BLANKENSHIP & DeBOK ROAD AS-BUILT PUBLIC IMPROVEMENT PLANS

STREET, STORM, AND WATER IMPROVEMENTS

SECTION 35, T. 2 S., R. 1 E., W.M.

CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

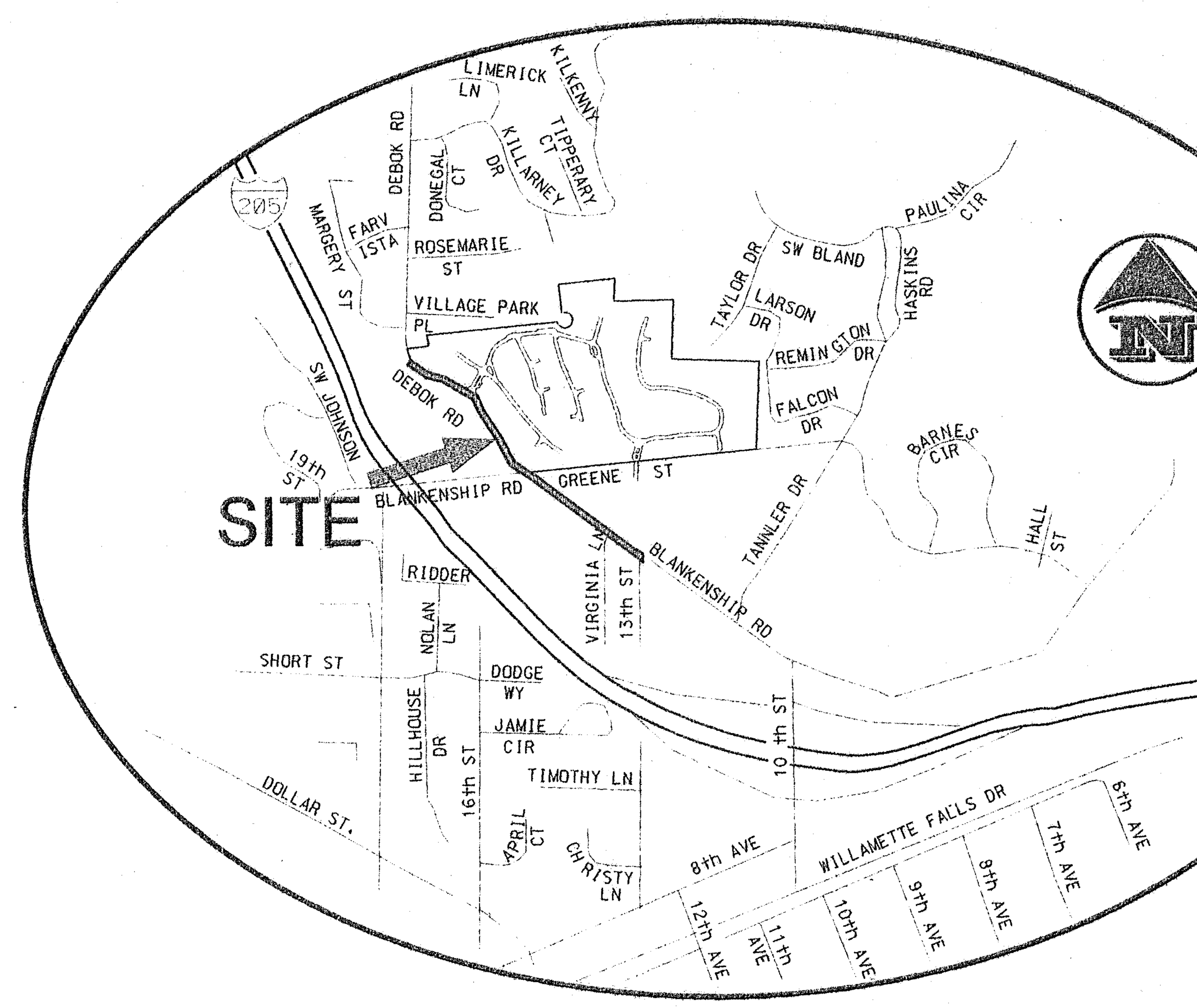
AS-BUILT

GENERAL

1. ALL DESIGN, CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF WEST LINN, CLACKAMAS COUNTY, THE OREGON ADMINISTRATIVE RULES, THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA), AND THE AMERICAN WATER WORKS ASSOCIATION (AWWA). IN THE EVENT OF A CONFLICT, THE MOST STRINGENT CODE SHALL APPLY.
2. THE CONTRACTOR AND/OR SUB-CONTRACTOR SHALL HAVE A MINIMUM OF ONE (1) SET OF APPROVED CONSTRUCTION PLANS ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.
3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES BEFORE STARTING CONSTRUCTION.
4. NO CONSTRUCTION SHALL COMMENCE UNTIL PLANS ARE APPROVED AND ISSUED BY THE CITY OF WEST LINN.
5. EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. THE THE EXISTENCE, TYPE AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. IN CASES WHERE ACTUAL LOCATION OR INFORMATION VARIES FROM THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE VARIANCE AND STOP WORK EXISTING UTILITIES SHOWN ON THIS PLAN DOES NOT IN ANY WAY CONFIRM THE EXISTENCE OR NON-EXISTENCE OF THE UTILITY. THE CONTRACTOR SHALL VERIFY IN THE AFFECTED AREA UNTIL DIRECTED.
6. THE CONTRACTOR SHALL COORDINATE WITH ALL OF THE UTILITY COMPANIES THE MARKING OF ALL EXISTING UTILITIES. COMPLIANCE WITH OREGON REVISED STATUTES 757.541 TO 757.571 IS REQUIRED. THE CITY OF WEST LINN IS A MEMBER OF ONE CALL. FOR EXISTING SANITARY SEWER AND STORM LINE, CALL (503) 246-6699.
7. THE CONTRACTOR SHALL DO ALL OF THE WORK SHOWN ON THE DRAWINGS AND ALL INCIDENTAL WORK CONSIDERED NECESSARY TO COMPLETE THE PROJECT IN AN ACCEPTABLE MANNER.
8. ALL MATERIAL USED SHALL BE PER THE APPROVED PLANS. ANY ALTERNATES SHALL BE APPROVED BY THE ENGINEER AND THE CITY OF WEST LINN PRIOR TO ITS USE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY ALL NECESSARY INFORMATION FOR THE PROPER EVALUATION OF SUBMITTED ALTERNATIVES. ALLOW A MINIMUM OF TWO WEEKS FOR APPROVAL.
9. ANY PLAN CHANGES SHALL BE SUBMITTED TO THE ENGINEER AND APPROVED BY THE CITY PRIOR TO ANY WORK. IT WILL BE THE CONTRACTORS' RESPONSIBILITY TO SUPPLY ALL NECESSARY INFORMATION FOR THE PROPER EVALUATION OF PLAN CHANGES. ALLOW A MINIMUM OF TWO WEEKS FOR APPROVAL.
10. THE CONTRACTOR SHALL KEEP THE CITY, AND W. B. WELLS & ASSOC., INC. ADVISED OF THEIR PROGRESS SO THAT INSPECTION CAN BE PERFORMED IN AN EFFICIENT MANNER. A MINIMUM OF TWENTY-FOUR (24) HOUR NOTICE MUST BE GIVEN FOR TESTS OR INSPECTIONS.
11. THE CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF AS-BUILTS. SAID AS-BUILTS SHALL BE SUBMITTED TO W. B. WELLS & ASSOC., INC. UPON REQUEST.
12. THE CONTRACTOR SHALL, UPON REQUEST, SUBMIT TO THE CITY AND/OR W. B. WELLS & ASSOC.,INC. PROOF FROM THE MATERIAL SUPPLIERS THAT THE MATERIAL HAS BEEN TESTED AND FOUND IN COMPLIANCE WITH THE ABOVE SPECIFICATIONS. THEY SHALL CERTIFY THAT ALL MATERIALS TO BE DELIVERED TO THE JOB SITE MEET OR EXCEED SAID SPECIFICATIONS PRIOR TO DELIVERY. ANY MATERIAL NOT CERTIFIED BY THE SUPPLIER SHALL BE REMOVED FROM THE JOB SITE AT NO ADDITIONAL COST TO THE OWNER.
13. THE OWNER, CITY AND W. B. WELLS & ASSOC., INC. SHALL RESERVE THE RIGHT TO CALL FOR COMPACTION TESTS. IF THE TESTS DO NOT SHOW SUITABLE RESULTS, THE CONTRACTOR SHALL CORRECT IT AT NO COST TO THE OWNER. THE COMPACTION TESTS IN TRENCHES MUST OBTAIN 95% OF AASHTO T-99 TEST METHOD.
14. THE CONTRACTOR SHALL COMPLY WITH THE CLACKAMAS COUNTY EROSION PREVENTION AND SEDIMENT CONTROL PLANS TECHNICAL GUIDANCE HANDBOOK, AUGUST 1994. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY WORK. NON-COMPLIANCE IS THE RESPONSIBILITY OF THE CONTRACTOR.
15. THE CONTRACTOR IS RESPONSIBLE FOR MANAGING CONSTRUCTION ACTIVITIES TO INSURE ADJACENT PRIVATE PROPERTY AND PUBLIC STREETS ARE KEPT CLEAR OF MUD, DEBRIS, AND DUST TO THE SATISFACTION OF THE CITY OF WEST LINN AND CLACKAMAS COUNTY. THE CONTRACTOR SHALL LEAVE ALL AREAS OF THE PROJECT FREE OF DEBRIS AND ANY UNUSED CONSTRUCTION MATERIALS.
16. DURING SUMMER TIME CONSTRUCTION, THE CONTRACTOR SHALL CONTROL DUST FROM THE CONSTRUCTION ACTIVITIES.
17. TRAFFIC DURING CONSTRUCTION SHALL BE CONTROLLED IN ACCORDANCE WITH THE M.U.T.C.D., CLACKAMAS COUNTY, AND THE CITY OF WEST LINN REQUIREMENTS.
18. ALL SPECIFIED AGGREGATES (3/4"-0 AND 1 1/2 "-0) SHALL MEET APWA STANDARDS.
19. THE CITY OF WEST LINN WILL MAINTAIN THE RIGHT-OF-WAY ALONG DEBOK ROAD AND BLANKENSHIP ROAD.
20. TYPICAL STREET IMPROVEMENT SECTION SHALL MATCH EXISTING STREET SECTION FOR BLANKENSHIP ROAD.

