CONCRETE BARRIERS.

8. CONTRACTOR TO REPLACE ALL ROCK OR PAVED SHOULDERS THAT ARE DAMAGED DURING CONSTRUCTION TO THE ENGINEERS SATISFACTION.

9. TEMPORARY CHANNELIZING DEVICES ON THE FREEWAY SHALL BE TRAFFIC SAFETY DRUMS 36" TALL AND REFLECTIVE.

Fed. Aid No.
STPF-4253[010]

DESIGNED: SMM
DRAWN: DKS CAD
CRP: 392922
HORIZ.
VERT.
DATE: 2/20/04
DWG: T37
SHEET 73 OF 84

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PETER L. COFFEY
STATE OF WASHINGTON
27235
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 30, 2005

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BRIDGE TRAFFIC CONTROL PLAN

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LEGEND AND FOLLOWING NOTES APPLY TO DWG. WP01 THROUGH WP08

WATER LEGEND

- EXIST. WATER LINE
- EXIST. FIRE HYDRANT
- EXIST. WATER METER
- NEW WATER LINE
- NEW CONTROL DENSITY FILL (CDF)
- NEW FIRE HYDRANT ASSEMBLY
- NEW WATER VALVE
- NEW REDUCER
- NEW BLOW-OFF
- NEW PLUG
- NEW END CAP
- NEW THRUST BLOCK
- NEW TRANSITION SLEEVE
- RELOCATED WATER METER
- NEW PLANE AND OVERLAY

ABANDONMENT NOTE:

WHENEVER A PIPE IS CUT AND NOT RECONNECTED, THE CUT ENDS SHALL BE CAPPED OR PLUGGED, AS DIRECTED BY INSPECTOR. ALL VALVE BOX TOPS ASSOCIATED WITH THE ABANDONED LINE SHALL BE REMOVED AND FILLED WITH CDF. THIS IS INCIDENTAL TO THE CONTRACTED WORK AND SHALL BE A PART OF OVERALL CONTRACT PRICE.

A.C. PIPE NOTE:

CONTRACTOR SHALL SUPPLY WORKER WHO IS CERTIFIED TO WORK ON A.C. PIPE WHEN ANY A.C. PIPE IS ENCOUNTERED DURING THE PROJECT.

CROSSING NOTE:

MAINTAIN MINIMUM CLEARANCES AT ALL PROPOSED CROSSINGS AS PER GENERAL NOTES, DWG. WP09.

SERVICE METER NOTE:

ACTUAL LOCATION OF NEW WATER METERS SHALL BE DETERMINED BY THE INSPECTOR IN THE FIELD.

CAUTION NOTES @ CROSSINGS (#)

1. CAUTION: EXIST. WATERMAIN CROSSING (CPU)
2. CAUTION: EXIST. GAS CROSSING (NWNG)
3. CAUTION: EXIST. SANITARY SEWER CROSSING (HDSD)
4. CAUTION: EXIST. STORM SEWER CROSSING (CC)
4A. CAUTION: PROPOSED STORM SEWER CROSSING
4B. CAUTION: EXIST. STORM SEWER SCHEDULED TO BE ABANDONED
4C. CAUTION: EXIST. STORM SEWER SCHEDULED TO BE REMOVED
5. CAUTION: EXIST. TELEPHONE CROSSING (QWEST)
6. CAUTION: EXIST. UNDERGROUND POWER CROSSING (CPU)

FOR ALL CROSSINGS:

VERIFY EXACT LOCATION AND ELEVATION PRIOR TO CONSTRUCTION. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

MAINTAIN ALL MINIMUM CLEARANCES BETWEEN NEW WATERMAINS AND EXISTING UTILITIES AS IDENTIFIED IN THE PLANS, DESCRIBED IN THE GENERAL NOTES, AND REQUIRED BY THE STANDARD SPECIFICATIONS.

PLAN INDICATES MAINLINE CROSSINGS ONLY. CONTRACTOR TO VERIFY LOCATION OF LATERALS AS REQUIRED.

Clark Public Utilities

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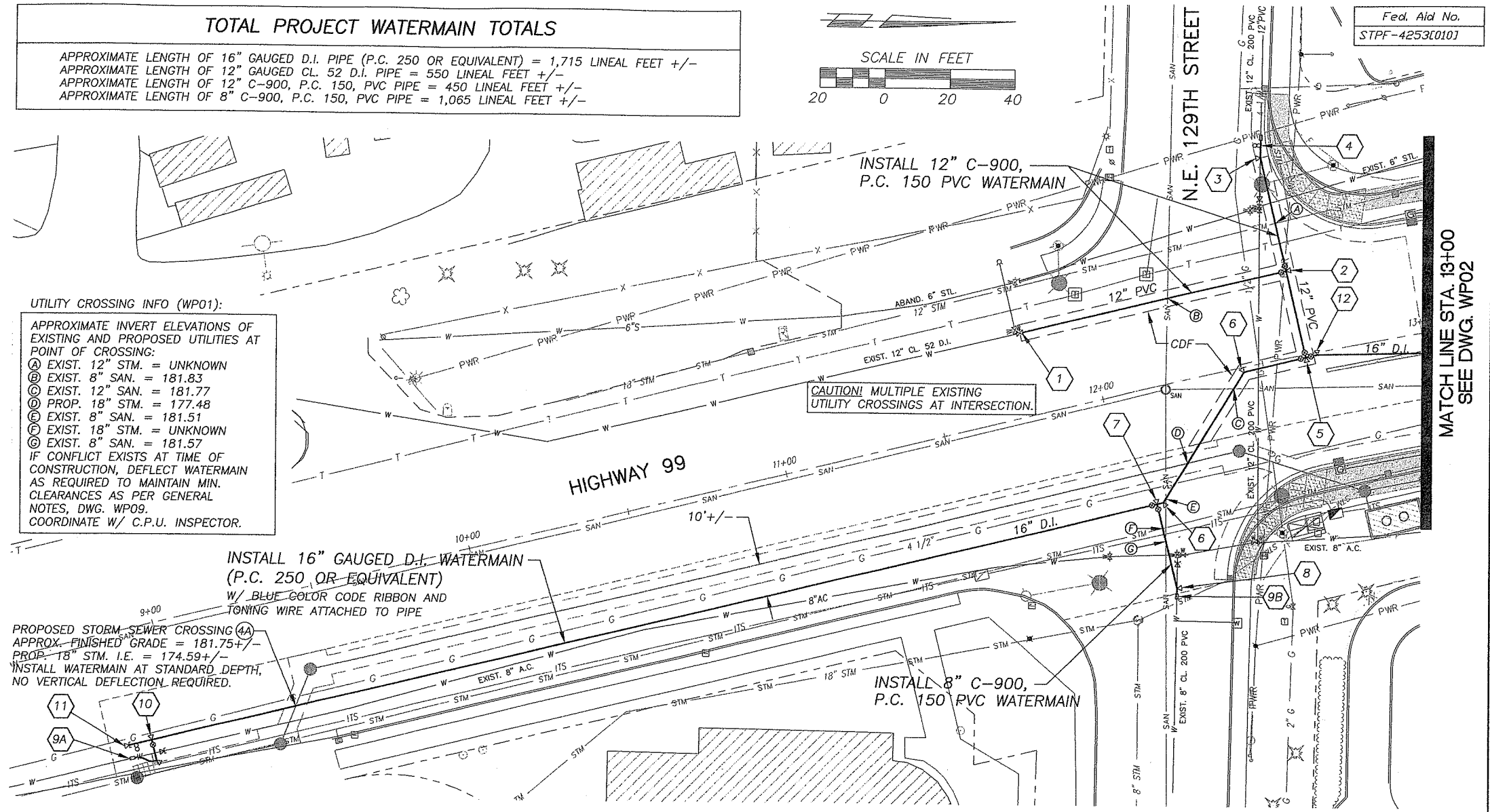
CLARK PUBLIC UTILITIES - WATER
SIGNATURE [signature] DATE 4/23/04

TOTAL PROJECT WATERMAIN TOTALS

APPROXIMATE LENGTH OF 16" GAUGED D.I. PIPE (P.C. 250 OR EQUIVALENT) = 1,715 LINEAL FEET +/-
APPROXIMATE LENGTH OF 12" GAUGED CL. 52 D.I. PIPE = 550 LINEAL FEET +/-
APPROXIMATE LENGTH OF 12" C-900, P.C. 150, PVC PIPE = 450 LINEAL FEET +/-
APPROXIMATE LENGTH OF 8" C-900, P.C. 150, PVC PIPE = 1,065 LINEAL FEET +/-



UTILITY CROSSING INFO (WP01):

APPROXIMATE INVERT ELEVATIONS OF EXISTING AND PROPOSED UTILITIES AT POINT OF CROSSING:
(A) EXIST. 12" STM. = UNKNOWN
(B) EXIST. 8" SAN. = 181.83
(C) EXIST. 12" SAN. = 181.77
(D) PROP. 18" STM. = 177.48
(E) EXIST. 8" SAN. = 181.51
(F) EXIST. 18" STM. = UNKNOWN
(G) EXIST. 8" SAN. = 181.57
IF CONFLICT EXISTS AT TIME OF CONSTRUCTION, DEFLECT WATERMAIN AS REQUIRED TO MAINTAIN MIN. CLEARANCES AS PER GENERAL NOTES, DWG. WP09.
COORDINATE W/ C.P.U. INSPECTOR.

PROJECT CONSTRUCTION NOTES – DWG. WP01

NO. OF LOCATIONS ON DWG. WP01 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
1	(1) REMOVE EXIST. M.J. PLUG AND THRUST BLOCK. CONNECT TO EXIST. 12" B.F.V. (FLG. x M.J.) W/ MEGALUG RETAINER GLANDS AND EXTEND NEW 12" PVC PIPE.
1	(2) 1 – 12" C.I. TEE, FLG. 2 – 12" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 12" ADAPTER, FLG. x M.J. W/ MEGALUG RETAINER GLANDS 2 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK
1	(3) 1 – 12", 11 1/4° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 1 – THRUST BLOCK
1	(4) 1 – TEMP. STD. PERPENDICULAR BLOW-OFF ASSEMBLY, INCLUDING MAIN CAP AND THRUST BLOCK. UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, REMOVE TEMP. BLOW-OFF ASSEMBLY, CUT EXIST. PIPE AND CONNECT NEW C-900 TO EXIST. PIPE WITH: 1 – 12" LONG PATTERN TRANSITION SLEEVE, M.J. (C-900 PVC/CL. 200 PVC) ABANDON EXIST. LINE WITH END CAP AND THRUST BLOCK PER C.P.U. REQUIREMENTS.
1	(5) 1 – 16" x 12" C.I. TEE, FLG. 2 – 16" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 12" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 3 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK
2	(6) 1 – 16", 45° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 1 – THRUST BLOCK
1	(7) 1 – 16" x 8" C.I. TEE, FLG. 1 – 16" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 16" ADAPTER, FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 8" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 2 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK
1	(8) 1 – 8", 11 1/4° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 1 – THRUST BLOCK
1	(9A) UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, CUT EXIST. PIPE AND CONNECT NEW C-900 PVC TO EXIST. PIPE WITH:
1	(9B) 9A = 8" LONG PATTERN TRANSITION SLEEVE, M.J. (C-900 PVC/A.C.) 9B = 8" LONG PATTERN TRANSITION SLEEVE, M.J. (C-900 PVC/CL. 200 PVC)
0	(9C) 9C = 12" LONG PATTERN SLEEVE, M.J. (C-900 PVC) ABANDON EXIST. LINE WITH END CAP AND THRUST BLOCK PER C.P.U. REQUIREMENTS.
1	(10) 1 – 16" x 8" C.I. TEE, M.J. x SIDE FLG. 1 – 8" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – 8", 90° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 2 – THRUST BLOCK APPROX. 10 L.F. 8" C-900, P.C. 150 PVC PIPE
1	(11) 1 – STD. PERPENDICULAR BLOW-OFF ASSEMBLY, INCLUDING MAIN CAP AND THRUST BLOCK.
1	(12) 1 – 16", 11 1/4° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 1 – THRUST BLOCK

* NOTE: THE NO. OF LOCATIONS REFERS TO ONLY THE ITEMS IDENTIFIED WITH (#) AND DOES NOT INCLUDE ITEMS CALLED OUT INDEPENDENTLY ON THE PLAN.

DESIGNED	JDB
DRAWN	JDB
CRP	392922
HOR.	1" = 20'
VERT.	N/A
DATE	2/20/04
DWG:	WP01
SHEET	74 OF 84

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STATE OF WASHINGTON HARPER E. ROBERTSON REGISTERED PROFESSIONAL ENGINEER 19367 EXPIRES: 6/9/05

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS • SURVEYORS
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TEL 360.750.1131 www.hhpr.com FAX 360.750.1141

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

WATERMAIN PLAN – N.E. HWY. 99
STA. 9+00 TO STA. 13+00

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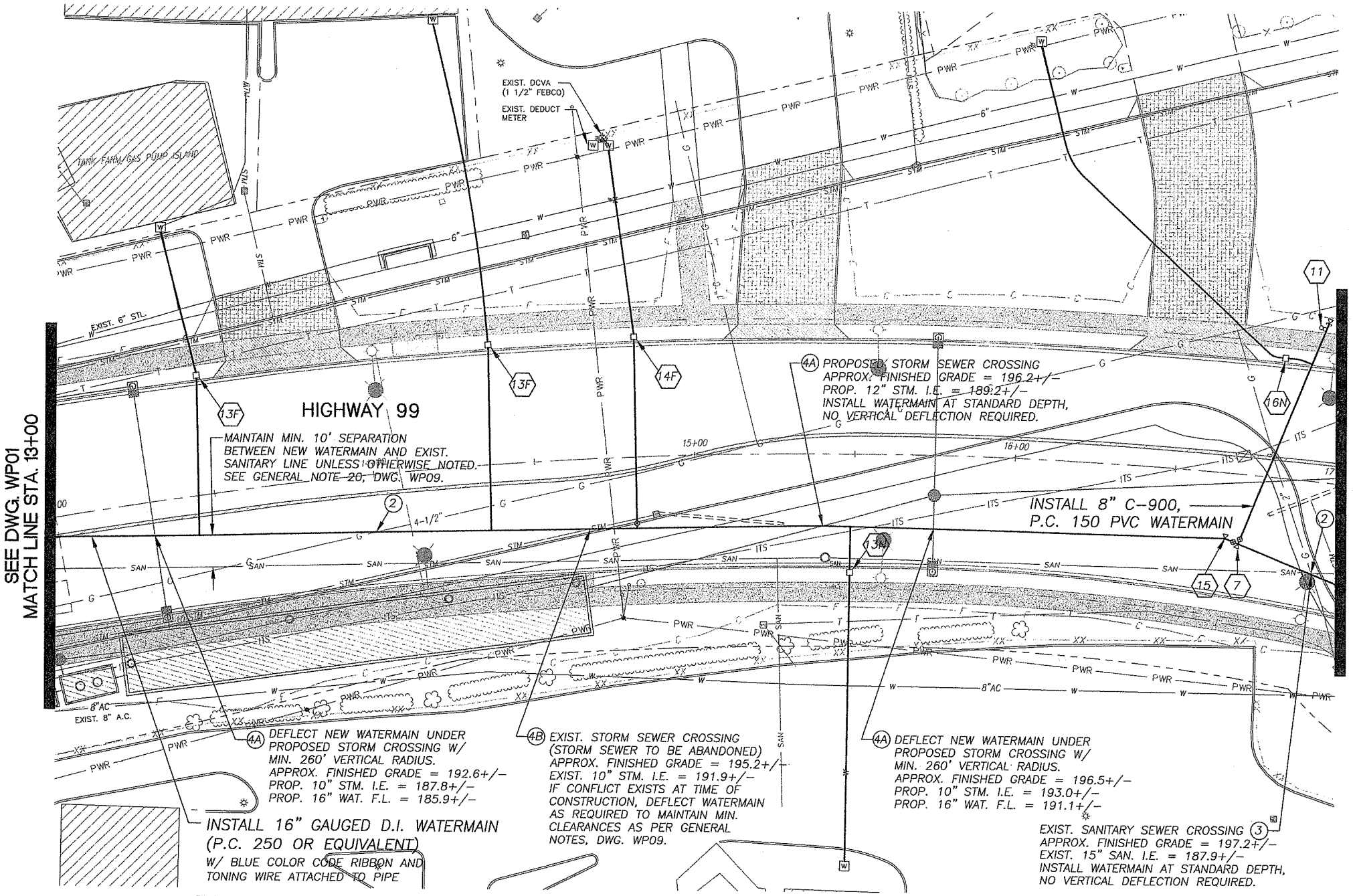
CLARK COUNTY WASHINGTON



