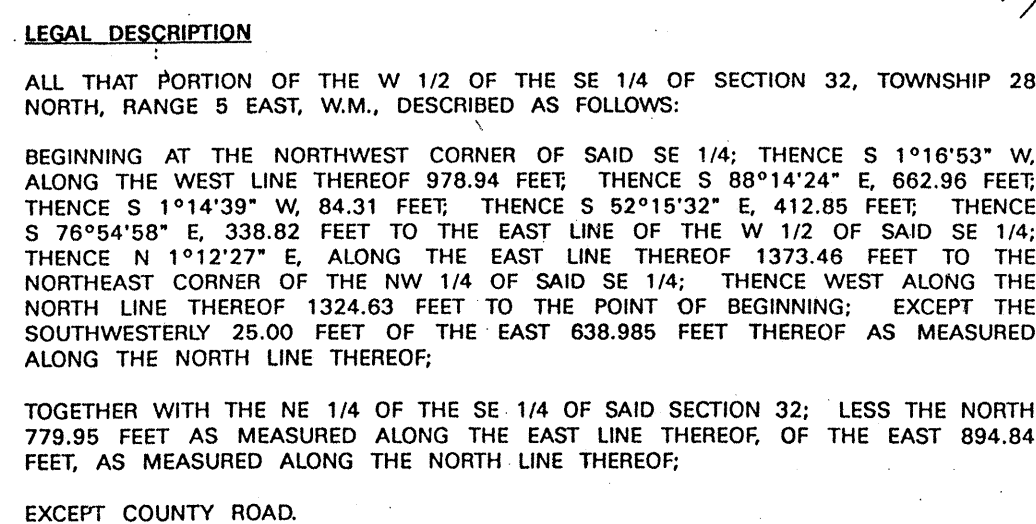
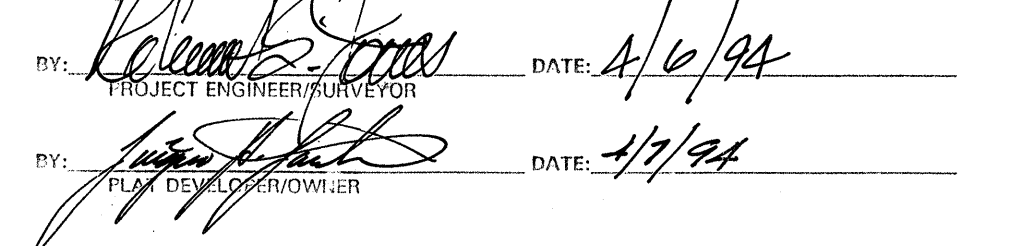
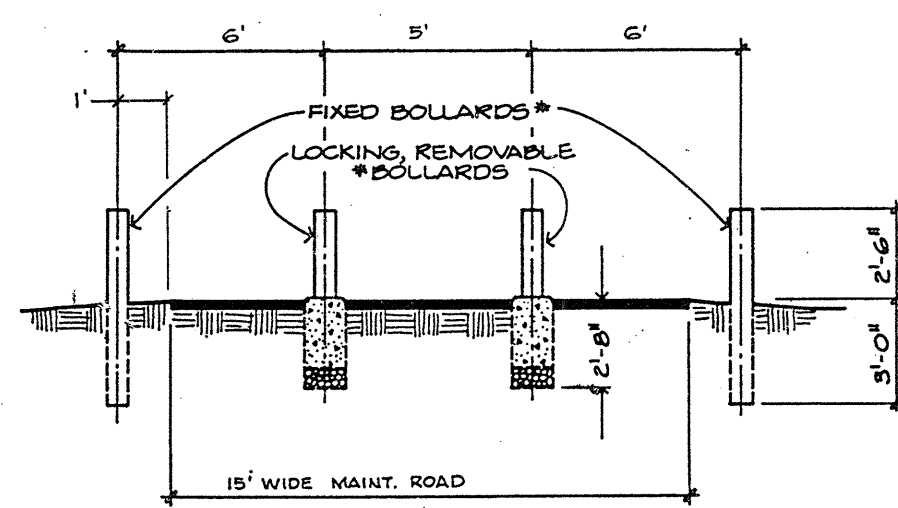
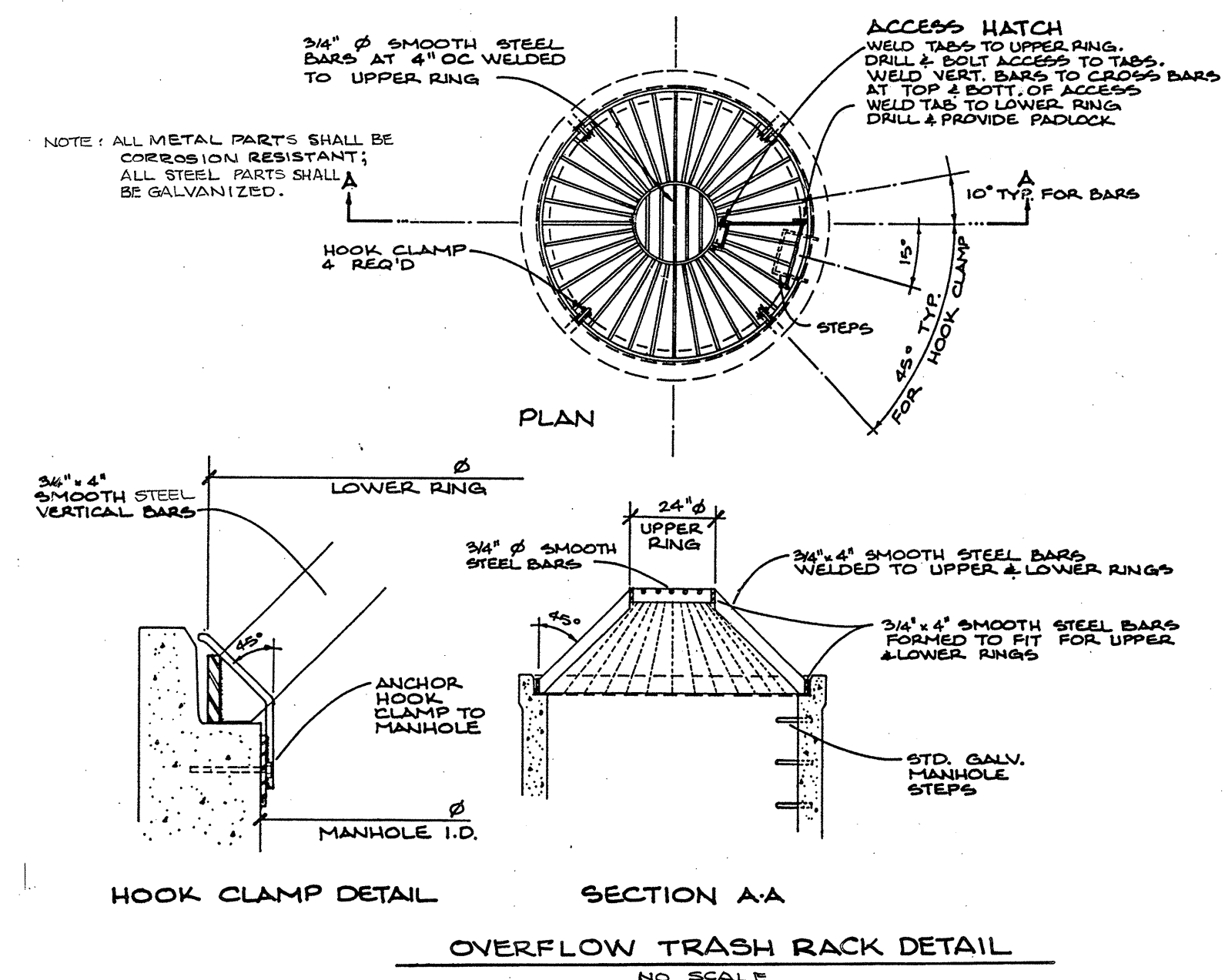
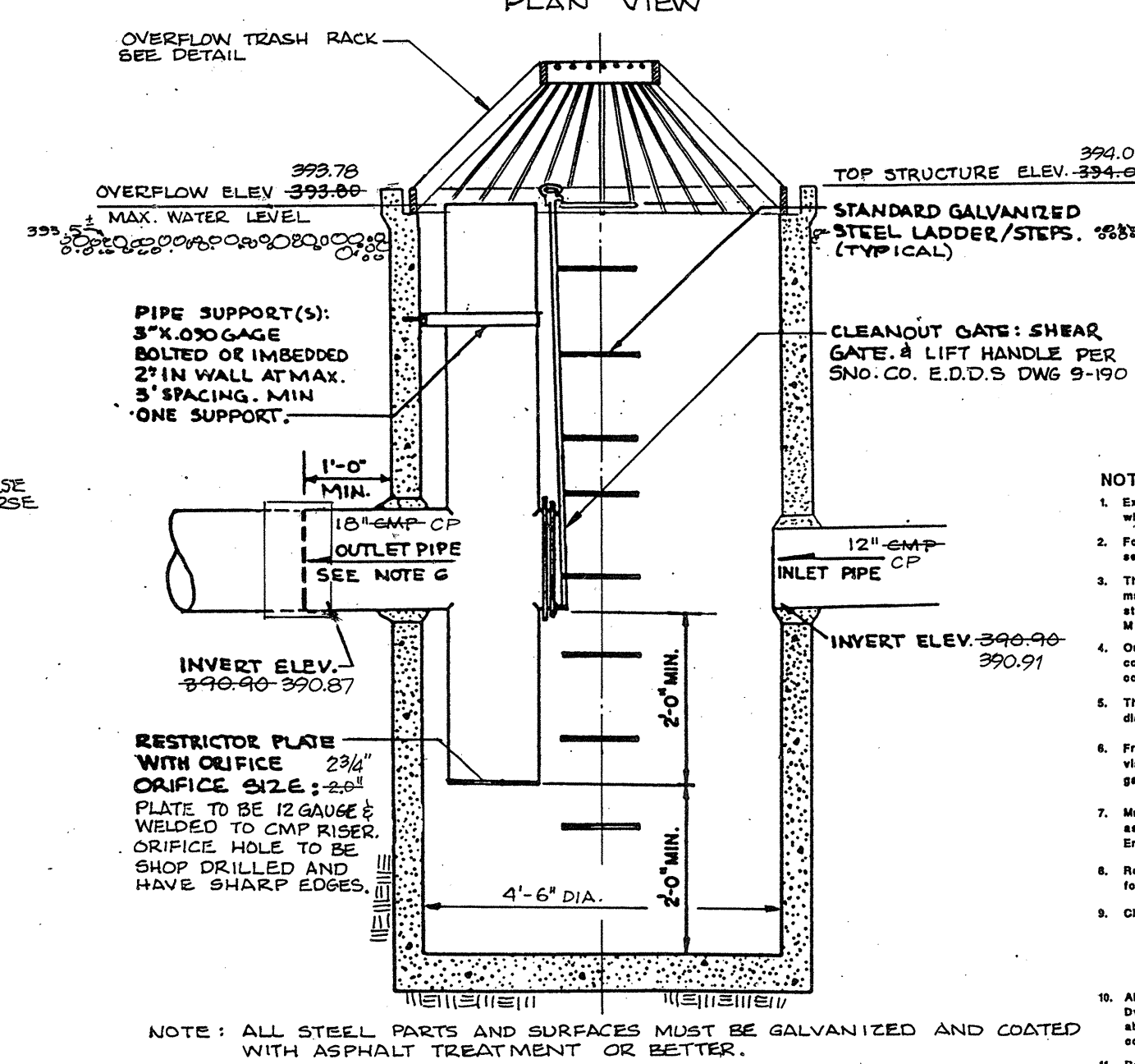
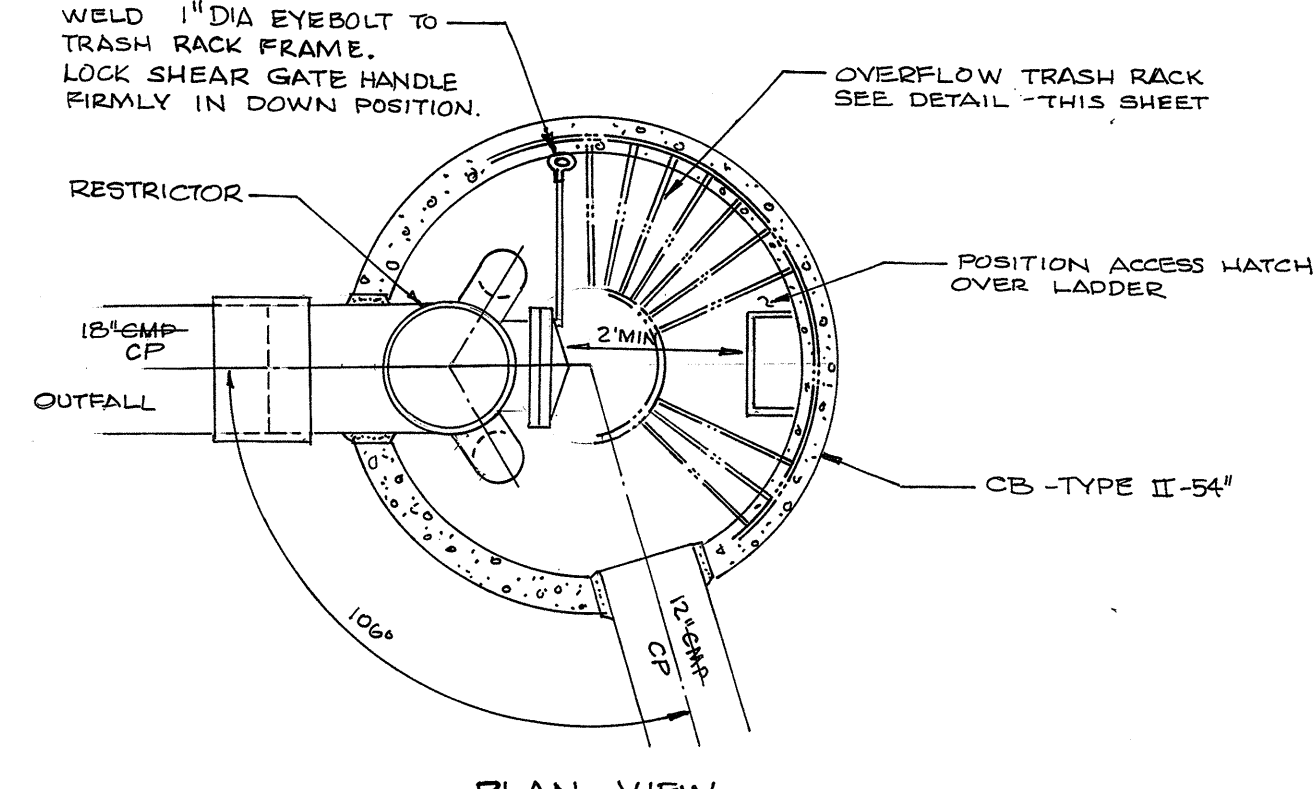
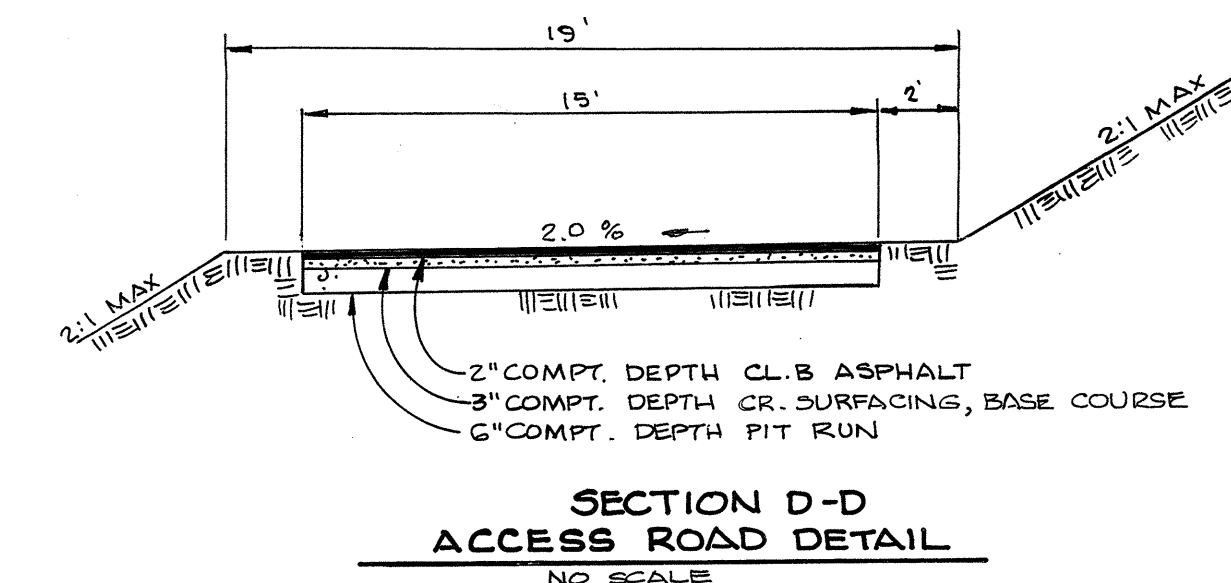


SNOHOMISH COUNTY, WASHINGTON





* BOLLARDS TO BE 8"x8" ROUGH,
WOOD POSTS- SEE SCPW 6-130.

BOLLARD DETAIL

N.T.S.

SNOWHOMISH COUNTY
COMMUNITY DEVELOPMENT DIVISION
APPROVED FOR CONSTRUCTION
BY: Randolph R. Sleight DATE: 10/4/93
FOR RANDOLPH R. SLEIGHT, P.E., P.E.S.
RAW PERMIT NO. RW1256

DETENTION POND "B" DETAILS
FOR
RHOD-A-ZALEA GARDENS

IN S.E. 1/4 OF SECTION 32, T.28 N., R.5 E., W.M.
SNOHOMISH COUNTY, WASHINGTON

ZA 8802041

712

HDEV- ~~SECRET~~

3	PER COUNTY AS-BUILT REVIEW	3 MAY 94	RCN
2	FINAL AS-BUILTS, DIV.1	6 APRIL 94	RCN
1	REVISED PER SNO. CO. REVIEW	8 AUG '93	MM

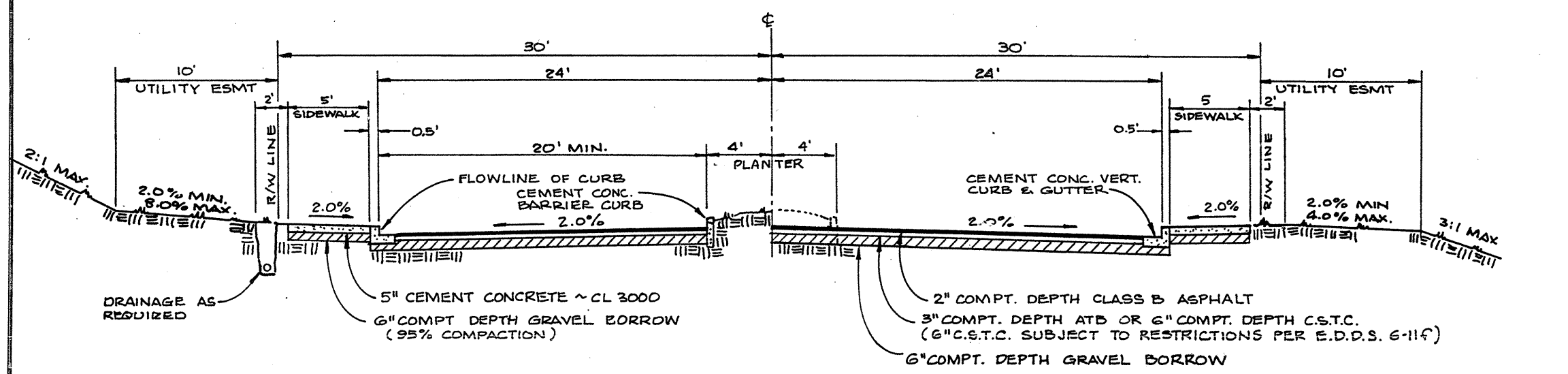
L S A Lovell-Sauerland & Associates, Inc.
Engineers/Surveyors/Planners/Development Consultants

19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206) 775-1591 • (206) 340-0830

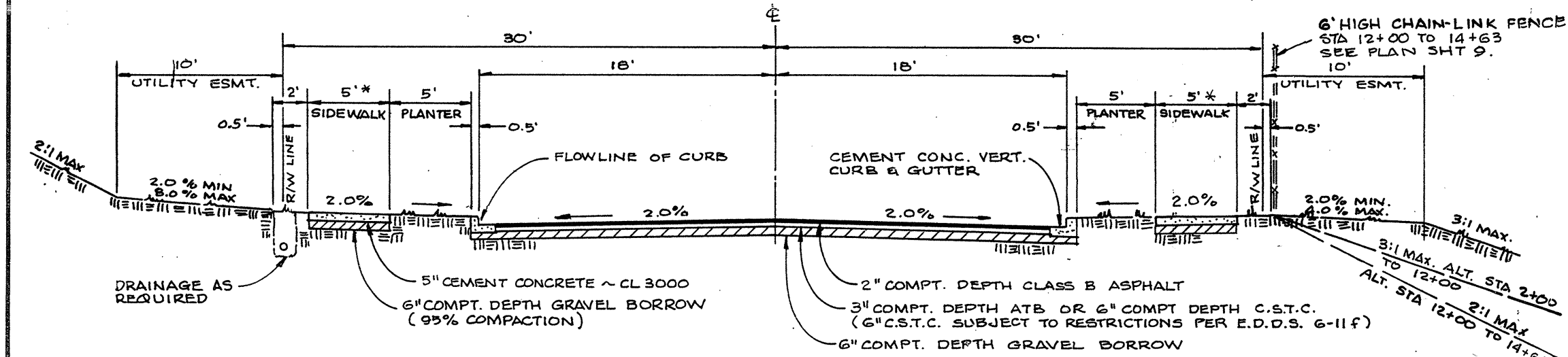
DRAWN	CHECKED	DATE	F.B.	SCALE	FILE NO.
ALV	RSJ	JAN., 1993		AS NOTED	2866

SHEET 12 OF 30

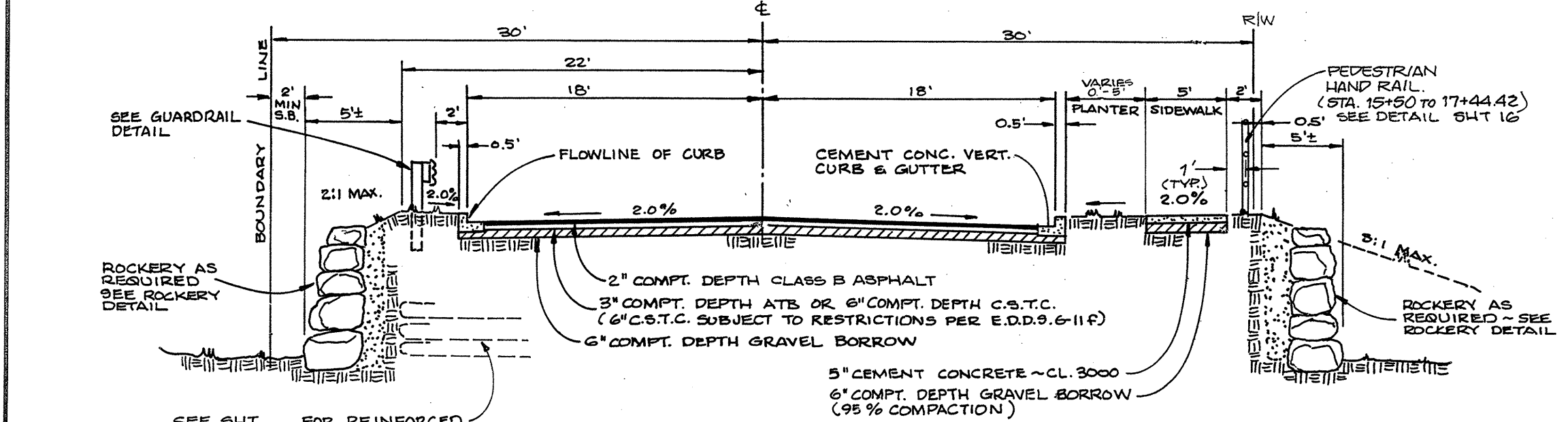
HIGHLAND TRAILS



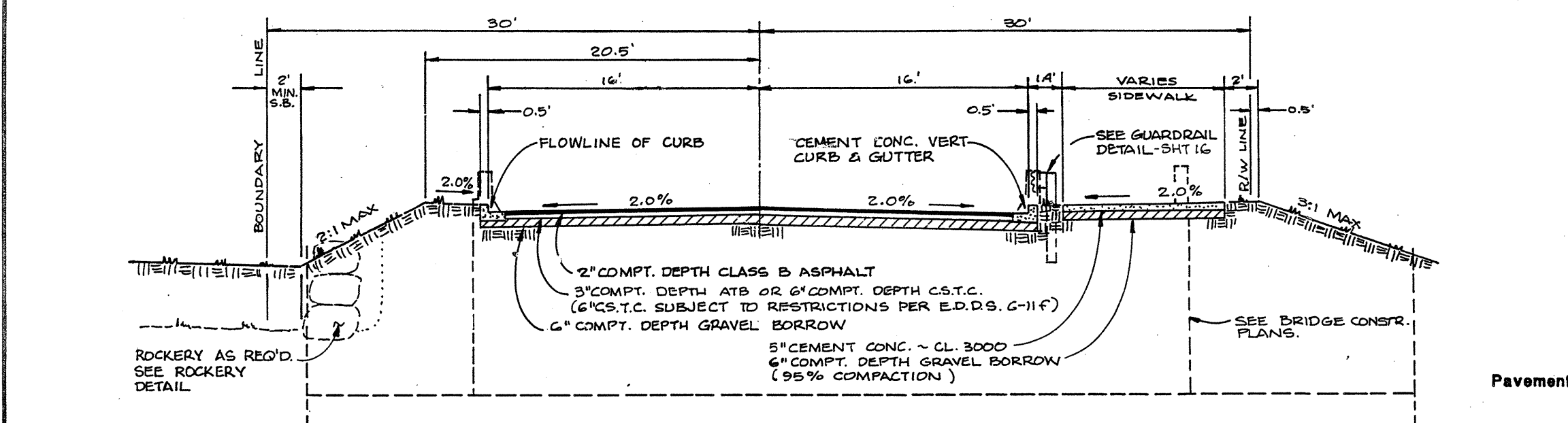
TYPICAL 60' URBAN COLLECTOR ROAD SECTION

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144 TH ST. S.E. (STA 0+30 TO 2+09.29)