STORM

1. STORM SEWER PIPE SHALL BE ADS N-12 POLYETHYLENE PIPE OR OTHER CITY APPROVED EQUIVALENT. PIPE SHALL MEET AASHTO M294 REQUIREMENTS FOR TYPE S PIPE. ALL PIPES SHALL HAVE SMOOTH INNER WALL AND WATERTIGHT CONNECTORS, EXCEPT WHERE DESIGNATED ON THE PLANS. PIPE WILL BE CALLED OUT ON PLANS AS "CPP" (SEE LEGEND).
2. CATCH BASINS, INLETS, PIPE BEDDING AND TRENCH BACKFILL SHALL BE AS SHOWN ON THE DETAIL SHEETS AND MEET U.P.C.
3. MAINTAIN A MINIMUM OF 2.5 FEET OF COVER OR AS PER PLAN.
4. ALL LINES SHALL BE TESTED AND ACCEPTED PER CITY REQUIREMENTS.
5. ROCK PROTECTION AT OUTFALLS SHALL BE TYPE 1 REASONABLY WELL GRADED WITH ROCK GRADATION AS FOLLOWS: MAX. STONE SIZE=6", MIN. STONE SIZE=2".
6. STORM SEWER MANHOLES AND DETENTION PIPES MAY BE CONCRETE OR C.M.P MATERIAL TO BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
7. ALL STORM LINES CONNECTING TO THE MAIN STORM LINE, EXCEPT LATERALS FROM CATCH BASINS, SHALL BE PRIVATELY MAINTAINED. THESE LINES ARE SHOWN SHADED AND LABELED WERE NEEDED.
8. PROPERTY OWNER TO MAINTAIN BIO SWALE FACILITY ALONG DEBOK ROAD.



VICINITY MAP

N.T.S.

WATER

1. WATER MAINS SHALL BE DUCTILE IRON PIPE CONFORMING TO AWWA C151 CLASS 52. JOINTS SHALL BE RESTRAINED AND GASKETED. PIPE SHALL BE CAST DUCTILE IRON, CONFORMING TO AWWA C-110 OR C153.
2. WATER MAINS AND SERVICE LATERALS SHALL HAVE A MINIMUM COVER OF 36".
3. THRUST BLOCKS SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION AND BRANCHES. THRUST BLOCK CONCRETE STRENGTH SHALL BE 2400 PSI. POUR THRUST BLOCKS AGAINST UNDISTURBED EARTH.
4. TAPPING SLEEVES SHALL ALL BE STAINLESS STEEL WITH STAINLESS STEEL BOLTS OF CAST IRON (DUCTILE IRON) MECHANICAL JOINT SLEEVES.
5. GRANULAR MATERIAL USED FOR PIPE BASE, PIPE ZONE AND TRENCH BACKFILL SHALL BE 3/4 "-0 CRUSHED ROCK. PIPE BASE SHALL BE A MINIMUM OF 6" DEEP AT THE BELL AND AT THE PIPE BARREL. GRANULAR BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DENSITY PER AASHTO T99 TEST METHOD. BACKFILL UNDER STREETS SHALL BE IN ACCORDANCE WITH CLASS "B" BACKFILL AS INDICATED ON THE PLANS. NO WATER SETTLING OF TRENCH BACKFILL SHALL BE ALLOWED.
6. CONTRACTOR SHALL PROVIDE EXISTING SERVICE CONNECTIONS FROM NEW 10" WATERLINE TO EXISTING METER BOX. ALL SERVICE LINES SHALL BE REPLACED WITH NEW 1" COPPER LINES. NEW 1" CURB STOPS TO BE AT SAME ELEVATION AS EXISTING CURB STOPS. WHEN NEW WATER LINE IS INSTALLED, CITY CREWS WILL PUSH NEW CURB STOPS INTO PLACE WITHOUT EXCAVATION. THEN OLD LINE WILL BE ABANDONED.
7. INSPECTION OF THE WATER IMPROVEMENTS WILL BE MADE BY THE CITY PERSONNEL OR OTHERS DESIGNATED BY THE CITY. CONTRACTOR IS RESPONSIBLE TO CONTACT THE PROPER INSPECTOR A MINIMUM OF 48 HOURS PRIOR TO INSPECTION.
8. ALL MATERIALS, INSTALLATION, TESTS AND CHLORINATION SHALL BE IN STRICT ACCORDANCE WITH THE STANDARDS AND CODES OF THE CITY OF WEST LINN, THE OREGON STATE HEALTH DIVISION ADMINISTRATIVE RULES, CHAPTER 333, AND AWWA C600-93. OPERATIONAL
9. MAXIMUM DEFLECTION AT JOINTS SHALL NOT EXCEED 80% OF AWWA STANDARDS.
10. WATER LINES SHALL NOT BE CONNECTED TO THE CITY'S SYSTEM UNTIL TESTED AND APPROVED.
11. CONTRACTOR SHALL ABANDON EXISTING 8" WATERLINE WITH CITY.

DEVELOPER:

SHOW TIMBER COMPANY
C/O GLORIA MAIER-TRAUB, CPA
9801 SE WESTVIEW COURT
PORTLAND, OREGON 97266
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PHONE: (503) 774-4142
FAX: (503) 774-4742

ENGINEER:

W.B. WELLS AND ASSOC. INC.
4230 NE FREMONT ST.
PORTLAND, OR. 97213
PHONE: (503) 284-5896
FAX: (503) 284-8530

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REVISIONS

DESIGNED: PC/FK/RT/DM	CHECKED: BSS	
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COVER SHEET

for

BLANKENSHIP & DeBOK AS-BUILT IMPROVEMENTS

located in the

CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

2/8/00

REGISTERED PROFESSIONAL ENGINEER 19... OREGON JULY 15, 1997 TAB L. ABRAHAM

EXP: 12/31/01

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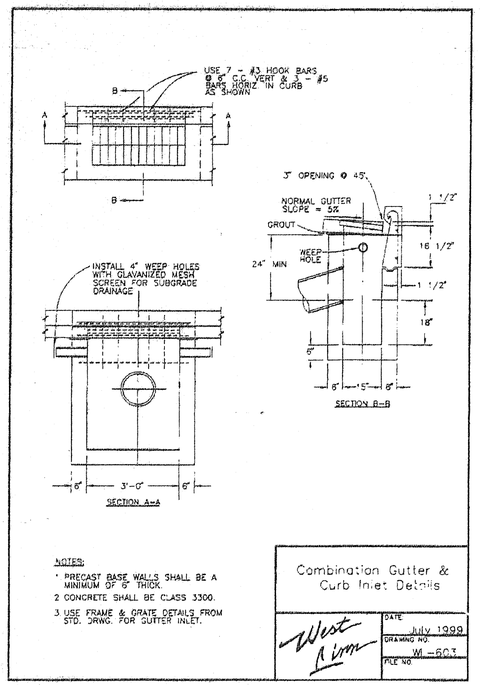


NOTES:
1. PRECAST BASE WALLS SHALL BE A MINIMUM OF 6" THICK.
2. CONCRETE SHALL BE CLASS 3300.
3. USE FRAME & GRATE DETAILS FROM STD. DRWG. FOR GUTTER INLET.