SCALE IN FEET
20 0 20 40

Fed. Aid No.
STPF-4253(010)

PROJECT CONSTRUCTION NOTES – DWG. WP02

NO. OF LOCATIONS ON DWG. WP02 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
1	(7) 1 – 16" x 8" C.I. TEE, FLG. 1 – 16" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 16" ADAPTER, FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 8" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 2 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK
1	(11) 1 – STD. PERPENDICULAR BLOW-OFF ASSEMBLY, INCLUDING MAIN CAP AND THRUST BLOCK.
1	(13N) 1 – 16" x 1" SERVICE CLAMP W/ 1" CORP. STOP (AS PER STD. WATER SERVICE). TRANSFER EXIST. WATER SERVICE LINE TO NEW TAP FOLLOWING TESTING AND ACCEPTANCE OF NEW MAIN. EXIST. WATER SERVICES OTHER THAN 1" P.E. CLASS 200 PIPE SHALL BE REPLACED AND NEW SERVICE EXTENDED TO THE METER. TRANSFER SERVICE AFTER SATISFACTORY TESTING. FOR FAR SIDE AND EXTENDED SERVICES, CONTRACTOR SHALL BORE OR PUSH EACH 1" SERVICE LINE. EACH METER TO HAVE INDIVIDUAL SERVICE AS PER CPU STANDARD DETAIL. RELOCATE EXIST. METER AS SHOWN, LOCATE WATER SERVICE LINE AND CONNECT NEW SERVICE LINE, BYPASS AND ABANDON EXIST. SERVICE. 13N = NEAR SIDE SERVICE (RELOCATED METER BOX) 13F = FAR SIDE SERVICE (RELOCATED METER BOX)
2	(13F)

NO. OF LOCATIONS ON DWG. WP02 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
1	(14F) 1 – 16" x 2" SERVICE SADDLE W/ 2" IRON BODY GATE VALVE (AS PER STD. WATER SERVICE). TRANSFER EXIST. WATER SERVICE LINE TO NEW TAP FOLLOWING TESTING AND ACCEPTANCE OF NEW MAIN. EXIST. WATER SERVICES OTHER THAN 2" SCH. 80 PVC PIPE SHALL BE REPLACED AND NEW SERVICE EXTENDED TO THE METER. CONTRACTOR SHALL MATCH EXIST. SERVICE LINE BEYOND METER. TRANSFER SERVICE AFTER SATISFACTORY TESTING. FOR FAR SIDE AND EXTENDED SERVICES, CONTRACTOR SHALL BORE OR PUSH EACH 2" SERVICE LINE. EACH METER TO HAVE INDIVIDUAL SERVICE AS PER CPU STANDARD DETAIL. RELOCATE EXIST. METER AS SHOWN, LOCATE WATER SERVICE LINE AND CONNECT NEW SERVICE LINE, BYPASS AND ABANDON EXIST. SERVICE. 14F = FAR SIDE SERVICE (RELOCATED METER BOX)
1	(15) 1 – 16", 22 1/2° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 1 – THRUST BLOCK
1	(16N) 1 – 8" x 1" SERVICE CLAMP W/ 1" CORP. STOP (AS PER STD. WATER SERVICE). TRANSFER EXIST. WATER SERVICE LINE TO NEW TAP FOLLOWING TESTING AND ACCEPTANCE OF NEW MAIN. EXIST. WATER SERVICES OTHER THAN 1" P.E. CLASS 200 PIPE SHALL BE REPLACED AND NEW SERVICE EXTENDED TO THE METER. TRANSFER SERVICE AFTER SATISFACTORY TESTING. FOR FAR SIDE AND EXTENDED SERVICES, CONTRACTOR SHALL BORE OR PUSH EACH 1" SERVICE LINE. EACH METER TO HAVE INDIVIDUAL SERVICE AS PER CPU STANDARD DETAIL. RELOCATE EXIST. METER AS SHOWN, LOCATE WATER SERVICE LINE AND CONNECT NEW SERVICE LINE, BYPASS AND ABANDON EXIST. SERVICE. 16N = NEAR SIDE SERVICE (RELOCATED METER BOX)

* NOTE: THE NO. OF LOCATIONS REFERS TO ONLY THE ITEMS IDENTIFIED WITH (#) AND DOES NOT INCLUDE ITEMS CALLED OUT INDEPENDENTLY ON THE PLAN.

Clark Public Utilities

APPROVED FOR CONSTRUCTION
CLARK PUBLIC UTILITIES - WATER
SIGNATURE [signature] DATE 2/23/04

DESIGNED	JDB
DRAWN	JDB
CRP	392922
HOR.	1" = 20'
VERT.	N/A
DATE	2/20/04
DWG:	WP02
SHEET	75 OF 84

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CHRISTOPHER Z. ROBERTSON STATE OF WASHINGTON 37318 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 6/6/05

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

WATERMAIN PLAN – N.E. HWY. 99
STA. 13+00 TO STA. 17+00

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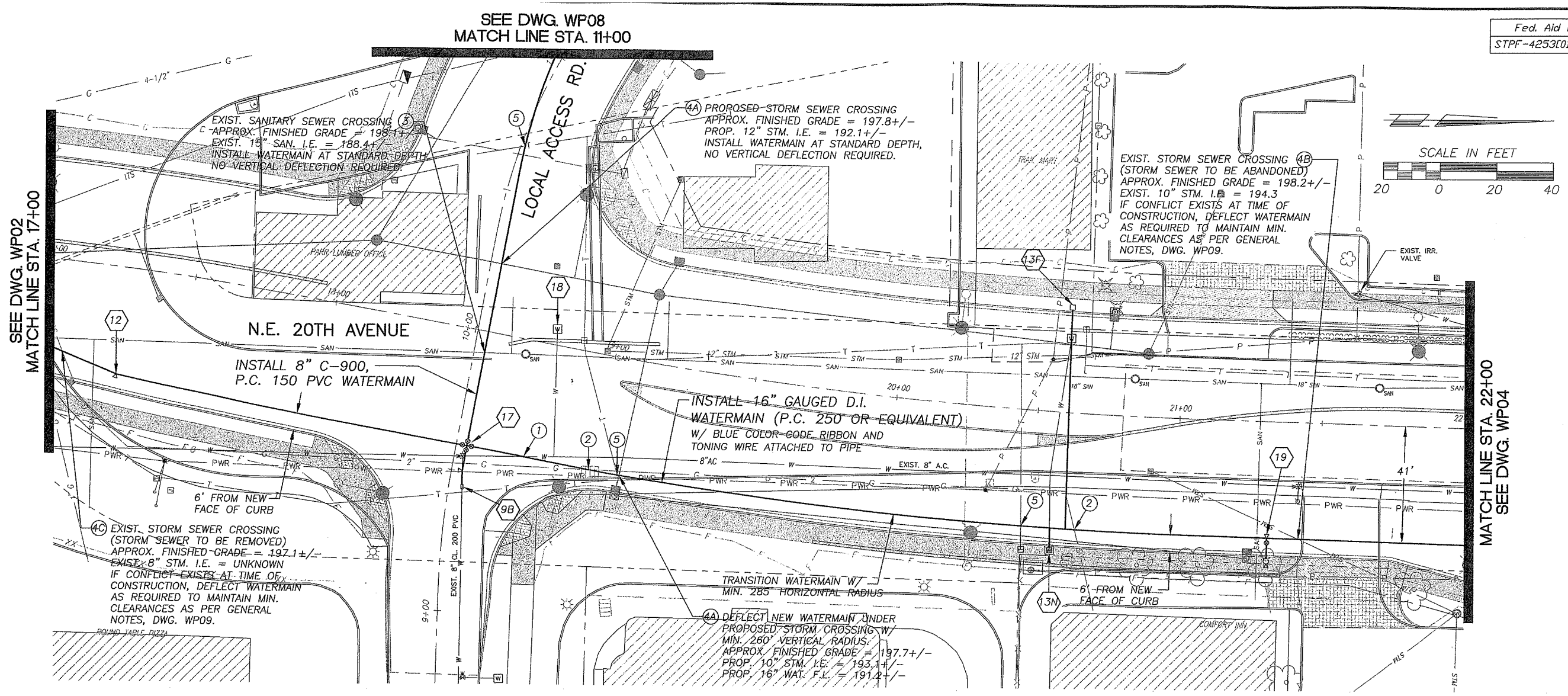

Fed. Aid No.
STPF-4253(010)

DESIGNED	JDB
DRAWN	JDB
CRP	392922
HOR.	1" = 20'
VERT.	N/A
DATE	2/20/04
DWG.	WP03
SHEET	76 OF 84

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITY NOTIFICATION CENTER

CHRISTOPHER R. ROBERTSON STATE OF WASHINGTON 37913 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 9/8/05

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DESIGN & ENGINEERING DIVISION
DESIGN SECTION

WATERMAIN PLAN – N.E. HWY. 99
STA. 17+00 TO STA. 22+00

PROJECT CONSTRUCTION NOTES – DWG. WP03

NO. OF LOCATIONS ON DWG. WP03 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
0	(9A) UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, CUT EXIST. PIPE AND CONNECT NEW C-900 PVC TO EXIST. PIPE WITH:
1	(9B) 9A = 8" LONG PATTERN TRANSITION SLEEVE, M.J. (C-900 PVC/A.C.) 9B = 8" LONG PATTERN TRANSITION SLEEVE, M.J. (C-900 PVC/CL. 200 PVC)
0	(9C) 9C = 12" LONG PATTERN SLEEVE, M.J. (C-900 PVC) ABANDON EXIST. LINE WITH END CAP AND THRUST BLOCK PER C.P.U. REQUIREMENTS.
1	(12) 1 – 16", 11 1/4° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 1 – THRUST BLOCK
1	(13N) 1 – 16" x 1" SERVICE CLAMP W/ 1" CORP. STOP (AS PER STD. WATER SERVICE).
1	(13F) TRANSFER EXIST. WATER SERVICE LINE TO NEW TAP FOLLOWING TESTING AND ACCEPTANCE OF NEW MAIN. EXIST. WATER SERVICES OTHER THAN 1" P.E. CLASS 200 PIPE SHALL BE REPLACED AND NEW SERVICE EXTENDED TO THE METER. TRANSFER SERVICE AFTER SATISFACTORY TESTING. FOR FAR SIDE AND EXTENDED SERVICES, CONTRACTOR SHALL BORE OR PUSH EACH 1" SERVICE LINE. EACH METER TO HAVE INDIVIDUAL SERVICE AS PER CPU STANDARD DETAIL. RELOCATE EXIST. METER AS SHOWN, LOCATE WATER SERVICE LINE AND CONNECT NEW SERVICE LINE, BYPASS AND ABANDON EXIST. SERVICE. 13N = NEAR SIDE SERVICE (RELOCATED METER BOX) 13F = FAR SIDE SERVICE (RELOCATED METER BOX)

NO. OF LOCATIONS ON DWG. WP03 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
1	(17) 1 – 16" x 8" C.I. CROSS, FLG. 2 – 16" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 2 – 8" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 8", 11 1/4° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 4 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK APPROX. 10 L.F. 8" C-900, P.C. 150 PVC PIPE (EAST)
1	(18) REMOVE EXIST. METER AND BOX AND ABANDON EXIST. SERVICE AS PER C.P.U. REQUIREMENTS.
1	(19) 1 – STD. FIRE HYDRANT ASSEMBLY W/ 16" x 6" C.I. TEE, M.J. x SIDE FLG., AND 6" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS (LOCATE HYDRANT AS DIRECTED BY THE INSPECTOR). UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, REMOVE EXIST. FIRE HYDRANT AND RETURN TO CLARK PUBLIC UTILITIES.

* NOTE: THE NO. OF LOCATIONS REFERS TO ONLY THE ITEMS IDENTIFIED WITH (#) AND DOES NOT INCLUDE ITEMS CALLED OUT INDEPENDENTLY ON THE PLAN.