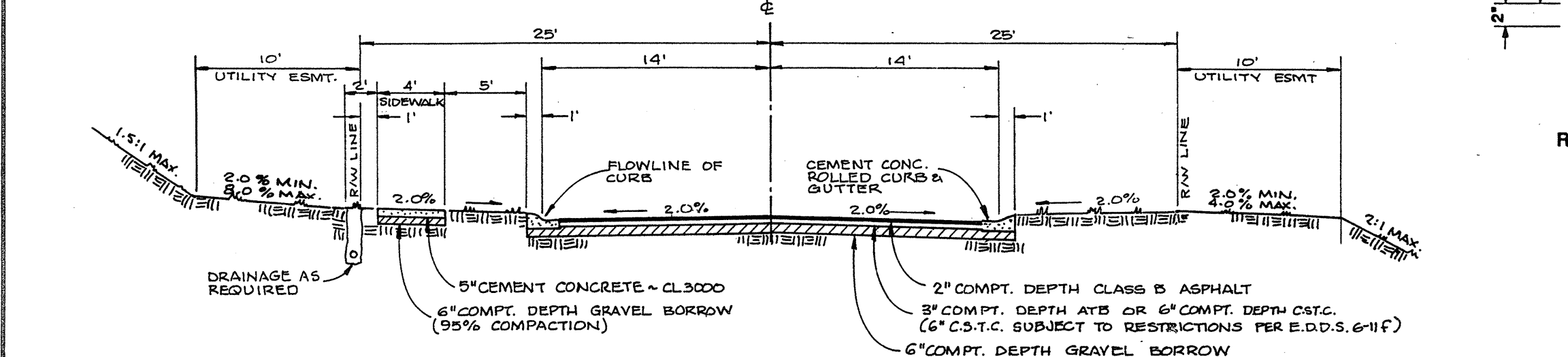
TYPICAL 60' URBAN COLLECTOR ROAD SECTION

N.T.S.
144 TH ST. S.E. (STA 3+37.99 TO 16+52.44) AND 30TH AVE S.E. (STA 19+65 TO 52+02.45)

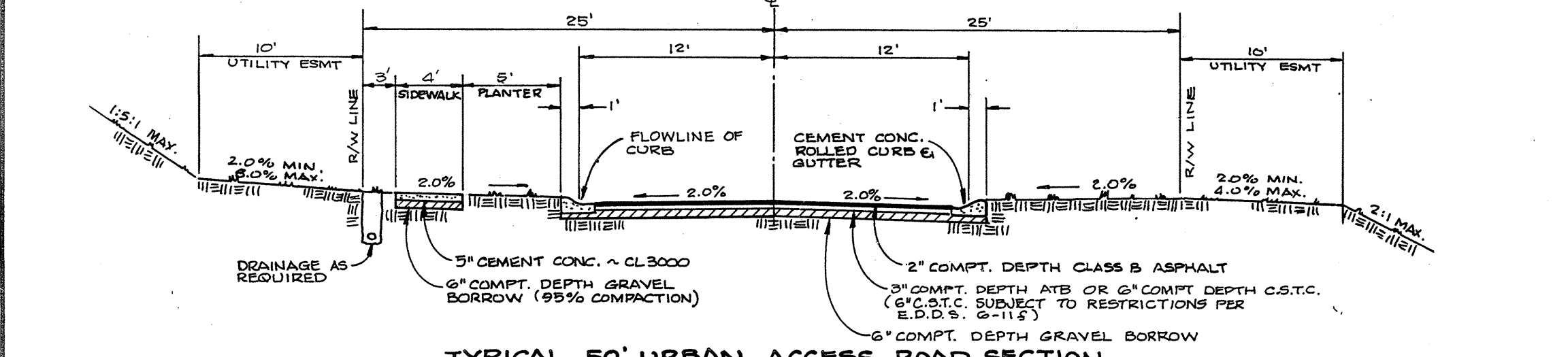
SPECIAL 60' URBAN COLLECTOR ROAD SECTION

N.T.S.
144 TH ST. S.E. (STA 16+52.44 TO 17+44.42)

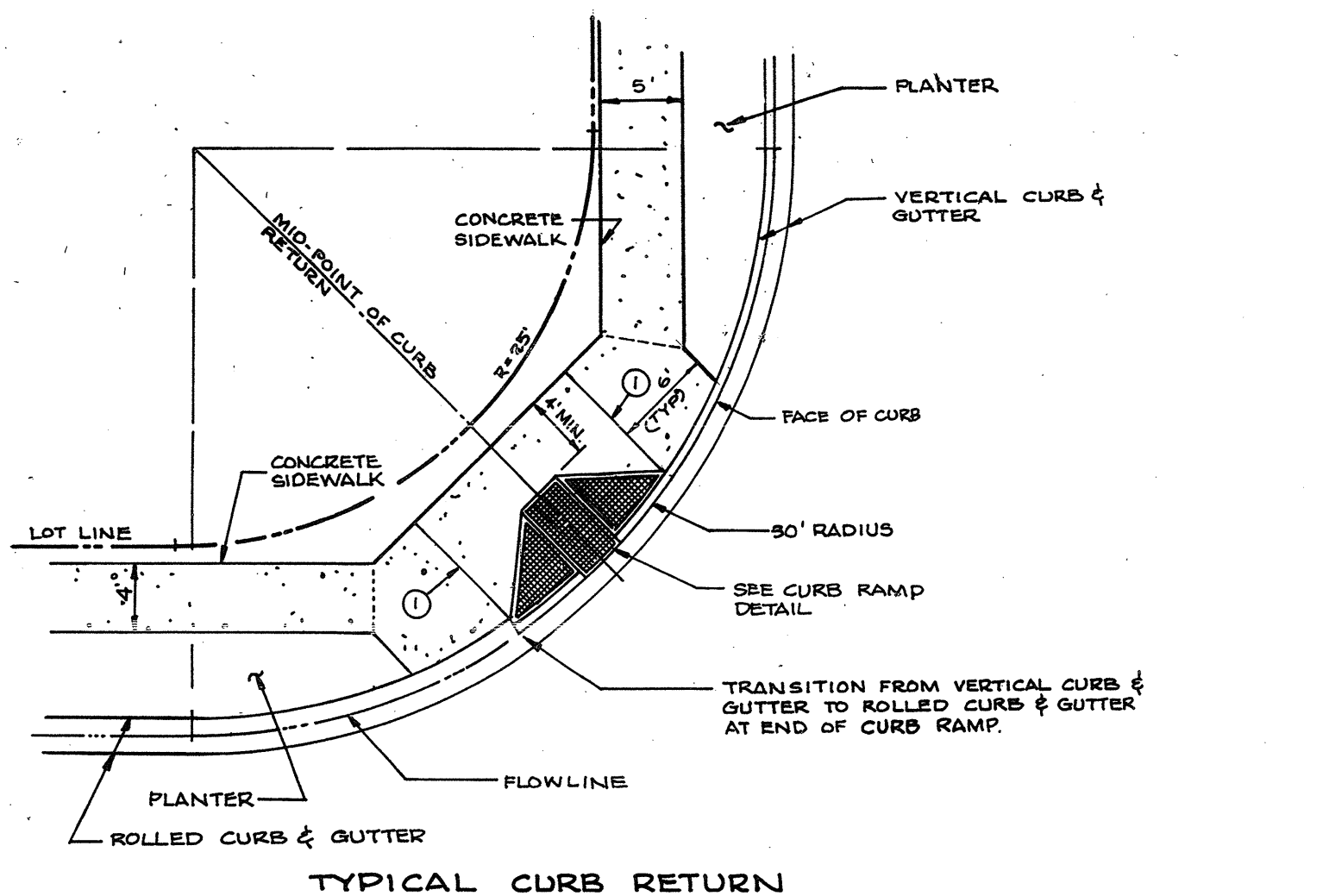
SPECIAL 60' URBAN COLLECTOR ROAD SECTION

N.T.S.
144 TH ST. S.E. (STA 18+30.16 TO 19+04.)

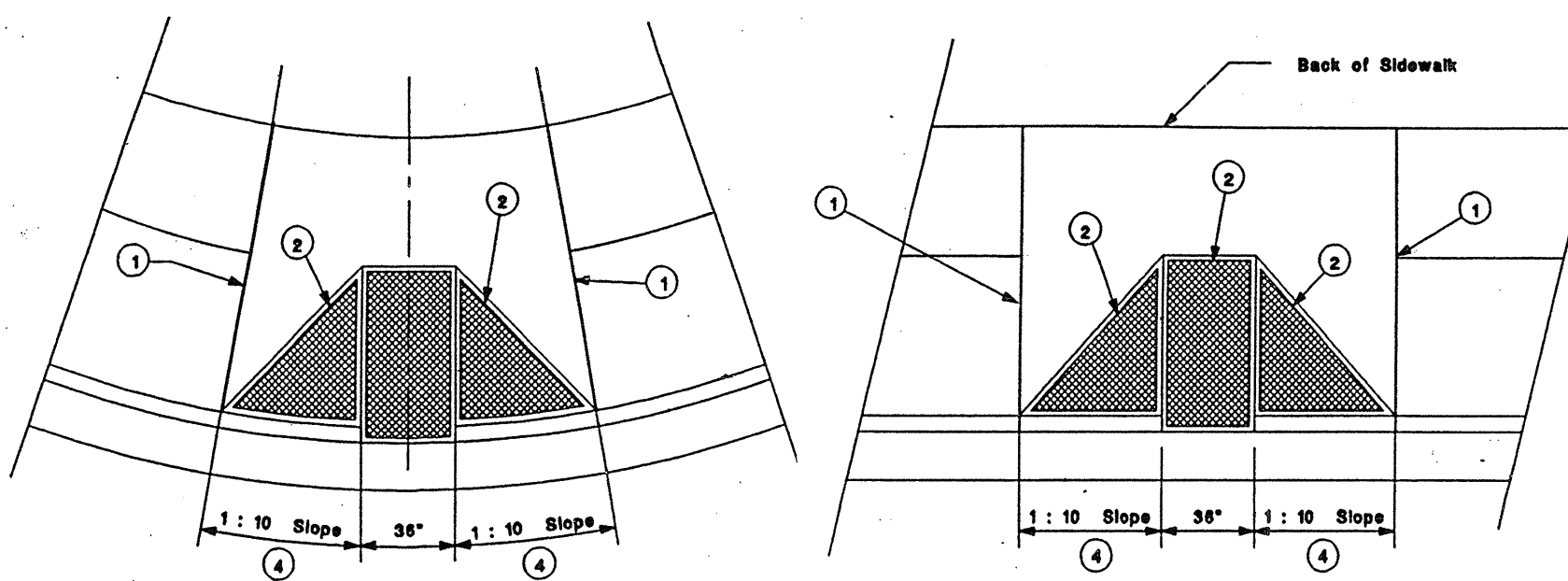
TYPICAL 50' URBAN SUBCOLLECTOR ROAD SECTION

N.T.S.
140 TH PL. S.E.; 27 TH DR. S.E.; 143 RD ST. S.E.

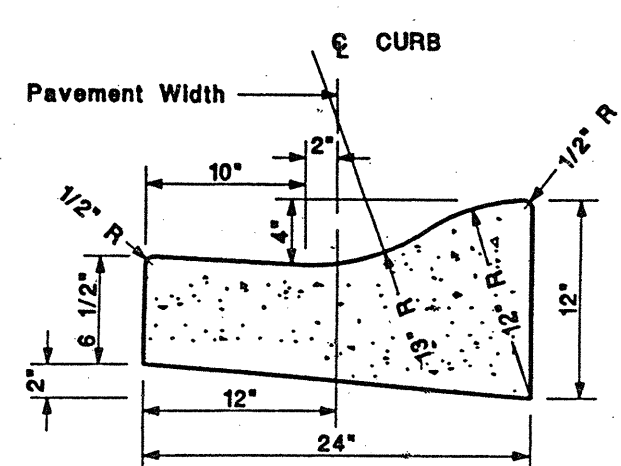
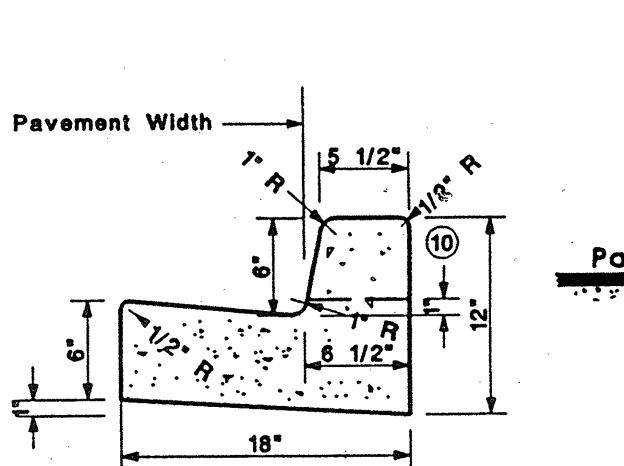
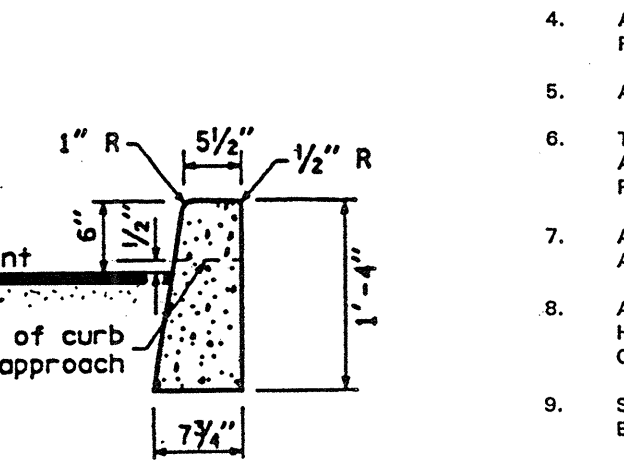
TYPICAL 50' URBAN ACCESS ROAD SECTION

N.T.S.
28 TH DR. S.E.; 29 TH AVE. S.E.; 140 TH PL. S.E.

TYPICAL CURB RETURN



CURB RAMP DETAIL

NOTES:
1. FULL DEPTH EXPANSION JOINT, 3/8" MIN. WIDTH. PREMOLDED JOINT FILLER.
2. RAMP TEXTURING IS TO BE DONE WITH AN EXPANDED METAL GRATE PLACED AND REMOVED FROM WET CONCRETE TO LEAVE A DIAMOND PATTERN. THE LONG AXIS OF THE DIAMOND PATTERN SHALL BE PERPENDICULAR TO CURB. GROOVES SHALL BE 1/8" DEEP AND 1/4" WIDE.
3. 1/2" MAX. LIP AT GUTTER LINE.
4. IF LANDING AREA IS LESS THAN 4', DECREASE SIDE RAMP SLOPE TO 1:12.CEMENT CONCRETE
ROLLED CURB AND GUTTERCEMENT CONCRETE
VERTICAL CURB AND GUTTERCEMENT CONCRETE
BARRIER CURBNOTES:
1. CONSTRUCTION OF CURB DETAILS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE AMERICAN PUBLIC WORKS ASSOCIATION (WSDOT/APWA SPECIFICATIONS) UNLESS OTHERWISE NOTED.
2. ALL CONCRETE SHALL BE AIR ENTRAINMENT CONCRETE CLASS 3000.
3. FORMS SHALL BE TRUE TO LINE AND GRADE AND SECURELY STAKED. STEEL FORMS ONLY SHALL BE USED ON TANGENT SECTIONS. WOOD FORMS MAY BE USED ON CURVED SECTIONS.
4. FULL DEPTH EXPANSION JOINTS CONSISTING OF 3/8" MINIMUM PREMOLDED JOINT MATERIAL SHALL BE PLACED ADJACENT TO CATCH BASINS, INLETS AND AT POINTS OF TANGENCY ON STREETS AND DRIVEWAY RETURNS. MAXIMUM SPACING SHALL BE 20 FEET.
5. CONTRACTION JOINTS (DUMMY JOINTS) CONSISTING OF 3/8" MIN. X 2" OF PREMOLDED JOINT MATERIAL SHALL BE CONSTRUCTED AT INTERVALS OF 10 FEET.
6. ALL JOINTS SHALL BE CLEAN AND EDED.
7. FINISH SHALL BE A LIGHT BROOM FINISH.
8. FINISHED CURBS AND GUTTERS SHALL BE SPRAYED WITH A CLEAR CURING COMPOUND.
9. VERTICAL CURB WILL BE REQUIRED IN ALL CASES EXCEPT ON ACCESS AND SUBCOLLECTOR STREETS. FOR THESE STREETS, VERTICAL OR ROLLED CURB WILL BE ALLOWED AT THE DISCRETION OF THE DEVELOPER.
10. TOP OF CURB AT ACCESS POINT APPROACH.

CURB DETAIL

DRAINAGE NOTES

- ALL STORM DRAIN PIPE MAY BE CONSTRUCTED OF ONE OF THE FOLLOWING MATERIALS UNLESS OTHERWISE SPECIFIED IN THE PLANS. ALL PIPE JOINTS MUST BE GASKETED AND MUST BE OF THE SAME MATERIAL AS THE PIPE. ALL PIPE SHALL HAVE A MINIMUM COVER AS SHOWN BELOW AND SHALL BE ADEQUATELY PROTECTED DURING CONSTRUCTION (REFER TO THE MANUFACTURER'S RECOMMENDATIONS FOR MINIMUM COVER FOR HEAVY EQUIPMENT LOADINGS).
 - *COVERAGE REQUIREMENTS FOR 18" OR SMALLER PIPE
 - < 1.0' - REQUIRES RCP (REINFORCED CONCRETE PIPE) MINIMUM
 - 1.0' - 1.5' - REQUIRES CP (CONCRETE PIPE) MINIMUM
 - > 1.5' - REQUIRES 16 GAUGE CMP (CORRUGATED METAL PIPE) MINIMUM OR HDPE
 - *CMP INDICATES CORRUGATED METAL, CONCRETE, OR HDPE PIPE MAY BE USED.
 - *CP INDICATES CONCRETE OR HDPE PIPE MAY BE USED (SUBJECT TO COVERAGE REQUIREMENTS).
 - *BCE INDICATES REINFORCED CONCRETE PIPE IS REQUIRED.
- A. CORRUGATED METAL PIPE (CMP) TO BE AASHTO M238 TYPE 1 & TYPE 2 GALVANIZED STEEL WITH TREATMENT 1 ASPHALT COATING OR BETTER OR AASHTO M274-70 ALUMINIZED STEEL. ALL PIPES HAVE COUPLING BANDS WITH NEOPRENE GASKETS.
 - B. CONCRETE 6" THRU 21" DIAMETER PIPE SHALL BE NON-REINFORCED, BELL AND SPIGOT WITH RUBBER GASKET JOINTS, CONFORMING TO ASTM C-14 OR CONCRETE 12" THRU 21" DIAMETER PIPE MAY BE REINFORCED, BELL AND SPIGOT WITH RUBBER GASKET JOINTS, CONFORMING TO ASTM C-76 CLASS II.
 - C. CONCRETE 24" DIAMETER AND LARGER PIPE SHALL BE REINFORCED, BELL AND SPIGOT WITH RUBBER GASKET JOINTS, CONFORMING TO ASTM C-76 CLASS II.
- C. HIGH DENSITY POLYETHYLENE (HDPE) 12" THROUGH 24" DIAMETER PIPE SHALL BE CORRUGATED EXTERIOR/SMOOTH INTERIOR CONFORMING TO AASHTO M234 TYPE S. PIPE SHALL CONFORM TO ASTM D3350. FITTINGS SHALL BE EXTRUSION WELDED. COUPLINGS TO MEET REQUIREMENTS OF ASTM F667 WITH ADDITION OF CLOSED CELL NEOPRENE GASKETS MEETING REQUIREMENTS OF ASTM D1056. GASKETS TO BE INSTALLED TO FULLY ENCLOSE PIPE JOINT. INSTALLATION SHALL BE ACCORDING TO ASTM D2321, STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF FLEXIBLE THERMOPLASTIC PIPE. USE ADS N-12, OR EQUAL MEETING SNOHOMISH COUNTY AND WSDOT/APWA REQUIREMENTS FOR MATERIALS, BEDDING & INSTALLATION.

DIAMETER	ARCH PIPE (INCHES)	GAGE	BAND	3x1 IN. CORRUGATION	DIAMETER	ARCH PIPE (INCHES)	GAGE	BAND
12"-54"	17x33 THRU 42x29	16	12"	38"-60"	12"-54"	17x33 THRU 42x29	16	12"
60"	49x33	14	24"	126"-138"	40x31 TO 112x75	60"	49x33	14
66"-90"	57x38 THRU 64x43	12	24"	144"	117x79 TO 137x87	66"-90"	57x38 THRU 64x43	12
96"	71x47	10	24"	168"-184"	103x71 TO 112x75	96"	71x47	10
	77x52 THRU 83x57	8	24"				77x52 THRU 83x57	8

DIAMETER	ARCH PIPE (INCHES)	GAGE	BAND	3x1 IN. CORRUGATION	DIAMETER	ARCH PIPE (INCHES)	GAGE	BAND
12"-54"	17x33 THRU 42x29	16	12"	38"-60"	12"-54"	17x33 THRU 42x29	16	12"
60"	49x33	14	24"	126"-138"	40x31 TO 112x75	60"	49x33	14
66"-90"	57x38 THRU 64x43	12	24"	144"	117x79 TO 137x87	66"-90"	57x38 THRU 64x43	12
96"	71x47	10	24"	168"-184"	103x71 TO 112x75	96"	71x47	10
	77x52 THRU 83x57	8	24"				77x52 THRU 83x57	8

BACKFILL AROUND PIPE MUST BE COMPACTED TO A SPECIFIED AASHTO T-99 DENSITY OF 90%. USE REASONABLE CARE IN HANDLING AND INSTALLATION.

CORRUGATED ALUMINUM PIPE AND COUPLING BANDS SHALL MEET THE REQUIREMENTS OF AASHTO M196 AND M197.

DIAMETER	ARCH PIPE (INCHES)	GAGE	BAND	3x1 IN. CORRUGATION	DIAMETER	ARCH PIPE (INCHES)	GAGE	BAND
12"-54"	17x33 THRU 42x29	16	12"	38"-60"	12"-54"	17x33 THRU 42x29	16	12"
60"	49x33	14	24"	126"-138"	40x31 TO 112x75	60"	49x33	14
66"-90"	57x38 THRU 64x43	12	24"	144"	117x79 TO 137x87	66"-90"	57x38 THRU 64x43	12
96"	71x47	10	24"	168"-184"	103x71 TO 112x75	96"	71x47	10
	77x52 THRU 83x57	8	24"				77x52 THRU 83x57	8

DIAMETER	ARCH PIPE (INCHES)	GAGE	BAND	3x1 IN. CORRUGATION	DIAMETER	ARCH PIPE (INCHES)	GAGE	BAND
12"-54"	17x33 THRU 42x29	16	12"	38"-60"	12"-54"	17x33 THRU 42x29	16	12"
60"	49x33	14	24"	126"-138"	40x31 TO 112x75	60"	49x33	14
66"-90"	57x38 THRU 64x43	12	24"	144"	117x79 TO 137x87	66"-90"	57x38 THRU 64x43	12
96"	71x47	10	24"	168"-184"	103x71 TO 112x75	96"	71x47	10
	77x52 THRU 83x57	8	24"				77x52 THRU 83x57	8

ALL NON PERFORATED METAL PIPE SHALL HAVE NEOPRENE GASKETS AT THE JOINTS. O-RING GASKETS MAY BE USED FOR TYPE F COUPLING BAND.

- ALL PIPE SHALL BE PLACED ON STABLE EARTH, OR IF IN THE OPINION OF THE COUNTY INSPECTOR, THE EXISTING FOUNDATION IS UNSATISFACTORY, THEN IT SHALL BE EXCAVATED BELOW GRADE AND BACK FILLED WITH A GRAVEL MATERIAL TO SUPPORT THE PIPE.
- THE BACKFILL SHALL BE PLACED EQUALLY ON BOTH SIDES OF THE PIPE OR PIPE ARCH IN LAYERS WITH A LOOSE AVERAGE DEPTH OF 6". MAXIMUM DEPTH 9". THOROUGHLY TAMPING EACH LAYER. THESE COMPACTED LAYERS MUST EXTEND FOR ONE DIAMETER ON EACH SIDE OF THE PIPE OR TO THE SIDE OF THE TRENCH. MATERIALS TO COMPLETE THE FILL OVER PIPE SHALL BE THE SAME AS DESCRIBED (REFER TO WSDOT STANDARD SPECIFICATION 7-04.3(3) AND STANDARD SPECIFICATION 2-03.3(14)(C) METHOD B & C.
- ALL GRATES (INLET AND CATCH BASIN) SHALL BE DEPRESSED 0.1 FEET BELOW PAVEMENT LEVEL.
- ALL CATCH BASINS TO BE TYPE 1 UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL MANHOLE, INLET, AND CATCH BASIN FRAMES AND GRATES JUST PRIOR TO POURING OF CURBS AND PAVING.
- ALL CATCH BASINS WITH A DEPTH OVER 5.0 FEET TO THE FLOW LINE SHALL BE A TYPE II CB (MANHOLE).
- ALL TYPE II CATCH BASIN MANHOLES AND ALL INLET AND CATCH BASINS SHALL HAVE LOCKING LIDS. ROLLED GRATES ARE NOT APPROVED FOR OUTSIDE OF COUNTY RIGHT-OF-WAY OR FOR USE WITH TYPE II MANHOLE.
- STANDARD LADDER STEPS SHALL BE PROVIDED IN ALL CATCH BASINS/MANHOLES EXCEEDING 5 FEET IN DEPTH.
- CATCH BASIN FRAME AND GRATES SHALL BE OLYMPIC FOUNDRY MODEL SM 50, SM 52, OR SM 44, LOCKING TYPE OR EQUAL. MODEL SM 52 IS REFERRED TO AS A "THROUGH CURB INLET" ON THE PLAN. MODEL SM 44 IS REFERRED TO AS A "ROLLED GRATE INLET" IN THE PLAN.
- DETENTION PONDS WITH SIDE SLOPES STEEPER THAN 3:1 SHALL REQUIRE A PERIMETER FENCE PER SNOHOMISH COUNTY CODE. SIDE SLOPE AVERAGING SHALL NOT BE ALLOWED.
- PRIOR TO SIDEWALK CONSTRUCTION, CONSTRUCT THE LOT DRAINAGE AND STUB OUTS AND/OR BEHIND SIDEWALK DRAINS AS REQUIRED. STUB OUTS SHALL BE MARKED WITH A 2" X 4" AND LABELED "STORM". LOCATIONS OF THESE INSTALLATIONS SHALL BE PLACED ON THE AS-BUILT CONSTRUCTION PLANS AND SUBMITTED TO THE COUNTY.
- STORM WATER RETENTION/DETENTION FACILITIES, STORM DRAINAGE PIPE AND CATCH BASINS SHALL BE FLUSHED AND CLEANED PRIOR TO SNOHOMISH COUNTY ACCEPTANCE.
- T.E.S.C. MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE WORK.