Combination Gutter & Curb Inlet Details

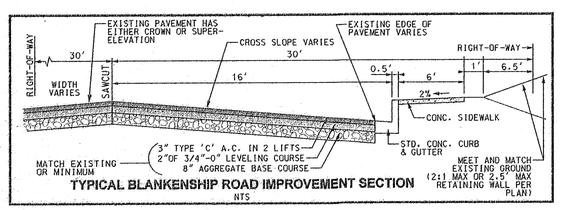
West Linn

DATE: July 1999
DRAWING NO: W-603
FILE NO.

LEGEND

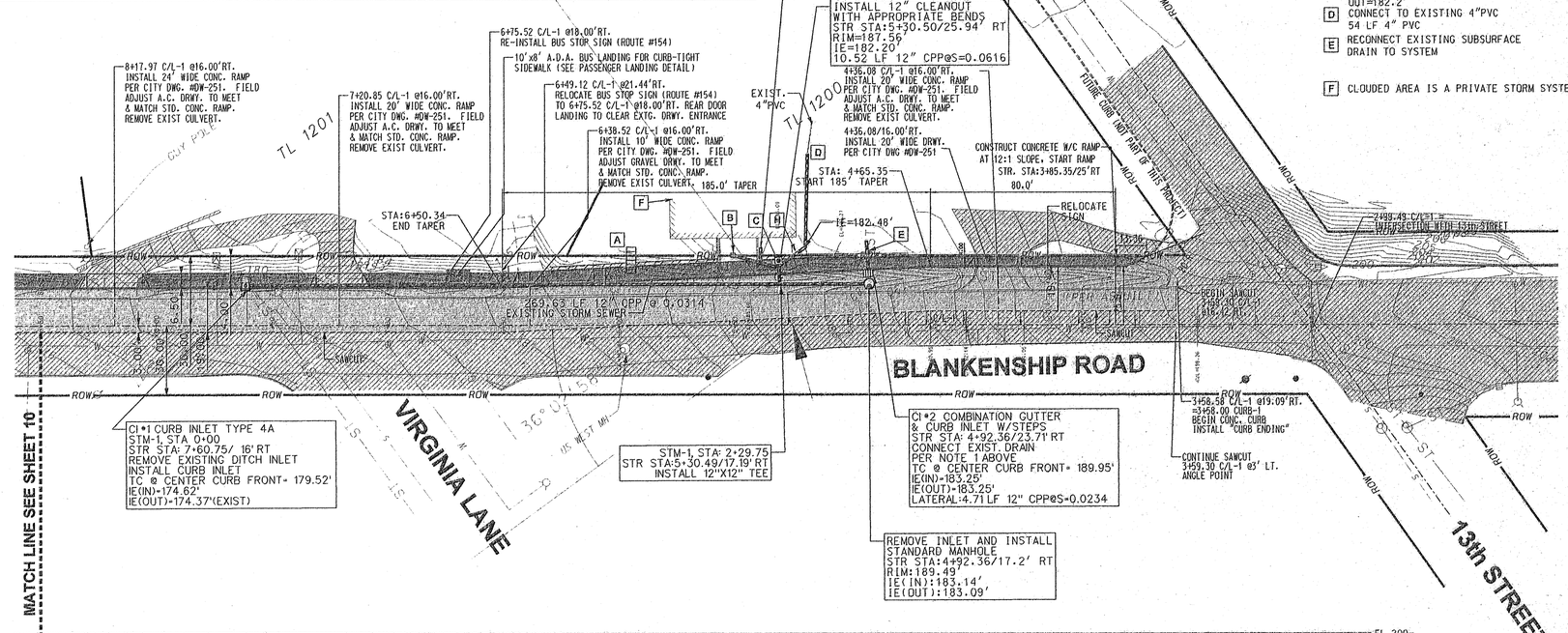
PROPOSED SIDEWALK	WETLAND
PROPOSED PAVEMENT	OVERHEAD POWERLINE
EXISTING PAVEMENT	GAS LINE
POWER POLE	EXISTING SANITARY SEWER
STREET SIGN	PROPOSED SANITARY SEWER
TEL RISER	EXISTING STORM SEWER
EXISTING MANHOLE	PROPOSED STORM SEWER
PROPOSED MANHOLE	EXISTING WATERLINE
EXISTING WATER VALVE	PROPOSED WATERLINE
PROPOSED WATER VALVE	UNDERGROUND TELEPHONE
EXISTING FIRE HYDRANT	RIGHT OF WAY
PROPOSED FIRE HYDRANT	PROPOSED CURB
EXISTING CATCH BASIN	SAW CUT
PROPOSED CATCH BASIN	SILT FENCE
PROPOSED CURB INLET	INLET PROTECTION
THRUST BLOCK	BIO-BAG BARRIER
CPP CORRUGATED POLY-ETHYLENE PIPE	RIP-RAP PROTECTION
	RETAINING WALL (W/ RAIL IF OVER 2' HIGH)

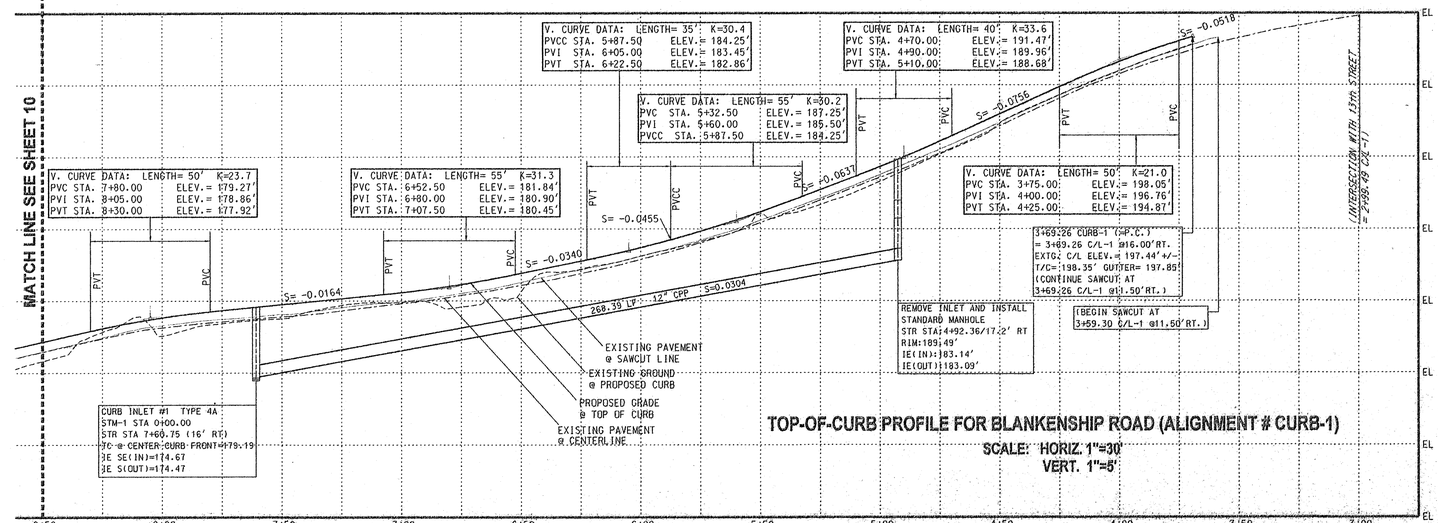
NOTES:
1. STANDARD CURB EXPOSURE SHALL BE 6".
2. PROVIDE 1" LIP FOR DRIVEWAY RAMP PER CITY DWG. #DW-251. THEREFORE, TOP OF CURB ELEVATION WILL BE 5" LESS AT DRIVEWAY RAMP. RAMPS ARE NOT SHOWN ON THE PROFILES. SEE PLAN FOR LOCATION OF DRIVEWAY RAMPS.
3. STATIONING ALONG ALIGNMENT "C/L-1" WAS ESTABLISHED BY O.D.O.T. FOR PORTION OF BLANKENSHIP AND DEBOK ROAD PER SURVEY RECORD. (PROPERTY AND RIGHT-OF-WAY DESCRIPTION RELATES TO "C/L-1")
4. ALIGNMENT "C/L-2" IS DEFINED FOR THAT PORTION OF BLANKENSHIP ROAD AS IT TURNS WEST, NEAR THE INTERSECTION WITH DEBOK ROAD.
5. ALIGNMENT "C/L-3" IS DEFINED FOR THAT PORTION OF THE RE-ALIGNED DEBOK ROAD AT INTERSECTION WITH BLANKENSHIP ROAD.
6. THE CURBS HAVE THEIR OWN ALIGNMENTS AND STATIONING.
7. ALIGNMENT "CURB-1" IS DEFINED AT THE FACE OF PROPOSED CURB (NORTH), FOR BLANKENSHIP ROAD AND THE RE-ALIGNED DEBOK ROAD FRONTAGE IMPROVEMENT FROM STA. 3+69.26 TO STA. 12+91.94 CURB-1.
8. ALIGNMENT "CURB-2" IS DEFINED AT THE FACE OF PROPOSED CURB (NORTHEAST), FOR THE REMAINING DEBOK ROAD FRONTAGE IMPROVEMENT FROM STA. 12+54.92 TO STA. 22+45.11 CURB-2.