Clark Public Utilities

APPROVED FOR CONSTRUCTION
CLARK PUBLIC UTILITIES - WATER
SIGNATURE [signature] DATE 4/23/04

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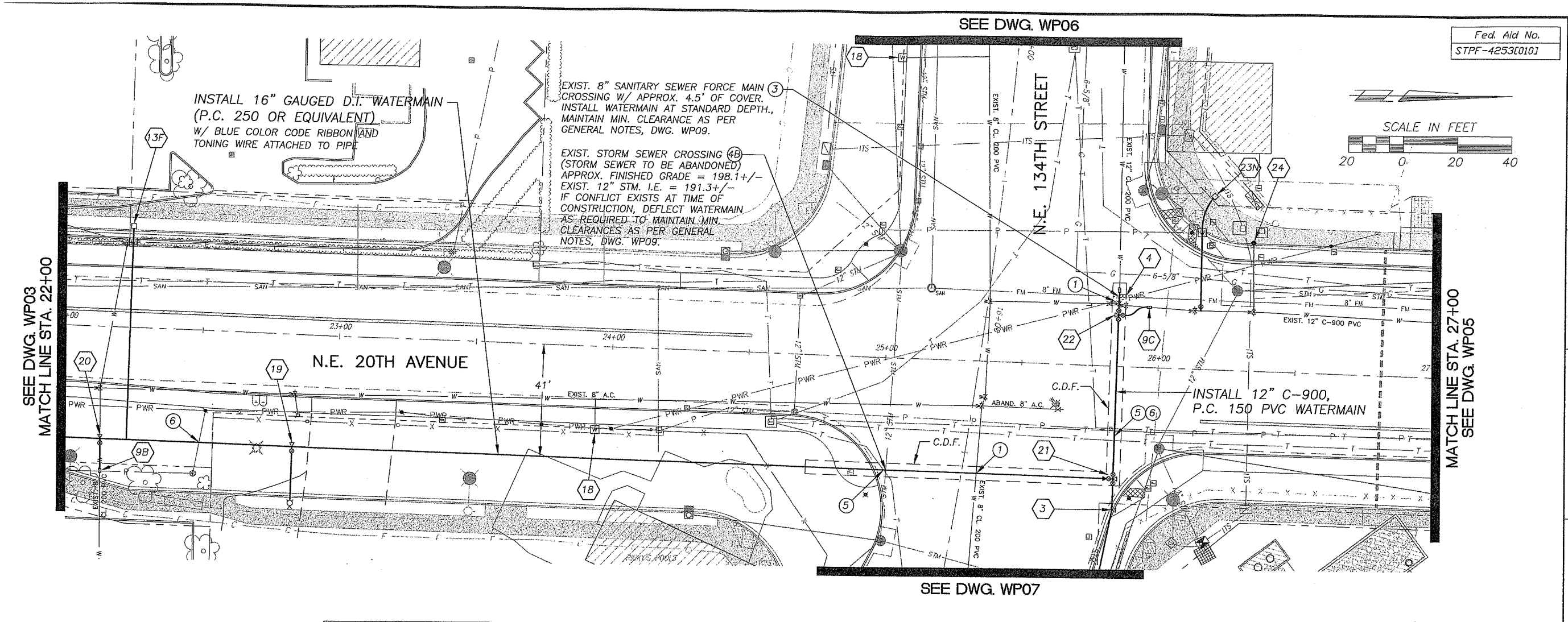
CLARK COUNTY WASHINGTON



Fed. Aid No.
STPF-4253(010)

PROJECT CONSTRUCTION NOTES – DWG. WP04

NO. OF LOCATIONS ON DWG. WP04 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
1	(3) 1 – 12", 11 1/4° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 1 – THRUST BLOCK
1	(4) 1 – TEMP. STD. PERPENDICULAR BLOW–OFF ASSEMBLY, INCLUDING MAIN CAP AND THRUST BLOCK. UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, REMOVE TEMP. BLOW–OFF ASSEMBLY, CUT EXIST. PIPE AND CONNECT NEW C–900 TO EXIST. PIPE WITH: 1 – 12" LONG PATTERN TRANSITION SLEEVE, M.J. (C–900 PVC/CL. 200 PVC) ABANDON EXIST. LINE WITH END CAP AND THRUST BLOCK AS PER C.P.U. REQUIREMENTS.
0	(9A) UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, CUT EXIST. PIPE AND CONNECT NEW C–900 PVC TO EXIST. PIPE WITH: 9A = 8" LONG PATTERN TRANSITION SLEEVE, M.J. (C–900 PVC/A.C.)
1	(9B) 9B = 8" LONG PATTERN TRANSITION SLEEVE, M.J. (C–900 PVC/CL. 200 PVC)
1	(9C) 9C = 12" LONG PATTERN SLEEVE, M.J. (C–900 PVC) ABANDON EXIST. LINE WITH END CAP AND THRUST BLOCK PER C.P.U. REQUIREMENTS.
0	(13N) 1 – 16" x 1" SERVICE CLAMP W/ 1" CORP. STOP (AS PER STD. WATER SERVICE).
1	(13F) TRANSFER EXIST. WATER SERVICE LINE TO NEW TAP FOLLOWING TESTING AND ACCEPTANCE OF NEW MAIN. EXIST. WATER SERVICES OTHER THAN 1" P.E. CLASS 200 PIPE SHALL BE REPLACED AND NEW SERVICE EXTENDED TO THE METER. TRANSFER SERVICE AFTER SATISFACTORY TESTING. FOR FAR SIDE AND EXTENDED SERVICES, CONTRACTOR SHALL BORE OR PUSH EACH 1" SERVICE LINE. EACH METER TO HAVE INDIVIDUAL SERVICE AS PER CPU STANDARD DETAIL. RELOCATE EXIST. METER AS SHOWN, LOCATE WATER SERVICE LINE AND CONNECT NEW SERVICE LINE, BYPASS AND ABANDON EXIST. SERVICE. 13N = NEAR SIDE SERVICE (RELOCATED METER BOX) 13F = FAR SIDE SERVICE (RELOCATED METER BOX)
2	(18) REMOVE EXIST. METER AND BOX AND ABANDON EXIST. SERVICE AS PER C.P.U. REQUIREMENTS.
1	(19) 1 – STD. FIRE HYDRANT ASSEMBLY W/ 16" x 6" C.I. TEE, M.J. x SIDE FLG., AND 6" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS (LOCATE HYDRANT AS DIRECTED BY THE INSPECTOR). UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, REMOVE EXIST. FIRE HYDRANT AND RETURN TO CLARK PUBLIC UTILITIES.

NO. OF LOCATIONS ON DWG. WP04 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
1	(20) 1 – 16" x 8" C.I. TEE, M.J. x SIDE FLG. 1 – 8" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK APPROX. 10 L.F. 8" C–900, P.C. 150 PVC PIPE
1	(21) 1 – 12" C.I. TEE, FLG. 3 – 12" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 16" x 12" REDUCER, M.J.L.E.B. x P.E. W/ MEGALUG RETAINER GLANDS 3 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK
1	(22) 1 – 12" C.I. TEE, FLG. (LOCATE AS DIRECTED BY THE INSPECTOR) 3 – 12" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 3 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK APPROX. 20 L.F. 12" C–900, P.C. 150 PVC PIPE (SPLIT NORTH AND WEST)
1	(23N) 1 – 12" x 2" SERVICE SADDLE W/ 2" IRON BODY GATE VALVE (AS PER STD. WATER SERVICE). TRANSFER EXIST. WATER SERVICE LINE TO NEW TAP FOLLOWING TESTING AND ACCEPTANCE OF NEW MAIN. EXIST. WATER SERVICES OTHER THAN 2" SCH. 80 PVC PIPE SHALL BE REPLACED AND NEW SERVICE EXTENDED TO THE METER. CONTRACTOR SHALL MATCH EXIST. SERVICE LINE BEYOND METER. TRANSFER SERVICE AFTER SATISFACTORY TESTING. FOR FAR SIDE AND EXTENDED SERVICES, CONTRACTOR SHALL BORE OR PUSH EACH 2" SERVICE LINE. EACH METER TO HAVE INDIVIDUAL SERVICE AS PER CPU STANDARD DETAIL. RELOCATE EXIST. METER AS SHOWN, LOCATE WATER SERVICE LINE AND CONNECT NEW SERVICE LINE, BYPASS AND ABANDON EXIST. SERVICE. 23N = NEAR SIDE SERVICE (RELOCATED METER BOX)
1	(24) RELOCATE EXIST. FIRE HYDRANT AS DIRECTED BY THE INSPECTOR. EXTEND LEAD AS NECESSARY AND ADJUST ELEVATION TO FINISHED GRADE.

* NOTE: THE NO. OF LOCATIONS REFERS TO ONLY THE ITEMS IDENTIFIED WITH (#) AND DOES NOT INCLUDE ITEMS CALLED OUT INDEPENDENTLY ON THE PLAN.

Clark Public Utilities

APPROVED FOR CONSTRUCTION
CLARK PUBLIC UTILITIES - WATER
SIGNATURE [signature] DATE 2/23/04

DESIGNED	JDB
DRAWN	JDB
CRP	392922
HOR.	1" = 20'
VERT.	N/A
DATE	2/20/04
DWG.	WP04
SHEET	77 OF 84

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EXPIRES: 9/6/05

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DESIGN SECTION

WATERMAIN PLAN – N.E. HWY. 99
STA. 22+00 TO STA. 27+00

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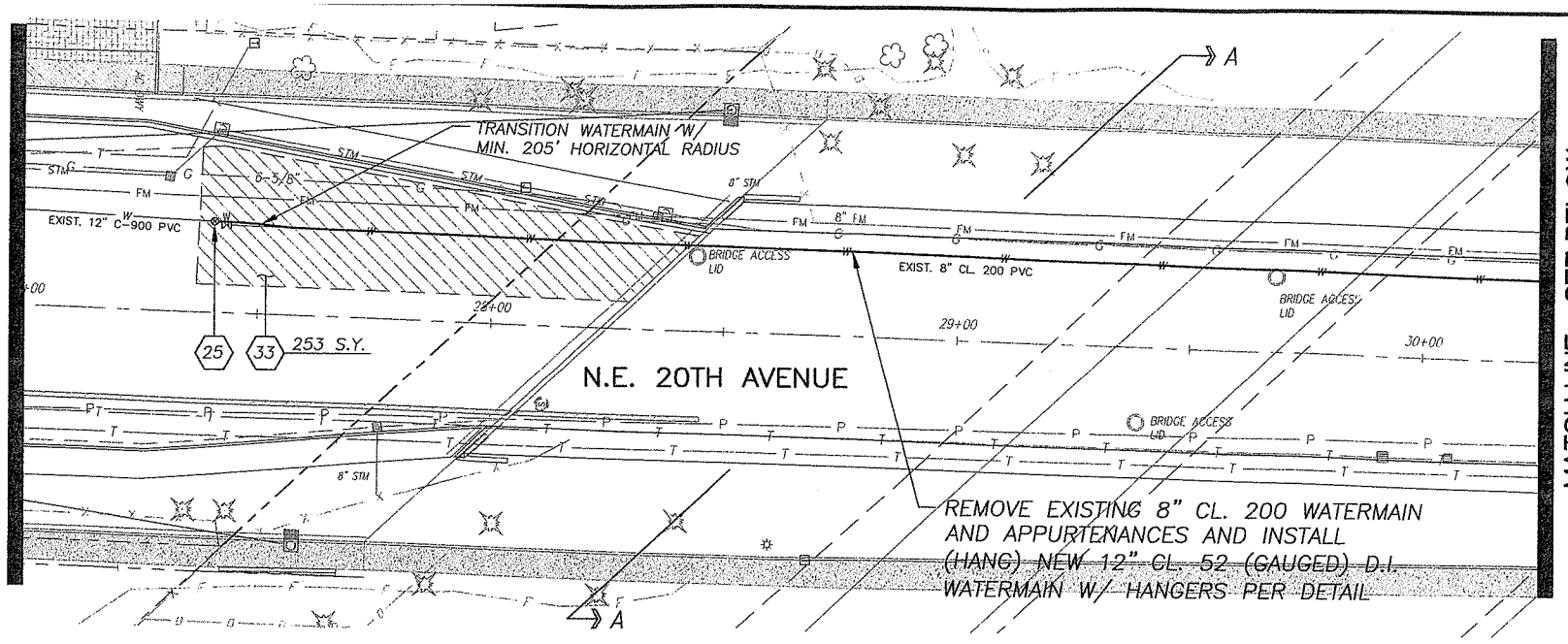


PROJECT CONSTRUCTION NOTES – DWG. WP05

NO. OF LOCATIONS ON DWG. WP05 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
2	(3) 1 – 12", 11 1/4° C.I. BEND, M.J. W/ MEGALUG RETAINER GLANDS 1 – THRUST BLOCK
1	(25) REMOVE EXIST. 12" x 8" REDUCER AND 8" GATE VALVE. CONNECT TO EXIST. 12" C-900 PVC WATERMAIN WITH: 1 – 12" B.F.V., M.J. W/ MEGALUG RETAINER GLANDS 1 – VALVE BOX TOP W/ 6" PVC PIPE EXT. EXTEND NEW CL. 52 (GAUGED) D.I. WATERMAIN
1	(26) 1 – TEMP. STD. PERPENDICULAR BLOW-OFF ASSEMBLY, INCLUDING MAIN CAP AND THRUST BLOCK. UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, REMOVE TEMP. BLOW-OFF ASSEMBLY IN ADDITION TO EXIST. END CAP AND THRUST BLOCK AND CONNECT TO EXIST. 12" x 8" FLANGED TEE WITH: 1 – 12" ADAPTER, FLG. x M.J. W/ MEGALUG RETAINER GLANDS
1	(27) UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW WATERMAIN, CUT, CAP AND ABANDON EXIST. WATERMAIN WITH END CAP AND THRUST BLOCK PER C.P.U. REQUIREMENTS.
2	(33) PLANE EXIST. ASPHALT PAVEMENT TO 0.15 FOOT DEPTH AND CONSTRUCT 0.15 FOOT A.C. OVERLAY FROM EDGE OF TRAVEL LANE TO SAW-CUT LINE WITHIN LIMITS SHOWN. SEE PLAN FOR QUANTITIES.

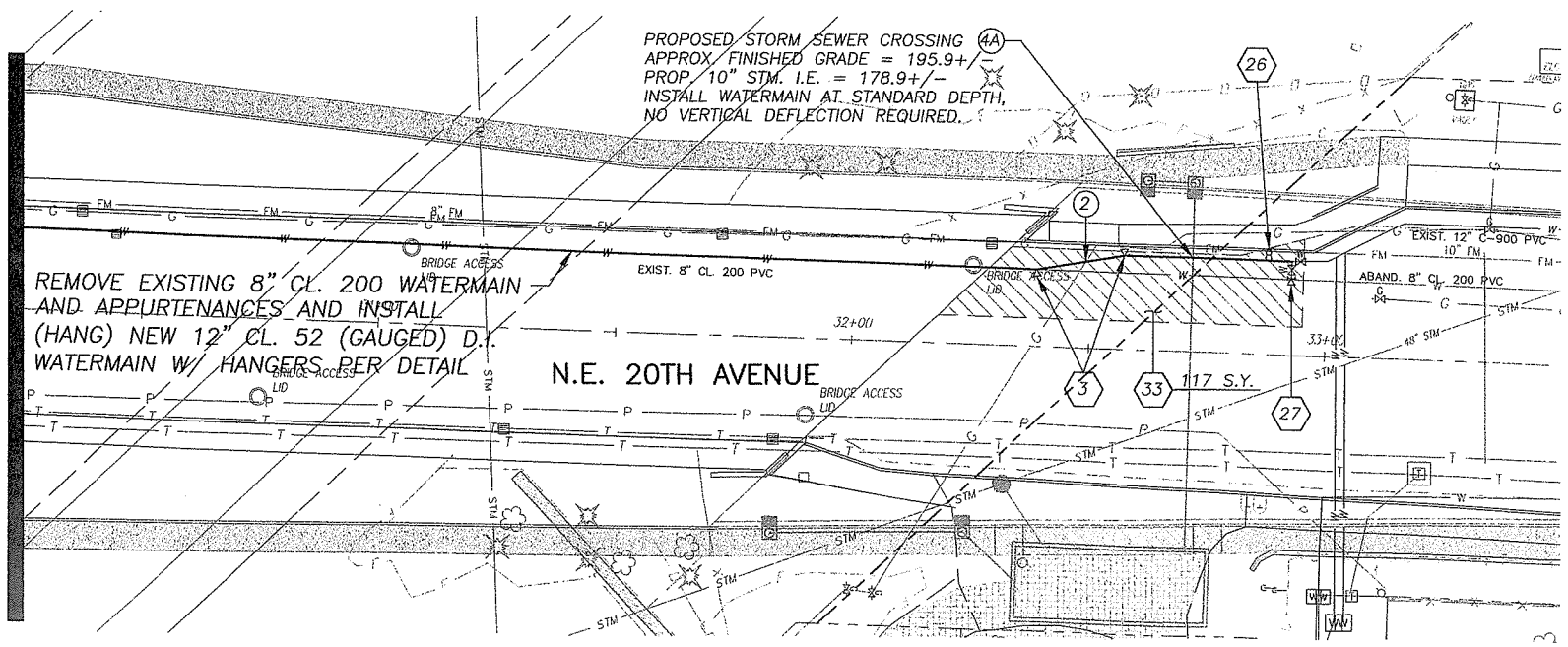
* NOTE: THE NO. OF LOCATIONS REFERS TO ONLY THE ITEMS IDENTIFIED WITH (#) AND DOES NOT INCLUDE ITEMS CALLED OUT INDEPENDENTLY ON THE PLAN.