GENERAL NOTES

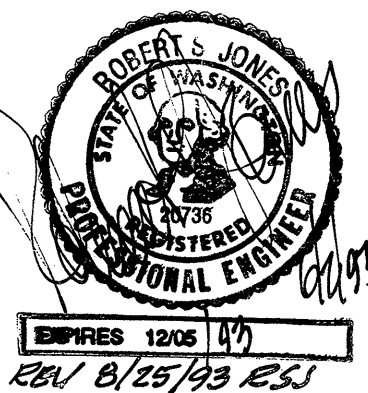
- LOCATIONS OF EXISTING UTILITIES AND IMPROVEMENTS SHOWN ARE APPROXIMATE ONLY AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION(S) OF ALL UTILITIES AND IMPROVEMENTS TO AVOID DAMAGE OR DISTURBANCE.
- FOR AID IN UTILITY LOCATION CALL 1-800-424-5555 PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS FOR ROAD AND UTILITY CONSTRUCTION.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH SNOHOMISH COUNTY STANDARDS AND SPECIFICATIONS AND WASHINGTON STATE DEPARTMENT OF TRANSPORTATION 1991 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AND THE 1989 WSDOT HYDRAULICS MANUAL.
- ALL WORK WITHIN THE SITE AND COUNTY RIGHT-OF-WAY SHALL BE SUBJECT TO THE INSPECTION OF THE COUNTY INSPECTOR OR HIS DESIGNATED REPRESENTATIVE.
- PRIOR TO ANY SITE CONSTRUCTION TO INCLUDE CLEARING/LOGGING OR GRADING THE SITE/LOT CLEARING LIMITS SHALL BE LOCATED AND FIELD IDENTIFIED BY THE PROJECT SURVEYOR/ENGINEER AS REQUIRED BY THESE PLANS. THE PROJECT SURVEYOR/ENGINEER'S NAME AND TELEPHONE NUMBER ARE LOVELL-SAUERLAND & ASSOCIATES, INC., 775-1591.
- THE DEVELOPER/PROJECT ENGINEER IS RESPONSIBLE FOR WATER QUALITY AS DETERMINED BY THE MONITORING PROGRAM, ESTABLISHED BY THE PROJECT ENGINEER. THE PROJECT ENGINEER'S NAME AND PHONE NUMBER ARE LOVELL-SAUERLAND & ASSOCIATES, INC., 775-1591.
- PRIOR TO ANY SITE WORK, THE CONTRACTOR SHALL CONTACT THE CHIEF INSPECTOR FOR LAND DEVELOPMENT DIVISION AT (206) 388-3385 TO SCHEDULE A PRECONSTRUCTION CONFERENCE. DUE TO FIELD CHANGES (REVISIONS), ENGINEERED AS-BUILTS SHALL BE REQUIRED PRIOR TO SITE APPROVAL.
- THE TEMPORARY EROSION/SEDIMENTATION CONTROL FACILITY SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR EXTENSIVE LAND CLEARING IN ACCORDANCE WITH THE APPROVED TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.
- TRENCH BACK FILL OF NEW UTILITIES AND STORM DRAINAGE FACILITIES SHALL BE COMPACTED TO 95% MAXIMUM DENSITY (MODIFIED PROCTOR) UNDER ROADWAYS AND 90% MAXIMUM DENSITY (MODIFIED PROCTOR) OFF ROADWAYS, AS SPECIFIED IN SECTION 2-03.3(14)(C) COMPACTING EARTH EMBANKMENTS METHOD B.
- NON COMPLIANCE WITH THE EROSION CONTROL REQUIREMENTS, WATER QUALITY REQUIREMENTS AND CLEARING LIMITS VIOLATIONS MAY RESULT IN REVOCATION OF PROJECT, PERMITS, PLAN APPROVAL AND BOND FORECLOSURES.

SNOHOMISH COUNTY
COMMUNITY DEVELOPMENT DIVISION
APPROVED FOR CONSTRUCTION
BY: *Randy R. Slight* DATE: 10/19/93
FOR RANDOLPH R. SLIGHT, P.E.
RAV PERMIT NO. *RW1256*

ROAD AND STORM DRAINAGE DETAILS
FOR
RHOD-A-ZALEA GARDENSIN S.E. 1/4 OF SECTION 32, T. 28 N., R. 5 E., W.M.
SNOHOMISH COUNTY, WASHINGTON

ZA 8802041

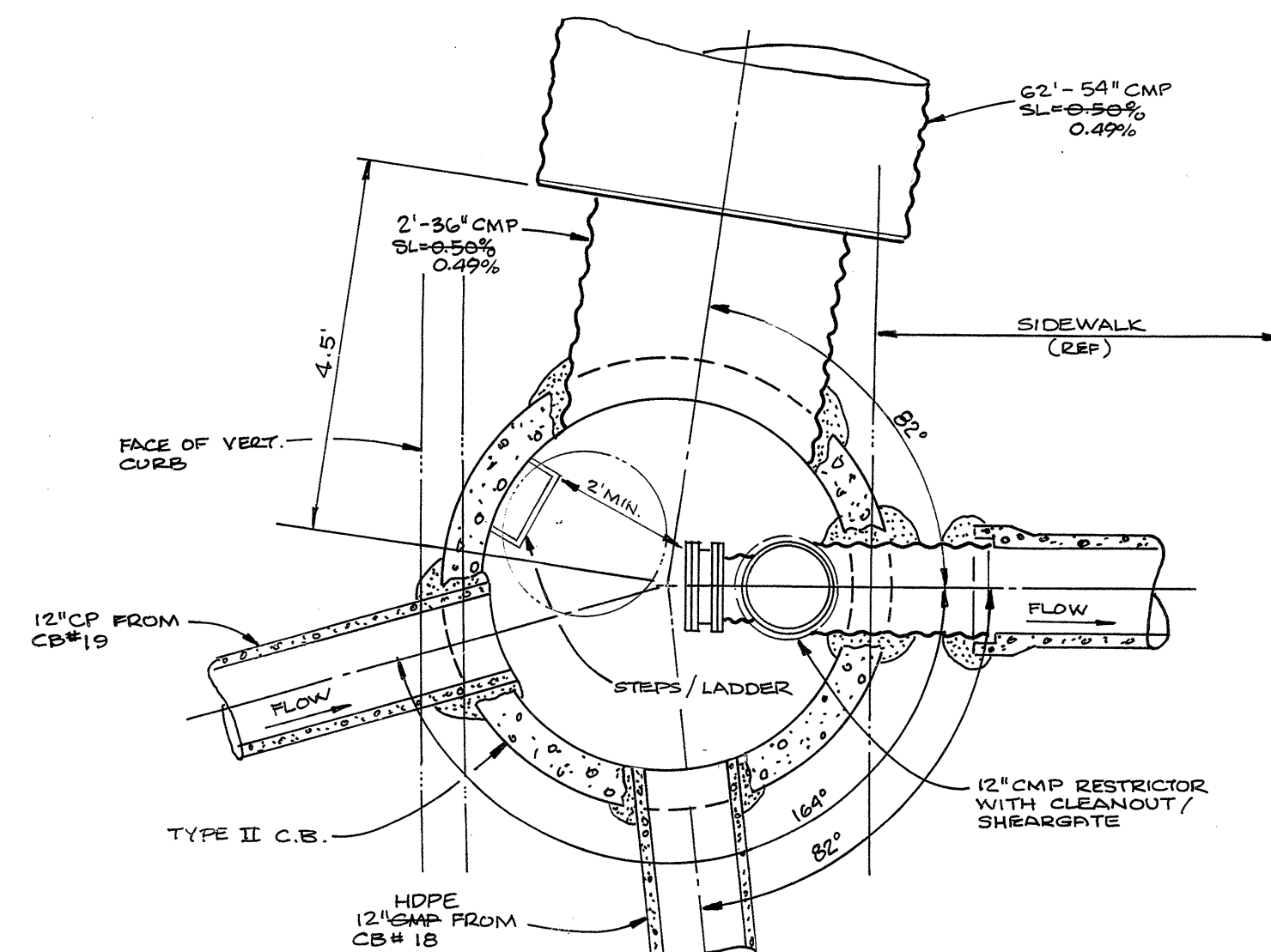
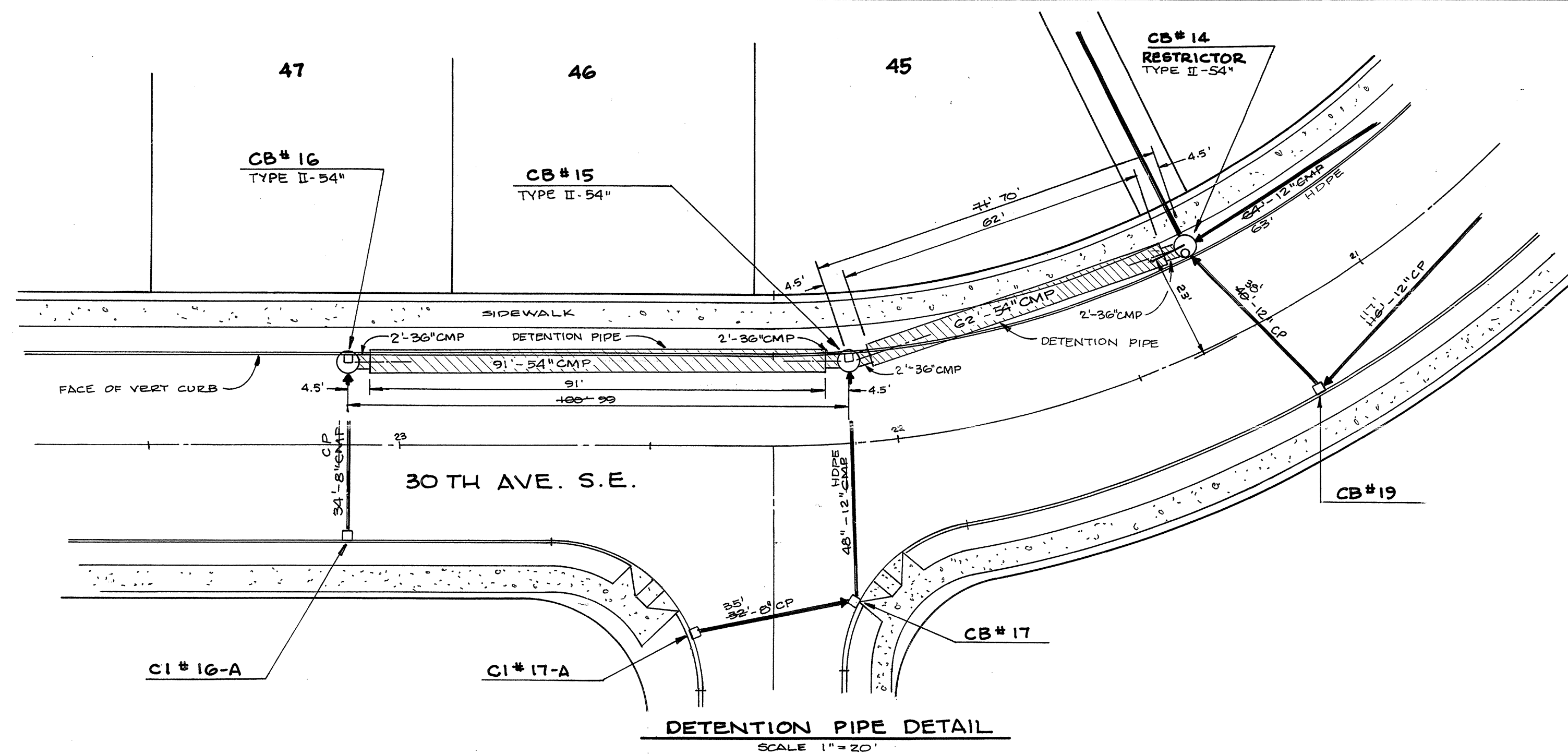
HDEV-713



2	REVISED ROAD SECTIONS PER ROAD REALIGN.	24 AUG '93	ALV
1	REVISED PER SNO. CO. REVIEW	3 AUG '93	MM
LSA Lovell-Sauerland & Associates, Inc. Engineers/Surveyors/Planners/Development Consultants 10400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206) 775-1591 • (206) 340-0830			
DRAWN	CHECKED	DATE	P.B.
ALV	RSJ	MAR., 1993	AS NOTED
FILE NO.	2866		

HIGHLAND TRAILS

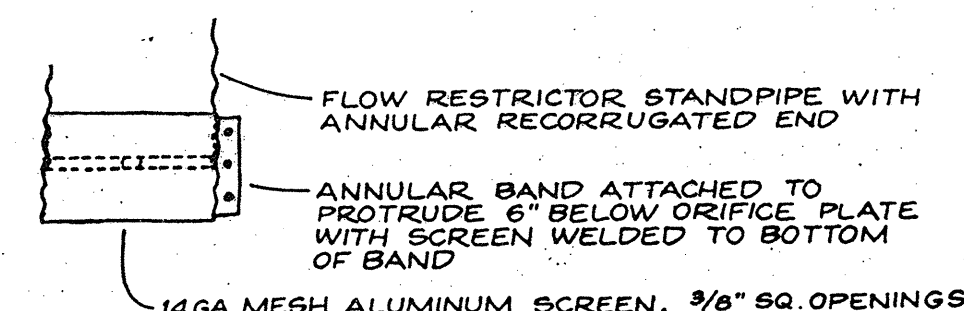
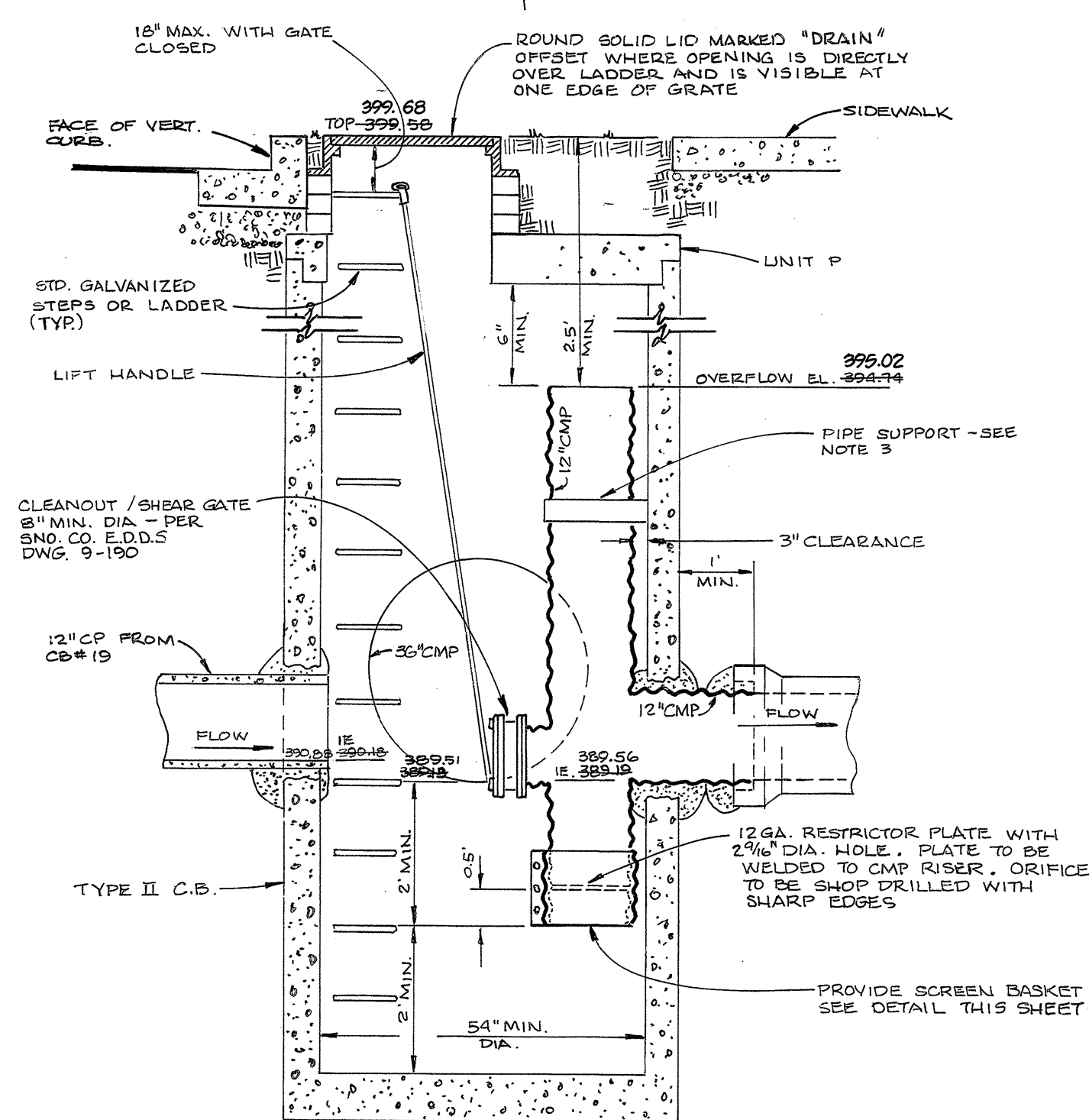
SHEET 13 OF 30



NOTES:

- Except as shown or noted, units shall be constructed in accordance with the requirements for Catch Basin Type 2, 54\"/>
- For details showing grade ring, ladder, steps, handholds and top slabs, see Std Dwg 9-074, \"Catch Basin Details\".
- The restrictor/separators and pipe supports shall be of the same material and shall be fabricated from .060\"/>
- Outlet shall be connected to culvert or sewer pipe with a standard coupling band for corrugated metal pipe or grouted into the bell of concrete pipe.
- The vertical riser stem of the Restrictor/separator shall be the same diameter as the horizontal outlet pipe with a 8\"/>
- Frame and ladder or steps to be offset so that (1) Cleanout gate is visible from top. (2) Climb-down space is clear of riser and cleanout gate. (3) Frame is clear of curb (if any exists).
- Multi-office elbows may be located as shown on one side of riser to assure ladder clearance. Size of elbows to be determined by the Engineer.
- Restrictor plate with orifice as specified in the plans. Omit plate if only for oil pollution control. Specified opening to be cut round and smooth.
- Cleanout gate/Shear gate:
Aluminum alloy per ASTM B-28-ZG-32a or cast iron ASTM A48 Class 30B as required.
Lift handle either solid or tubing with adjustable hook as required.
Neoprene rubber gaskets required between flanges.
- Alternate Cleanout gates/Shear gates to the design shown on Std Dwg 9-180 are acceptable provided they meet the material specifications above and have a six bolt, 10-32\"/>
- Restrictor Tees may be fabricated (extrusion welded) from double-walled (smooth interior) corrugated polyethylene pipe meeting the requirements of Section 9-04a(1) of these Standards. Pipe supports for the restrictor shall be fabricated from those materials listed in note 3 above. The outlet shall be connected to culvert or sewer pipe with a premium coupling, by using a heat shrink adapter to other types of pipe, or by fabricating a smooth or tapered outlet to slip inside of the culvert or sewer pipe.

WSDOT/APWA PLAN B-3

SCREEN BASKET DETAIL
N.T.S.

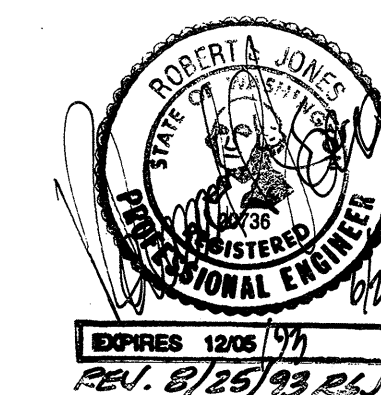
NOTE: ALL STEEL PARTS AND SURFACES MUST BE GALVANIZED AND COATED W/ ASPHALT TREATMENT 1 OR BETTER.

CB#14 - RESTRICTOR DETAIL
SCALE: 1\"/>
SNOHOMISH COUNTY
COMMUNITY DEVELOPMENT DIVISION
APPROVED FOR CONSTRUCTIONBY *Randolph W. Sleight* DATE: 10/14/93
FOR RANDOLPH W. SLEIGHT, P.E., S.E.
RAW PERMIT NO. RW1250ROAD AND STORM DRAINAGE DETAILS
FOR

RHOD-A-ZALEA GARDENS

IN S.E. 1/4 OF SECTION 32, T. 28 N., R. 5 E., W.M.
SNOHOMISH COUNTY, WASHINGTON

ZA 8802041

HDEV-714

3	PER COUNTY AS-BUILT REVIEW	3 MAY 94	RCN
2	FINAL AS-BUILT, DIV. I	6 APRIL 94	RCN
1	ADDED STORM AS-BUILT DATA	19 JAN 94	ALV

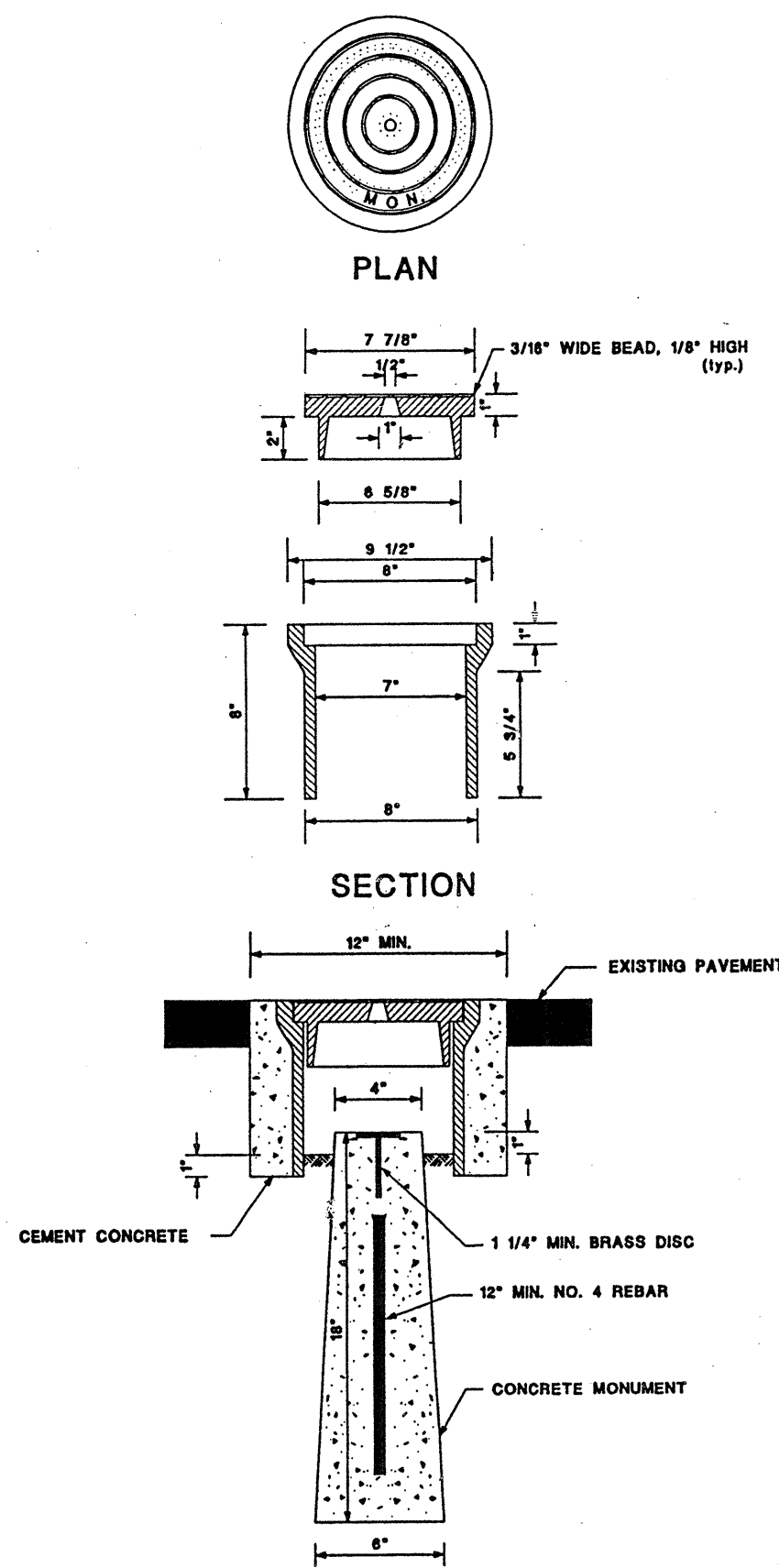
LSA Lovell-Sauerland & Associates, Inc.
Engineers/Surveyors/Planners/Development Consultants

19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206) 775-1591 • (206) 340-0830

DRAWN	CHECKED	DATE	FR	SCALE	FILE NO.
ALV	RSJ	MAY, 1993		AS NOTED	2866

HIGHLAND TRAILS

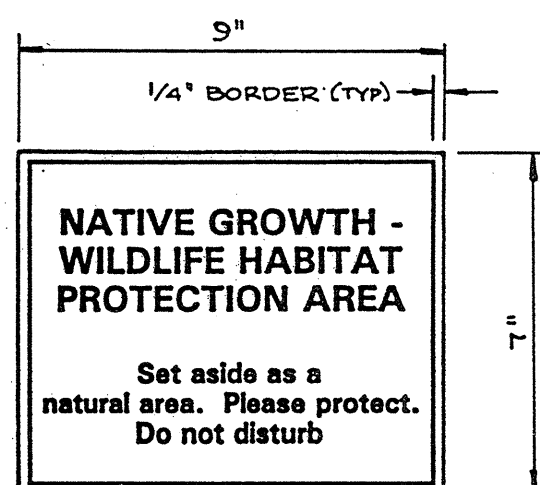
SHEET 14 OF 30



NOTES:

1. THE OFF-STREET MONUMENT SHALL BE THE SAME EXCEPT USING NO. 8 REBAR AND WITHOUT A CASE AND COVER. THE OFF-STREET MONUMENT SHALL BE 3" ABOVE GRADE.
2. MONUMENT CASE AND COVER SHALL BE CAST IRON.
3. BRASS DISC SHALL BEAR LAND SURVEYOR'S REGISTRATION NUMBER.