TYPICAL BLANKENSHIP ROAD IMPROVEMENT SECTION
NTS

NOTE: DESIGN FROM STA 3+85.35 TO 6+50.34 IS BY THE CITY OF WEST LINN. W.B. WELLS AND ASSOCIATES ASSUME NO LIABILITY FOR SAFETY ISSUES FROM SAID DESIGN.





TOP-OF-CURB PROFILE FOR BLANKENSHIP ROAD (ALIGNMENT # CURB-1)
SCALE: HORIZ. 1"=30' VERT. 1"=5'

AS-BUILT

GRAPHIC SCALE: 1" = 30'

STORM SEWER NOTES:

1. UTILIZE BENDS AND FITTINGS AS NECESSARY TO FIT STORM SEWER UNDER WALLS AND SIDEWALK MAINTAIN MINIMUM COVER OF 1 FT OVER ANY PIPE.

A REMOVE AND REPLACE STAIRS

B CITY APPROVED AREA DRAIN RIM=184.64' OUT=183.04' 20.60 LF. 6"PVC S=0.04

C REMOVE 24" GRATE INSTALL 12" CLEANOUT W/RISER RIM=187.56' IN(E)4"=182.2' IN(NW)4"=182.2' OUT=182.2'

D CONNECT TO EXISTING 4"PVC 54 LF 4" PVC

E RECONNECT EXISTING SUBSURFACE DRAIN TO SYSTEM

F CLOUDED AREA IS A PRIVATE STORM SYSTEM

REVISIONS
- ROAD ALIGNMENT AND STORM CHANGES
- PER CITY OF WEST LINN (10-19-99)

DESIGNED: PC/FK/RT/DM | CHECKED: BSS
DRAWN: PC/FK/RT/DM | DATE: 1-28-00
SCALE: 1"=30' | DATE: 02/03/00
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STREET & STORM PLAN/PROFILE- BLANKENSHIP (I)

BLANKENSHIP & DeBOK AS-BUILT IMPROVEMENTS

for

CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

located in the

2/8/00

REGISTERED PROFESSIONAL ENGINEER 19,172 OREGON JULY 15, 1991 TAD L. ABRAHAM
EXP: 12/31/01

W.B. WELLS and associates inc.
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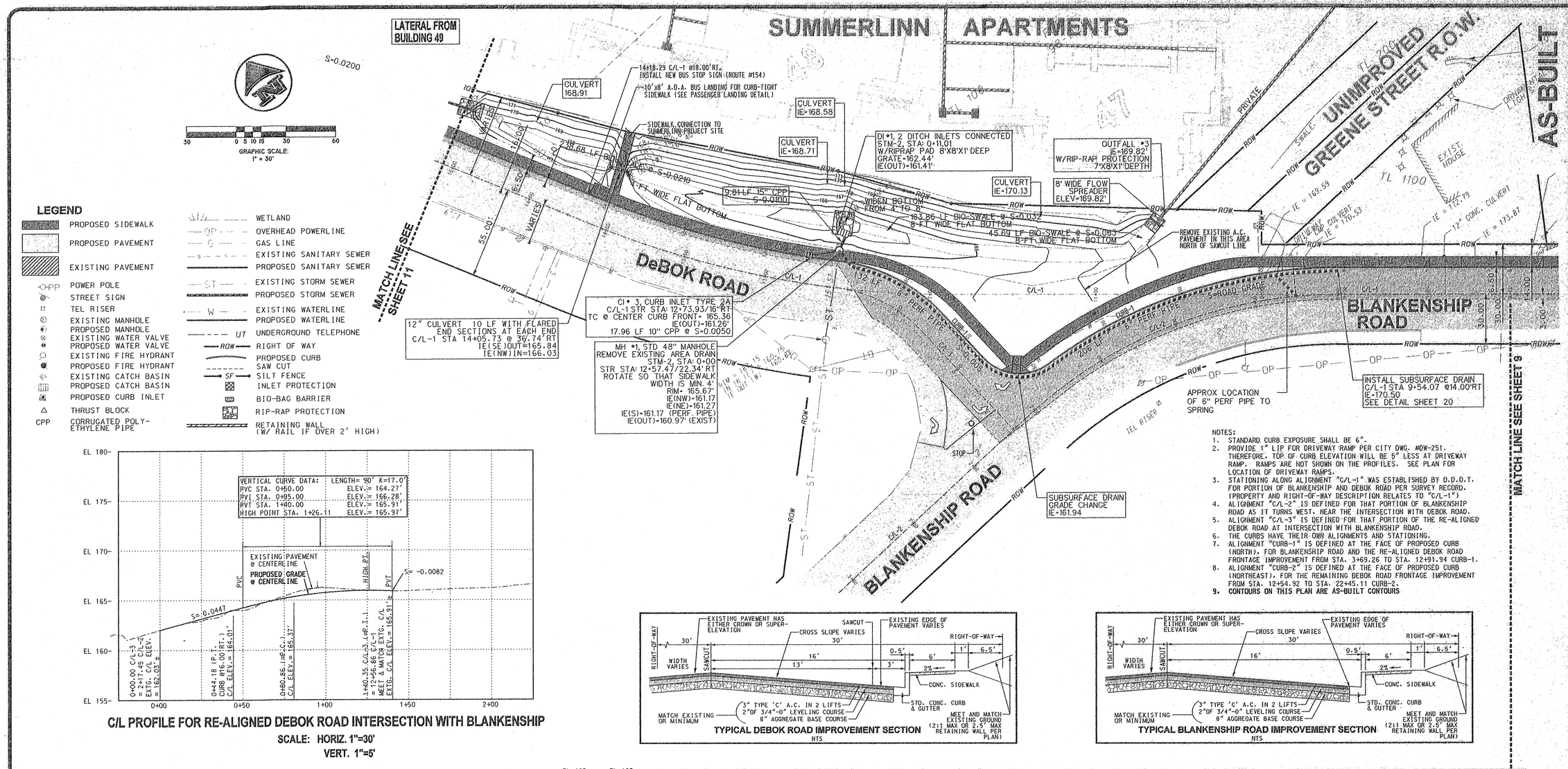
W.B. WELLS and Associates, Inc.



NOTES:

1. STANDARD CURB EXPOSURE SHALL BE 6".
2. PROVIDE 1" LIP FOR DRIVEWAY RAMP PER CITY DWG. #DW-251. THEREFORE, TOP OF CURB ELEVATION WILL BE 5" LESS AT DRIVEWAY RAMP. RAMPS ARE NOT SHOWN ON THE PROFILES. SEE PLAN FOR LOCATION OF DRIVEWAY RAMPS.
3. STATIONING ALONG ALIGNMENT "C/L-1" WAS ESTABLISHED BY D.D.O.T. FOR PORTION OF BLANKENSHIP AND DEBOK ROAD PER SURVEY RECORD. (PROPERTY AND RIGHT-OF-WAY DESCRIPTION RELATES TO "C/L-1")
4. ALIGNMENT "C/L-2" IS DEFINED FOR THAT PORTION OF BLANKENSHIP ROAD AS IT TURNS WEST, NEAR THE INTERSECTION WITH DEBOK ROAD.
5. ALIGNMENT "C/L-3" IS DEFINED FOR THAT PORTION OF THE RE-ALIGNED DEBOK ROAD AT INTERSECTION WITH BLANKENSHIP ROAD.
6. THE CURBS HAVE THEIR OWN ALIGNMENTS AND STATIONING.
7. ALIGNMENT "CURB-1" IS DEFINED AT THE FACE OF PROPOSED CURB (NORTH), FOR BLANKENSHIP ROAD AND THE RE-ALIGNED DEBOK ROAD FRONTAGE IMPROVEMENT FROM STA. 3+69.26 TO STA. 12+91.94 CURB-1.
8. ALIGNMENT "CURB-2" IS DEFINED AT THE FACE OF PROPOSED CURB (NORTHEAST), FOR THE REMAINING DEBOK ROAD FRONTAGE IMPROVEMENT FROM STA. 12+54.92 TO STA. 22+45.11 CURB-2.
9. **CONTOURS ON THIS PLAN ARE AS-BUILT CONTOURS**