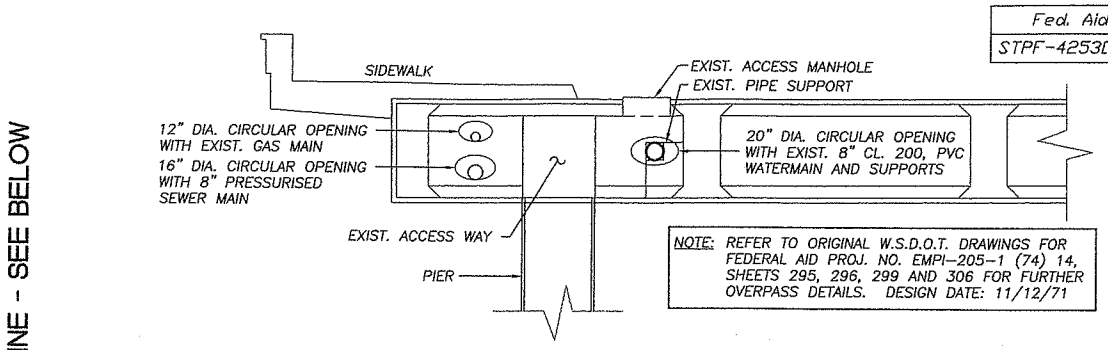
SCALE IN FEET

20 0 20 40

Clark Public Utilities

APPROVED FOR CONSTRUCTION
CLARK PUBLIC UTILITIES - WATER
SIGNATURE DATE 9/8/05

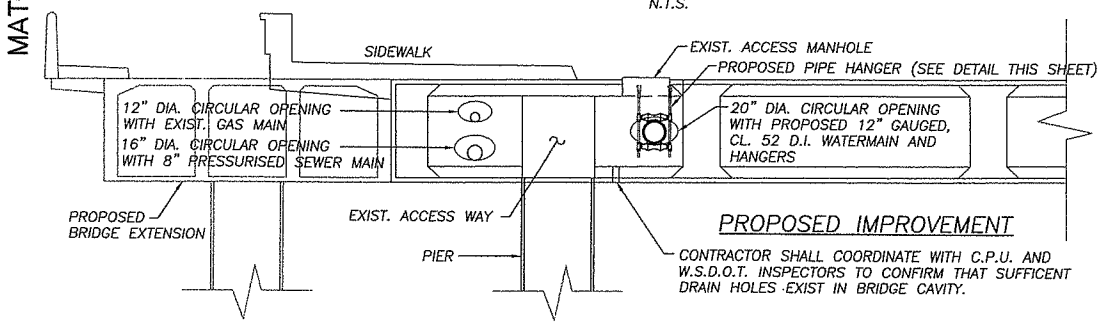




EXISTING SECTION A – I-205 OVERPASS (WEST CAVITY SECTION)

SECTION RUNS PARALLEL TO I-205 R.O.W.

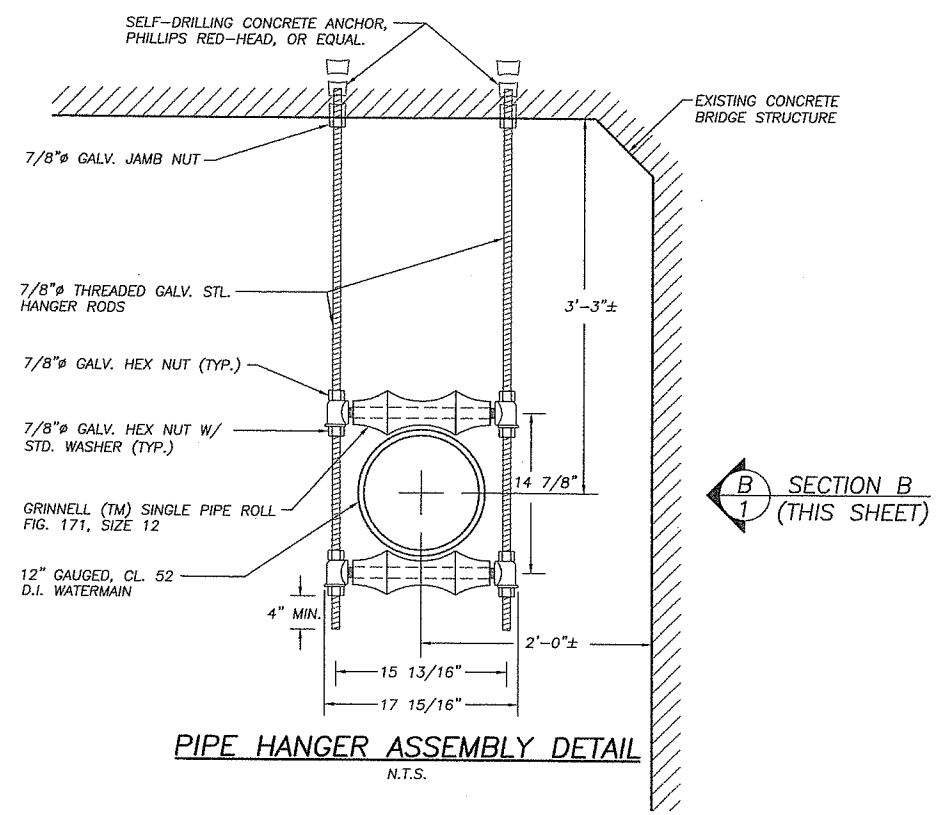
N.T.S.



PROPOSED SECTION A – I-205 OVERPASS (WEST CAVITY SECTION)

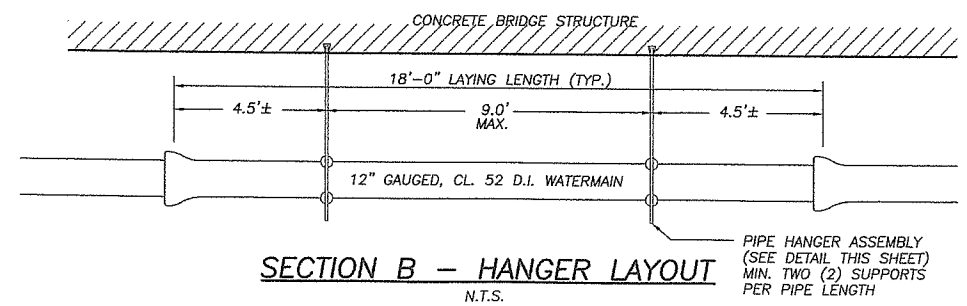
SECTION RUNS PARALLEL TO I-205 R.O.W.

N.T.S.



PIPE HANGER ASSEMBLY DETAIL

N.T.S.



SECTION B – HANGER LAYOUT

N.T.S.

Fed. Aid No.
STPF-4253(010)

DESIGNED JDB
DRAWN JDB
CRP 392922
HOR. 1" = 20'
VERT. N/A
DATE 2/20/04
DWG: WP05
SHEET 78 OF 84

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CHRISTOPHER E. ROBERSON STATE OF WASHINGTON 20766 REGISTERED PROFESSIONAL ENGINEER 9-8-2005
EXPIRES: 9/8/05

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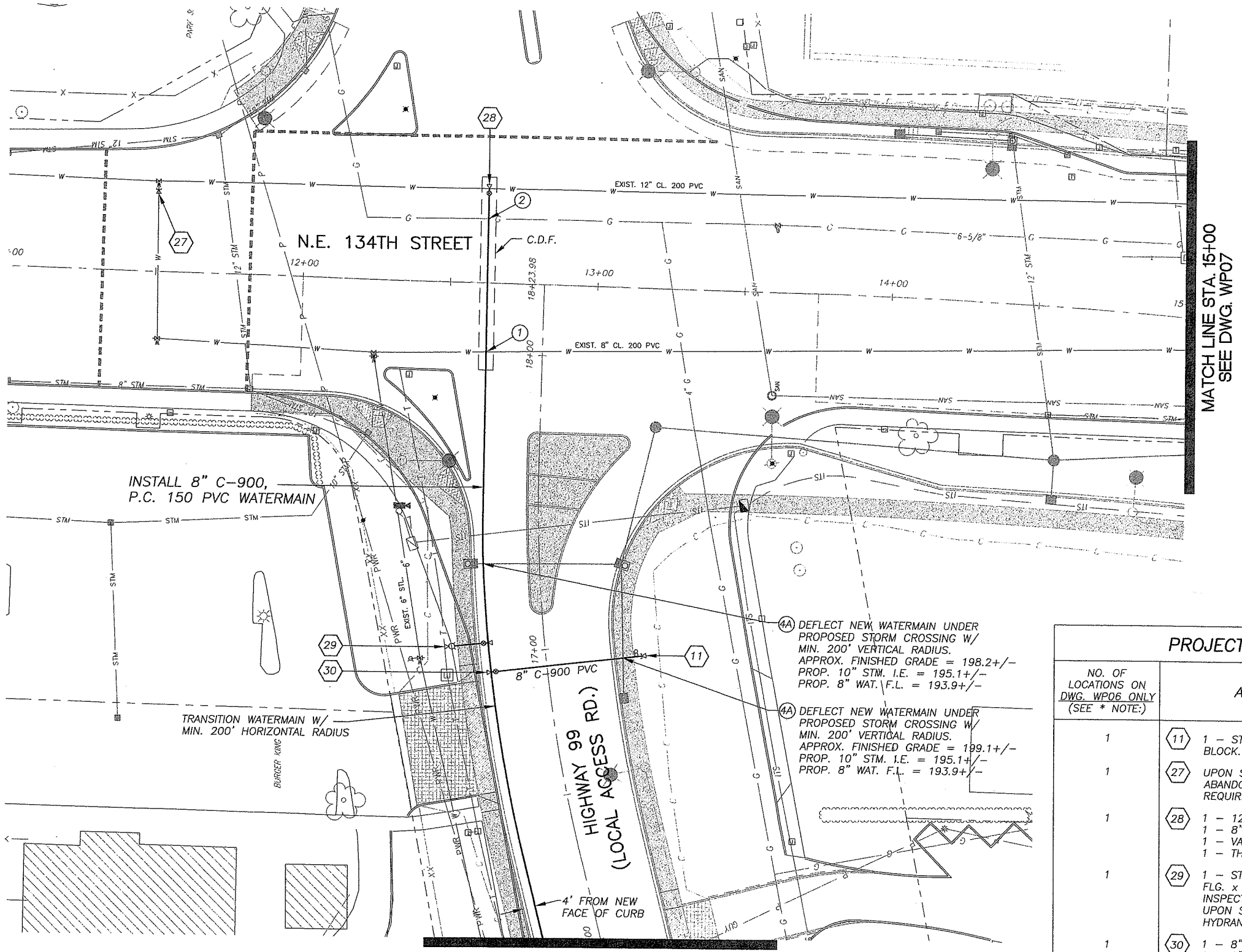

4A DEFLECT NEW WATERMAIN UNDER PROPOSED STORM CROSSING W/ MIN. 200' VERTICAL RADIUS.
APPROX. FINISHED GRADE = 198.2+/-
PROP. 10" STM. I.E. = 195.1+/-
PROP. 8" WAT. F.L. = 193.9+/-

4A DEFLECT NEW WATERMAIN UNDER PROPOSED STORM CROSSING W/ MIN. 200' VERTICAL RADIUS.
APPROX. FINISHED GRADE = 199.1+/-
PROP. 10" STM. I.E. = 195.1+/-
PROP. 8" WAT. F.L. = 193.9+/-

SCALE IN FEET
20 0 20 40

PROJECT CONSTRUCTION NOTES – DWG. WP06

NO. OF LOCATIONS ON DWG. WP06 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
1	(11) 1 – STD. PERPENDICULAR BLOW-OFF ASSEMBLY, INCLUDING MAIN CAP AND THRUST BLOCK.
1	(27) UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW WATERMAIN, CUT, CAP AND ABANDON EXIST. WATERMAIN WITH END CAP AND THRUST BLOCK PER C.P.U. REQUIREMENTS.
1	(28) 1 – 12" x 8" S.S. TAPPING SLEEVE, FLG. (12" CL. 200 PVC) 1 – 8" TAPPING G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK
1	(29) 1 – STD. FIRE HYDRANT ASSEMBLY W/ 8" x 6" C.I. TEE, M.J. x SIDE FLG., AND 6" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS (LOCATE HYDRANT AS DIRECTED BY THE INSPECTOR). UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, REMOVE EXIST. FIRE HYDRANT AND RETURN TO CLARK PUBLIC UTILITIES.
1	(30) 1 – 8" C.I. TEE, M.J. x SIDE FLG. 1 – 8" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 1 – THRUST BLOCK

* NOTE: THE NO. OF LOCATIONS REFERS TO ONLY THE ITEMS IDENTIFIED WITH (#) AND DOES NOT INCLUDE ITEMS CALLED OUT INDEPENDENTLY ON THE PLAN.