CONCRETE MONUMENT DETAIL

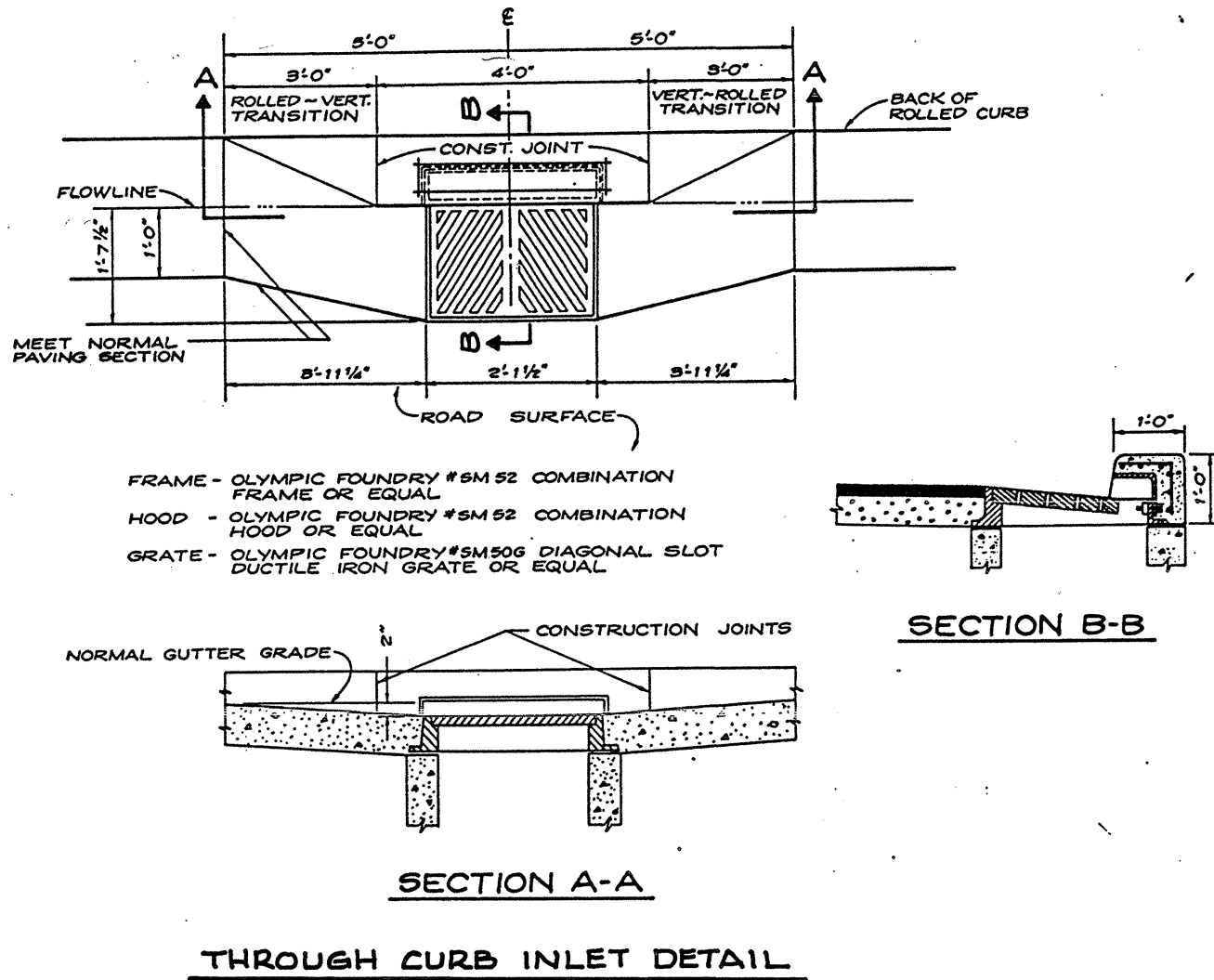


NOTE: SIGN TO BE 0.063" ALUMINUM WITH PAINTED LIGHT GREEN BACKGROUND AND BLACK LETTERING AND BORDER.

SIGN TO BE SECURELY BOLTED TO A TREATED 4"x4" POST. BOTTOM OF SIGN TO BE A MINIMUM OF 3" ABOVE SURROUNDING FINISH GRADE. POST TO BE BURIED A MINIMUM OF 2' BELOW FINISH GRADE, AND SECURELY SET IN CONCRETE.

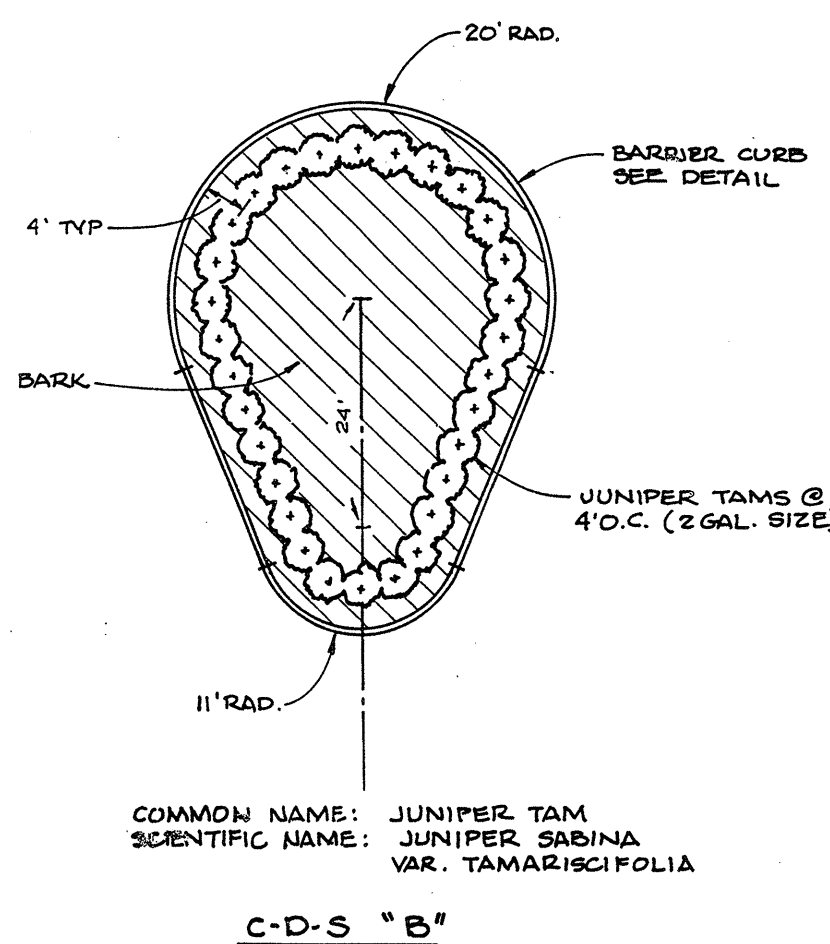
N.G.P.A. - WILDLIFE SIGN DETAIL

NO SCALE



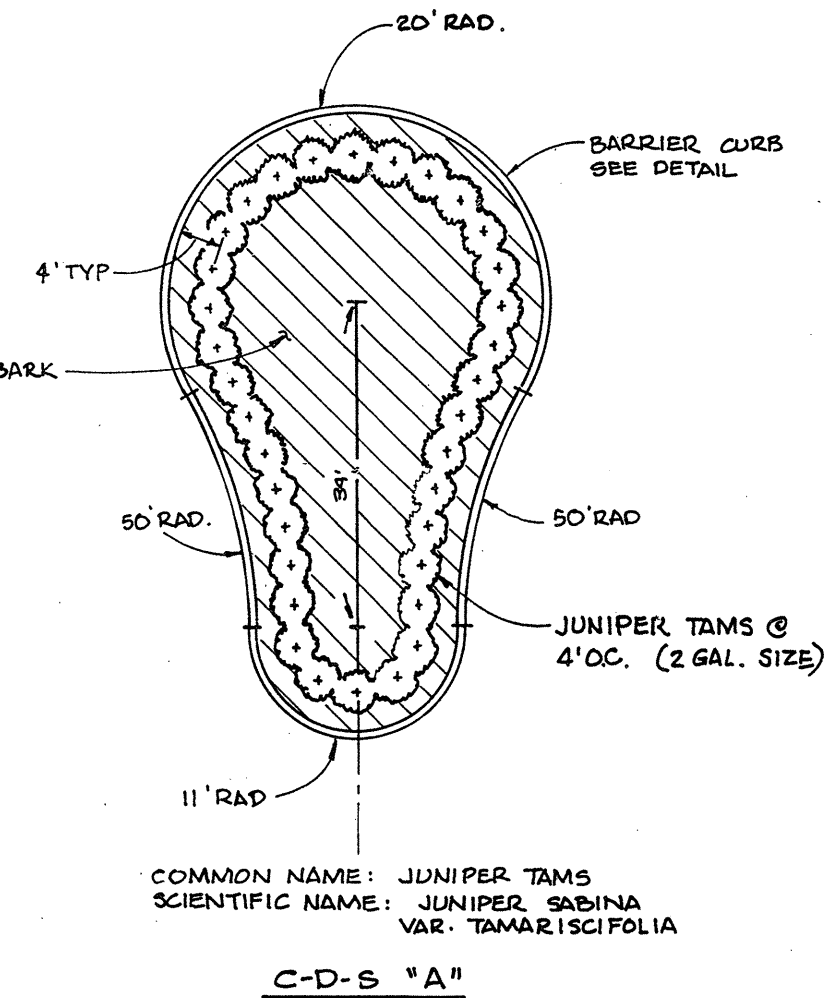
THROUGH CURB INLET DETAIL

N.T.S.



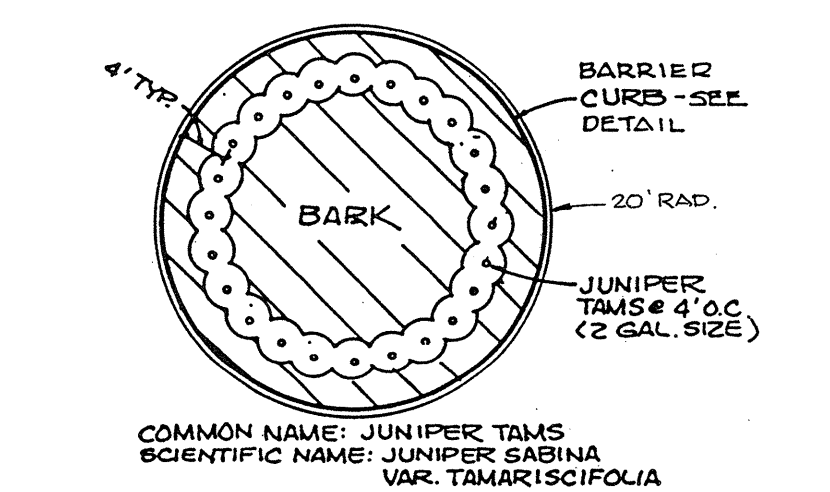
COMMON NAME: JUNIPER TAM
SCIENTIFIC NAME: JUNIPER SABINA
VAR. TAMARISCIFOLIA

C-D-S "B"



COMMON NAME: JUNIPER TAM
SCIENTIFIC NAME: JUNIPER SABINA
VAR. TAMARISCIFOLIA

C-D-S "A"

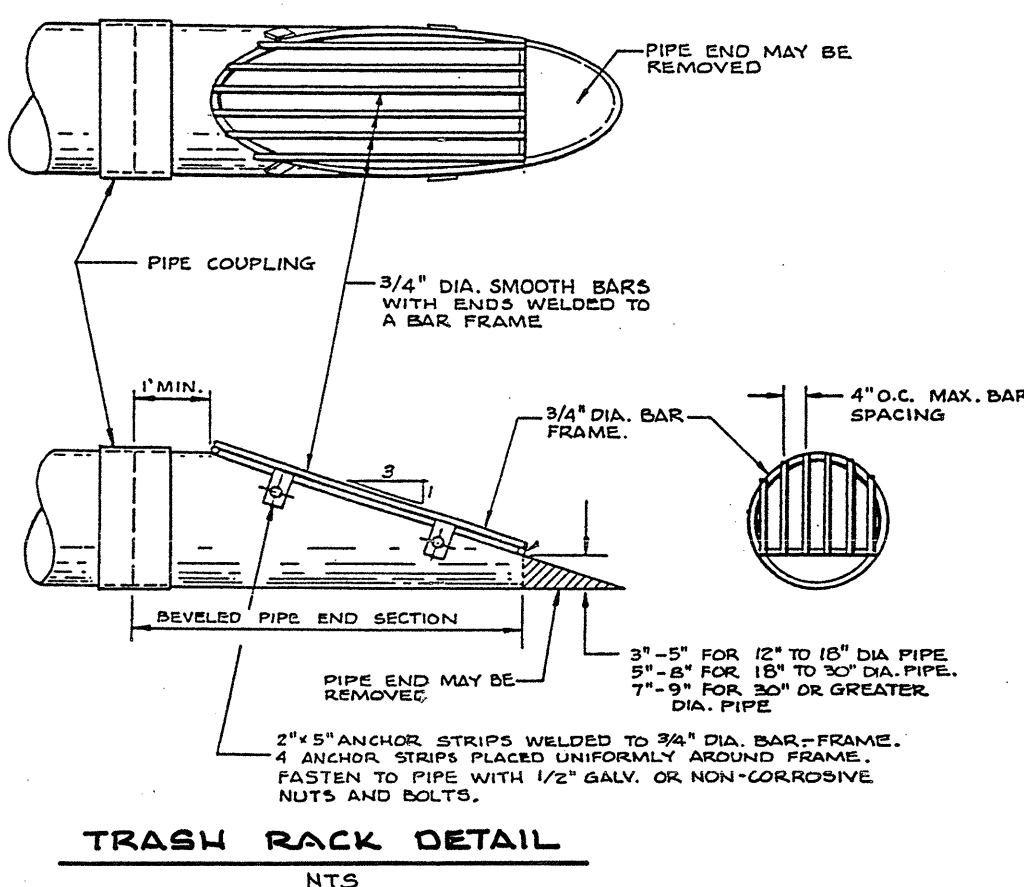


COMMON NAME: JUNIPER TAM
SCIENTIFIC NAME: JUNIPER SABINA
VAR. TAMARISCIFOLIA

C-D-S @ 28TH DR. S.E., 29TH AVE S.E. & 140TH PL. S.E.

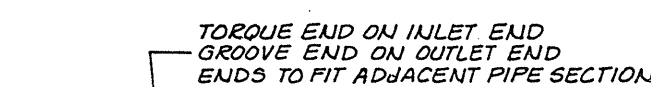
C-D-S PLANTER LANDSCAPING DETAIL

N.T.S.



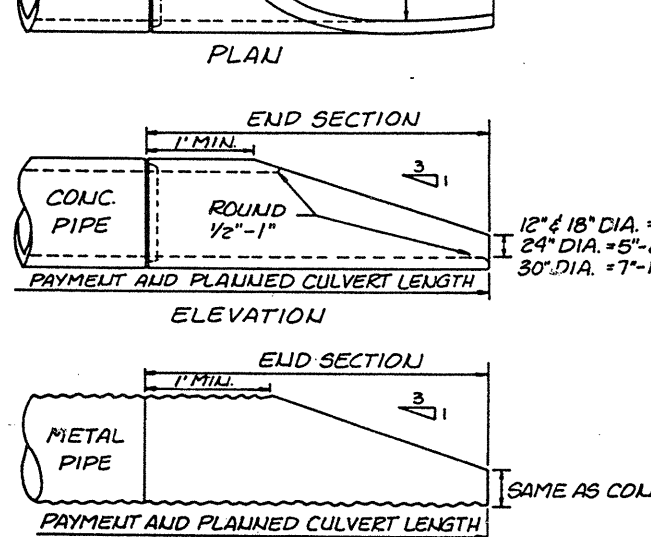
TRASH RACK DETAIL

N.T.S.



BEVELED PIPE END DETAIL

N.T.S.



ELEVATION

END SECTION

THE ROADWAY SLOPE SHALL BE WARPED AS REQUIRED TO PRESENT THE BEVELED END IN THE MOST EFFICIENT AND NEATEST APPEARING MANNER.

WHEN A BEVELED END IS USED ON A CURBPIPE PLACED ON A SKEW TO THE CENTERLINE OF THE HIGHWAY, THE BEVELED END SHALL BE ROTATED TO CONFORM TO THE ROADWAY SLOPE.

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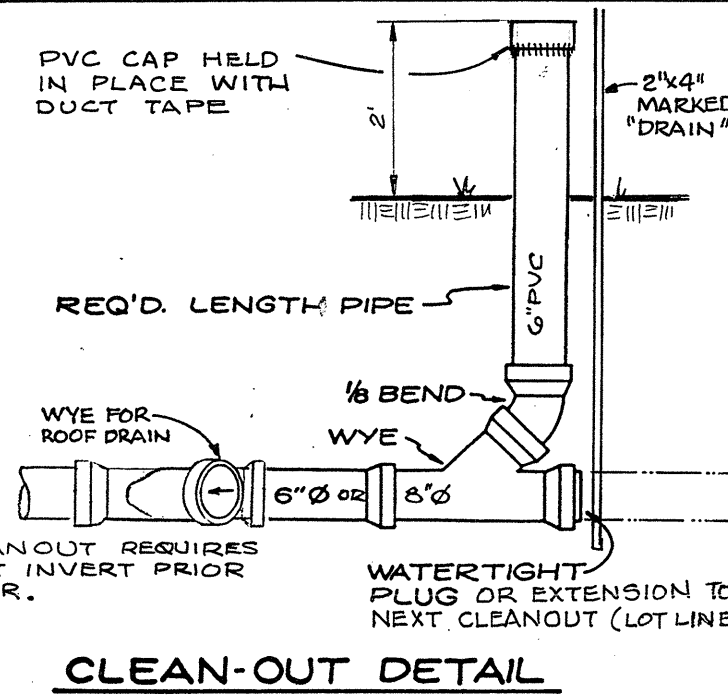
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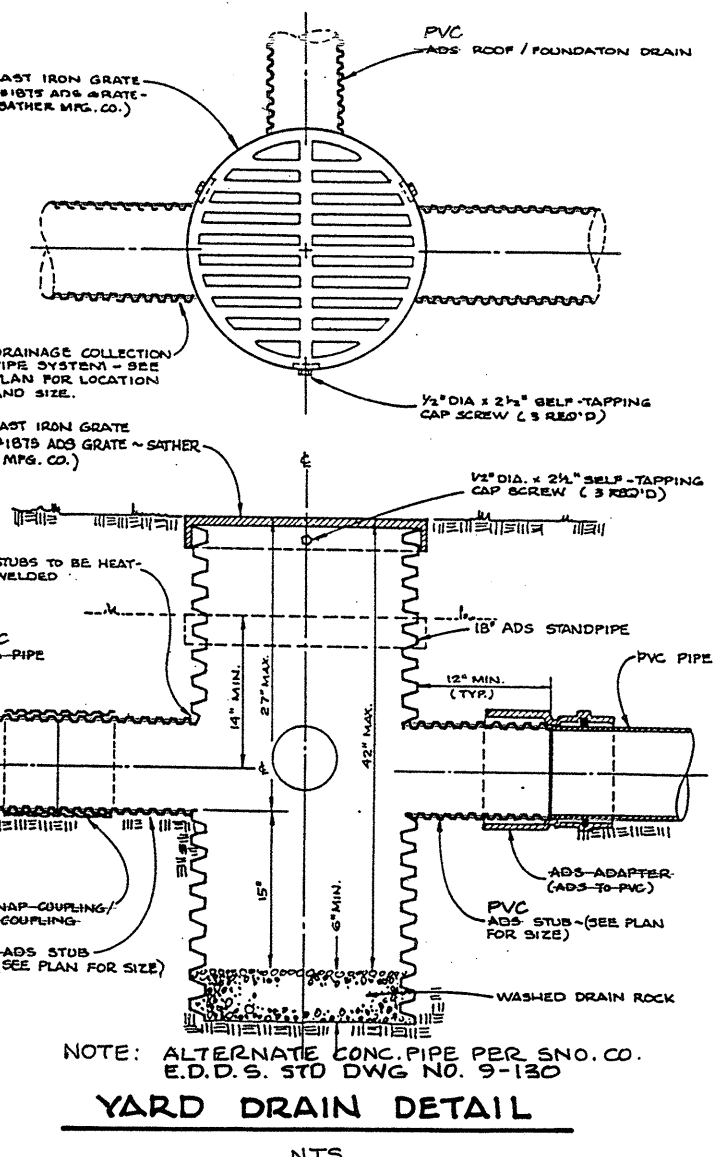
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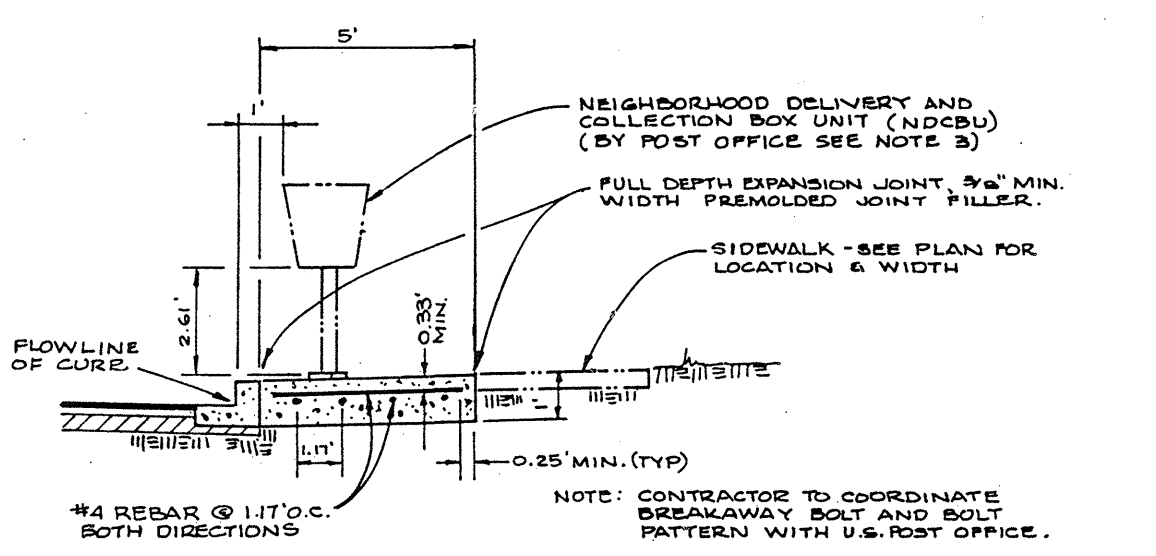
CLEAN-OUT DETAIL

N.T.S.



YARD DRAIN DETAIL

N.T.S.



SECTION A-A

NOTE: CONTRACTOR TO COORDINATE BREAKAWAY BOLT AND BOLT PATTERN WITH U.S. POST OFFICE.