REVISIONS

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DRAWN: PC/FK/RT/DM	DATE: 1-28-00
SCALE: 1"=30'	PLOTTED: 02/03/00
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STREET & STORM PLAN/PROFILE- BLANKENSHIP/DEBOK (II)

for

BLANKENSHIP & DeBOK AS-BUILT IMPROVEMENTS

located in the

CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

2/8/00

REGISTERED PROFESSIONAL ENGINEER 19,127 OREGON JULY 15, 1997 TAB L. ABRAHAM

EXP: 12/31/01

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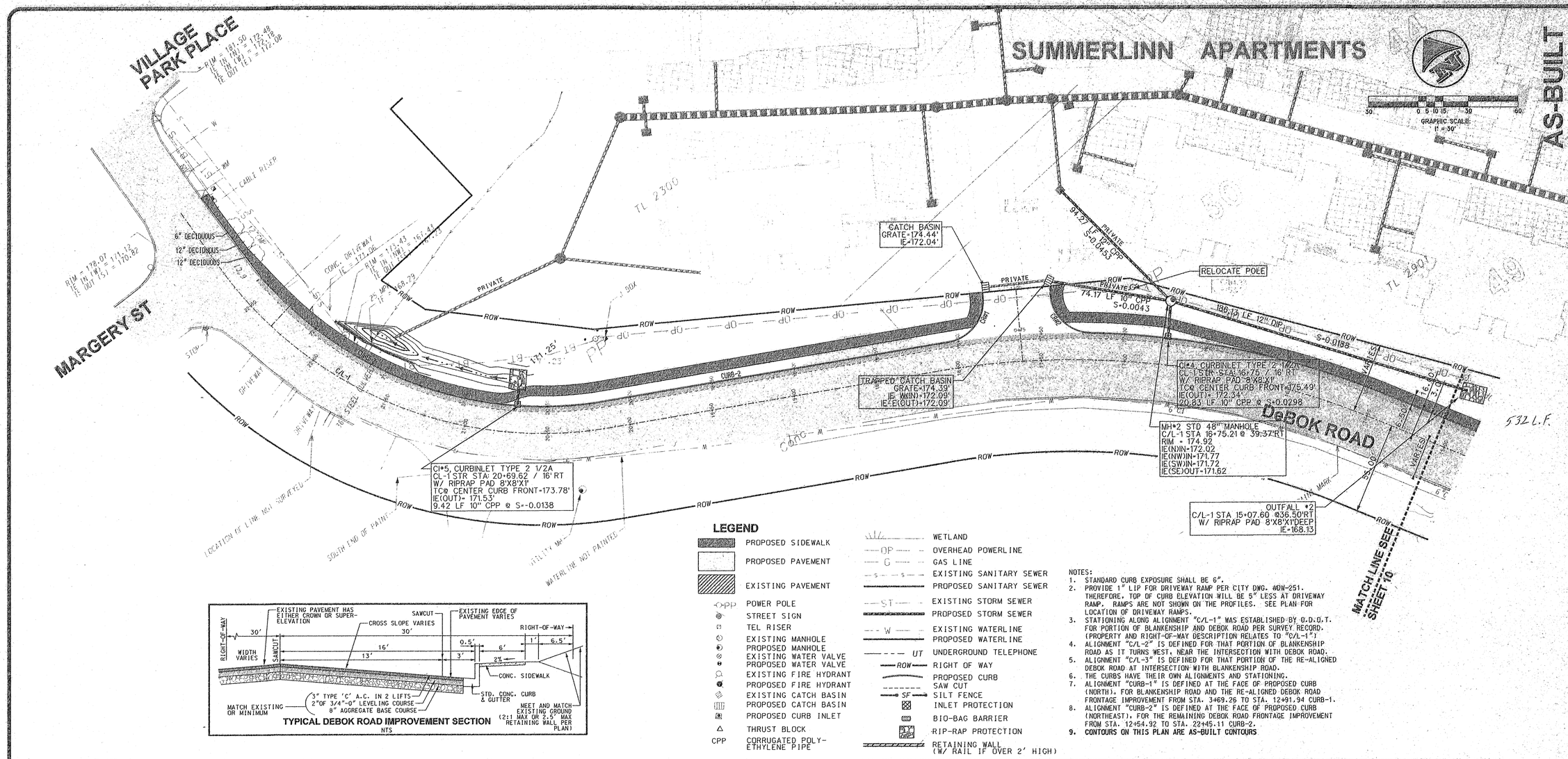
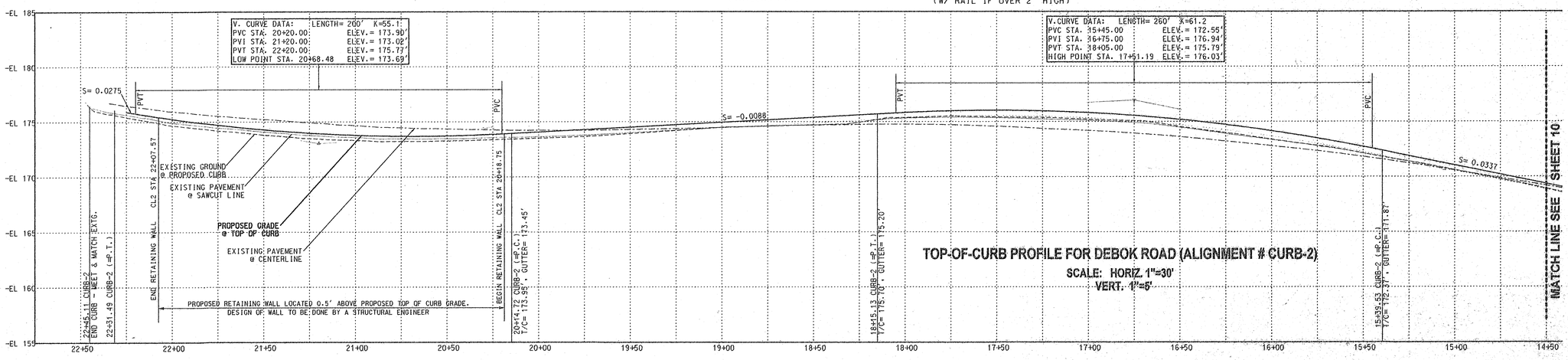
SHEET 10 of 20



NOTES:
1. STANDARD CURB EXPOSURE SHALL BE 6".
2. PROVIDE 1" LIP FOR DRIVEWAY RAMP PER CITY DWG. #DW-251. THEREFORE, TOP OF CURB ELEVATION WILL BE 5" LESS AT DRIVEWAY RAMP. RAMPS ARE NOT SHOWN ON THE PROFILES. SEE PLAN FOR LOCATION OF DRIVEWAY RAMPS.
3. STATIONING ALONG ALIGNMENT "C/L-1" WAS ESTABLISHED BY O.D.O.T. FOR PORTION OF BLANKENSHIP AND DEBOK ROAD PER SURVEY RECORD. (PROPERTY AND RIGHT-OF-WAY DESCRIPTION RELATES TO "C/L-1")
4. ALIGNMENT "C/L-2" IS DEFINED FOR THAT PORTION OF BLANKENSHIP ROAD AS IT TURNS WEST, NEAR THE INTERSECTION WITH DEBOK ROAD.
5. ALIGNMENT "C/L-3" IS DEFINED FOR THAT PORTION OF THE RE-ALIGNED DEBOK ROAD AT INTERSECTION WITH BLANKENSHIP ROAD.
6. THE CURBS HAVE THEIR OWN ALIGNMENTS AND STATIONING.
7. ALIGNMENT "CURB-1" IS DEFINED AT THE FACE OF PROPOSED CURB (NORTH), FOR BLANKENSHIP ROAD AND THE RE-ALIGNED DEBOK ROAD FRONTAGE IMPROVEMENT FROM STA. 3+69.26 TO STA. 12+91.94 CURB-1.
8. ALIGNMENT "CURB-2" IS DEFINED AT THE FACE OF PROPOSED CURB (NORTHEAST), FOR THE REMAINING DEBOK ROAD FRONTAGE IMPROVEMENT FROM STA. 12+54.92 TO STA. 22+45.11 CURB-2.
9. **CONTOURS ON THIS PLAN ARE AS-BUILT CONTOURS**

TYPICAL DEBOK ROAD IMPROVEMENT SECTION
NTS



TOP-OF-CURB PROFILE FOR DEBOK ROAD (ALIGNMENT # CURB-2)
SCALE: HORIZ. 1"=30'
VERT. 1"=5'

REVISIONS
1 6-1-99 - CHANGED SIDEWALK ALIGNMENT
2
3
4
5

DESIGNED: PC/RK/RT/DM | CHECKED: BSS
DRAWN: PC/RK/RT/DM | DATE: 1-28-00
SCALE: 1"=40' | PLOTTED: 02/03/00
JOB NO.: 98-340 | FILE: P:\98-340\Temp\Offsite\DeBok_Blank\Kabuki.dwg

STREET & STORM PLAN/PROFILE- DEBOK (III)
for
BLANKENSHIP & DeBOK AS-BUILT IMPROVEMENTS
located in the
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