Clark Public Utilities

APPROVED FOR CONSTRUCTION
CLARK PUBLIC UTILITIES - WATER
SIGNATURE [signature] DATE 2/23/04

Fed. Aid No.
STPF-4253(010)

DESIGNED JDB
DRAWN JDB
CRP 392922
HOR. 1" = 20'
VERT. N/A
DATE 2/20/04
DWG: WP06
SHEET 79 OF 84

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STATE OF WASHINGTON
37312
REGISTERED PROFESSIONAL ENGINEER
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DESIGN SECTION

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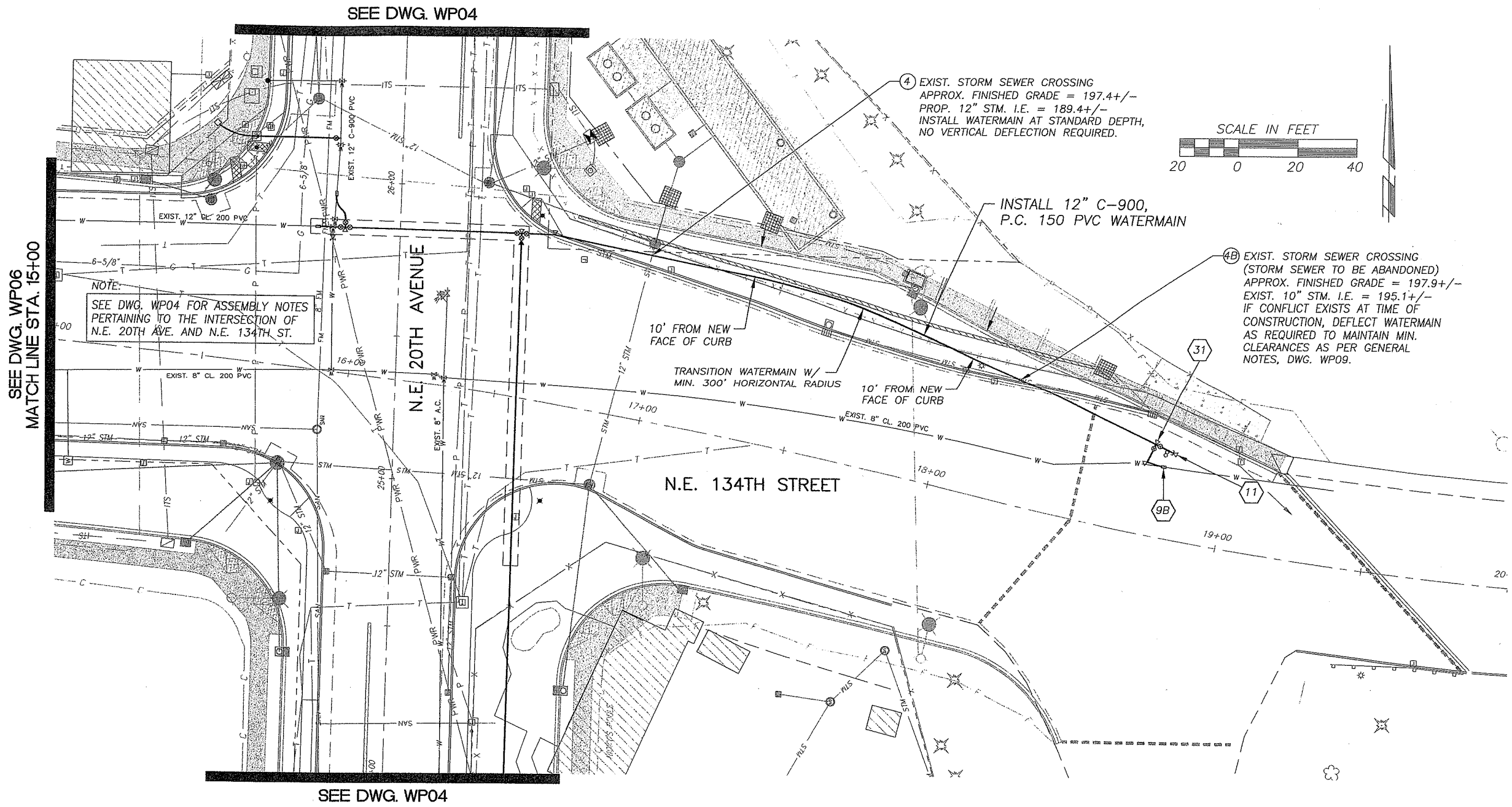

PROJECT CONSTRUCTION NOTES – DWG. WP07	
NO. OF LOCATIONS ON DWG. WP07 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
0	(9A) UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, CUT EXIST. PIPE AND CONNECT NEW C-900 PVC TO EXIST. PIPE WITH:
1	(9B) 9A = 8" LONG PATTERN TRANSITION SLEEVE, M.J. (C-900 PVC/A.C.) 9B = 8" LONG PATTERN TRANSITION SLEEVE, M.J. (C-900 PVC/CL. 200 PVC)
0	(9C) 9C = 12" LONG PATTERN SLEEVE, M.J. (C-900 PVC) ABANDON EXIST. LINE WITH END CAP AND THRUST BLOCK PER C.P.U. REQUIREMENTS.
1	(11) 1 – STD. PERPENDICULAR BLOW-OFF ASSEMBLY, INCLUDING MAIN CAP AND THRUST BLOCK.
1	(31) 1 – 12" x 8" C.I. TEE, FLG. 1 – 12" B.F.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 12" ADAPTER, FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 8" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 1 – 8", 90° C.I. ELBOW, M.J. W/ MEGALUG RETAINER GLANDS 2 – VALVE BOX TOP W/ 6" PVC PIPE EXT. 2 – THRUST BLOCK APPROX. 10 L.F. 8" C-900, P.C. 150 PVC PIPE

* NOTE: THE NO. OF LOCATIONS REFERS TO ONLY THE ITEMS IDENTIFIED WITH (#) AND DOES NOT INCLUDE ITEMS CALLED OUT INDEPENDENTLY ON THE PLAN.

Clark Public Utilities

APPROVED FOR CONSTRUCTION
CLARK PUBLIC UTILITIES - WATER
SIGNATURE [signature] DATE 2/23/04

Fed. Aid No.
STPF-4253(010)

DESIGNED JDB
DRAWN JDB
CRP 392922
HOR. 1" = 20'
VERT. N/A
DATE 2/20/04
DWG: WP07
SHEET 80 OF 84

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

CHRISTOPHER A. ROBERTSON STATE OF WASHINGTON 37362 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 8/6/04

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STA. 15+00 TO STA. 19+00

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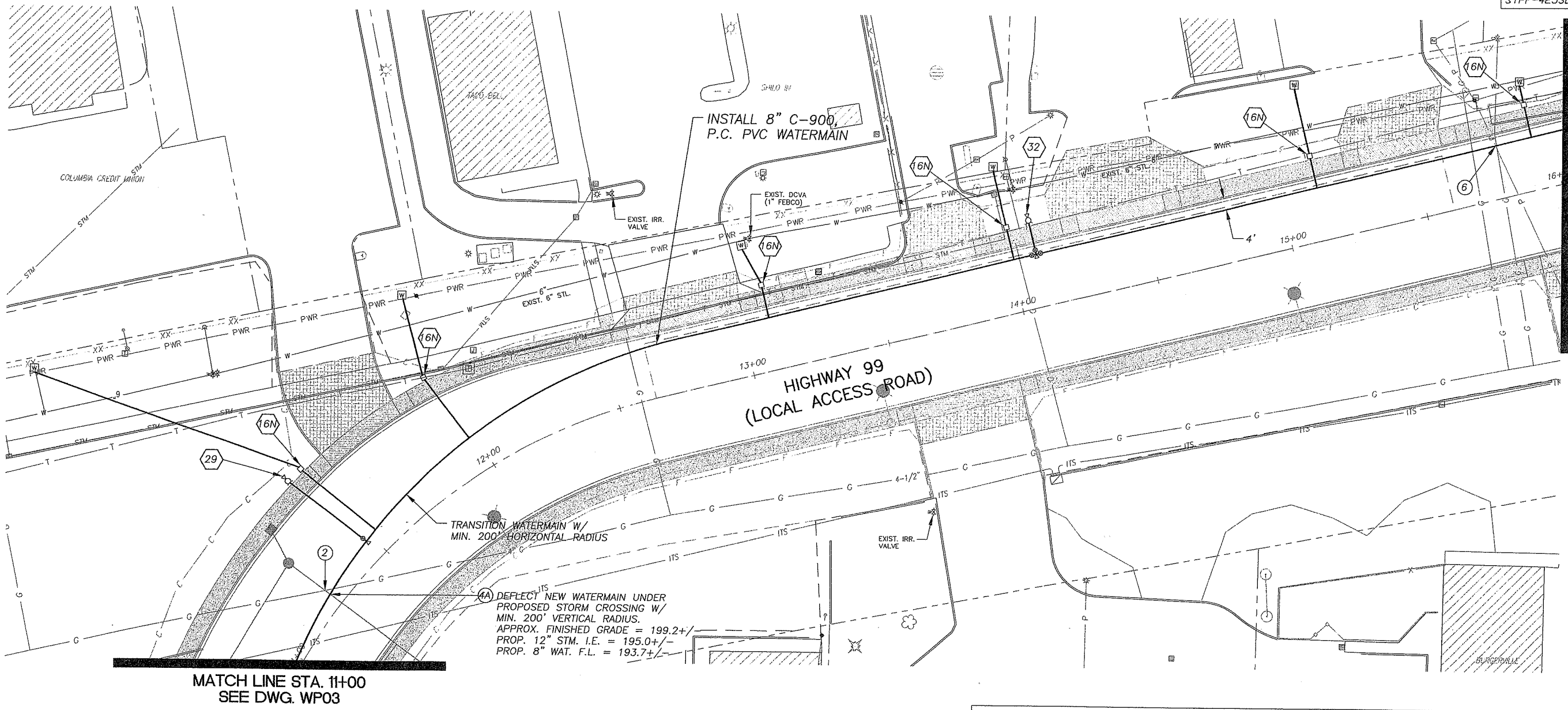
Fed. Aid No.
STPF-4253(010)



PROJECT CONSTRUCTION NOTES – DWG. WP08

NO. OF LOCATIONS ON DWG. WP08 ONLY (SEE * NOTE:)	ASSEMBLY REFERENCE NUMBER (#) AND DESCRIPTION
6	(16N) 1 – 8" x 1" SERVICE CLAMP W/ 1" CORP. STOP (AS PER STD. WATER SERVICE). TRANSFER EXIST. WATER SERVICE LINE TO NEW TAP FOLLOWING TESTING AND ACCEPTANCE OF NEW MAIN. EXIST. WATER SERVICES OTHER THAN 1" P.E. CLASS 200 PIPE SHALL BE REPLACED AND NEW SERVICE EXTENDED TO THE METER. TRANSFER SERVICE AFTER SATISFACTORY TESTING. FOR FAR SIDE AND EXTENDED SERVICES, CONTRACTOR SHALL BORE OR PUSH EACH 1" SERVICE LINE. EACH METER TO HAVE INDIVIDUAL SERVICE AS PER CPU STANDARD DETAIL. RELOCATE EXIST. METER AS SHOWN, LOCATE WATER SERVICE LINE AND CONNECT NEW SERVICE LINE, BYPASS AND ABANDON EXIST. SERVICE. 16N = NEAR SIDE SERVICE (RELOCATED METER BOX)
1	(29) 1 – STD. FIRE HYDRANT ASSEMBLY W/ 8" x 6" C.I. TEE, M.J. x SIDE FLG., AND 6" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS (LOCATE HYDRANT AS DIRECTED BY THE INSPECTOR). UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, REMOVE EXISTING FIRE HYDRANT AND RETURN TO CLARK PUBLIC UTILITIES.
1	(32) 1 – STD. FIRE HYDRANT ASSEMBLY W/ 8" x 6" C.I. TEE, FLG., AND 6" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS (LOCATE HYDRANT AS DIRECTED BY THE INSPECTOR). 2 – 8" G.V., FLG. x M.J. W/ MEGALUG RETAINER GLANDS 2 – VALVE BOX TOP W/ 6" PVC PIPE EXT. UPON SATISFACTORY TESTING AND ACCEPTANCE OF NEW MAIN, REMOVE EXIST. FIRE HYDRANT AND RETURN TO CLARK PUBLIC UTILITIES.

* NOTE: THE NO. OF LOCATIONS REFERS TO ONLY THE ITEMS IDENTIFIED WITH (#) AND DOES NOT INCLUDE ITEMS CALLED OUT INDEPENDENTLY ON THE PLAN.

Clark Public Utilities

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CLARK PUBLIC UTILITIES - WATER
SIGNATURE [signature] DATE 1/13/04

DESIGNED	JDB
DRAWN	JDB
CRP	392922
HOR.	1" = 20'
VERT.	N/A
DATE	2/20/04
DWG:	WP08
SHEET	81 OF 84

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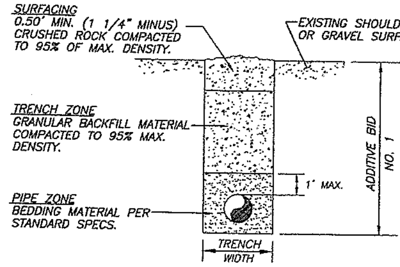
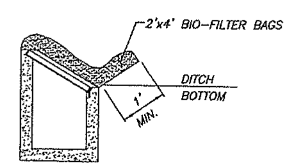
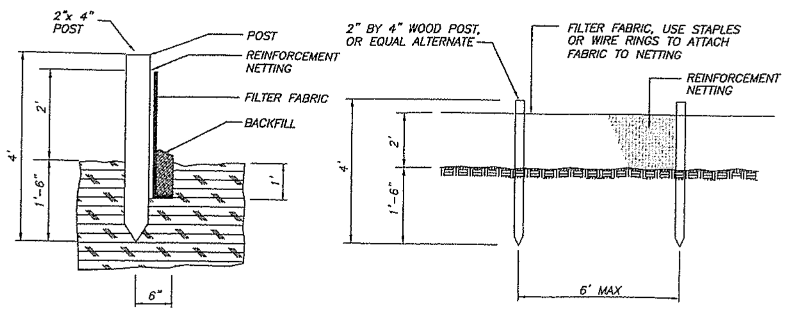


ROADWAY SHOULDERS, GRAVEL SURFACE

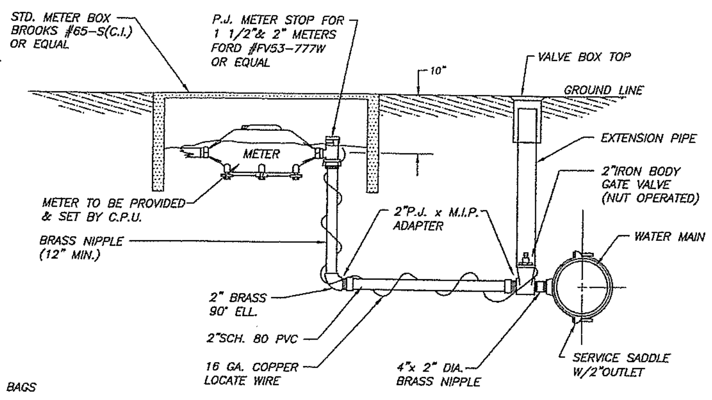
(TYPE 'B' RESTORATION)