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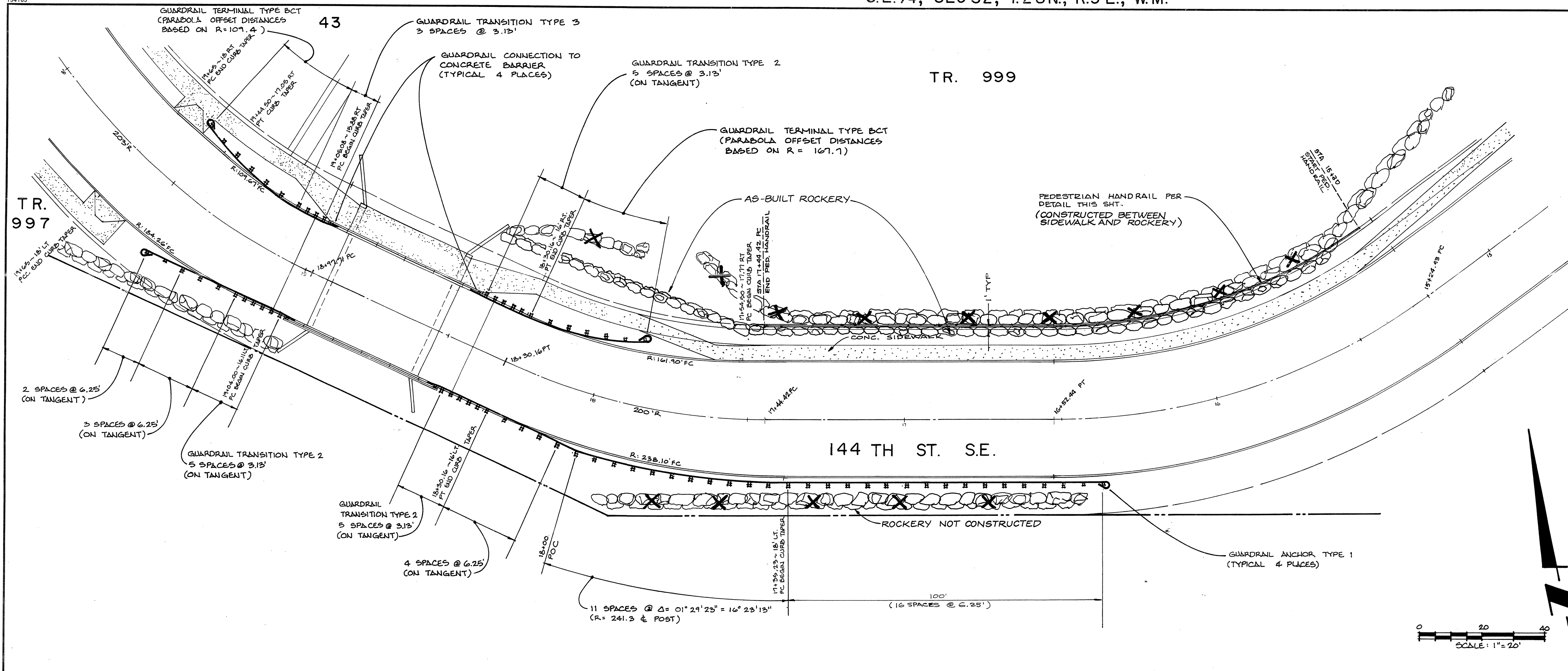
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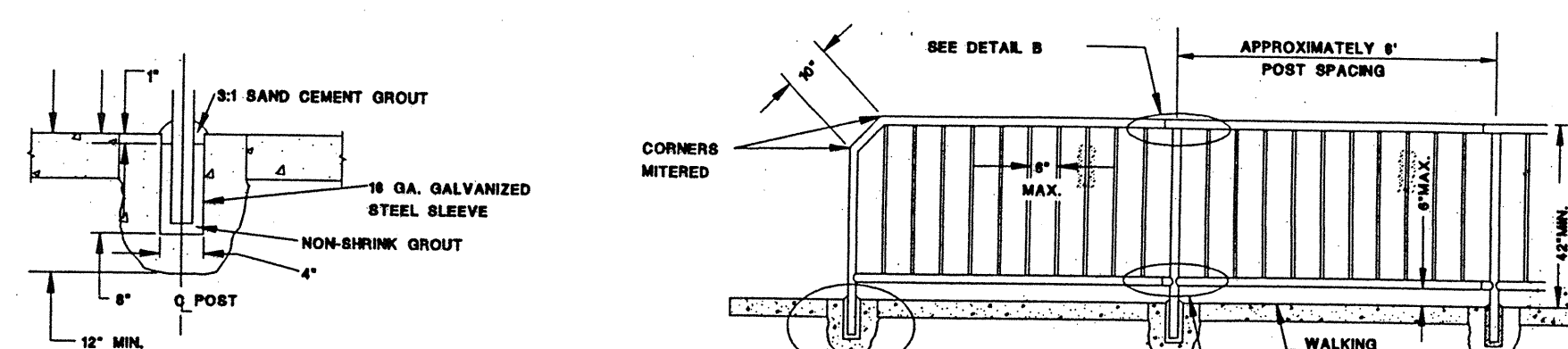
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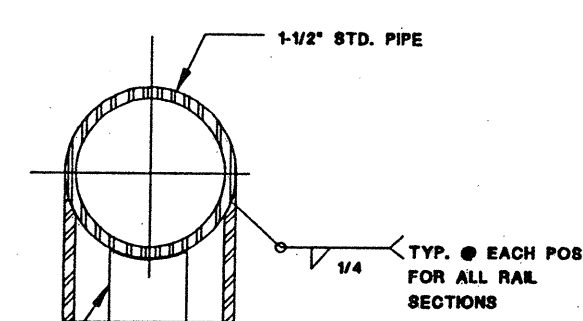
DIVISION 1 CLEANOUT / YARD DRAIN SCHEDULE				
LOT NO.	TOP	INV.	TYPE	REMARKS
1	416.0	415.8	Y.D.	TOP 416.59 INV. 416.11
2	416.1	415.9	Y.D.	TOP 418.41 INV. 416.11
3	421.2	419.0	Y.D.	TOP 421.30 INV. 418.99
4	429.2	421.0	Y.D.	TOP 422.98 INV. 420.96
5	424.5	422.3	Y.D.	TOP 424.92 INV. 422.17
6	426.3	424.1	Y.D.	TOP 426.96 INV. 423.99
7	428.9	426.7	Y.D.	TOP 428.98 INV. 424.98
8	428.0	425.8	Y.D.	TOP 427.96 INV. 425.66
9	428.6	426.4	Y.D.	TOP 428.48 INV. 427.01
10	428.4	426.2	Y.D.	TOP 428.49 INV. 426.96
11	426.5	424.3	Y.D.	TOP 427.78 INV. 425.10
12	426.5	424.3	Y.D.	TOP 426.42 INV. 423.30
13	425.3	423.1	Y.D.	TOP 425.79 INV. 423.11
14	423.8 423.75	421.6 418.70	Y.D.	MIN. CRAWL SPACE ELEV. 422.1
15	421.8 421.75	419.6 418.70	Y.D.	MIN. CRAWL SPACE ELEV. 420.1
16	419.8 421.41	415.5 416.21	C.O.	MIN. CRAWL SPACE ELEV. 416.6 417.0
17	418.7	414.5	Y.D.	TOP 416.65 INV. 414.12
18	419.3	411.1	Y.D.	TOP 418.28 INV. 411.99
19	419.0	410.8	Y.D.	TOP 412.85 INV. 410.94
20	415.5	410.3	Y.D.	TOP 412.61 INV. 410.65
21	412.0	409.8	Y.D.	TOP 412.01 INV. 410.00
22	411.5	409.4	Y.D.	TOP 411.85 INV. 409.49
23	408.7	406.5	Y.D.	TOP 408.75 INV. 406.91
24	404.8	402.6	Y.D.	TOP 404.72 INV. 402.60
25	401.2	399.0	Y.D.	TOP 402.20 INV. 399.55
26	399.5	397.3	Y.D.	TOP 400.94 INV. 398.00
27	398.4	396.2	Y.D.	TOP 400.21 INV. 397.43
28	401.5	399.3	Y.D.	TOP 401.77 INV. 399.55
29	401.5	399.3	Y.D.	TOP 401.78 INV. 398.83
30	398.2	396.1	Y.D.	TOP 399.92 INV. 396.36
31	398.1	396.0	Y.D.	TOP 399.64 INV. 396.85
32	398.0	395.9	Y.D.	TOP 399.19 INV. 397.03
33	405.4	403.2	Y.D.	TOP 405.62 INV. 402.97
34	404.4	402.2	Y.D.	TOP 404.87 INV. 401.47
35	403.9	400.0	Y.D.	TOP 404.18 INV. 401.55
36	403.6	401.5	Y.D.	TOP 403.55 INV. 401.00
37	402.8	401.2	Y.D.	TOP 403.59 INV. 400.66
38	402.6	401.8	Y.D.	TOP 404.07 INV. 401.65
39	402.1	400.9	Y.D.	TOP 406.05 INV. 403.93
40	401.6	400.4	Y.D.	TOP 407.90 INV. 405.10
41	408.1	405.9	Y.D.	TOP 407.71 INV. 404.44
42	406.3	404.1	Y.D.	TOP 406.62 INV. 403.98
43	397.2 396.97	395.6 394.55	Y.D.	MIN. CRAWL SPACE ELEV. 395.5
44	397.3 399.09	395.5 396.45	Y.D.	MIN. CRAWL SPACE ELEV. 395.1 395.9
45	398.6 400.20	396.4 397.42	Y.D.	MIN. CRAWL SPACE ELEV. 396.9 397.9
46	398.7 400.65	396.5 397.53	Y.D.	MIN. CRAWL SPACE ELEV. 396.9 398.0
47	399.1 400.65	396.9 397.93	Y.D.	MIN. CRAWL SPACE ELEV. 397.4 398.4
48	399.0	398.8	Y.D.	TOP 399.63 INV. 397.26
49	400.5	398.3	Y.D.	TOP 399.74 INV. 398.34
50			▲	SPLASH BLOCK TO REAR
51	411.01	408.18	▲	SPLASH BLOCK TO REAR
52	411.4	408.2	Y.D.	TOP 411.31 INV. 408.41
53	412.0	409.8	Y.D.	TOP 412.18 INV. 410.00
54	412.0	410.1	Y.D.	TOP 412.18 INV. 410.00
55	411.5	410.3	Y.D.	TOP 413.54 INV. 411.24
56	412.0	410.1	Y.D.	TOP 412.75 INV. 410.40
57	411.0	409.8	Y.D.	TOP 412.00 INV. 409.60
58	409.0	408.8	Y.D.	TOP 410.05 INV. 407.67
59	406.5	404.3	Y.D.	TOP 406.70 INV. 404.32
60	406.0	403.8	Y.D.	TOP 406.17 INV. 403.72
61			▲	SPLASH BLOCK TO REAR
62			▲	SPLASH BLOCK TO REAR
63			▲	SPLASH BLOCK TO REAR
64	410.7 412.96	409.4 406.91	C.O.	MIN. CRAWL SPACE ELEV. 409.9 406.8
65	410.0	409.5	C.O.	TOP 412.05 INV. 406.37
66	412.3 412.46	408.1 409.29	C.O.	MIN. CRAWL SPACE ELEV. 409.4 409.8
67	412.5 412.49	408.3 410.14	C.O.	MIN. CRAWL SPACE ELEV. 408.8 410.7
68	410.6 412.40	406.8 409.29	C.O.	MIN. CRAWL SPACE ELEV. 409.1 410.9
69	413.1	410.9	Y.D.	TOP 413.05 INV. 410.57
70	413.6	411.4	Y.D.	TOP 413.44 INV. 410.71
71	414.6	412.4	Y.D.	TOP 414.25 INV. 411.68
NOTE:				
▲ FOUNDATION POOL DRAINS TO BE DIRECTED AS INDICATED IN "REMARKS". DO NOT CONNECT FOUNDATION DRAINS TO THESE CLEANOUT/YARD DRAIN LOCATIONS.				
CLEANOUT (CO): SEE DETAIL (FIELD SET TOP ELEVATION)				
YARD DRAIN (YD): SEE DETAIL (PAGE 10, 15-NO.12 DIAMETER)				



- GUARDRAIL NOTES**
1. SEE **GUARDRAIL DETAILS** SHEETS 16 AND 17 FOR GUARDRAIL DETAILS.
 2. SEE WSDOT/APWA STANDARD PLANS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION LATEST EDITION FOR ADDITIONAL GUARDRAIL DETAILS NOT SHOWN HEREON.
 3. SEE **PENNY CREEK BRIDGE PLANS** SHEETS 1 AND 2 FOR CONCRETE BARRIER, CONCRETE APPROACH AND BRIDGE CONSTRUCTION DETAILS AND PLANS. COORDINATE CONNECTION OF GUARDRAIL WITH SAID PLANS.
 4. SEE REMAINDER OF ROAD AND STORM DRAINAGE PLANS FOR INFORMATION NOT SHOWN HEREON.



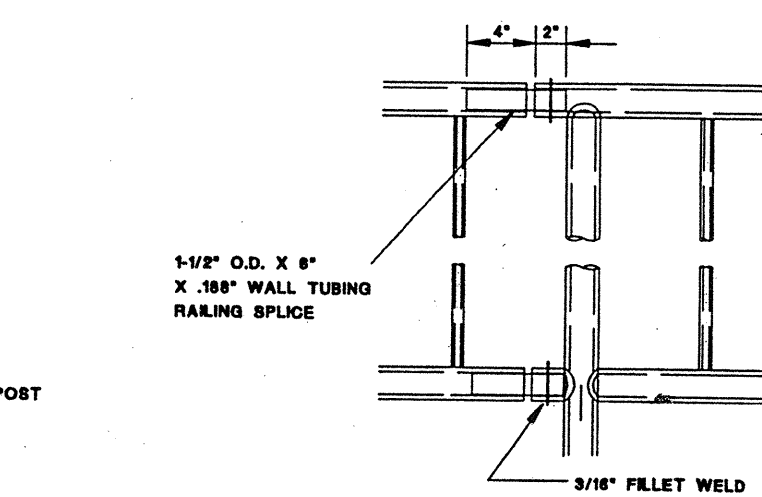
DETAIL A



3/4" 8CH 40

PICKETS INSERTED IN HOLE
AND TACK WELDED OPPOSITE
TRAFFIC.

MATERIAL FOR PEDESTRIAN HANDRAIL SHALL BE STEEL (ASTM A120) OR ALUMINUM (ASTM B241 OR B429 ALLOY 6061-T6 AS DIRECTED BY THE OWNER. MANUFACTURING OF THE HANDRAIL SHALL CONFORM TO STANDARD DRAWING 8-172.



DETAIL B

CITY OF EVERETT STD DWG 325

PEDESTRIAN RAIL (GALV. STEEL)

GALVANIZED PEDESTRIAN RAIL SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THESE SPECIAL PROVISIONS AND STANDARD DRAWING 6-170.

GALVANIZED STEEL PEDESTRIAN RAIL SHALL CONFORM TO ASTM DESIGNATION A120. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE AWS D1.1-72. AFTER FABRICATION EACH SECTION OF RAILING SHALL BE HOT-DIPPED GALVANIZED WITH A MINIMUM ZINC COATING OF 2 OUNCES PER SQUARE FOOT. ALL BURRS AND SHARP EDGES SHALL BE REMOVED PRIOR TO GALVANIZING.

FIELD WELDS SHALL BE GALVANIZED WITH "GALVALLOY" OR APPROVED EQUAL. PAINTING OF WELDS WILL NOT BE PERMITTED.

HORIZONTAL RAILS AND VERTICAL SUPPORT POSTS SHALL BE 2 INCH DIAMETER AND BALUSTERS SHALL BE 1 INCH DIAMETER STANDARD WEIGHT GALVANIZED STEEL PIPE. RAILS, POSTS & BALUSTERS SHALL BE MACHINE CUT TO PROVIDE A UNIFORM LENGTH PRIOR TO ASSEMBLY

RAILING SHALL BE ERECTED AND ADJUSTED, IF NECESSARY, TO ASSURE A CONTINUOUS LINE AND GRADE. FINISHED HEIGHT IS TO BE 42 INCHES ABOVE PEDESTRIAN SURFACE. EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS SHOWN ON THE STANDARD DRAWING.

PEDESTRIAN RAIL (ALUMINUM)

ALUMINUM PEDESTRIAN RAIL SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THESE SPECIAL PROVISIONS AND STANDARD DRAWING 8-170.

ALUMINUM PEDESTRAIN RAIL SHALL BE NATURAL ALUMINUM COLOR.

IF ANODIZATION IS SPECIFIED, ALL ALUMINUM PARTS SHALL BE GIVEN A CLEAR ANODIC COATING AT LEAST 0.0008 INCH THICK AND SHALL BE SEALED TO MEET THE REQUIREMENTS OF ASTM B 138 AND SHALL HAVE A UNIFORM FINISH.

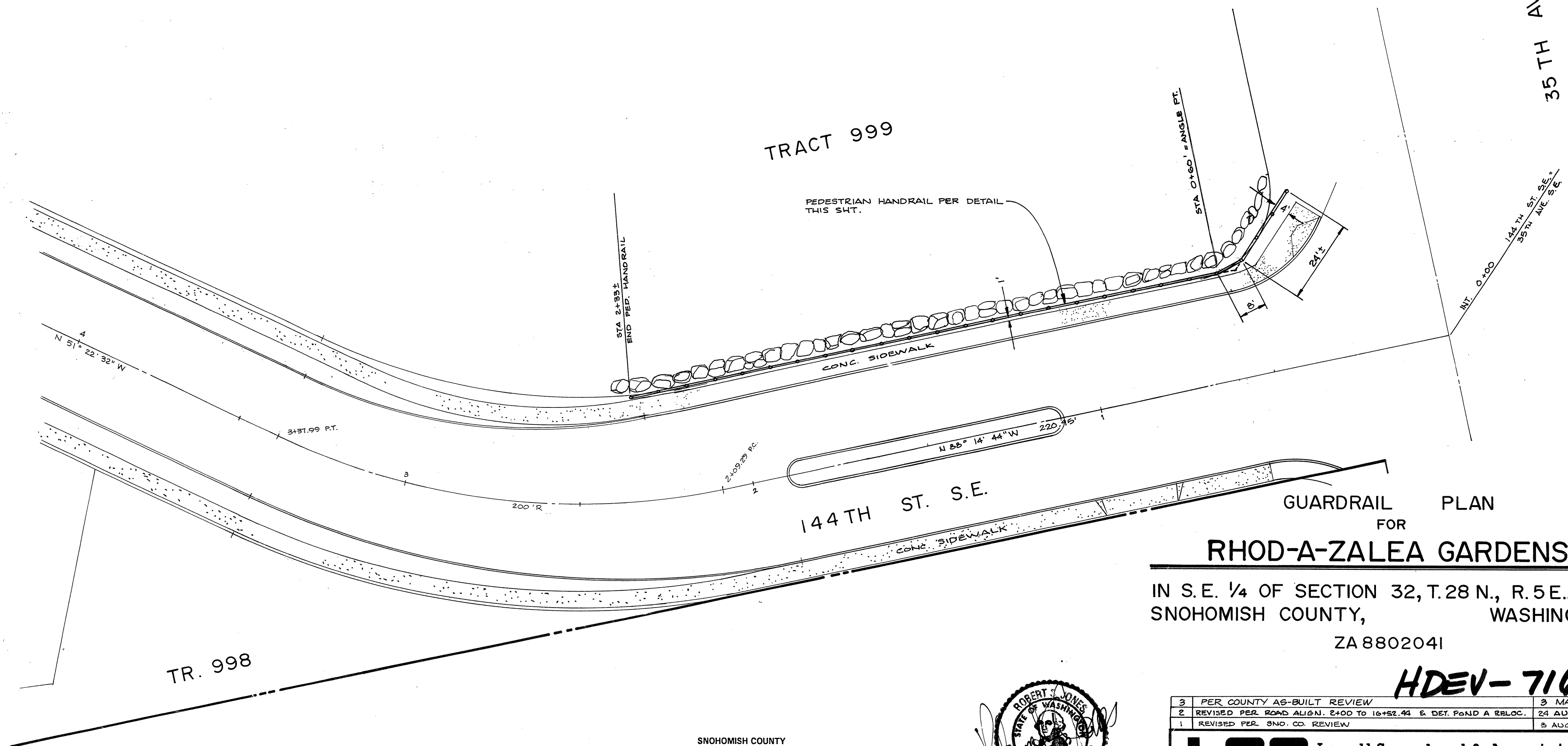
WELDING OF ALUMINUM SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE
ALUMINUM, AWS D 12".

ALL MATERIALS USED IN THE FABRICATION OF ALUMINUM PEDESTRIAN RAIL SHALL MEET THE REQUIREMENTS OF ASTM B241 OR B420 ALLOY 8081-T8 SCHEDULE 40(STD. PIPE)

HORIZONTAL RAILS AND VERTICAL SUPPORT POSTS SHALL BE 1.9" O.D. AND BALUSTERS SHALL BE 1.05" O.D. STANDARD WEIGHT ALUMINUM PIPE. RAILS, POSTS & BALUSTERS SHALL BE MACHINE CUT TO PROVIDE A UNIFORM LENGTH PRIOR TO ASSEMBLY

PEDESTRIAN HANDRAIL DETAIL

NO SCALE



GUARDRAIL PLAN
FOR

RHOD-A-ZALEA GARDENS

IN S.E. ¼ OF SECTION 32, T.28 N., R.5 E., W.M.
SNOHOMISH COUNTY, WASHINGTON

ZA 8802041

HDEV-716

3	PER COUNTY AS-BUILT REVIEW	3 MAY 94	RCN
2	REVISED PER ROAD ALIGN. 2+00 TO 16+52.44 & DET. POND A RELOC.	24 AUG '93	ALV
1	REVISED PER SNO. CO. REVIEW	3 AUG '93	ALV

LSA Lovell-Sauerland & Associates, Inc.
Engineers/Surveyors/Planners/Development Consultants

19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206) 775-1591 • (206) 340-0830

DRAWN	CHECKED	DATE	F.B.	SCALE	FILE NO.
GB	RSJ	28 MAY 93	399	1" = 20'	2866

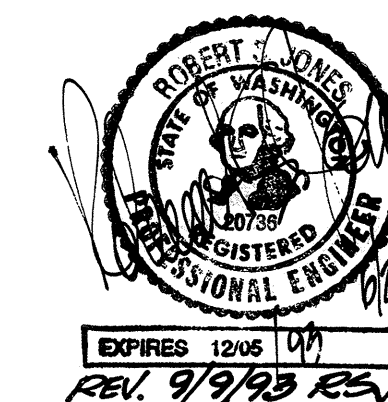
HIGHLAND TRAILS

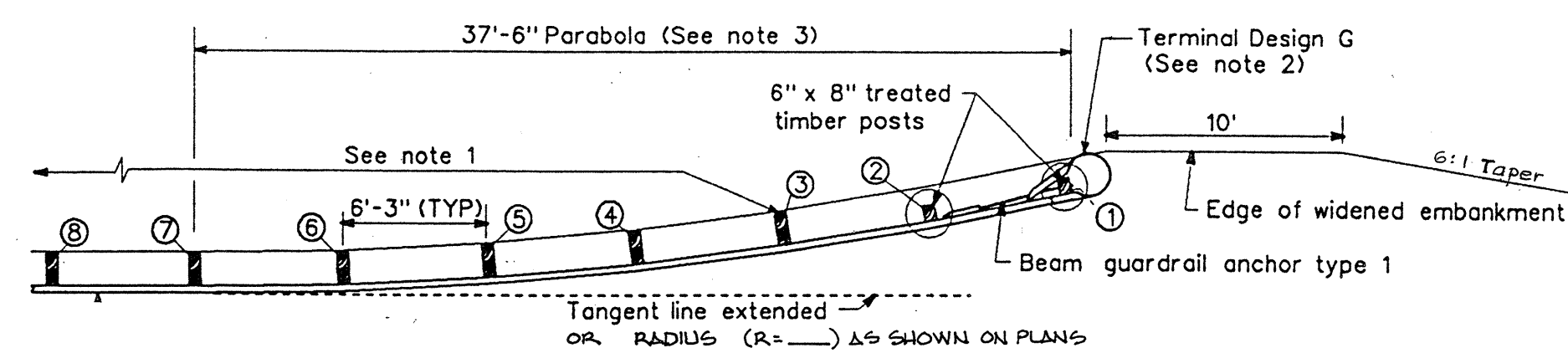
SHEET 16 OF 30

SNOHOMISH COUNTY
COMMUNITY DEVELOPMENT DIVISION
APPROVED FOR CONSTRUCTION

BY: Randolph R. Sleight DATE: 10/14/93
FOR RANDOLPH R. SLEIGHT, P.E., P.L.S.

R/W PERMIT NO. RW1256



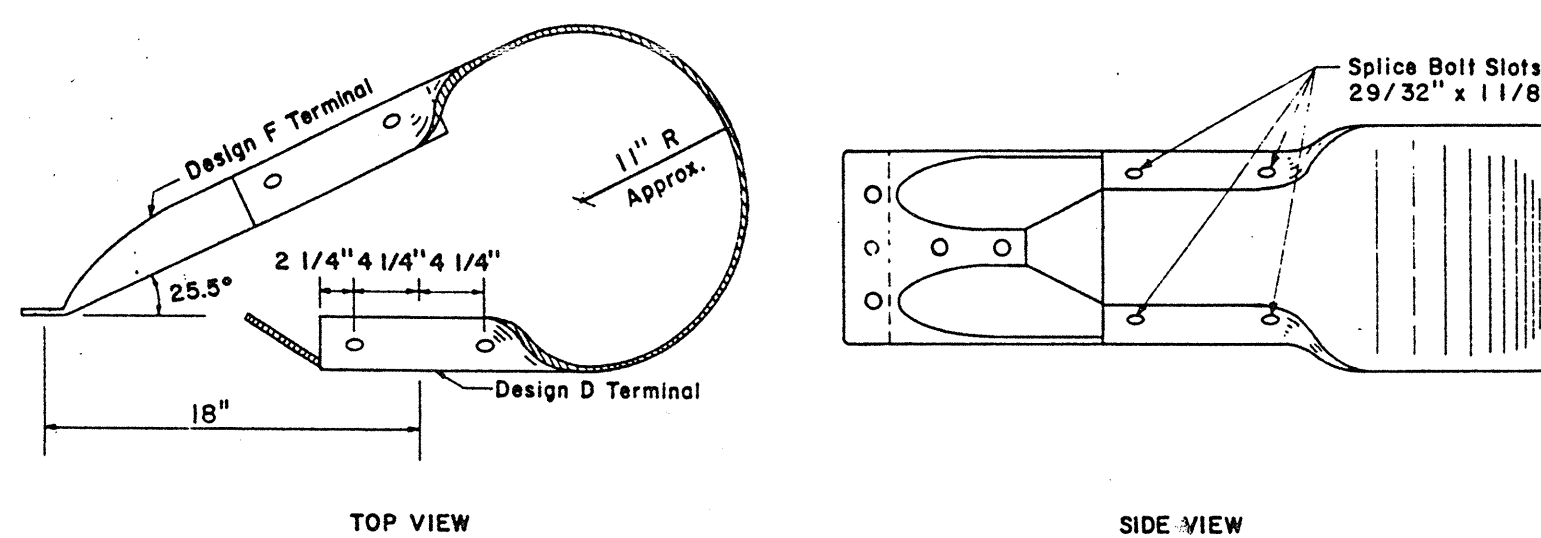


NOTES

- 6" x 8" or 8" x 8" treated timber posts and blocks. For steel posts and block alternates see applicable Standard Plan(s).
- For terminal section detail see TERMINAL DESIGN G.
- Parabola offset distances:

POST NO.	7	6	5	4	3	2	1
OFFSET							
DISTANCE	0.00'	0.11'	0.44'	1.00'	1.78'	2.78'	4.00'

GUARDRAIL TERMINAL TYPE BCT

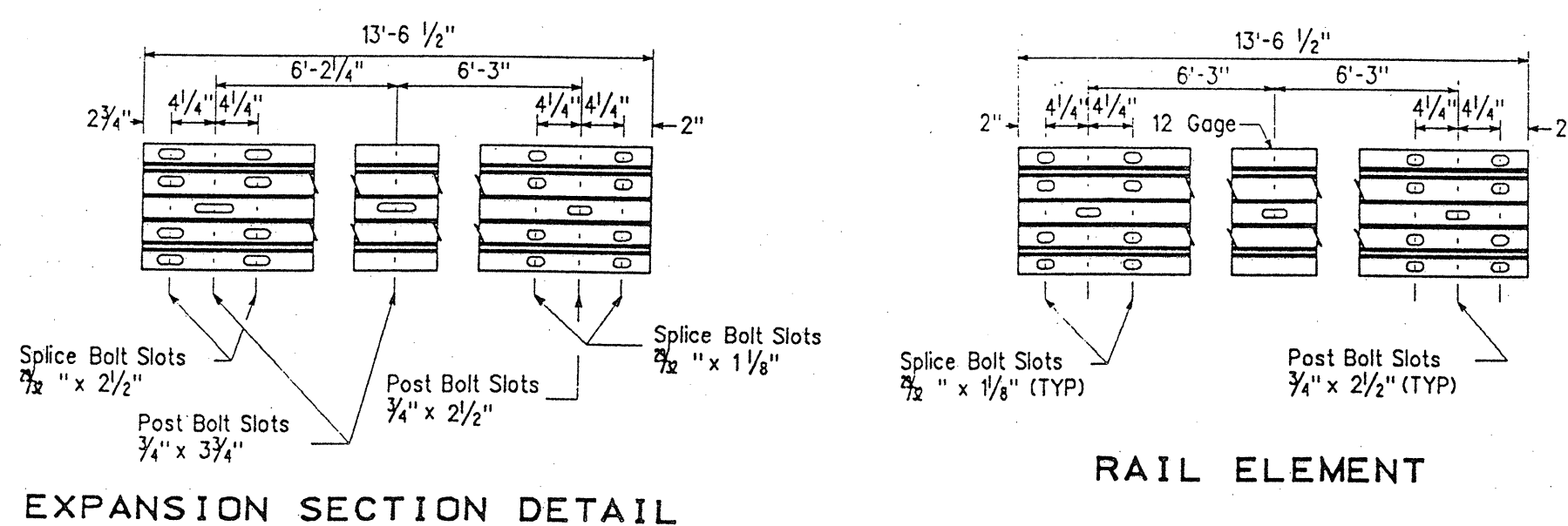
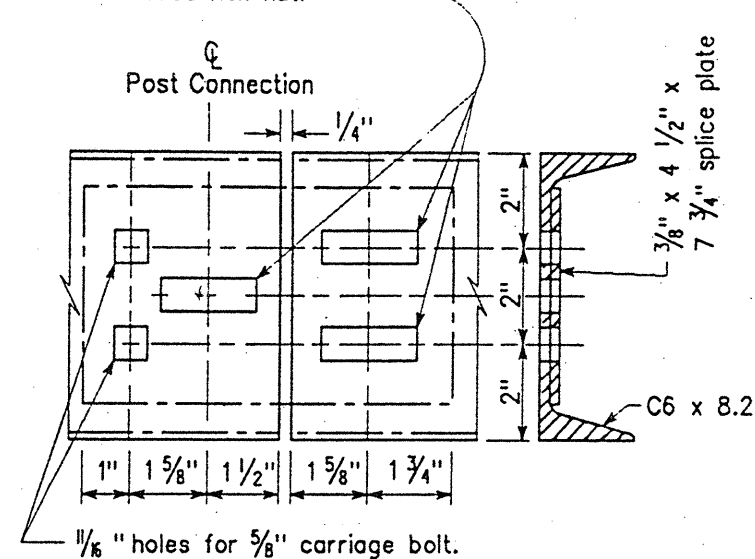


NOTES:

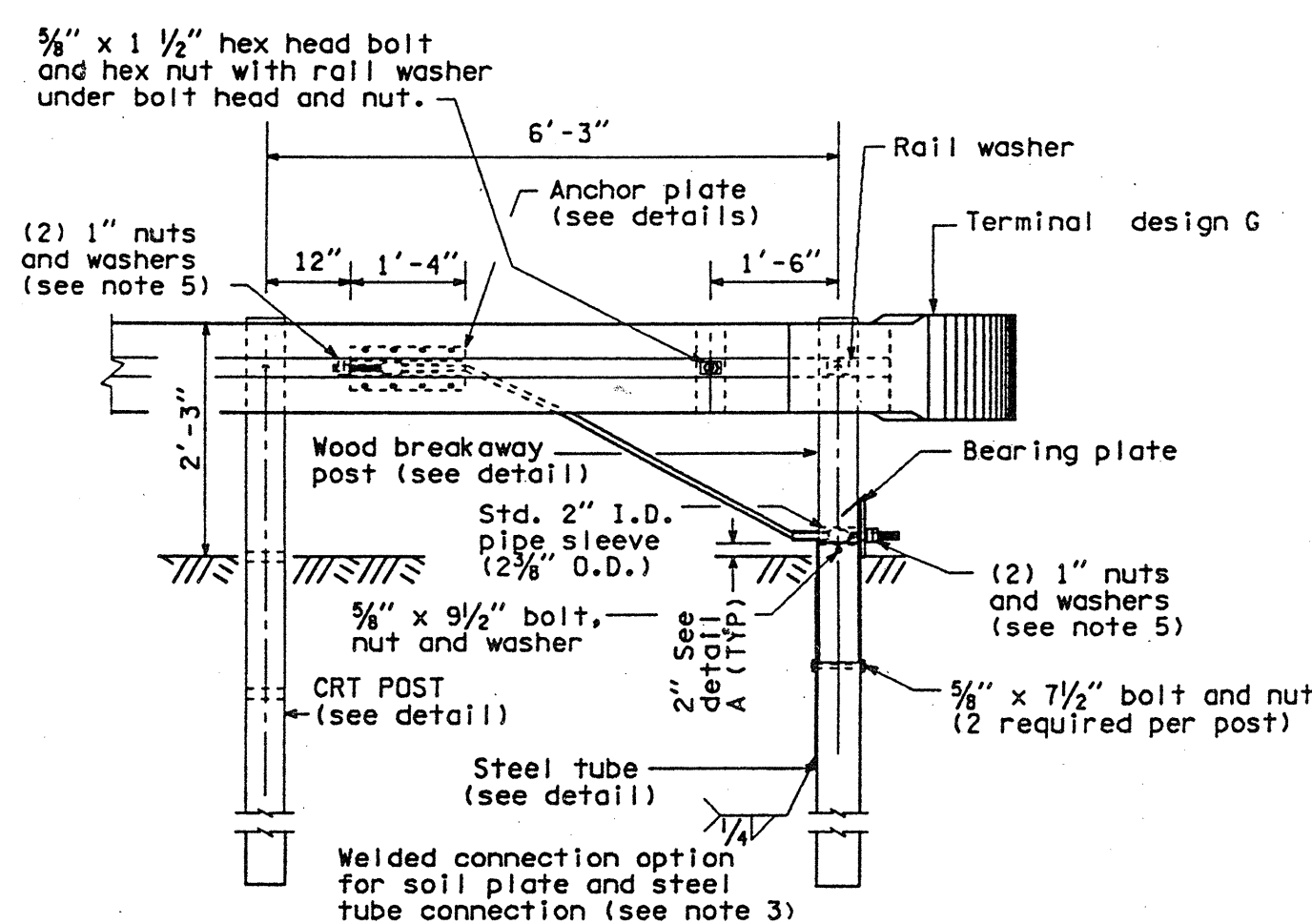
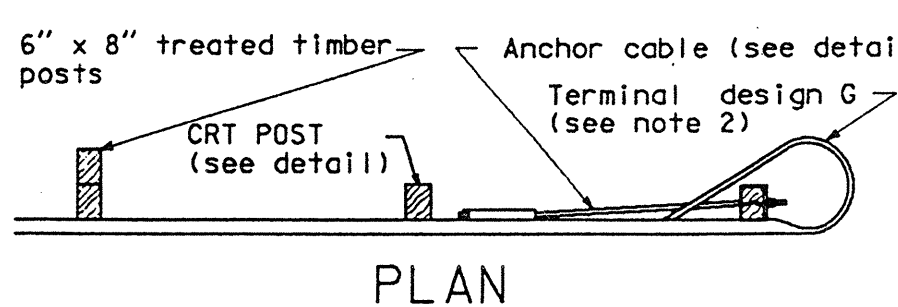
- Terminal Section Design G shall be used for all Type 1, 2 and 3 Beam Guardrail unless shown otherwise on the plans.
- Bolts shall be 7/8" @ AASHTO M 164 chemically bonded anchors. Anchor installation shall be per manufacturer's recommendations, in dry conditions.
- A single piece having similar dimensional shape to Design G and mating with the W-beam guardrail is an alternate.

TERMINAL DESIGN G

1/2" x 2" slot in channel and splice plate for 3/4" carriage bolt with hex nut and washer. Center line post connection shall have 1/2" x 2" slot in channel and splice plate for 3/4" button head bolt with 1/2" oval grip and recessed hex nut.



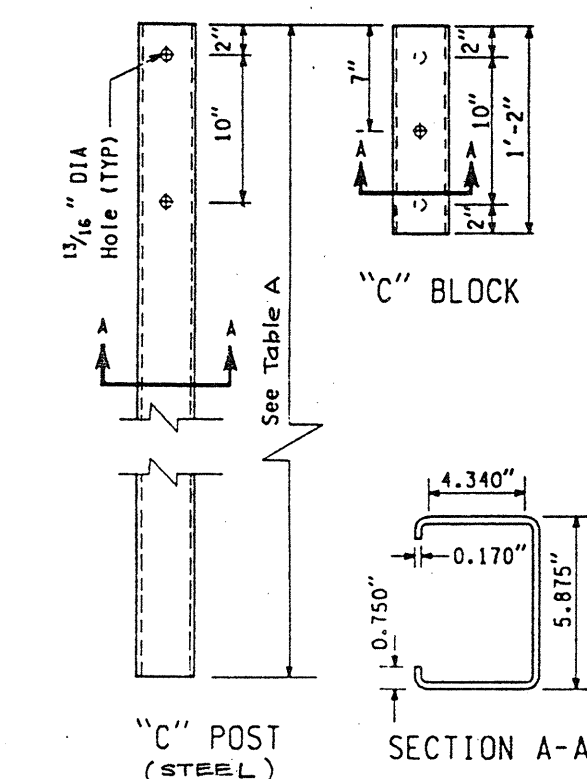
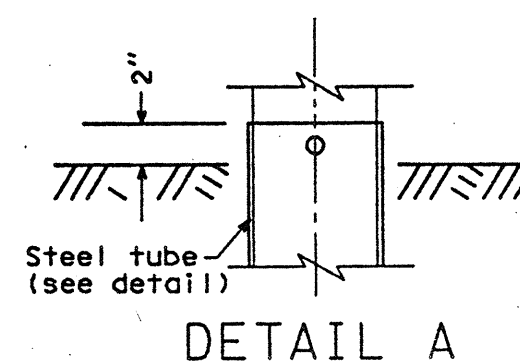
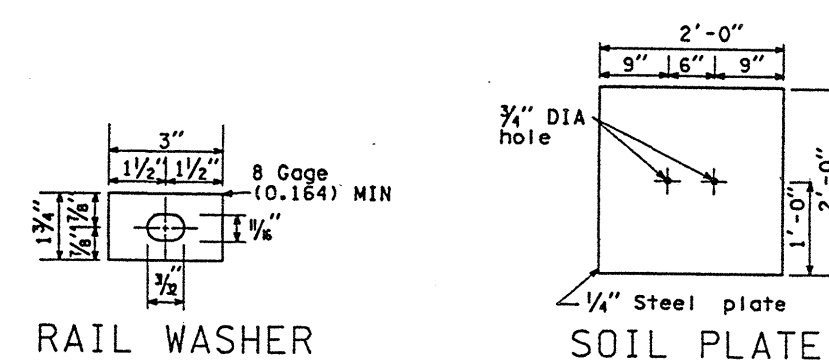
CHANNEL RAIL SPLICE



GUARDRAIL ANCHOR TYPE 1

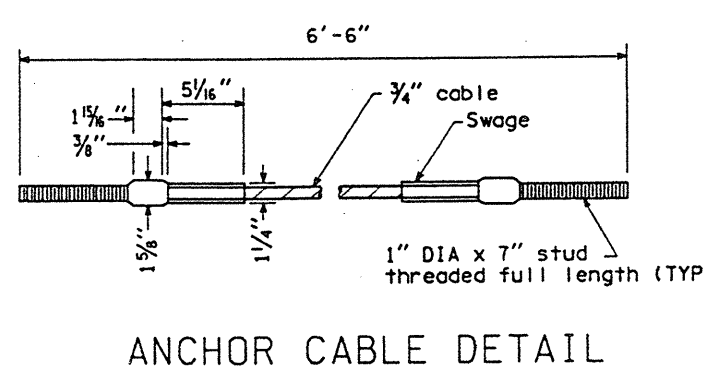
WOOD BREAKAWAY POST

CONTROLLED RELEASING TERMINAL (CRT) POST

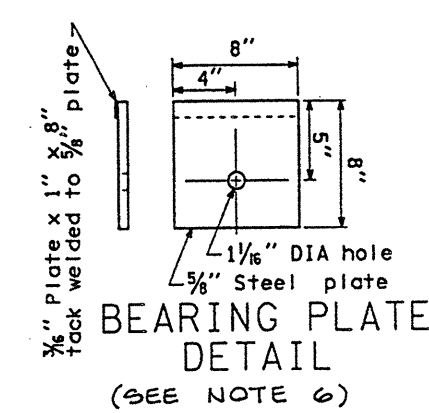


BOLT PLACEMENT DETAIL FOR "C" POST

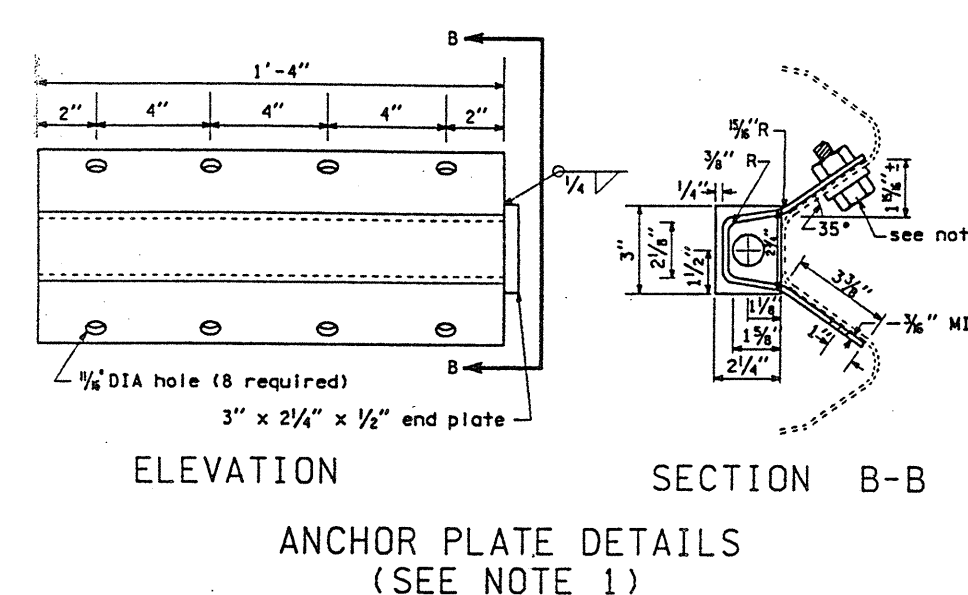
GUARDRAIL TYPE 1



ANCHOR CABLE DETAIL



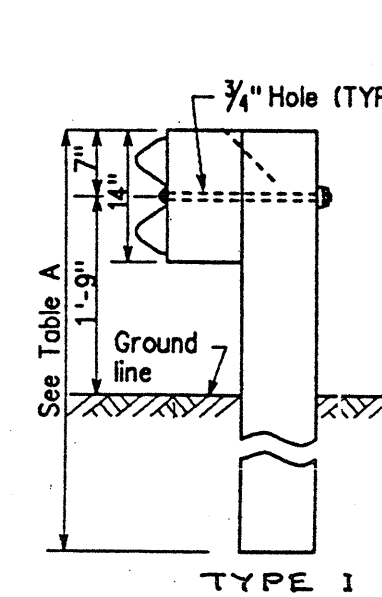
BEARING PLATE DETAIL (SEE NOTE 6)



ANCHOR PLATE DETAILS (SEE NOTE 1)

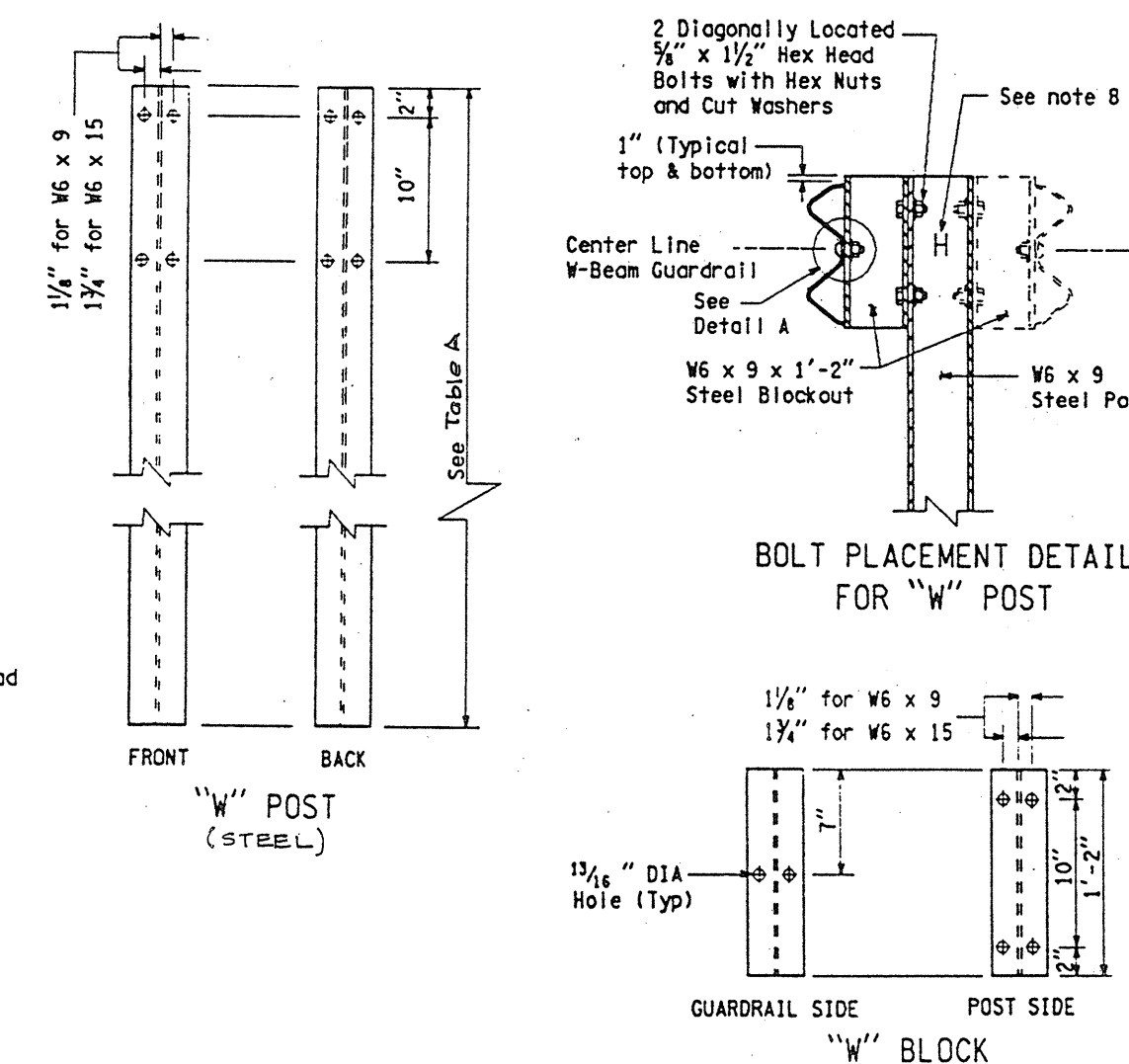
NOTES

- Anchor plate may be constructed from 1/4" plates welded to equal strength and dimensions as shown on plans.
- For terminal section detail see TERMINAL DESIGN G.
- When welded option is selected, Soil plate connection holes are not required.
- Eight 3/4" x 1 1/2" machine bolts with hex nut and washer. Place washer on face side of rail.
- Outside nut shall be torqued against inside nut a minimum of 100 FT-lbs.
- Toenail bearing plate with 10d nail at corners to prevent turning.

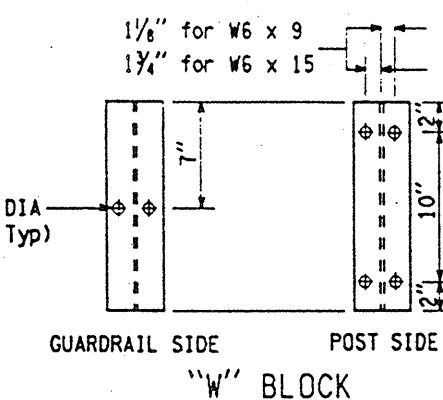


TYPE 1

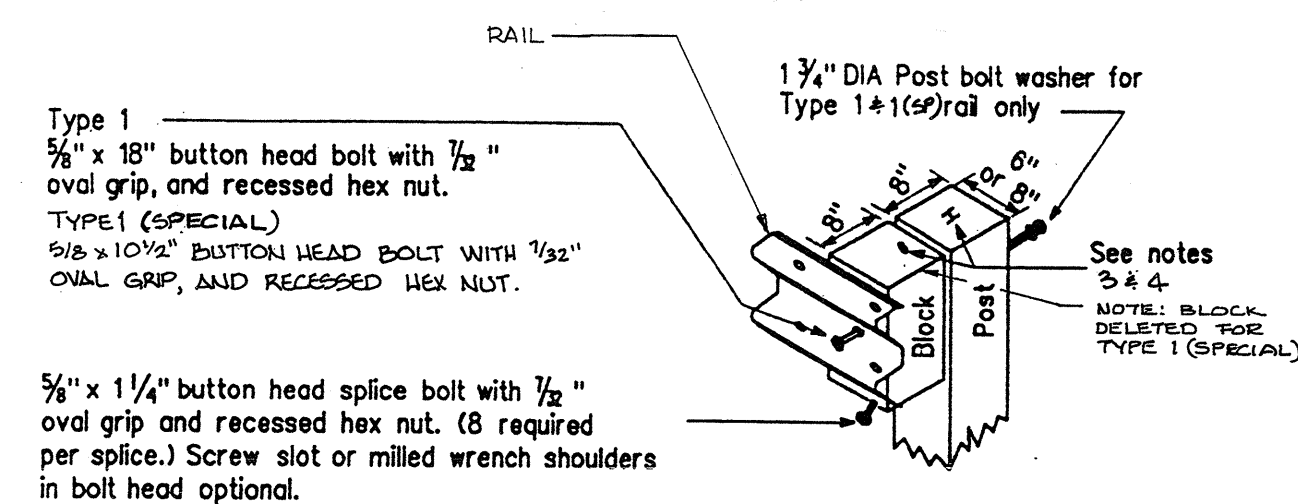
GUARDRAIL TYPE	TABLE A	
	WOOD POSTS AUGER & BACKFILL	STEEL POSTS DRIVEN
1	6'	7'



BOLT PLACEMENT DETAIL FOR "W" POST



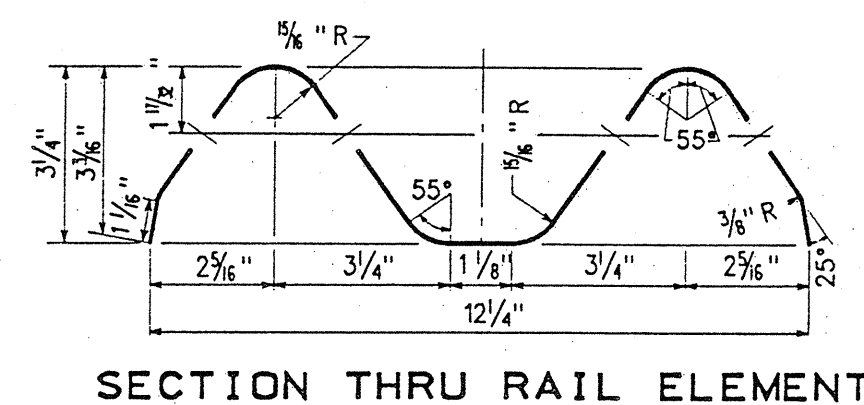
GUARDRAIL SIDE "W" BLOCK



WOOD POST ASSEMBLY DETAILS

NOTES:

- Guardrail post spacing for all types shall be 6'-3" on centers.
- A tolerance of 3 percent on any dimension of the rail element will be allowed.
- Timber block shall be toe nailed to post with a 16d galvanized nail to restrict block rotation.
- Post and blocks may be 6" x 8" or 8" x 8" treated timber or W6 x 9 or "C" shape 5.875" x 4.340" galvanized steel unless otherwise noted. For steel posts details see Standard Plan "Steel Post and Block For Beam Guardrail". Treated timber posts and blocks may be S4S or rough sawn.
- Orient "C" Posts with closed face toward approaching traffic.
- Rail mounts to block with bolt on approaching traffic side of block and post web.
- Block mounts to post with 2 bolts (staggered). For lower bolt use hole on approaching traffic side of block and post web. W6 x 15 block is mounted to post with 4 bolts.
- When Beam Guardrail Type 1, Foot Long Post, is specified in the contract, the steel post length shall be marked with numbers to ensure permanent identification at the location where the letter "H" is shown on the detail. The marking will be 1 1/2" MIN height.

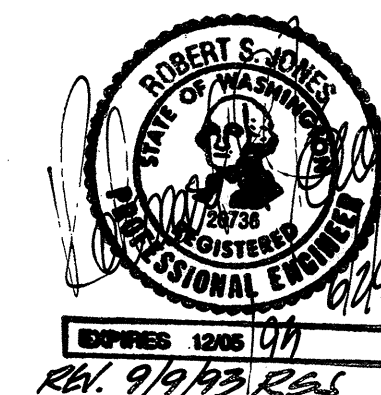


SECTION THRU RAIL ELEMENT

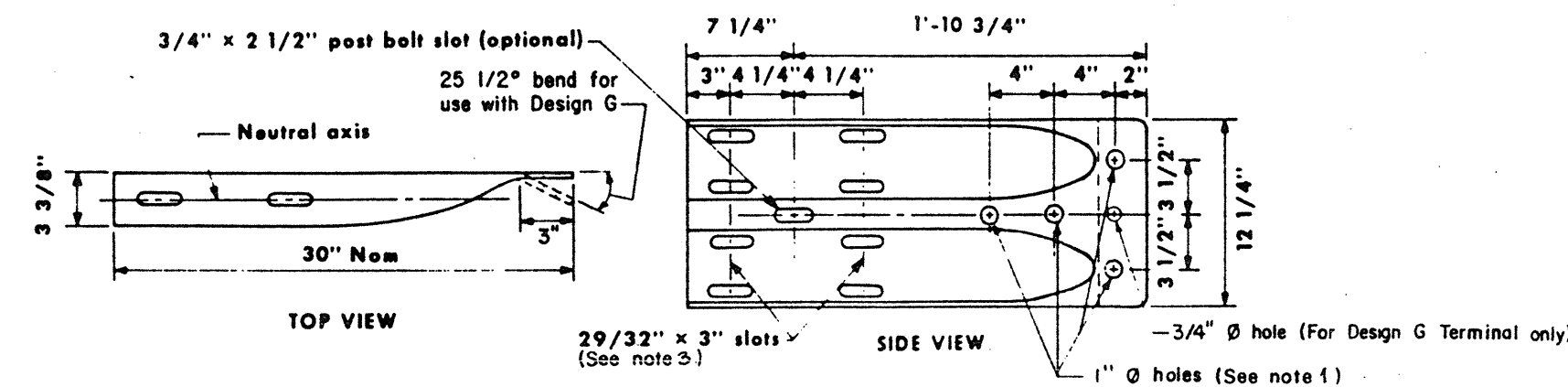
GUARDRAIL DETAILS FOR RHOD-A-ZALEA GARDENS

IN S.E. 1/4 OF SECTION 32, T. 28 N., R. 5 E., W.M. SNOHOMISH COUNTY, WASHINGTON

ZA 8802041



1	REVISED PER SNO.CO. REVIEW	2	AUG-93	ANY
LSA Lovell-Sauerland & Associates, Inc.				
Engineers/Surveyors/Planners/Development Consultants				
19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206) 775-1591 • (206) 340-0830				
DRAWN	CHECKED	DATE	FR.	SCALE
GB	R.S.J.	28 MAY 93	399	NONE
FILE NO.				2866