2/9/00

REGISTERED PROFESSIONAL ENGINEER
19,122
OREGON
JAN. 15, 1987
TAB L. ABRAHAM
EXP: 12/31/01

W.B. WELLS and associates inc.
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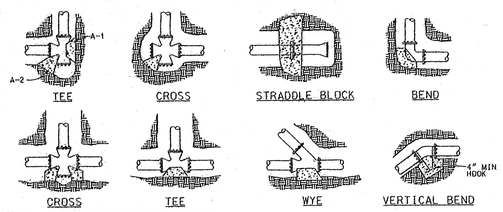
SHEET 11 of 20

(HORIZONTAL) BEARING AREA OF THRUST BLOCKS IN SQUARE FEET									(VERTICAL) VOLUME OF THRUST BLOCK IN CUBIC YARDS			
FITTING SIZE	TEE, WYE, DEAD END AND HYDRANT	STRADDLE BLOCK	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN A-1	TEE PLUGGED ON RUN A-2	45° BEND	22-1/2° BEND	11-1/4° BEND	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4	1.0	1.6	1.4	1.9	1.4	1.0	---	---	---	---	---	---
6	2.1	3.7	3.0	4.3	3.0	1.6	1.0	---	1.3	---	---	---
8	3.8	6.5	5.3	7.6	5.4	2.9	1.5	1.0	2.3	1.1	---	---
10	5.9	10.2	8.4	11.8	8.4	4.6	2.4	1.2	3.7	1.8	---	---
12	8.5	14.7	12.0	17.0	12.0	6.6	3.4	1.7	5.5	2.8	1.2	---
14	11.5	---	16.3	23.0	16.3	8.9	4.6	2.3	7.6	3.9	1.7	---
16	15.0	26.1	21.3	30.0	21.3	11.6	6.0	3.0	9.9	5.1	2.3	0.9
18	19.0	---	27.0	38.0	27.0	14.6	7.6	3.8	---	---	---	---
20	23.5	40.8	33.3	47.0	33.3	18.1	9.4	4.7	---	---	---	---
24	34.0	58.8	48.0	68.0	48.0	26.2	13.6	6.8	---	---	---	---

NOTES:
1. ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:
   BEARING AREA = (TEST PRESSURE / 150) x (2000 / SOIL BEARING STRESS) x (TABLE VALUE)
2. ABOVE VOLUMES BASED ON TEST PRESSURE OF 150 PSI AND THE WEIGHT OF CONCRETE = 4050 POUNDS PER CUBIC YARD. TO COMPUTE FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION:
   VOLUME = (TEST PRESSURE / 150) x (TABLE VALUE)



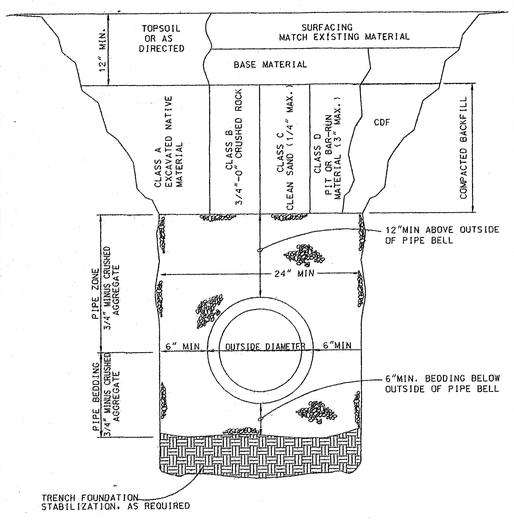
RODS FOR VERTICAL BENDS		
FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	#6	30"
14"-16"	#8	36"

NOTES:
1. CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. ALL CONCRETE TO BE CLASS 2400 MINIMUM.
3. INSTALL ISOLATION MATERIAL BETWEEN PIPE AND/OR FITTINGS BEFORE POURING CONCRETE BLOCKING.
4. CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
5. TIE RODS SHALL BE DEFORMED GALVANIZED COLD ROLLED STEEL, 40000 PSI TENSILE STRENGTH.

APWA OREGON CHAPTER

THRUST BLOCKING

DATE: MAY 1992 | DRAWING NO. 401



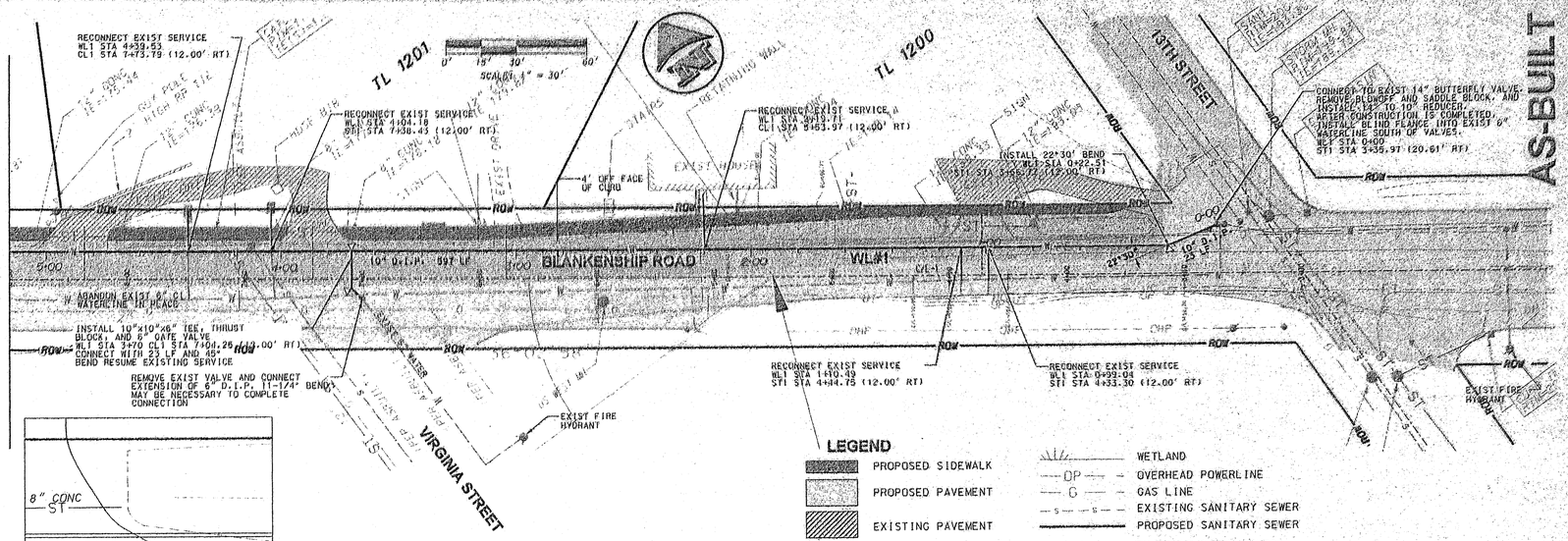
NOTE:
SURFACING OF PAVED AREAS SHALL COMPLY WITH STREET CUT STANDARD DRAWING.