DITCH INLET PROTECTION



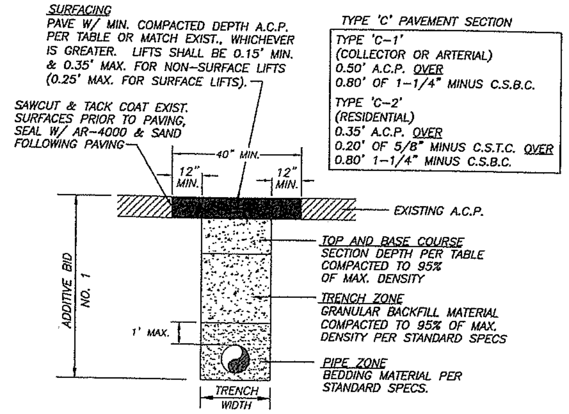
SILT FENCE INSTALLATION



NOTES:

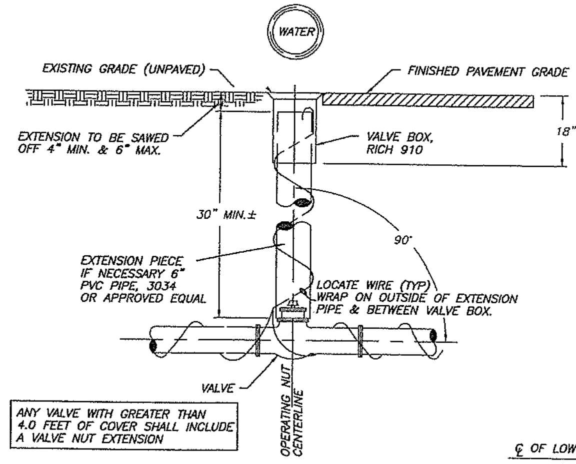
1. CONTRACTOR SHALL CONTACT P.U.D. CONSTRUCTION MANAGER'S OFFICE (944-8020) 48 HRS. PRIOR TO INSTALLING ANY STUBS.
2. CONTRACTOR IS HELD RESPONSIBLE TO AVOID CONFLICT WITH OTHER UTILITIES BY CO-ORDINATION OF LOCATION. "ONE-CALL" 696-4848.
3. NO CONNECTIONS WILL BE ALLOWED TO AN EXISTING SERVICE PRIOR TO AN APPROVED PURITY TEST. PURITY TEST SHALL PRECEDE PRESSURE TEST.
4. STUB SERVICES SHALL BE PRESSURE TESTED WITH THE MAIN LINE AND BE CAPABLE OF WITH-STANDING THE MAINS TEST PRESSURE.
5. APPROVED EQUAL APPLIES ON ALL MATERIAL CALL OUTS.
6. ALL COMPRESSION FITTINGS TO HAVE STAINLESS STEEL INSERTS.

STANDARD 1 1/2" & 2" WATER SERVICE

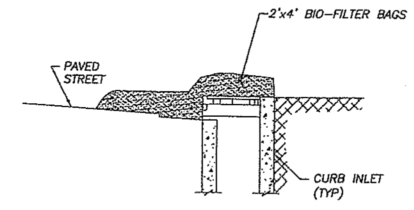


ASPHALT CONCRETE PAVEMENT

(TYPE 'C-1' & 'C-2' RESTORATION)



STANDARD VALVE BOX

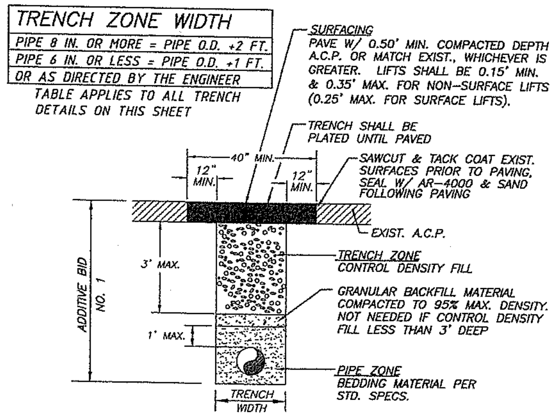


CURB INLET SILT BARRIER

TRENCH ZONE WIDTH

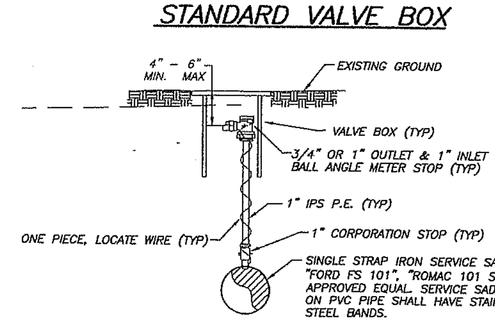
TRENCH ZONE WIDTH
PIPE 8 IN. OR MORE = PIPE O.D. +2 FT.
PIPE 6 IN. OR LESS = PIPE O.D. +1 FT.
OR AS DIRECTED BY THE ENGINEER

TABLE APPLIES TO ALL TRENCH DETAILS ON THIS SHEET

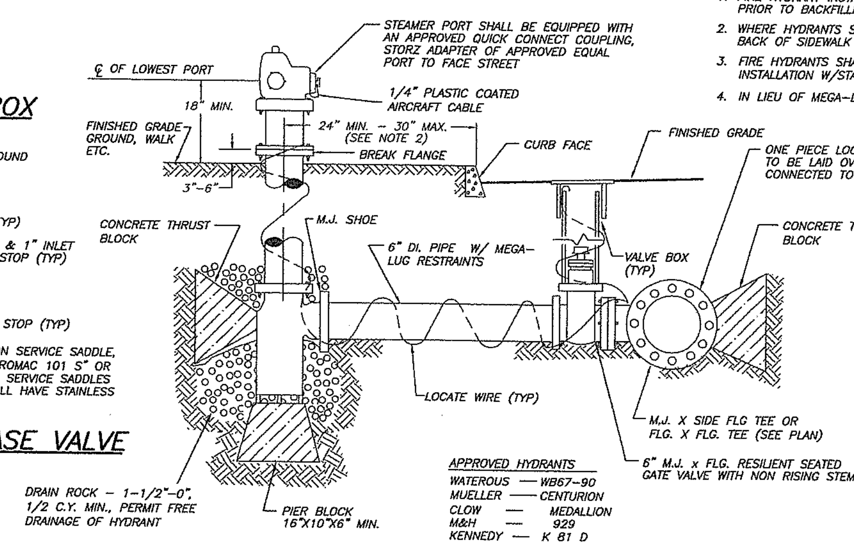


CONTROL DENSITY FILL -A.C.P.-

(TYPE 'D' RESTORATION)



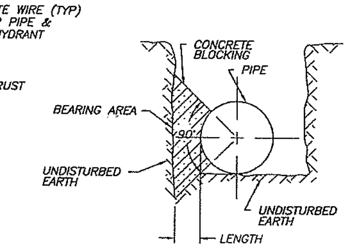
STANDARD MANUAL AIR RELEASE VALVE

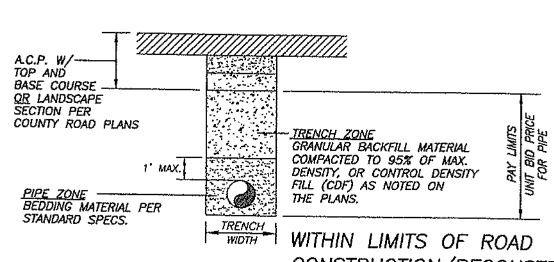


STANDARD FIRE HYDRANT ASSEMBLY

FIRE HYDRANT NOTES:

1. FIRE HYDRANT INSTALLATIONS SHALL BE INSPECTED PRIOR TO BACKFILLING.
2. WHERE HYDRANTS SET BEHIND SIDEWALK, DISTANCE FROM BACK OF SIDEWALK TO HYDRANT ℄ SHALL BE 18" MIN., 24" MAX.
3. FIRE HYDRANTS SHALL BE SHOP PAINTED PRIOR TO INSTALLATION W/STANDARD A.W.W.A, GLOSS B, YELLOW
4. IN LIEU OF MEGA-LUG RESTRAINTS, USE CONCRETE THRUST BLOCK.





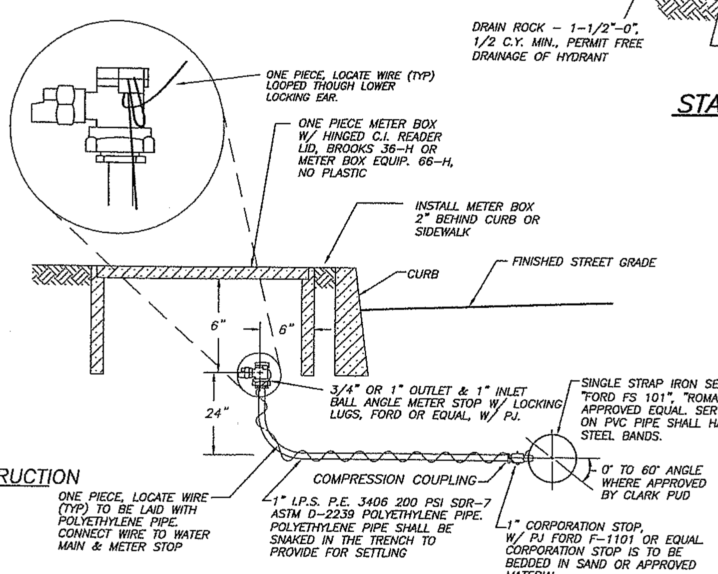
WITHIN LIMITS OF ROAD CONSTRUCTION/RECONSTRUCTION

PIPE BEDDING AND BACKFILL

(TYPE 'R' RESTORATION, WITHIN LIMITS OF COUNTY ROAD PROJECT)

TRENCHING NOTES:

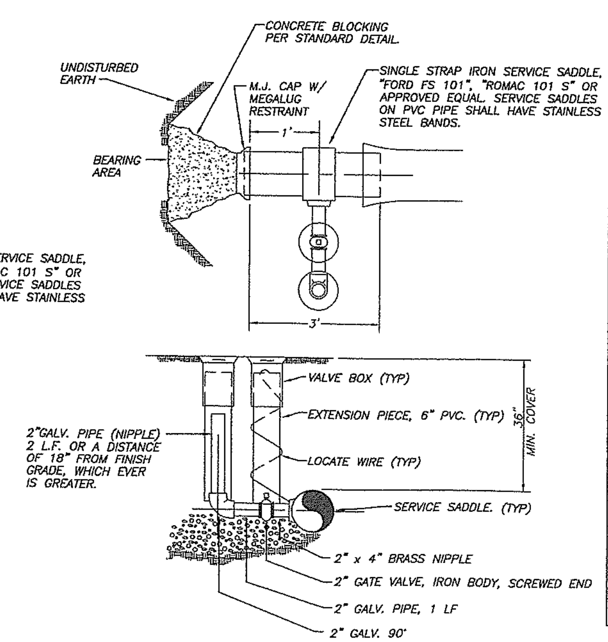
1. SEE CLARK COUNTY UTILITY PERMIT FOR ADDITIONAL TRENCH BACKFILL AND SURFACING REQUIREMENTS.
2. NATIVE MATERIALS MAY BE SUBSTITUTED FOR IMPORTED GRANULAR MATERIAL PROVIDING IT IS PRE-APPROVED BY THE COUNTY ENGINEER OR AUTHORIZED REPRESENTATIVE.
3. TRENCH EXCAVATION, BEDDING, AND BACKFILL FOR WATER MAINS SHALL BE IN ACCORDANCE WITH SECTION 7-10 OF THE MOST CURRENT STANDARD SPECIFICATIONS. BED PIPE PER SECTION 7-10.3(9) OF THE STANDARD SPECIFICATIONS.
4. IN THE TRENCH ZONE, USE METHOD C COMPACTION PER SECTION 2-03.3(14).



WATER SERVICE & MANUAL AIR RELEASE NOTES:

1. NO CONNECTIONS WILL BE ALLOWED TO AN EXISTING SERVICE PRIOR TO AN APPROVED PURITY TEST. PURITY TEST SHALL PRECEDE PRESSURE TEST.
2. STUB SERVICES SHALL BE PRESSURE TESTED WITH THE MAIN LINE AND BE CAPABLE OF WITH-STANDING THE MAINS TEST PRESSURE.
3. ALL COMPRESSION FITTINGS TO HAVE STAINLESS STEEL INSERTS.

STANDARD 3/4" & 1" WATER SERVICE



STANDARD BLOW-OFF ASSEMBLY (PERMANENT)

THRUST BLOCK NOTES:

1. POURED BLOCKING SHALL BE POURED IN PLACE WITHOUT DIRECT CONTACT TO THE PIPE OR FITTINGS SOME PROTECTIVE MATERIAL SUCH AS PLASTIC SHALL BE PLACED BETWEEN THE CONCRETE AND PIPE OR FITTING.
2. POURED BLOCKING SHALL BE POURED AGAINST FIRM UNDISTURBED SOIL.
3. CONCRETE FOR ALL BLOCKING SHALL HAVE A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 2,500 P.S.I.
4. CONCRETE BLOCKING FOR VERTICAL BENDS SHALL BE PER APWA STD. PLAN NO. B-22.
5. LAYOUT TO BE APPROVED BY THE INSPECTOR PRIOR TO AND AFTER CONCRETE POUR.