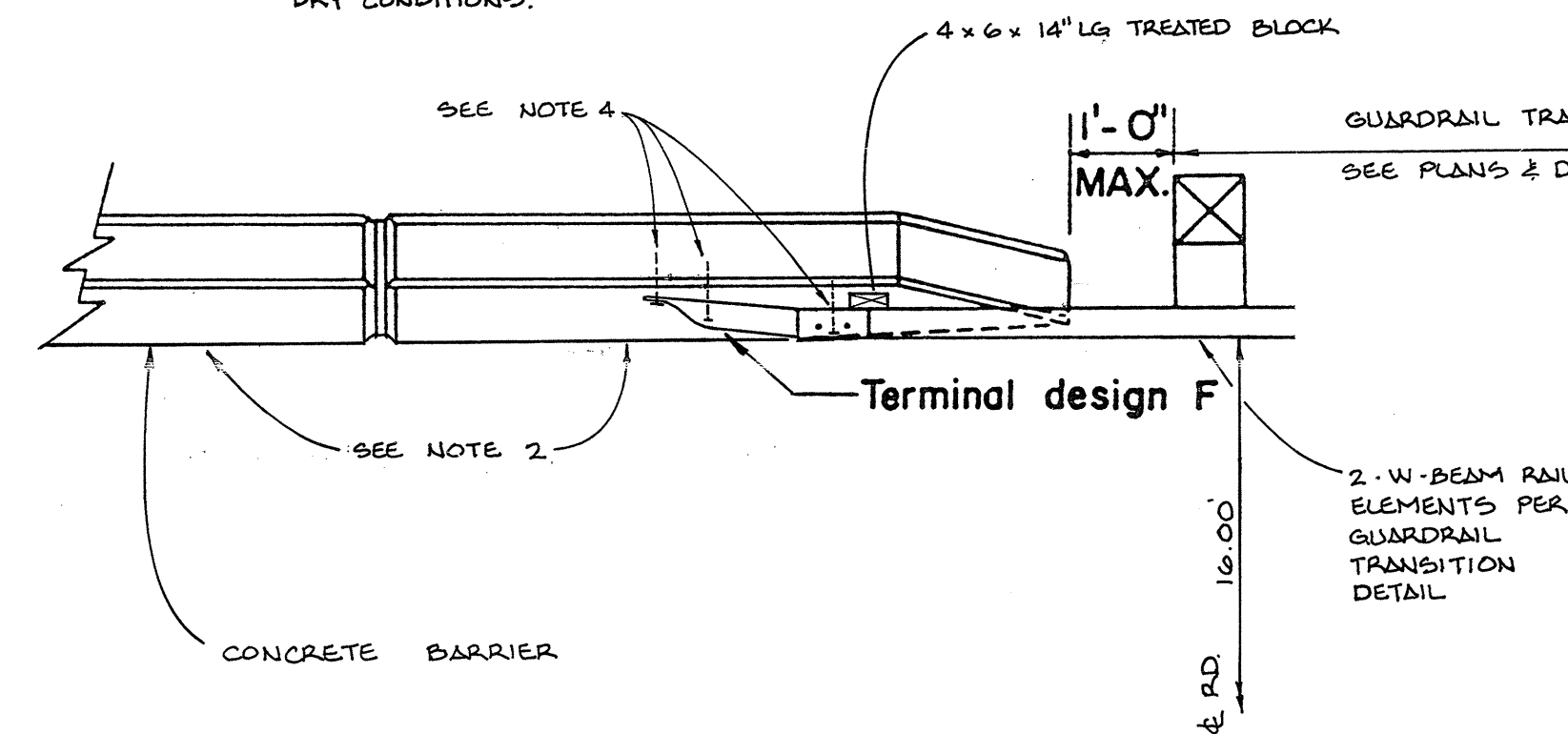
TERMINAL DESIGN F

NOTES

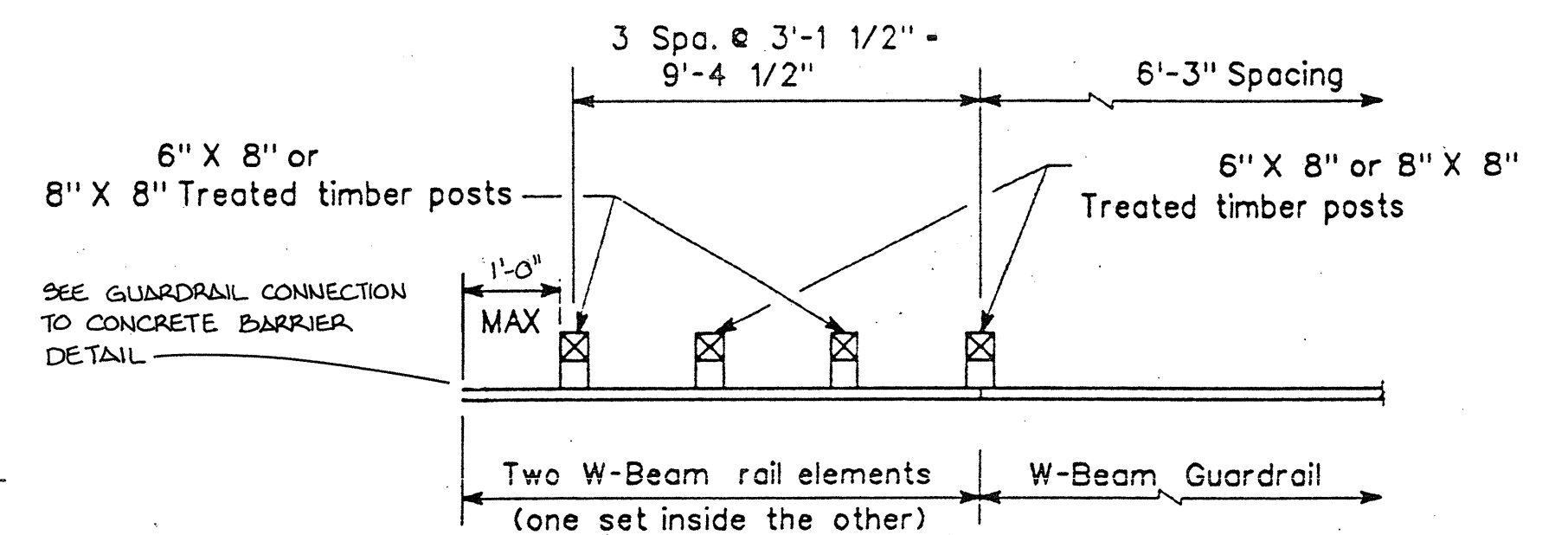
1. Bolts shall be 7/8" Ø AASHTO M 164 chemically bonded anchors. Anchor installation shall be per manufacturer's recommendations, in dry conditions.
2. Design F shall be 10 gage steel.
3. In cases where Design F terminal is lapped on the outside of the guardrail, a galvanized 1" I.D., 2" O.D., 0.134" thick, narrow Type A Plain Washer or a rail washer will be placed under the splice bolt heads.

NOTES

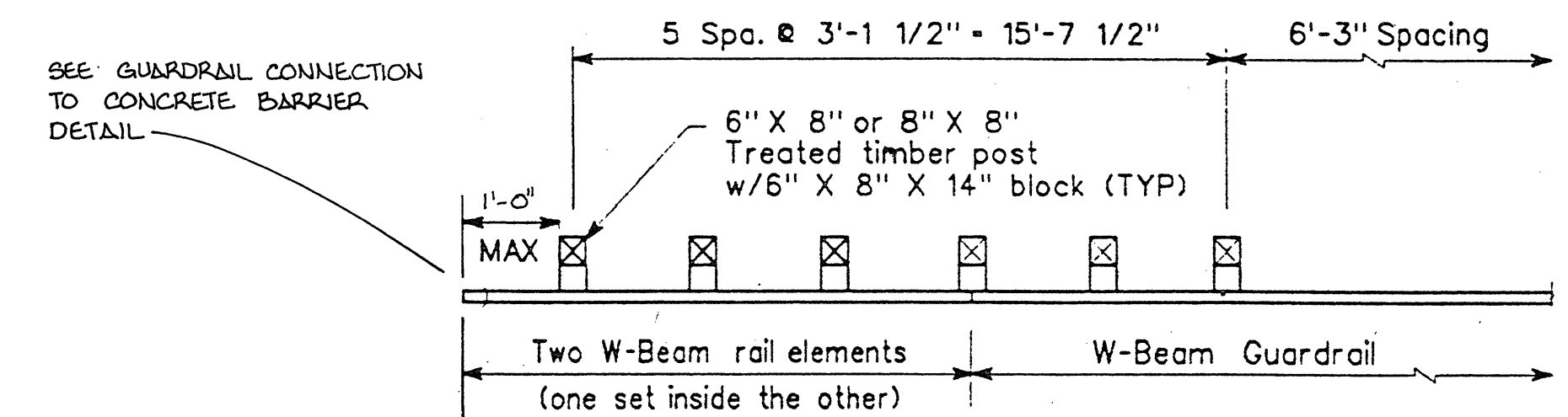
1. SEE WSDOT/APWA STANDARD PLANS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION LATEST EDITION FOR ADDITIONAL GUARDRAIL DETAILS NOT SHOWN HEREON.
2. SEE PENNY CREEK BRIDGE PLANS SHEETS 19 AND 20 FOR CONCRETE BARRIER, CONCRETE APPROACH AND BRIDGE CONSTRUCTION DETAILS AND PLANS. COORDINATE CONNECTION OF GUARDRAIL WITH SAID PLANS.
3. SEE REMAINDER OF ROAD AND STORM DRAINAGE PLANS FOR INFORMATION NOT SHOWN HEREON.
4. ATTACH GUARDRAIL TO CONCRETE BARRIER WITH 7/8" DIA. AASHTO M 164 CHEMICALLY BONDED ANCHORS. ANCHOR INSTALLATION SHALL BE PER MFR RECOMMENDATIONS, IN DRY CONDITIONS.



GUARDRAIL CONNECTION TO CONCRETE BARRIER



GUARDRAIL TRANSITION TYPE 3

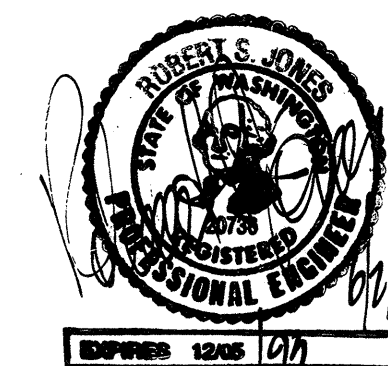


GUARDRAIL TRANSITION TYPE 2

SNOMOMISH COUNTY
COMMUNITY DEVELOPMENT DIVISION
APPROVED FOR CONSTRUCTION

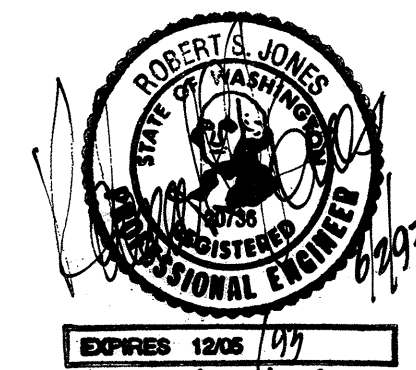
BY: *Randolph R. Sleight* DATE: 10/14/93
FOR RANDOLPH R. SLEIGHT, P.E., P.S.
RW/ PERMIT NO. RW1256

GUARDRAIL DETAILS
FOR
RHOD-A-ZALEA GARDENS
IN S.E. 1/4 OF SECTION 32, T.28 N., R.5 E., W.M.
SNOMOMISH COUNTY, WASHINGTON
ZA 8802041



HDEV-718

LSA Lovell-Sauerland & Associates, Inc.					
Engineers/Surveyors/Planners/Development Consultants					
19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206) 775-1591 • (206) 340-0830					
DRAWN	CHECKED	DATE	F.R.	SCALE	FILE NO.
GB	RSJ	28 MAY 93	299	NONE	2866



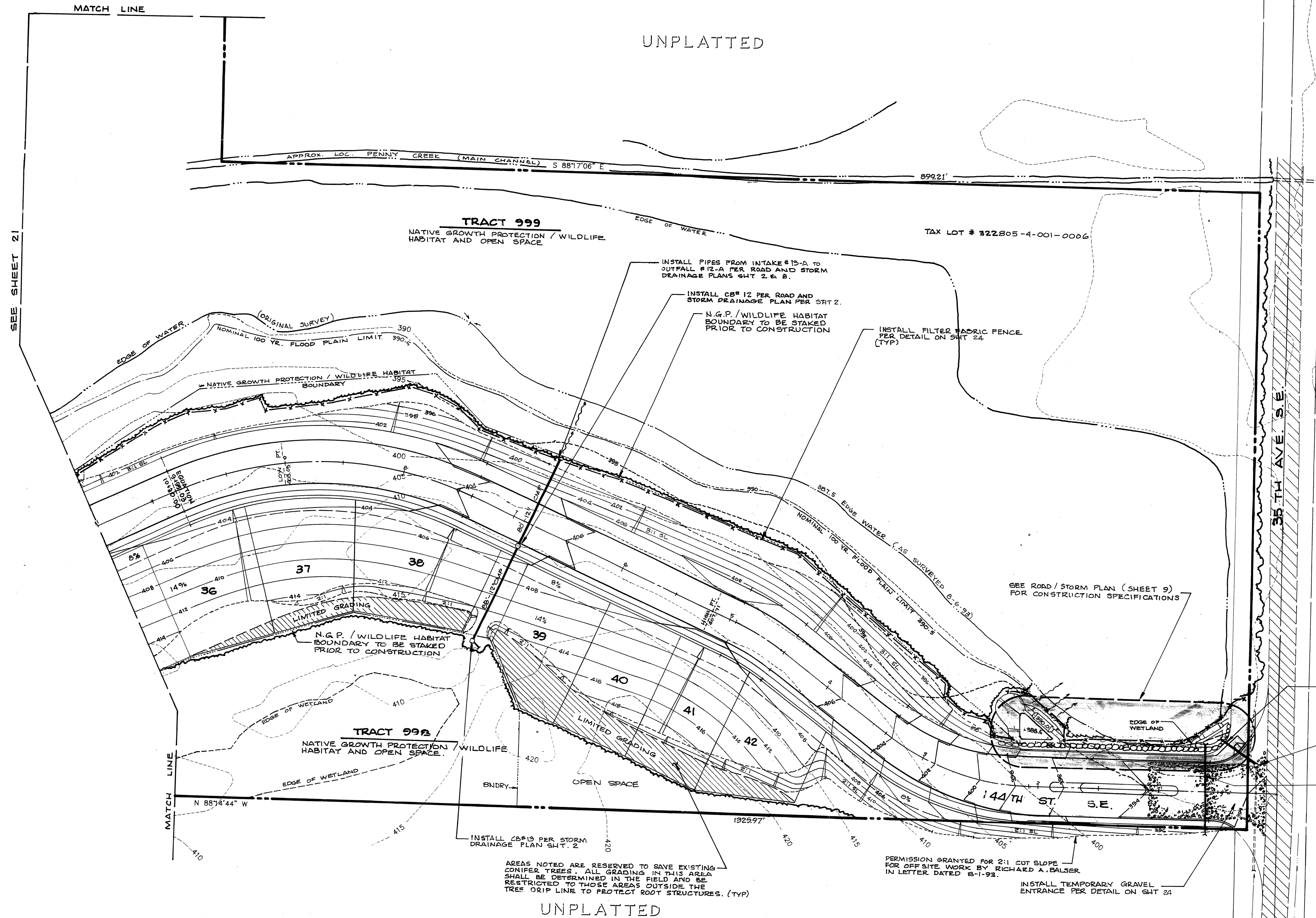
041
HDEV-719

5	PER COUNTY AS-BUILT REVIEW	3 MAY -94	RCN
4	FINAL AS-BUILTS, DIV. I	6 APRIL -94	RCN
3	REV. WALKWAY / P.P. @ 6+88 PER SNO. CO. REVIEW	4 OCT -95	ALV
2	REV. / ADDED STORM SYSTEM STA. 6+00 TO 10+00	9-23 -93	MM
1	REVISED PER SNO. CO. REVIEW	11 AUG. -93	ALV

LSA Lovell-Sauerland & Associates, Inc.
Engineers/Surveyors/Planners/Development Consultants

19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206) 775-1591 • (206) 340-0830

DRAWN	CHECKED	DATE	F.B.	SCALE	FILE NO.
ALV	RSJ	MAY, 1993		1" = 20'	2866



DATUM:
ALDERWOOD WATER DISTRICT

BENCHMARK:
INVERT OF MANHOLE NO. 20 LOCATED ON 143RD PL.
S.E. WEST OF 27TH DR. S.E. IN MILL CREEK, WA.
INVERT: 402.00

APPLICANTS:
EHELBARGER LAND CO.
P.O. BOX 30
LYNNWOOD, WA. 98036
TELEPHONE: 206-774-0205

LOVELL - SAUERLAND & ASSOCIATES, INC.
19400 - 33RD AVE. W. SUITE 200
LYNNWOOD, WA. 98036
TELEPHONE: 206-775-1591

INSTALL PERMANENT 45" 12' CMP PIPE
PER ROAD / STORM DRAINAGE PLAN

INSTALL PERMANENT 36" 12' CMP PIPE
PER ROAD / STORM DRAINAGE PLAN

INSTALL PERMANENT 24" 12' CMP PIPE
PER ROAD / STORM DRAINAGE PLAN

August 1, 1993

Randy Sleight
Snohomish County
Community Development
5th Floor
3000 Rockefeller
Everett, WA 98201

Re: Sidewalk Excavation Along Common Property Line Between
Rhod-A-Zalea and Property Owned by Dick Balser South of
Rhod-A-Zalea

Dear Randy:

I was recently contacted by Bob Jones of Lovell-Sauerland
concerning a county requirement to construct a sidewalk along the
south side of the main access road to 35th Avenue Southeast
within the new plat of Rhod-A-Zalea. The access road is numbered
144th Street Southeast and runs along the common property line
between Rhod-A-Zalea and my property. Bob Jones asked me if I
would grant permission to cut the grade for the sidewalk and
property to avoid a need to construct a retaining wall that no
one wants on the property line. Please consider this letter as my
written permission to cut the common bank back as needed to
construct the aforementioned property.

If you have any questions concerning this please call me at 776-
2634.

Sincerely,
HOMERWOOD DEVELOPMENT, INC.
By: *Richard A. Balser*
Richard A. Balser, President

GRADING AND T.E.S.C. PLAN
FOR
RHOD-A-ZALEA GARDENS
IN N1/2, SE1/4 OF SECTION 32, T.28N., R.5 E., W.M.
SNOHOMISH COUNTY, WASHINGTON
ZA 8802041

LSA Lovell-Sauerland & Associates, Inc.
Engineers/Surveyors/Planners/Development Consultants

19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206)775-1591 • (206)340-0830

REV	DESCRIPTION	DATE	DWN	ALV	RSJ	JAN, 1993	399 & 399A	SCALE	FILE NO.
2	REVISED DET. ROAD LOC., ROAD AND ALL GRADING FROM STA. 2+00 TO MATCH LINE	6-20-93	ALV						
1	REVISED PER GEN. CO. REVIEW	7-16-93	ALV						

92-2866

NATIVE GROWTH PROTECTION / WILDLIFE HABITAT ESMT. RESTRICTIONS

"ALL NATIVE GROWTH / WILDLIFE HABITAT PROTECTION AREAS SHALL BE LEFT IN A SUBSTANTIALLY NATURAL STATE. NO CLEARING, GRADING, FILLING, BUILDING CONSTRUCTION OR PLACEMENT, FENCE CONSTRUCTION, OR ROAD CONSTRUCTION OF ANY KIND SHALL OCCUR WITHIN THESE AREAS; PROVIDED THAT UNDERGROUND UTILITY LINES AND DRAINAGE DISCHARGE SWALES MAY CROSS SUCH AREAS UTILIZING THE SHORTEST ALIGNMENT POSSIBLE IF AND ONLY IF NO FEASIBLE ALIGNMENT IS AVAILABLE WHICH WOULD AVOID SUCH A CROSSING. REMOVAL OF VEGETATION BY THE PROPERTY OWNER SHALL BE LIMITED TO THAT WHICH IS DEAD, DISEASED OR HAZARDOUS. NO ADJUSTMENT TO THE BOUNDARY OF ANY SUCH AREA SHALL OCCUR UNLESS FIRST APPROVED THROUGH THE FORMAL REPLAT PROCESS."

OPEN SPACE EASEMENT RESTRICTIONS

"ALL OPEN SPACE AREAS SHALL BE LEFT IN A SUBSTANTIALLY NATURAL STATE. NO CLEARING, GRADING, FILLING, BUILDING CONSTRUCTION OR PLACEMENT, OR ROAD CONSTRUCTION OF ANY KIND SHALL OCCUR IN THESE AREAS; PROVIDED THAT COMMUNITY RECREATION FACILITIES MAY BE DEVELOPED IN OPEN SPACE AREAS; AND PROVIDED FURTHER, THAT UNDERGROUND UTILITY AND DRAINAGE DISCHARGE SWALES MAY CROSS SUCH AREAS UTILIZING THE SHORTEST ALIGNMENT POSSIBLE IF AND ONLY IF NO FEASIBLE ALIGNMENT IS AVAILABLE WHICH WOULD AVOID SUCH A CROSSING. REMOVAL OF TREES BY THE PROPERTY OWNER SHALL BE LIMITED TO THOSE WHICH ARE DEAD, DISEASED OR HAZARDOUS. NO ADJUSTMENT TO THE BOUNDARY OF ANY SUCH AREA SHALL OCCUR UNLESS FIRST APPROVED THROUGH THE FORMAL REPLAT PROCESS."

HYDRAULIC PROJECT APPROVAL

APPROVAL: R.C.W. 75-20-100, R.C.W. 75-20-103, June 12, 1993

DEPARTMENT OF FISHERIES General Administration Bldg., Olympia, Washington 98501 (206) 755-5000

PROJECT: Rhod-A-Zalea Gardens

OWNER: Lovell-Sauerland & Assoc.

DESIGNER: Bob Jones

DATE: 8/2/93

TIME LIMITATIONS: 1. THIS PERMIT IS VALID FOR 180 DAYS FROM DATE OF ISSUANCE. 2. THIS PERMIT IS VALID FOR 180 DAYS FROM DATE OF ISSUANCE.

NOTE: A separate Hydraulic Project Approval is required for stormwater management.

1. A positive delineation of the Native Growth Protection Area (NGPA) shall be made prior to any other work to ensure minimal disturbance of the NGPA.

2. Disturbance of the NGPA shall be kept to the minimum necessary to access the bridge site. Any vegetation removed outside of the access area shall be immediately and fully replaced with suitable riparian vegetation.

3. Erosion control methods shall be installed and maintained before, during, and after construction, as needed to prevent any dirt or sediments from leaving the work site and entering the stream.

4. Equipment shall operate stationed on the banks and shall not enter or operate in the flowing water.

5. The bridge and log control fish ladder shall be constructed as Rhod-A-Zalea Gardens, Lovell-Sauerland & Associates, Inc., June 2, 1993.

6. Removal of the beaver dam shall be conducted slowly so that no large trees are felled. The dam shall not be lowered more than one (1) vertical foot per day.

HYDRAULIC PROJECT APPROVAL

APPROVAL: R.C.W. 75-20-100, R.C.W. 75-20-103, June 12, 1993

DEPARTMENT OF FISHERIES General Administration Bldg., Olympia, Washington 98501 (206) 755-5000

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TIME LIMITATIONS: 1. THIS PERMIT IS VALID FOR 180 DAYS FROM DATE OF ISSUANCE. 2. THIS PERMIT IS VALID FOR 180 DAYS FROM DATE OF ISSUANCE.

NOTE: A separate Hydraulic Project Approval is required for stormwater management.

1. The work area shall be isolated from the flowing water by constructing coffer dams with sandbags, filled with clean sand, and using a temporary culvert to bypass the flowing water. The culvert shall be large enough to carry any stream flow that may occur and all work shall be completed within 180 days of the start of work.

2. No dirt, sediments, petroleum products, cement, or other materials deleterious to fish shall enter the stream.

3. Any de-watering of the footings shall be to an upland disposal site. The water must be free of sediments before reentering the stream.

4. All excavated materials shall be deposited outside of the flood plain.

5. All concrete forms shall be completely sealed to prevent concrete from seeping into the stream. All concrete shall be placed within the stream.

6. All bare earth areas shall be protected from erosion and re-vegetated.

7. It is the owner's responsibility to maintain the log control fish way so that it effectively provides fish passage to the downstream. The owner shall be responsible for any work necessary to provide fish passage.

8. The National Habitat Inventory shall be contacted a minimum of 10 working days prior to the start of construction.

LOCATION: Turn west off of 35th Avenue Southeast on to Silver Creek Drive, turn south off of Silver Creek on to 25th Street, turn west on to Penny Creek. The City of Mill Creek is immediately downstream (west) of the bridge site.

1c: Tom Burns, WDF
Steve Jenks, WDF

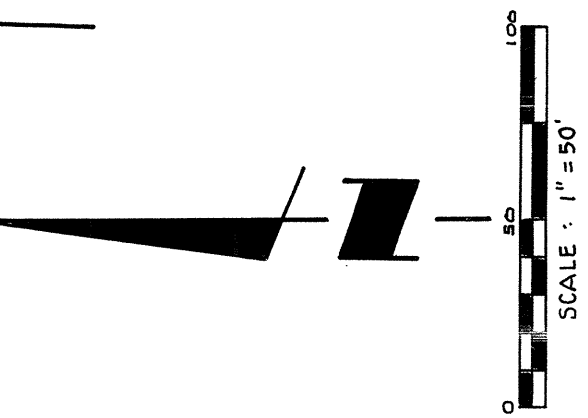
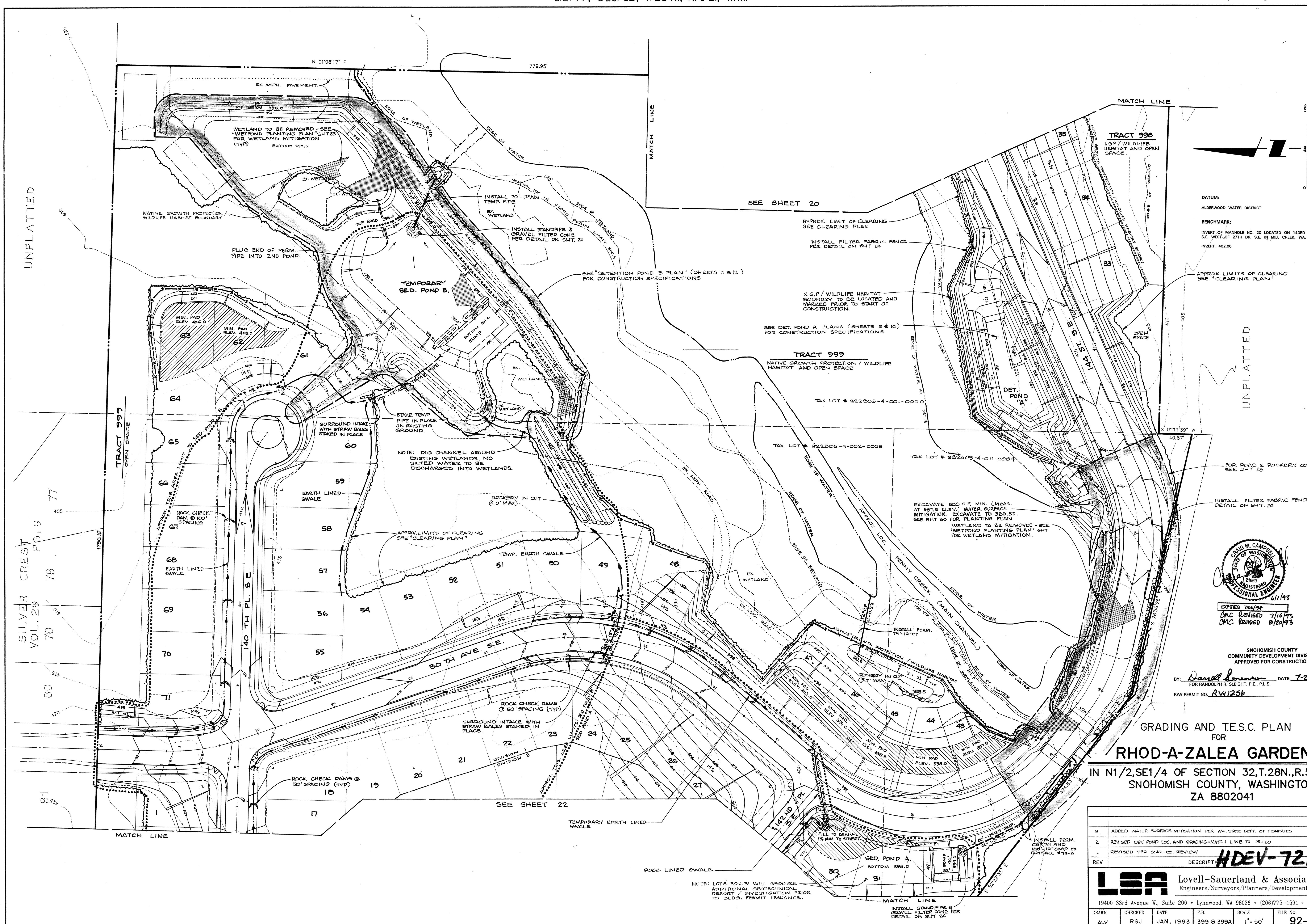
THIS APPROVAL IS TO BE AVAILABLE ON THE JOB SITE AT ALL TIMES AND ITS PROVISIONS FOLLOWED BY THE PERMITTEE AND OPERATOR PERFORMING THE WORK.