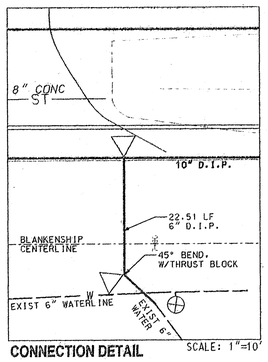
APWA OREGON CHAPTER

TRENCH BACKFILL, BEDDING AND PIPE ZONE

DATE: AUG 1996 | DRAWING NO. 301

MATCH LINE SEE SHEET 19
WL1 STA 5+15.75 CL1 STA 8+50



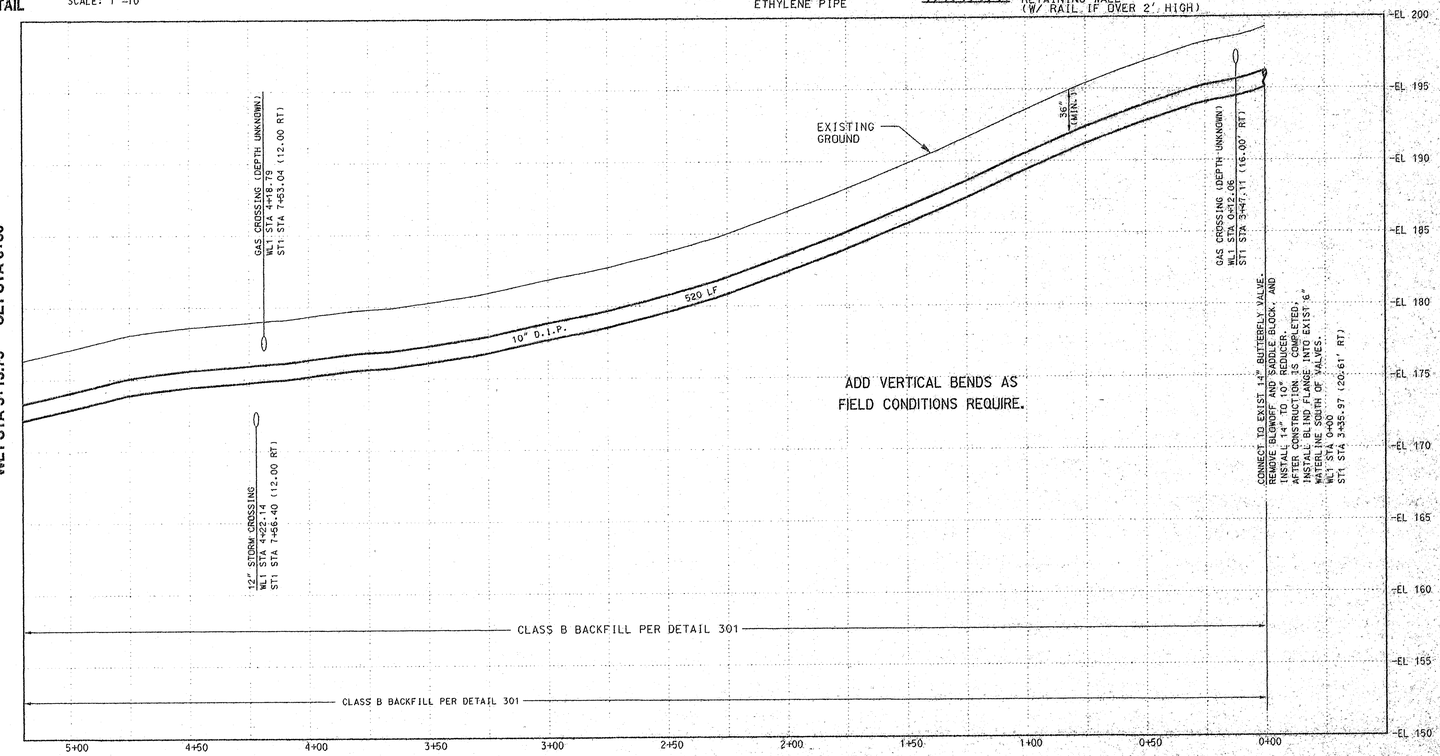


CONNECTION DETAIL SCALE: 1"=10'

LEGEND

	PROPOSED SIDEWALK		WETLAND
	PROPOSED PAVEMENT	DP	OVERHEAD POWERLINE
	EXISTING PAVEMENT	G	GAS LINE
PP	POWER POLE	S	EXISTING SANITARY SEWER
	STREET SIGN	S	PROPOSED SANITARY SEWER
	TEL RISER	ST	EXISTING STORM SEWER
	EXISTING MANHOLE	ST	PROPOSED STORM SEWER
	PROPOSED MANHOLE	W	EXISTING WATERLINE
	EXISTING WATER VALVE	W	PROPOSED WATERLINE
	PROPOSED WATER VALVE	UT	UNDERGROUND TELEPHONE
	EXISTING FIRE HYDRANT	ROW	RIGHT OF WAY
	PROPOSED FIRE HYDRANT		PROPOSED CURB
	EXISTING CATCH BASIN		SAW CUT
	PROPOSED CATCH BASIN	SF	SILT FENCE
	PROPOSED CURB INLET		INLET PROTECTION
	THRUST BLOCK		BIO-BAG BARRIER
CPP	CORRUGATED POLY-ETHYLENE PIPE		RIP-RAP PROTECTION
			RETAINING WALL (W/ RAIL IF OVER 2' HIGH)

MATCH LINE SEE SHEET 19
WL1 STA 5+15.75 CL1 STA 8+50



WATERLINE PROFILE FOR BLANKENSHIP ROAD (I)

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

REVISIONS

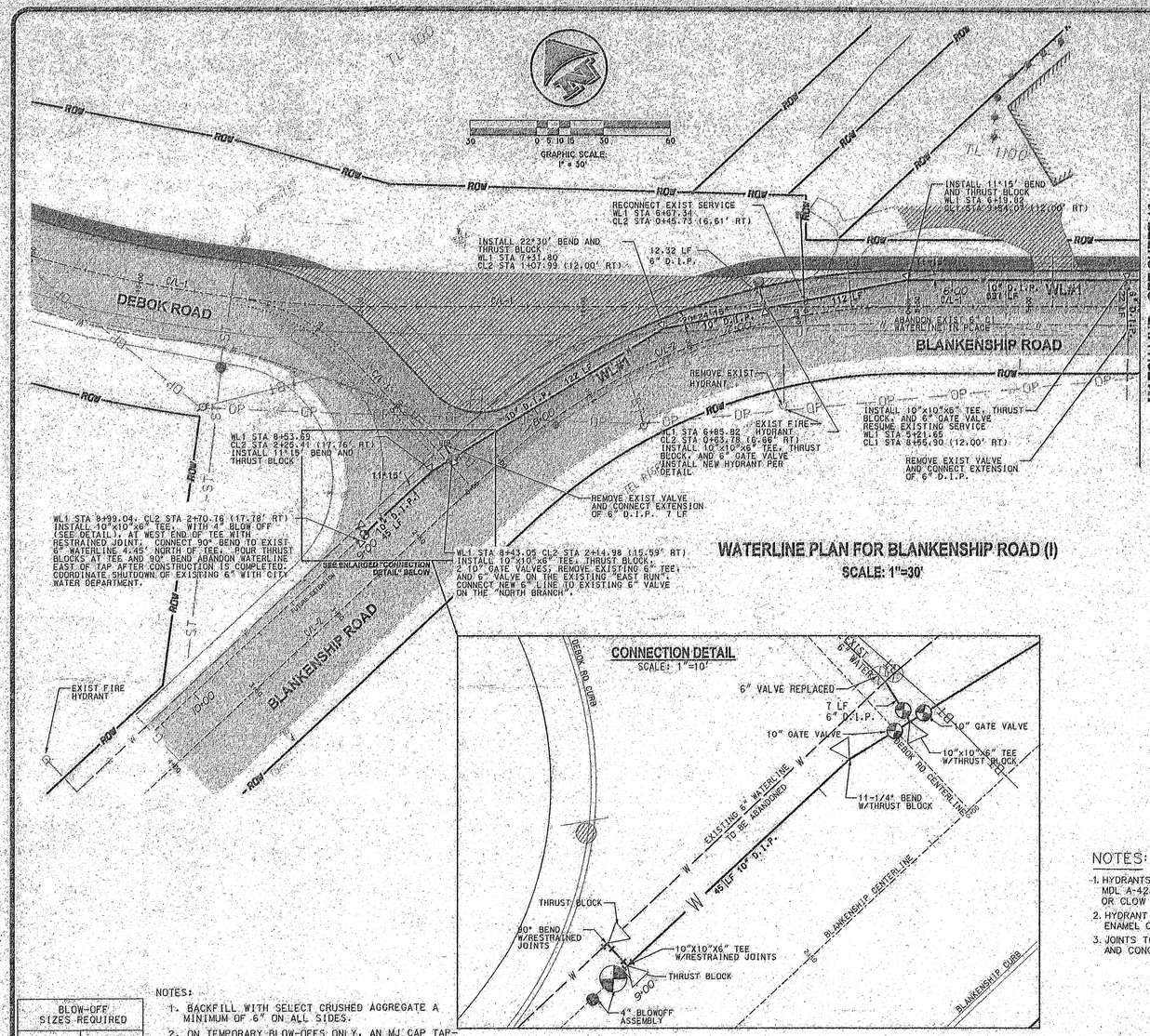
WATERLINE (STA 0+00 TO 5+19.75)
for
BLANKENSHIP & DeBOK AS-BUILT IMPROVEMENTS
located in the
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