PIPE SIZE	HORIZ. FITTINGS (BENDS)	BEARING AREA (SF)	MINIMUM BLOCK SIZE (FT.)	VOL. OF BLOCKING (CF)	MINIMUM LENGTH OF BLOCKING (FT.-IN.)
4"	TEE	1.2	1.0' x 1.0'	0.3	0'-6"
	90°	1.7	1.5' x 1.5'	0.6	0'-6"
	45°	0.9	1.0' x 1.0'	0.3	0'-6"
	22-1/2°	0.5	1.0' x 1.0'	0.3	0'-6"
6"	TEE	2.4	1.5' x 1.5'	0.6	0'-6"
	90°	3.4	2.0' x 2.0'	1.4	0'-8"
	45°	1.9	1.5' x 1.5'	0.6	0'-6"
	22-1/2°	1.0	1.0' x 1.0'	0.3	0'-6"
	11-1/4°	0.5	1.0' x 1.0'	0.3	0'-6"
8"	TEE	4.0	2.0' x 2.0'	1.5	0'-8"
	90°	5.6	2.5' x 2.5'	2.8	0'-10"
	45°	3.1	2.0' x 2.0'	1.5	0'-8"
	22-1/2°	1.6	1.5' x 1.5'	0.7	0'-6"
	11-1/4°	0.8	1.0' x 1.0'	0.3	0'-6"
10"	TEE	6.2	2.5' x 2.5'	3.0	0'-10"
	90°	8.7	3.0' x 3.0'	4.5	1'-0"
	45°	4.8	2.5' x 2.5'	2.5	0'-8"
	22-1/2°	2.5	2.0' x 2.0'	1.4	0'-6"
	11-1/4°	1.3	1.5' x 1.5'	0.8	0'-6"
12"	TEE	8.6	3.0' x 3.0'	5.0	1'-0"
	90°	12.2	3.5' x 3.5'	7.8	1'-3"
	45°	6.6	2.5' x 2.5'	3.0	0'-9"
	22-1/2°	3.4	2.0' x 2.0'	1.5	0'-6"
	11-1/4°	1.7	1.5' x 1.5'	0.8	0'-6"
16"	TEE	15.2	4.0' x 4.0'	12	1'-3"
	90°	21.4	4.5' x 4.5'	17	1'-6"
	45°	11.6	3.5' x 3.5'	7.5	1'-0"
	22-1/2°	5.9	2.5' x 2.5'	2.7	0'-6"
	11-1/4°	3.0	2.0' x 2.0'	1.7	0'-6"
18"	TEE	19.1	4.0' x 4.0'	12	1'-3"
	90°	27.1	5.0' x 5.0'	23	1'-9"
	45°	14.7	4.0' x 4.0'	12	1'-2"
	22-1/2°	7.5	3.0' x 3.0'	4.7	0'-8"
	11-1/4°	3.8	2.0' x 2.0'	1.9	0'-6"

SOIL BEARING = 2000 LB/FT 11/98

STANDARD THRUST BLOCK

Fed. Aid No.
STPF-4253[010]

GENERAL NOTES:

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CLARK PUBLIC UTILITIES (CPU) WATER CONSTRUCTION SPECIFICATIONS, STANDARD DETAILS, AND THE 2000 EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT).
2. A WATER UTILITY INSPECTOR SHALL BE AT THE JOB SITE DURING CONSTRUCTION OF ALL WATER FACILITIES. CONTACT 992-8019 TWO WORKING DAYS PRIOR TO COMMENCING WORK. WORK WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM WITH CLARK COUNTY PUBLIC WORKS UTILITY PERMIT REQUIREMENTS AND DETAILS.
3. WORK WITHIN STATE RIGHT-OF-WAY SHALL CONFORM TO WSDOT UTILITY PERMIT REQUIREMENTS AND DETAILS.
4. WATER MAIN SHALL BE PVC C-900, P.C. 150 OR AS SPECIFED ON PLANS.
5. INSTALL WATERMAIN WITH 3.0 FEET OF MINIMUM COVER UNLESS OTHERWISE NOTED. DEPTH MAY INCREASE AT UTILITY AND CULVERT CROSSINGS. (REFER TO NOTE 12)
6. THE LOCATION OF THE UTILITIES SHALL BE VERIFIED IN ADVANCE TO ALLOW FOR ALIGNMENT ADJUSTMENTS. CALL UTILITY LOCATES TWO(2) WORKING DAYS PRIOR TO CONSTRUCTION (1-800-553-4344).
7. A TAPPING COMPANY APPROVED BY CLARK PUBLIC UTILITIES SHALL BE USED TO MAKE ALL TAPS.
8. LOCATE WIRE SHALL BE NON-COATED, NO. 14 GA. SOFT DRAWN SOLID COPPER.
9. DRY CALCIUM HYPO CHLORIDE IN TABLET FORM, FAST DISSOLVING, WITH 65% MIN. AVAILABLE CHLORINE SHALL BE USED TO CHLORINATE ALL NEW MAINS. THE NUMBER OF TABLETS TO BE APPLIED PER 20 FOOT LENGTH OF PIPE SHALL BE AS FOLLOWS:

PIPE SIZE	NUMBER OF TABLETS
4"	2
6"	3
8"	4
10"	6
12"	8

10. ACTUAL ROAD ALIGNMENTS MAY VARY FROM RIGHT-OF-WAY INDICATED. THE CONTRACTOR SHALL VERIFY THE PROPOSED PIPE ALIGNMENT AND REPORT DIFFERENCES TO THE INSPECTOR. ALL ALIGNMENT CHANGES MUST BE APPROVED BY THE INSPECTOR PRIOR TO INSTALLATION.
11. DRIVEWAYS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO "LIKE" OR BETTER CONDITION. REFER TO PLAN FOR APPROXIMATE LOCATIONS AND TYPES.
12. CONTRACTOR SHALL VERIFY EXISTING UTILITY CULVERTS, CONDUITS AND LINE LOCATION PRIOR TO CONSTRUCTION. DUE TO FIELD CONDITIONS, THE CONTRACTOR SHALL FIELD ADJUST THE VERTICAL AND HORIZONTAL ALIGNMENT OF THE WATER MAIN TO CLEAR THE UTILITY IN CONFLICT AND PROVIDE THE MIN. 3.0 FEET OF COVER AS APPROVED BY THE INSPECTOR. ALL CULVERTS WHICH ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS.
13. FENCES DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO "LIKE" OR BETTER CONDITION.
14. CONTRACTOR SHALL VERIFY EXISTING SIGN AND MAILBOX LOCATIONS PRIOR TO CONSTRUCTION. SIGNS & MAILBOXES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RELOCATED BACK FROM EDGE OF PAVEMENT, 1.0 FEET CLEAR OF WATERMAIN. ANY SIGNS OR MAILBOXES DAMAGED SHALL BE REPAIRED OR REPLACED AS PER THE SPECIFICATIONS.
15. ALL WATER SERVICES, BLOW-OFF ASSEMBLIES, AIR RELEASE VALVES, FIRE HYDRANT ASSEMBLIES, VALVE BOXES, AND THRUST BLOCKING SHALL BE INSTALLED AS PER THE STANDARD SPECIFICATIONS AND DETAILS.
16. THE EXACT LOCATION OF ALL POLES HAVE NOT BEEN INDICATED. ONLY THOSE POLES THAT MAY BE IN CONFLICT WITH THE WATERMAIN ALIGNMENT HAVE BEEN INDICATED. SHIFT WATERMAIN TO AVOID CONFLICT WITH POLE.
17. THE LOCATIONS OF ALL EXISTING UTILITIES ARE FOR INFORMATIONAL PURPOSES ONLY. MANY LOCATIONS ARE AS PER SCHEMATIC RECORD DRAWINGS. THE PLANS INDICATE ONLY TELEPHONE AND POWER. UTILITY SERVICE CROSSINGS HAVE NOT BEEN IDENTIFIED. THE CURRENT AND EXACT LOCATIONS OF FACILITIES MUST BE VERIFIED PRIOR TO CONSTRUCTION. THE CONTRACTOR PERFORMING THE WORK SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 19.122 RCW, INCLUDING NOTIFICATION OF ALL OWNERS OF UNDERGROUND FACILITIES AT LEAST 48 BUSINESS DAY HOURS PRIOR TO EXCAVATION. CALL 696-4848 FOR UTILITY LOCATE SERVICE.
18. WATERMAINS BEING INSTALLED NEAR TELEPHONE/CABLE COMMUNICATIONS SHALL HAVE A MINIMUM 12" HORIZONTAL AND 6" VERTICAL CLEARANCE.
19. WATERMAINS BEING INSTALLED NEAR UNDERGROUND POWER LINES SHALL HAVE A MINIMUM 12" HORIZONTAL AND 6" VERTICAL CLEARANCE.
20. REQUIRED SEPARATION BETWEEN WATER LINES AND SANITARY SEWER LINES SHALL BE AS FOLLOWS:

HORIZONTAL SEPARATION (PARALLEL)
A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET (MEASURED EDGE TO EDGE) BETWEEN SANITARY SEWER LINES AND WATER LINES SHALL BE MAINTAINED WHENEVER POSSIBLE. WHEN CONDITIONS PREVENT THE MINIMUM TEN (10) FOOT HORIZONTAL SEPARATION, THE ENGINEER SHALL BE NOTIFIED.

VERTICAL SEPARATION (PERPENDICULAR)
WATER LINES CROSSING SANITARY SEWER LINES SHALL BE LAID ABOVE THE SEWER LINES TO PROVIDE A SEPARATION OF AT LEAST 18 INCHES BETWEEN THE INVERT OF THE WATER PIPE AND THE CROWN OF THE SANITARY SEWER PIPE. A LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING AND SHALL BE THE LONGEST STANDARD LENGTH AVAILABLE FROM THE MANUFACTURER.

21. VALVE SHALL BE 2" SQUARE OPERATING NUT OR AS SPECIFIED ON PLANS.
22. WHENEVER A PIPE IS CUT AND NOT RECONNECTED, THE CUT ENDS SHALL BE CAPPED OR PLUGGED, AS DIRECTED BY THE CPU INSPECTOR.

EROSION CONTROL NOTES:

1. ALL EXPOSED SOILS SHALL BE STABILIZED, IN A TIMELY MANNER, BY THE APPLICATION OF BEST MANAGEMENT PRACTICES, INCLUDING BUT NOT LIMITED TO SOD, SEED, OR OTHER VEGETATION, PLASTIC COVERING, MULCHING, OR APPLICATION OF CRUSHED AGGREGATE ON THOSE AREAS TO BE PAVED.
2. WHEN EXCAVATION OCCURS IN ROADSIDE DITCHES, EXCAVATE AND KEY INTO DITCH ONE STRAW BALE PER 100' OF DITCH, OR WHERE NOTED ON THE PLANS. REMOVE SILT WHEN IT IS EVEN WITH THE TOP OF THE BALE. REPLACE OR ADD BALES AS NECESSARY TO PROPERLY FILTER THE STORM WATER.
3. INSTALL BIOFILTER BAGS (POLYESTER FABRIC PILLOW (ASTM-D191 OR EQUAL) FILLED W/ 15-16 LBS. OF WOOD CHIPS) AT EACH INLET. REMOVE SILT AND ADD BIOFILTER BAGS AS NECESSARY TO PROPERLY FILTER THE STORM WATER.
4. IF SEDIMENT IS TRANSPORTED ONTO THE ROAD SURFACE, THE ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF THE WORKDAY, OR MORE IF NECESSARY. SIGNIFICANT SOIL DEPOSITS SHALL BE REMOVED FROM THE ROAD BY SHOVELING OR SWEEPING.
5. THE LENGTH OF TRENCH OPEN AT ONE TIME SHALL BE MINIMIZED AND WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIALS SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

Clark Public Utilities

CLARK COUNTY WASHINGTON
proud past, promising future

DESIGN & ENGINEERING DIVISION
DESIGN SECTION

HIGHWAY 99 REALIGNMENT
STANDARD WATER DETAILS

Harper Houf Peterson Righellis Inc.
ENGINEERS • PLANNERS • SURVEYORS
1104 MAIN STREET, SUITE 100, VANCOUVER, WA 98660
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CHRISTOPHER E. ROBERTSON — STATE OF WASHINGTON — 37312 REGISTERED PROFESSIONAL ENGINEER — 2.20.04
EXPIRES: 8/6/05

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

DESIGNED	JDB
DRAWN	JDB
CRP	392922
HOR.	1" = 20'
VERT.	N/A
DATE	2/20/04
DWG:	WP09
SHEET	82 OF 84

(1) INSTALL (1)–4" x 90° 36" RADIUS ELL AT C.P.U. TRANSFORMER LOCATION.
SEE CONTACT NOTE ON SHEET E02.

(2) INSTALL (1)–4" x 45° 36" RADIUS ELL.

(3) INSTALL (1)–4" SCHEDULE 40 PVC ELECTRICAL CONDUIT APPROX. 210' AT 36" BELOW FINAL GRADE.

(4) STATION 22+71 (61' RIGHT)
INSTALL (1)–4" x 90° 36" RADIUS ELL AT C.P.U. POLE LOCATION.
EXTEND CONDUIT AT POLE 24" ABOVE FINAL GRADE WITH 4" SCHEDULE 80 PVC ELECTRICAL CONDUIT.
SEE CONTACT NOTE ON SHEET E02.

(5) INSTALL (1)–4" x 45° 36" RADIUS ELL.

(6) FRONT OF J–BOX AT STATION 22+60 (75' RIGHT)
INSTALL 3Ø J–BOX SHELL WITH 8' GROUND ROD PER C.P.U. SPECS UJ3 & UJ3A.
INSTALL (1)–4" x 90° 36" RADIUS ELL TO POLE LOCATION.
INSTALL (1)–4" x 90° 36" RADIUS ELL TO SOUTH CONDUIT RUN.
INSTALL (1)–4" x 90° 36" RADIUS ELLS TO NORTH CONDUIT RUN.
INSTALL (3)–2" x 90° 36" RADIUS ELLS TO NORTH CONDUIT RUNS.
SEE CONTACT NOTE ON SHEET E02.

(7) INSTALL (1)–4" x 45° 36" RADIUS ELL.
SET ELBOW IN 1 CUBIC YARD OF CONCRETE.

(8) INSTALL (1)–4" SCHEDULE 40 PVC ELECTRICAL CONDUIT APPROX. 55' AT 36" BELOW FINAL GRADE.

(9) INSTALL (1)–4" x 90° 36" RADIUS ELL.
SET ELBOW IN 1 CUBIC YARD OF CONCRETE.

(10) EXTEND NEW 4" CONDUIT TO EXISTING CONDUIT AND CAP.
INSTALL LOCATE DISK ABOVE NEW CONDUIT END.
NEW CONDUIT MUST BE AT SAME DEPTH AND ALIGNED WITH EXISTING CONDUIT TO ALLOW C.P.U. CREWS TO CONNECT BOTH CONDUITS.
SEE CONTACT NOTE ON SHEET E02.

(11) INSTALL (3)–2" x 90° 36" RADIUS ELLS.
SET ELBOWS IN 1 CUBIC YARD OF CONCRETE.

(12) INSTALL (3)–2" SCHEDULE 40 PVC ELECTRICAL CONDUIT (DETAIL "C") APPROX. 398'

(13) STATION 24+25 (61' RIGHT)
INSTALL (3)–4" x 90° & (1)–2" x 90° 36" RADIUS ELLS AT C.P.U. POLE LOCATION.
EXTEND CONDUITS AT POLE 24" ABOVE FINAL GRADE WITH SCHEDULE 80 PVC ELECTRICAL CONDUIT.
ARRANGE CONDUITS ON STAND–OFF BRACKET ON NORTH SIDE OF POLE AS SHOWN IN DETAIL.
SEE CONTACT NOTE ON SHEET E02.

(14) INSTALL (3)–4" AND (1)–2" SCHEDULE 40 PVC ELECTRICAL CONDUIT (DETAIL "A") APPROX. 558'.

(15) EXTEND CONDUITS TO BACK OF SIDEWALK AND CAP ENDS.
INSTALL LOCATE DISK AND BURIED POWER SIGN AT CONDUIT ENDS.
SEE CONTACT NOTE ON SHEET E02.

(16) INSTALL (3)–2" x 90° 36" RADIUS ELLS.
SET ELBOWS IN 1 CUBIC YARD OF CONCRETE.

(17) INSTALL (3)–2" SCHEDULE 40 PVC ELECTRICAL CONDUIT (DETAIL "C") APPROX. 115'.

(18) INSTALL 3Ø J–BOX SHELL WITH 8' GROUND ROD PER C.P.U. SPECS UJ3 & UJ3A.
INSTALL (3)–2" x 90° 36" RADIUS ELLS TO EAST CONDUIT RUN.
INSTALL (1)–2" x 90° 36" RADIUS ELL TO NORTH CONDUIT RUN.
SEE CONTACT NOTE ON SHEET E02.

(19) INSTALL (1)–2" SCHEDULE 40 PVC ELECTRICAL CONDUIT APPROX. 5' AT 36" DEPTH BELOW FINAL GRADE.