2/9/00

REGISTERED PROFESSIONAL ENGINEER 11-127 OREGON JULY 15, 1997 TAB L. ABRAHAM
EXP: 12/31/01

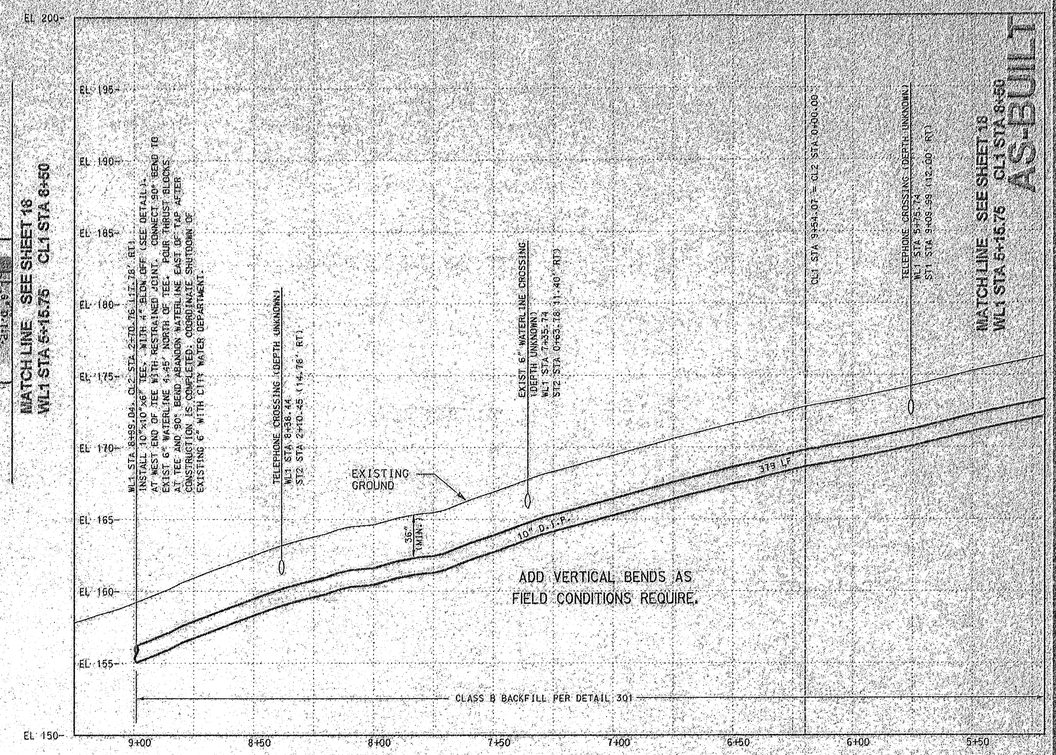
W.B. WELLS and associates inc.
ENGINEERS • SURVEYORS • PLANNERS
4230 NE FREMONT STREET
PORTLAND, OREGON 97213
PHONE (503) 284-5896
FAX (503) 284-8530

SHEET 18 of 20



WATERLINE PLAN FOR BLANKENSHIP ROAD (I)

SCALE: 1"=30'



WATERLINE PROFILE FOR BLANKENSHIP ROAD (II)

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

REVISIONS

DESIGNED: RC/FR/LT/DM CHECKED: SSC
DRAWN: RC/FR/LT/DM DATE: 1-28-00
SCALE: 1"=30' PLOTTED 12/28/00
JOB NO.: 96-340
FILE: P:\96-340\WATER\DEBOK\BLANKENSHIP\

WATERLINE (STA 5+19.75 TO STA 8+99.04)

for

BLANKENSHIP & DeBOK AS-BUILT IMPROVEMENTS

located in the

CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

2/9/00

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 15, 1997 — FAB L. ABRAHAM — EXP: 12/31/01

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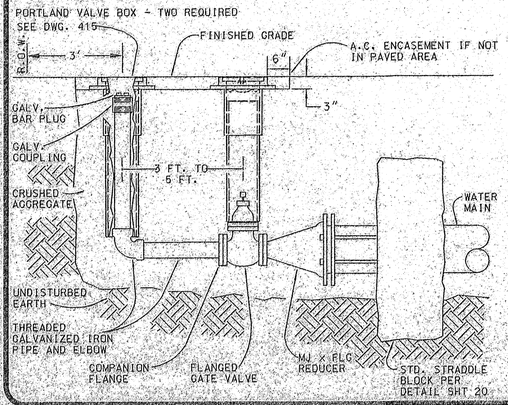
SHEET 19 of 20

BLOW-OFF SIZES REQUIRED	
MAIN SIZE	BLOW-OFF SIZE
4" TO 6"	2"
8" TO 12"	4"
14" TO 18"	6"
20" & UP	PER ENGR.

NOTES:

1. BACKFILL WITH SELECT CRUSHED AGGREGATE A MINIMUM OF 6" ON ALL SIDES.
2. ON TEMPORARY BLOW-OFFS ONLY, AN MJ CAP TAPPED 4" OR 6" MAY BE SUBSTITUTED FOR REDUCER.
3. TEMPORARY BLOW-OFF IS ONE REMOVED AT THE END OF PROJECT CONSTRUCTION. A PERMANENT BLOW-OFF REMAINS ON THE PROJECT AFTER ACCEPTANCE.
4. PLACE BLOW-OFF STANDPIPE 3 FT. INSIDE R.O.W. LINE AT END OF STREET (2FT. FROM BARRICADE).

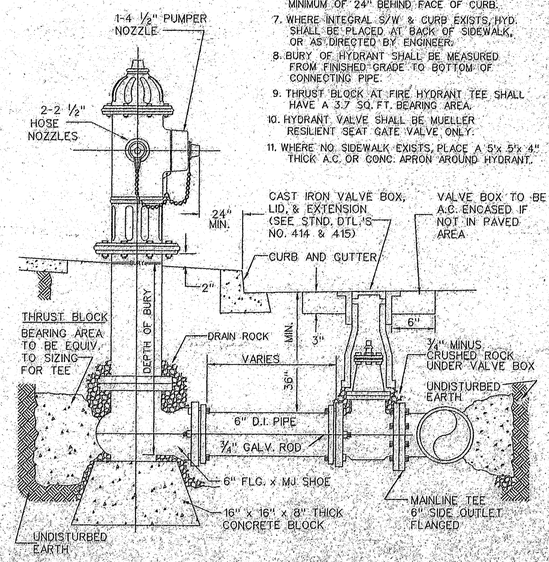


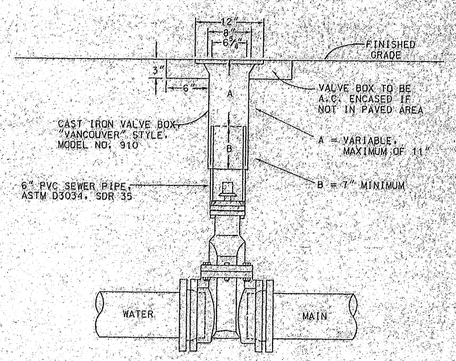
LEGEND

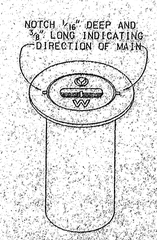
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT
	EXISTING PAVEMENT
PP	POWER POLE
	STREET SIGN
	TEL RISER
	EXISTING MANHOLE
	PROPOSED MANHOLE
	EXISTING WATER VALVE
	PROPOSED WATER VALVE
	EXISTING FIRE HYDRANT
	PROPOSED FIRE HYDRANT
	EXISTING CATCH BASIN
	PROPOSED CATCH BASIN
	PROPOSED CURB INLET
	THRUST BLOCK
CRP	CORRUGATED POLY-ETHYLENE PIPE
	WETLAND
OP	OVERHEAD POWERLINE
G	GAS LINE
S	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
ST	EXISTING STORM SEWER
	PROPOSED STORM SEWER
W	EXISTING WATERLINE
	PROPOSED WATERLINE
UT	UNDERGROUND TELEPHONE
ROW	RIGHT OF WAY
	PROPOSED CURB
	SAW CUT
SF	SILT FENCE
	INLET PROTECTION
	BIO-BAG BARRIER
	RIP-RAP PROTECTION
	RETAINING WALL (W/ RAIL IF OVER 2' HIGH)

NOTES:

1. HYDRANTS TO BE MUELLER CENTURION MDL A-423 ONLY WITH 1½" OPER. NUTS. OR CLOW MEDDALION F-2546.
2. HYDRANT COLOR TO BE MILLER EQUIP. ENAMEL O E 40 (SAFETY YELLOW).
3. JOINTS TO BE RESTRAINED BY MEGA-LUGS AND CONCRETE THRUST BLOCKS.
4. ALL FITTINGS IN CONTACT W/CONCRETE SHALL BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
5. 1½" - ¾" CLEAN DRAIN ROCK SHALL BE PLACED A MIN. OF 6" ABOVE DRAIN OUTLET.
6. WHERE PLANTER STRIP EXISTS, HYDRANT SHALL BE PLACED SO FRONT PORT IS A MINIMUM OF 24" BEHIND FACE OF CURB.
7. WHERE INTEGRAL S/W & CURB EXISTS, HYD. SHALL BE PLACED AT BACK OF SIDEWALK, OR AS DIRECTED BY ENGINEER.
8. BURY OF HYDRANT SHALL BE MEASURED FROM FINISHED GRADE TO BOTTOM OF CONNECTING PIPE.
9. THRUST BLOCK AT FIRE HYDRANT TEE SHALL HAVE A 3.7 SQ.FT. BEARING AREA.
10. HYDRANT VALVE SHALL BE MUELLER RESILIENT SEAT GATE VALVE ONLY.
11. WHERE NO SIDEWALK EXISTS, PLACE A 5'x 5'x 4" THICK A.C. OR CONC. APRON AROUND HYDRANT.







NOTES:

1. VALVE BOXES SHALL BE CENTERED DIRECTLY OVER THE VALVE NUT IN A VERTICAL POSITION.
2. VALVE BOX TOP SHALL BE ADJUSTED TO MEET FINISHED GRADE.
3. PVC SHALL BE ONE CONTINUOUS PIECE - NO BELLS OR COUPLERS.