(20) INSTALL (2)–2" x 90° 36" RADIUS ELLS AT C.P.U. TRANSFORMER LOCATION PER CPU SPEC UTP6.
SEE CONTACT NOTE ON SHEET E02.

(21) INSTALL (1)–2" SCHEDULE 40 PVC ELECTRICAL CONDUIT APPROX. 5' AT 36" DEPTH BELOW FINAL GRADE.

(22) INSTALL (1)–2" x 90° 36" RADIUS ELL AT C.P.U. TRANSFORMER LOCATION PER CPU SPEC UTP6.
SEE CONTACT NOTE ON SHEET E02.

(23) STATION 26+32 (61' RIGHT)
INSTALL (3)–4" x 90° & (1)–2" x 90° 36" RADIUS ELLS AT C.P.U. POLE LOCATION.
EXTEND CONDUITS AT POLE 24" ABOVE FINAL GRADE WITH SCHEDULE 80 PVC ELECTRICAL CONDUIT.
ARRANGE CONDUITS ON STAND–OFF BRACKET ON SOUTH SIDE OF POLE AS SHOWN IN DETAIL.
SEE CONTACT NOTE ON SHEET E02.

(24) INSTALL (3)–4" x 45° & (1)–2" x 45° 36" RADIUS ELLS.
SET ELBOWS IN 1 CUBIC YARD OF CONCRETE.

(25) INSTALL (3)–4" & (1)–2" SCHEDULE 40 PVC ELECTRICAL CONDUITS (DETAIL "A") APPROX. 217'.

(26) INSTALL (3)–4" x 90° & (1)–2" x 90° 36" RADIUS ELLS AT C.P.U. POLE LOCATION.
EXTEND CONDUITS AT POLE 24" ABOVE FINAL GRADE WITH SCHEDULE 80 PVC ELECTRICAL CONDUIT.
ARRANGE CONDUITS ON STAND–OFF BRACKET ON WEST SIDE OF POLE AS SHOWN IN DETAIL.
SEE CONTACT NOTE ON SHEET E02.

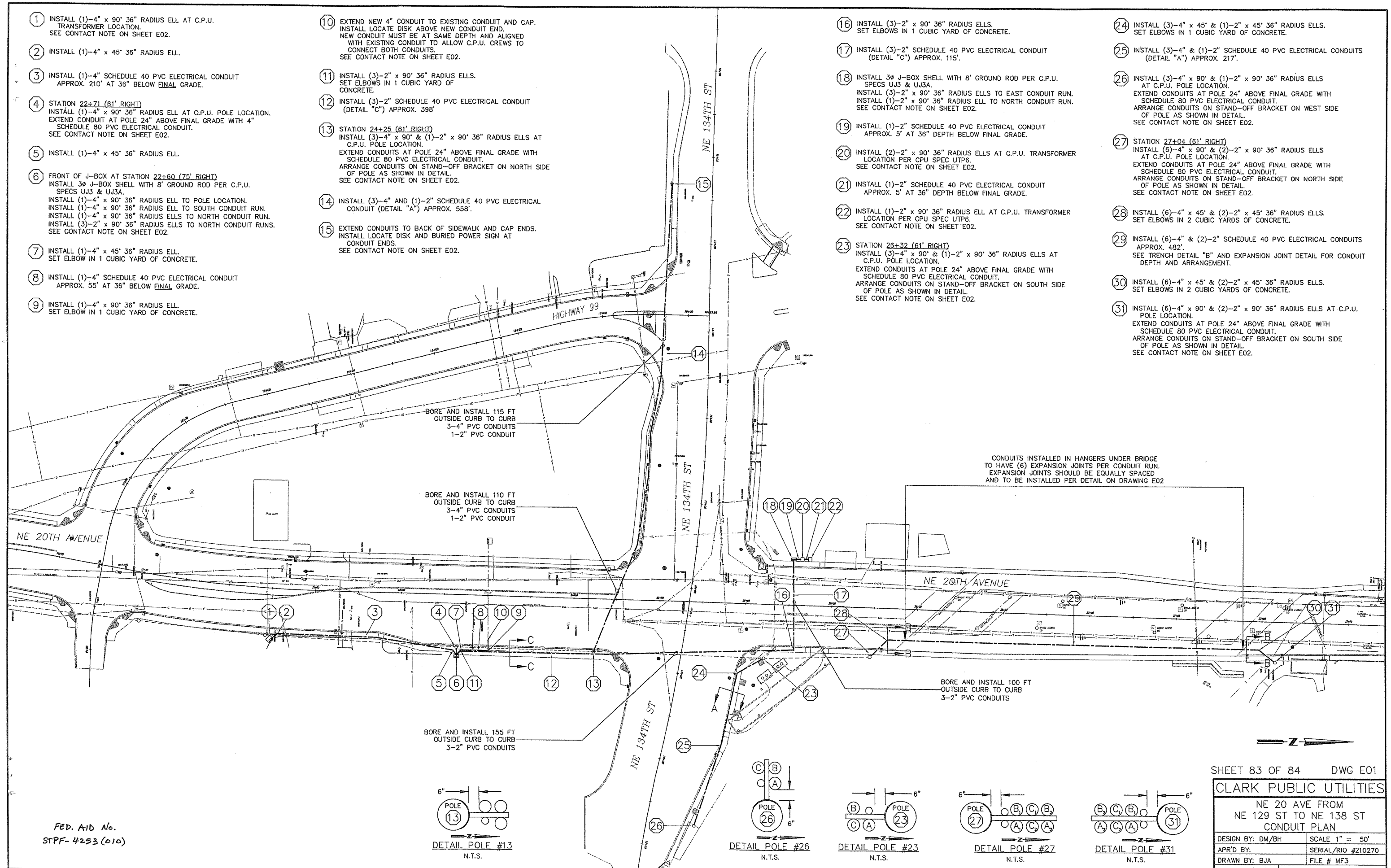
(27) STATION 27+04 (61' RIGHT)
INSTALL (6)–4" x 90° & (2)–2" x 90° 36" RADIUS ELLS AT C.P.U. POLE LOCATION.
EXTEND CONDUITS AT POLE 24" ABOVE FINAL GRADE WITH SCHEDULE 80 PVC ELECTRICAL CONDUIT.
ARRANGE CONDUITS ON STAND–OFF BRACKET ON NORTH SIDE OF POLE AS SHOWN IN DETAIL.
SEE CONTACT NOTE ON SHEET E02.

(28) INSTALL (6)–4" x 45° & (2)–2" x 45° 36" RADIUS ELLS.
SET ELBOWS IN 2 CUBIC YARDS OF CONCRETE.

(29) INSTALL (6)–4" & (2)–2" SCHEDULE 40 PVC ELECTRICAL CONDUITS APPROX. 482'.
SEE TRENCH DETAIL "B" AND EXPANSION JOINT DETAIL FOR CONDUIT DEPTH AND ARRANGEMENT.

(30) INSTALL (6)–4" x 45° & (2)–2" x 45° 36" RADIUS ELLS.
SET ELBOWS IN 2 CUBIC YARDS OF CONCRETE.

(31) INSTALL (6)–4" x 90° & (2)–2" x 90° 36" RADIUS ELLS AT C.P.U. POLE LOCATION.
EXTEND CONDUITS AT POLE 24" ABOVE FINAL GRADE WITH SCHEDULE 80 PVC ELECTRICAL CONDUIT.
ARRANGE CONDUITS ON STAND–OFF BRACKET ON SOUTH SIDE OF POLE AS SHOWN IN DETAIL.
SEE CONTACT NOTE ON SHEET E02.



FED. AID No.
STPF-4253(010)

SHEET 83 OF 84 DWG E01

CLARK PUBLIC UTILITIES	
NE 20 AVE FROM NE 129 ST TO NE 138 ST CONDUIT PLAN	
DESIGN BY: DM/BH	SCALE 1" = 50'
APR'D BY:	SERIAL/RIO #210270
DRAWN BY: BJA	FILE # MF3
DATE: 02/20/04	W.O. #14–02–18091

CONDUIT INSTALLATION NOTES FOR CLARK COUNTY CONTRACTOR

CALL FOR LOCATES PRIOR TO ANY TRENCHING.

PROVIDE ALL TRENCHING, BORING, CONDUIT AND BACKFILL PER DRAWINGS AND COUNTY REQUIREMENTS.

PROVIDE AND INSTALL ALL CONDUIT ELLS, J-BOX SHELLS, LOOP ENCLOSURES AND GROUND RODS AS SHOWN ON PRINT.

CONDUITS BELOW GRADE TO BE SCHEDULE 40 PVC ELECTRICAL CONDUITS.

CONDUITS ABOVE GRADE TO BE SCHEDULE 80 PVC ELECTRICAL CONDUITS.

ALL CONDUITS TO BE INSTALLED IN CONDUIT SPACERS PROVIDED BY CONTRACTOR.

SAWCUT ANY EXISTING ASPHALT STREETS AND SIDEWALKS. REMOVE AND DISPOSE OF ASPHALT AND CONCRETE. REPAIR ANY DAMAGE TO EXISTING SIDEWALKS.

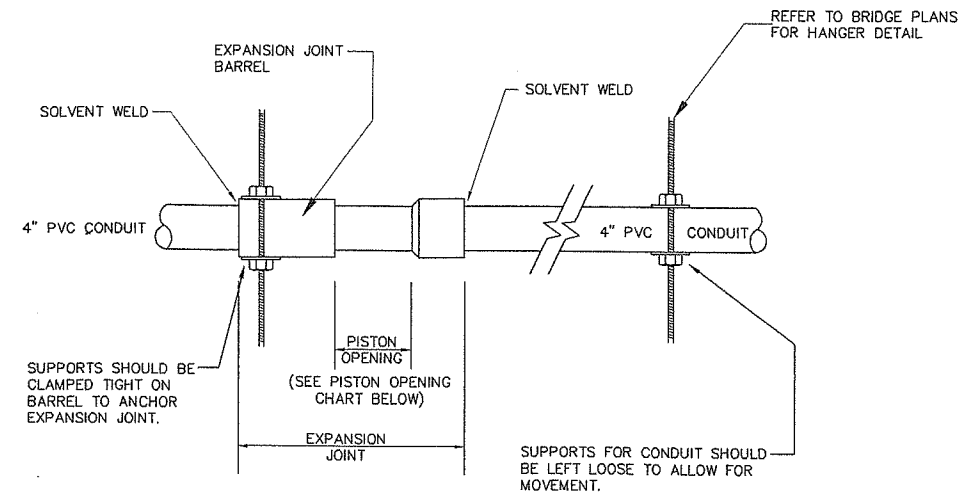
LABEL CONDUIT ENDS AS SHOWN IN DETAILS.

LABEL ALL CONDUIT TERMINATION POINTS AS TO ORIGIN AND PHASING.

PULL A STEEL MANDREL THROUGH EACH CONDUIT AFTER INSTALLATION AND BACKFILL HAS BEEN COMPLETED.

PROVIDE AND INSTALL A PULL STRING (2500 LB. 3/4", SEQUENTIALLY NUMBERED, MULE TAPE) IN EACH CONDUIT.

RESTORE ALL LAWNS, SHRUBS AND LANDSCAPING DAMAGED DURING CONSTRUCTION.



4" EXPANSION JOINTS = CARLON PART NO. E945N
2" EXPANSION JOINTS = CARLON PART NO. E945J

EXPANSION JOINT DETAIL

CONTACT NOTE:

CONTACT C.P.U. CONSTRUCTION SUPERINTENDENT DARYL VEITENHEIMER AT (360) 992-8849 FOR INSPECTION OF TRENCH AND CONDUIT INSTALLATION PRIOR TO BACKFILL.

CONTACT C.P.U. ENGINEER DALE MICKELSON AT (360)992-8819 FOR THE FOLLOWING:

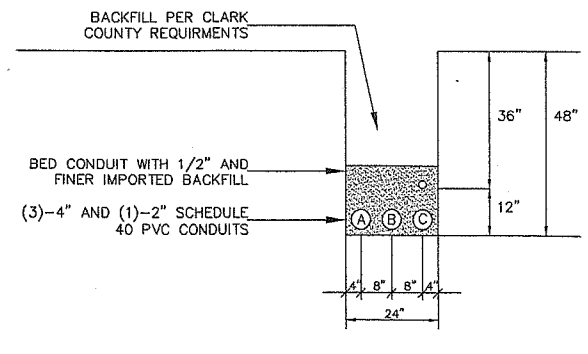
A. EXACT LOCATION OF POLES, STAND-OFF BRACKETS, TRANSFORMERS, J-BOXES, LOOP ENCLOSERS AND LOCATE DISKS.

B. LIST OF MATERIALS, VENDOR LIST AND SPEC DRAWINGS.

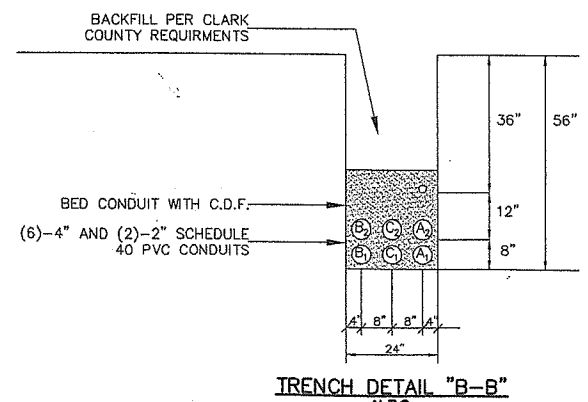
C. ANY C.P.U. PROVIDED MATERIALS

EXPANSION JOINT PISTON OPENING CHART

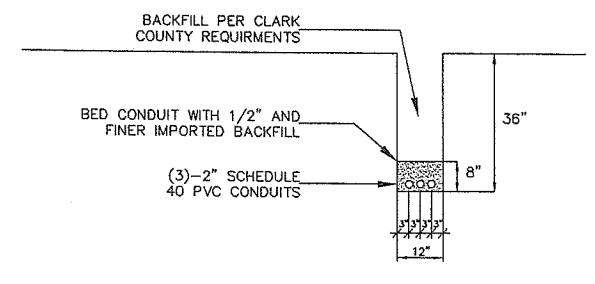
INSTALLATION TEMPERATURE (°F)	PISTON OPENING (IN)
30	3-1/8"
40	2-3/4"
50	2-1/2"
60	2-1/4"
70	2"



TRENCH DETAIL "A-A"
N.T.S.



TRENCH DETAIL "B-B"
N.T.S.



TRENCH DETAIL "C-C"
N.T.S.

FED. AID No.
STPF-4253(010)

SHEET 84 OF 84 DWG E02

CLARK PUBLIC UTILITIES	
NE 20 AVE FROM NE 129 ST TO NE 138 ST CONDUIT DETAILS	
DESIGN BY: DM/BH	SCALE N.T.S.
APR'D BY:	SERIAL/RIO #210270
DRAWN BY: BJA	FILE # MF3
DATE: 02/20/04	W.O. #14-02-18091