THE PERSONS TO WHOM THIS APPROVAL IS ISSUED MAY BE HELD LIABLE FOR ANY LOSS OR DAMAGE TO FISH OR FISH HABITAT WHICH RESULTS FROM FAILURE TO COMPLY WITH THE PROVISIONS OF THIS APPROVAL.

FAILURE TO COMPLY WITH THE PROVISIONS OF THIS APPROVAL COULD RESULT IN A CIVIL PENALTY OF UP TO ONE HUNDRED DOLLARS PER DAY OR A GROSS MISDEMEANOR CHARGE, POSSIBLY PUNISHABLE BY FINE OR IMPRISONMENT.

ALL HYDRAULIC PROJECT APPROVALS ISSUED PURSUANT TO RCW 75.20.100 ARE SUBJECT TO ADDITIONAL RESTRICTIONS, CONDITIONS OR REVOCATION IF THE DEPARTMENT OF FISHERIES OR DEPARTMENT OF WILDLIFE DETERMINE THAT NEW BIOLOGICAL OR PHYSICAL INFORMATION INDICATES THE NEED FOR SUCH ACTION. THE PERMITTEE HAS THE RIGHT PURSUANT TO CHAPTER 34A RCW TO APPEAL SUCH DECISIONS. ALL HYDRAULIC PROJECT APPROVALS ISSUED PURSUANT TO RCW 75.20.100 MAY BE MODIFIED BY THE DEPARTMENT OF FISHERIES OR DEPARTMENT OF WILDLIFE DUE TO CHANGED CONDITIONS AFTER CONSULTATION WITH THE PERMITTEE. PROVIDED HOWEVER, THAT SUCH MODIFICATIONS SHALL BE SUBJECT TO APPEAL TO THE HYDRAULIC APPEALS BOARD ESTABLISHED IN RCW 75.20.130.

THIS APPROVAL PERTAINS ONLY TO THE PROVISIONS OF THE FISHERIES AND WILDLIFE CODES. ADDITIONAL AUTHORIZATION FROM OTHER PUBLIC AGENCIES MAY BE NECESSARY FOR THIS PROJECT.

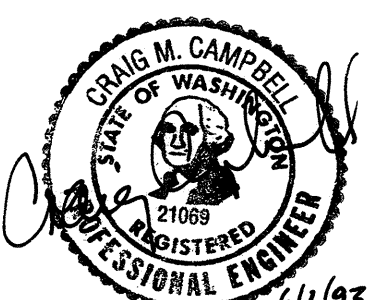


DATUM:
ALDERWOOD WATER DISTRICT

BENCHMARK:
INVERT OF MANHOLE NO. 30 LOCATED ON 143RD PL.
S.E. WEST OF 27TH DR. S.E. IN MILL CREEK, WA.
INVERT: 402.00

APPROX. LIMITS OF CLEARING
SEE "CLEARING PLAN"

UNPLATTED



EXPIRES 7/04/94
DAC REVISED 7/16/93
CMC REVISED 8/20/93

SNOHOMISH COUNTY
COMMUNITY DEVELOPMENT DIVISION
APPROVED FOR CONSTRUCTION

BY: Daniel L. Smeaton DATE: 7-23-93
FOR RANDOLPH R. SLEIGHT, P.E., P.L.S.
RW PERMIT NO. RW1256

GRADING AND T.E.S.C. PLAN
FOR
RHOD-A-ZALEA GARDENS
IN N1/2, SE1/4 OF SECTION 32, T.28N., R.5 E., W.M.
SNOHOMISH COUNTY, WASHINGTON
ZA 8802041

REV	DESCRIPTION	DATE	OWN
3	ADDED WATER SURFACE MITIGATION PER WA. STATE DEPT. OF FISHERIES	9-29-93	ALV
2	REVISED DET. POND LOC. AND GRADING-MATCH LINE TO 16+80	8-19-93	ALV
1	REVISED PER SNO. CO. REVIEW	7-16-93	ALV
REV	DESCRIPTION	DATE	OWN

LSA Lovell-Sauerland & Associates, Inc.
Engineers/Surveyors/Planners/Development Consultants
19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206)775-1591 • (206)340-0830

DRAWN	CHECKED	DATE	F.B.	SCALE	FILE NO.
ALV	RSJ	JAN., 1993	399 & 399A	1" = 50'	92-2866

SNOHOMISH COUNTY
COMMUNITY DEVELOPMENT DIVISION
APPROVED FOR CONSTRUCTION

BY: Danell Johnson DATE: 7-23-91
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R/W PERMIT NO. RW1256

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FOR

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IN N1/2,SE1/4 OF SECTION 32,T.28N.,R.5 E.,W.M
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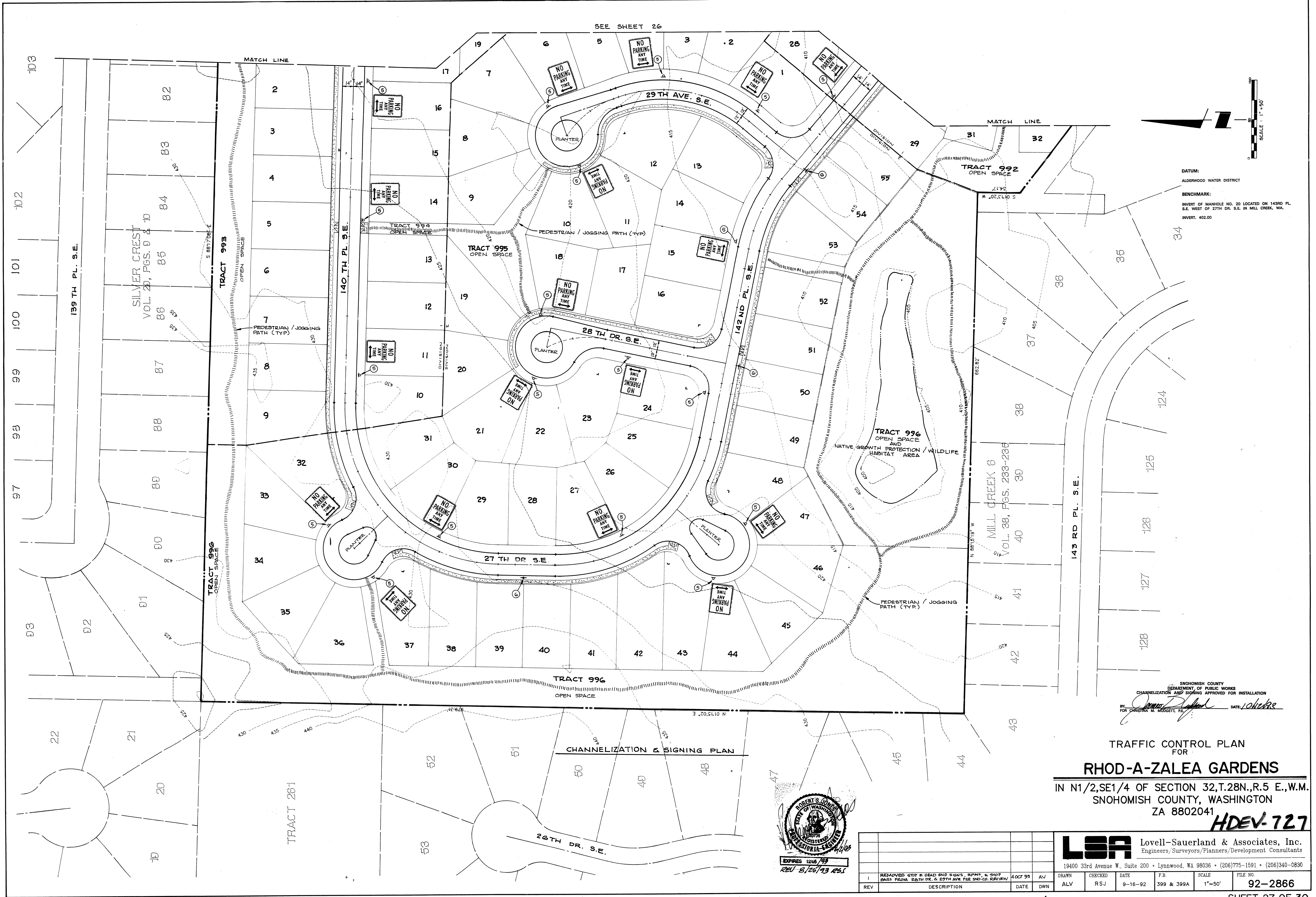
HDEV-722

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Lovell-Sauerland & Associates, Inc.
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[illegible]



SPECIFICATIONS

THIS WORK SHALL CONSIST OF FURNISHING ALL MATERIALS, LABOR, EQUIPMENT AND RELATED ITEMS NECESSARY FOR PLANTING AND WARRANTING FOR A 365 DAY LANDSCAPE ESTABLISHMENT PERIOD. HERBS AND OTHER PLANT MATERIALS AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE WORK INCLUDES, BUT IS NOT LIMITED TO, EXCAVATION AND STOCKPILING OF WETLAND SOILS FROM SELECTED WETLAND AREAS, TREATMENT OF SUBGRADE, PREPARATION OF EXISTING SOIL, PLACEMENT AND GRADING OF PREPARED SITE SOIL AND/OR IMPORTED SOIL AND FINISH GRADING, INSTALLATION OF SPECIFIED PLANT MATERIALS, SEEDING, CLEAN-UP, DEBRIS REMOVAL, PROTECTIVE MAINTENANCE AND GUARANTEE.

TREES, SHRUBS AND HERBS WILL HEREAFTER BE REFERRED TO COLLECTIVELY AS "PLANTS" OR "PLANT MATERIAL".

THE WETPOND PLANTING PLAN FOR RHOD-A-ZALEA GARDENS PORTRAYS THE GENERAL CONCEPTS OF THE PROJECT AND, TOGETHER WITH THE DETAILS CONTAINED IN THE FINAL MITIGATION PLAN AND ADDENDUM TO THE FINAL MITIGATION PLAN TEXTS, PRESENT THE SPECIFICS OF PERFORMANCE STANDARDS AND PROCEDURES FOR THE MITIGATION PROJECT.

NO CONSTRUCTION WORK WILL TAKE PLACE UNTIL A PRE-CONSTRUCTION MEETING IS HELD BETWEEN THE CONTRACTOR, PROJECT BIOLOGIST, OWNER'S REPRESENTATIVE AND SNOHOMISH COUNTY REPRESENTATIVES. TRANSPLANTING TECHNIQUES, PLANTING LOCATIONS AND OTHER SPECIFICS SHALL BE DISCUSSED AND AGREED UPON DURING THE PRE-CONSTRUCTION MEETING.

PROJECT BIOLOGIST SHALL PROVIDE CONSTRUCTION MANAGEMENT SERVICES FOR ALL LANDSCAPING ACTIVITIES AND WILL DIRECT ALL FIELD ACTIVITIES, INCLUDING PLANT LOCATIONS, FIELD MODIFICATIONS AND PLANTING TECHNIQUES.

CONTRACTOR SHALL GIVE THE PROJECT BIOLOGIST SEVEN (7) DAYS NOTICE PRIOR TO INTENTION TO PROCEED WITH CONSTRUCTION. THE PROJECT BIOLOGIST MAY BE CONTACTED BY TELEPHONE AT (206) 775-1591 OR (206) 340-0830.

CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT EXISTING SITE IMPROVEMENTS. DAMAGE SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AND AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING VEGETATION AND BUFFERS WITHIN THE NATIVE GROWTH PROTECTION AREAS TO REMAIN (AS INDICATED BY PROJECT BIOLOGIST) DURING CONSTRUCTION.

ALL WORK SHALL CONFORM TO THE TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN AND OTHER CONSTRUCTION REQUIREMENTS AND STANDARDS CONTAINED IN THE CONSTRUCTION PLANS.

THE CONTRACTOR SHALL STOCKPILE ANY EXCAVATED WETLANDS SOILS CONTAINING ROOTSTOCK AND SEEDSTOCK UNDER PROTECTIVE COVER ON THE SITE AS DIRECTED BY PROJECT BIOLOGIST. WETLAND SOILS SHALL BE TAKEN FROM AREAS AS SPECIFIED BY PROJECT BIOLOGIST; WETLAND SOILS SHALL BE USED FOR ALL WETLAND PLANTING.

THE CONTRACTOR SHALL NOTIFY PROJECT BIOLOGIST OF ADVERSE DRAINAGE CONDITIONS AFFECTING PLANT GROWTH OR OTHER ADVERSE CONDITIONS WHICH MAY AFFECT PLANT GROWTH. IF CONTRACTOR ENCOUNTERS UNUSUAL CONDITIONS LIKELY TO BE DETRIMENTAL TO NEW PLANTINGS, NOTIFY PROJECT BIOLOGIST IMMEDIATELY. PROJECT BIOLOGIST WILL APPROVE ANY CHANGES IN RESPONSE TO SUCH CONDITIONS.

AT THE TIME OF INITIATING PLANTING, CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND FIELD STAKING OF PLANTING ZONE LIMITS RELATIVE TO THE KNOWN ELEVATION OF THE CONTROL STRUCTURE AND SHALL ASSIST THE PROJECT BIOLOGIST IN THE VERIFICATION OF ADHERENCE TO SUCH ELEVATIONS.

EXISTING GRADE WITHIN THE PLANTING ZONES IN THE EMERGENT WETLAND MITIGATION AREAS SHALL BE OVEREXCAVATED BELOW FINAL GRADE TO A MINIMUM DEPTH OF 12 INCHES. WETLAND SOILS EITHER STOCKPILED FROM WETLANDS APPROVED FOR REMOVAL ON-SITE OR FROM APPROVED OFF-SITE SOURCES SHALL BE USED TO MEET GRADE IN WETLANDS PLANTING AREAS. ANY ADDITIONAL WETLAND SOILS REQUIRED FOR MITIGATION SHALL BE OBTAINED FROM AN APPROVED SOURCE, CONTAIN A MINIMUM OF 30 PERCENT ORGANICS BY VOLUME, A MAXIMUM OF 10 PERCENT GRAVEL BY VOLUME NO LARGER THAN THAT PASSING A 3/8 INCH SCREEN AND SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY PROJECT BIOLOGIST PRIOR TO INSTALLATION.

CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING EMERGENT WETLAND PLANTING AREA TO FINISHED GRADE, PERFORMING FINAL LEVELLING BY HAND TO REMOVE EQUIPMENT TRACKS AND OTHER IRREGULARITIES.

SPECIFICATIONS

PRIOR TO PLANTING IN THE PAVEMENT REPLACEMENT AREAS, EXISTING PAVED TRAIL AND APRON SHALL BE REMOVED AND UNDERLYING SOIL REMOVED TO A DEPTH OF 12 INCHES.

TOPSOILS FROM SITE PREPARATION MAY BE USED IN CONSTRUCTION OF THE TOP 24 INCHES OF THE BERM AREA OUTSIDE THE WETLAND PLANTING AREAS AND SOIL REPLACEMENT OF THE TOP 12 INCHES OF THE PAVEMENT REPLACEMENT AREAS, PROVIDED THAT SUCH TOPSOIL IS FREE OF WOODY DEBRIS AND OTHER DELETERIOUS MATERIAL. ANY ADDITIONAL TOPSOIL REQUIRED FOR PLANTING SHALL BE COMPRISED OF TWO PARTS SANDY LOAM, ONE PART BUILDERS SAND AND ONE PART NON-WOODY FERTILE MULCH AND OBTAINED FROM AN APPROVED SOURCE. ALL TOPSOILS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY PROJECT BIOLOGIST PRIOR TO INSTALLATION.

SUBGRADE WITHIN THE BERM AREA OUTSIDE THE WETLAND PLANTING AREAS SHALL BE ESTABLISHED TO A MINIMUM DEPTH OF 12 INCHES BELOW GRADE, WHERE COMPACTED.

FOLLOWING ESTABLISHMENT OF SUBGRADE IN THE BERM AREAS, TOPSOILS SHALL BE ADDED TO A MINIMUM DEPTH OF 12 INCHES IN THREE EQUAL LIFTS TO MEET GRADE, WITH THE FIRST AND SECOND LIFTS TO BE ROTATED TO A DEPTH OF 12 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING BUFFER ENHANCEMENT AREA TO FINISHED GRADE, PERFORMING FINAL LEVELLING BY HAND TO REMOVE EQUIPMENT TRACKS AND OTHER IRREGULARITIES.

ALL WETLAND PLANTING WORK SHALL BE PERFORMED BY PERSONS FAMILIAR WITH WETLANDS LANDSCAPE INSTALLATION AND ALL WETLAND, BERM AND PAVEMENT REPLACEMENT AREA PLANTING SHALL BE UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN AND THE PROJECT BIOLOGIST.

PLANT LOCATIONS ON PLANTING PLAN ARE DIAGRAMMATIC AND MAY BE SUBJECT TO ADJUSTMENT IN THE FIELD BY THE PROJECT BIOLOGIST. QUANTITIES IN THE PLANT SCHEDULE ARE FOR THE CONTRACTOR'S CONVENIENCE; IF THERE IS A DISCREPANCY, THE DIAGRAMMATIC REPRESENTATION ON THE PLANS SHALL GOVERN.

ALL PLANTS SHALL BE NURSERY GROWN OR TRANSPLANTED FROM SITE AREAS APPROVED FOR REMOVAL OR OTHER APPROVED AREAS AND MEET AMERICAN STANDARDS FOR NURSERY STOCK AND AMERICAN NURSERYMAN ASSOCIATION STANDARDS. ALL TREES SHALL HAVE WELL-BRANCHED TOPS WITH REASONABLY STRAIGHT, WELL DEVELOPED SINGLE LEADERS. WITH THE EXCEPTION OF BARE ROOT STOCK (IF USED), ALL NURSERY GROWN TREES AND SHRUBS SHALL BE CONTAINERIZED OR BALLED AND BURLAPPED. OTHER THAN THE WILLOW WHIPS, ALL EMERGENT WETLAND PLANT MATERIALS SHALL BE INSTALLED IN WEIGHTED AND SECURED CONDITION, USING EITHER WEIGHTED PEAT POTS OR WEIGHTED WITH A PEBBLE OR STONE AND WRAPPED IN CHEESECLOTH SECURED WITH STRING OR RUBBER BAND. ALL PLANT MATERIALS USED SHALL BE NATIVE TO THE PACIFIC NORTHWEST REGION, PREFERABLY THE PUGET SOUND AREA. SUBSTITUTION OF PLANT VARIETIES DUE TO LACK OF AVAILABILITY IS SUBJECT TO APPROVAL BY THE PROJECT BIOLOGIST. ALL PLANTS SHALL BE WEED FREE AT THE TIME OF PLANTING.

PLANT MATERIAL FURNISHED SHALL BE AT LEAST THE MINIMUM SIZE SPECIFIED. LARGER STOCK MAY BE ACCEPTABLE AT NO ADDITIONAL COST, AND PROVIDING THAT THE LARGER PLANTS WILL NOT BE CUT BACK TO SIZE INDICATED. ANY UNDERGRADE PLANTS SHALL BE REMOVED AND REPLACED PRIOR TO ACCEPTANCE.

ALL SUPPLIED PLANTS SHALL BE DUG, PACKED AND TRANSPORTED IN A MANNER WHICH ENSURES AGAINST INJURY. PLANTS SHALL BE STORED IN A MANNER WHICH RESPONDS TO THEIR INDIVIDUAL HORTICULTURAL REQUIREMENTS, INCLUDING HEEL-IN STORAGE IF NECESSARY FOR PROTECTION OF ROOT BALLS AND PREVENTION OF DEHYDRATION.

THE PROJECT BIOLOGIST SHALL INSPECT PLANT MATERIALS TO VERIFY PLANT CHARACTERISTICS AND CONFORMANCE TO THE PLANT SCHEDULE AND SHALL RESERVE THE RIGHT TO REQUIRE REPLACEMENT OR SUBSTITUTION OF PLANTS JUDGED UNACCEPTABLE.

PLANT MATERIAL SHALL NOT BE INSTALLED WHEN AMBIENT AIR TEMPERATURE MAY DROP BELOW 35° OR ABOVE 80° F OR WHEN WIND VELOCITY EXCEEDS 30 KNOTS.

THE CONTRACTOR SHALL EXCAVATE PLANT PITS WITH VERTICAL SIDES, TO A MINIMUM OF TWICE THE SIZE OF THE ROOTBALL FOR WETLANDS PLANTING OR THREE TIME THE SIZE OF THE ROOTBALL FOR UPLANDS PLANTING, OR AS SHOWN ON THE PLAN. PLANTING PITS FOR UPLAND PLANTING SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 18 INCHES.

SPECIFICATIONS

DURING UPLANDS PLANTING, THE CONTRACTOR SHALL SCARIFY SIDES OF PLANTING PITS AND BACKFILL PLANT PITS WITH A MIXTURE OF TRANSPILERANT FERTILIZER, SOIL MOISTURE RETENTION AGENTS AND TOPSOIL AT THE FOLLOWING RATIOS. DURING PLANTING, PLANT FERTILIZER TABLETS SHALL BE INSERTED IN EACH PLANT PIT ACCORDING TO THE FOLLOWING RATIOS AND PER DETAILS.

Plant Size	4-2-2 Agro Slow Release _{tm} or Equivalent	20-10-5 Plant Tabs, 5g.	Soil Moist _{tm} or Equivalent	Soil Amendment (Stearco _{tm} or equivalent)
1 gal.	2-3 oz.	2	1-2 tsp.	1 shovelful
2 gal.	2-3 oz.	3	1-2 tsp.	1-2 shovelfuls
5 gal.	4 oz.	5	2-3 tsp.	2-3 shovelfuls
trees	4 oz.	6	4 tsp.	2-3 shovelfuls

CONTRACTOR SHALL PROVIDE A SAMPLE OF TRANSPILERANT FERTILIZER, SOIL MOISTURE RETENTION AGENTS AND PLANT TABLETS FOR APPROVAL PRIOR TO INSTALLATION.

UPLAND PLANT PITS SHALL BE FINISHED WITH A RIM TO ENCOURAGE WATER-HOLDING. IMMEDIATELY AFTER PLANTING, PLANTING LOCATIONS SHALL BE SATURATED TO PRECLUDE CAPILLARY STRESS. TREES SHALL BE STAKED AS NOTED ON THE PLAN, TO THE EXTENT NECESSARY TO KEEP TREES IN PLUMB POSITION UNTIL THE TREE IS ESTABLISHED.

MULCH SHALL BE DECOMPOSED SAWDUST, STEERCO[®] OR EQUIVALENT. GROUND BARK IS NOT ACCEPTABLE MULCH. CONTRACTOR SHALL SUBMIT MULCH SAMPLE TO THE PROJECT BIOLOGIST FOR APPROVAL PRIOR TO INSTALLATION. DEPTH OF MULCH AROUND PLANTINGS OF TREES AND SHRUBS SHALL BE 2 INCHES. MULCH SHALL EXTEND HORIZONTALLY A MINIMUM OF 12 INCHES BEYOND THE DRIP LINE OF PLANT MATERIAL, 5 TIMES THE DIAMETER OF THE ROOTBALL OR AS DIRECTED BY PROJECT BIOLOGIST AND SHALL BE PULLED BACK 2 INCHES FROM LEADERS OF TREES AND SHRUBS.

UPLAND PLANTING AREAS SHALL BE HYDROSEED AT PROJECT BIOLOGIST'S DIRECTION TO REDUCE EROSION POTENTIAL. HYDROSEED MIXTURE FOR AREA INSIDE BERM BETWEEN WETLANDS AND TRAIL, PAVEMENT REPLACEMENT AREA AND IN SPORTS COURTS AREAS SHALL CONSIST OF 58 PERCENT MEADOW FESCUE (*FESTUCA PRATENSIS*), 18 PERCENT REDTOP BENTGRASS (*AGROSTIS ALBA*), 10 PERCENT WATER FOXTAIL (*ALOPECURUS GENICULATUS*) AND 6 PERCENT WHITE CLOVER (*TRIFOLIUM REPENS*). HYDROSEED MIXTURE FOR OTHER BERM AREAS SHALL CONSIST OF 20 PERCENT COMMON OAT (*Avena sativa*), 30 PERCENT ANNUAL RYEGRASS (*Lolium temulentum*), 40 PERCENT SORGHUM (*Sorghum vulgare*) AND 10 PERCENT CULTIVATED WHEAT (*TRITICUM aestivum*). ALL SEED SHALL BE APPLIED AT THE RATE OF THIRTY (30) POUNDS PER ACRE.

CONTRACTOR SHALL WATER NEWLY INSTALLED PLANTS TO ENSURE SURVIVABILITY AND SHALL MAINTAIN THE PLANTINGS UNTIL FINAL APPROVAL BY OWNER AND/OR SNOHOMISH COUNTY. DURING DRY PERIODS, AND UPON CONCURRENCE WITH THE PROJECT BIOLOGIST, IT MAY BE NECESSARY TO PROVIDE FOR AND IMPLEMENT A WATERING SCHEDULE IN BERM AND PAVEMENT REPLACEMENT AREAS. CONTRACTOR SHALL WARRANT ALL PLANT MATERIALS FOR SURVIVABILITY AND HEALTHY CONDITION FOR A PERIOD OF ONE YEAR FOLLOWING COMPLETION AND ACCEPTANCE OF PLANTING BY PROJECT BIOLOGIST AND/OR THE COUNTY. DURING THAT PERIOD, THE CONTRACTOR SHALL REPLACE ALL DEAD OR UNHEALTHY PLANTS DEEMED SO BY THE PROJECT BIOLOGIST, WITHIN 10 DAYS OF SUCH NOTIFICATION. SUCH REPLACEMENT WILL BE GOVERNED BY PLANS AND SPECIFICATIONS AS DIRECTED BY THE PROJECT BIOLOGIST.

BEFORE FINAL INSPECTION, CONTRACTOR SHALL DELETERIOUS MATERIAL AND DEBRIS, RAKE PLANTING AREAS NEATLY AND TO EVEN FINISH GRADES AND REMOVE FLAG LABELS FROM PLANTINGS.

PLANT SCHEDULE

Symbol	Qty	Common Name	Scientific Name	Size	Spacing (O.G.)
Trees					
OA	7	Oregon ash	<i>Fraxinus latifolia</i>	3'-4'	as shown
BLM	7	big leaf maple	<i>Acer macrophyllum</i>	3'-4'	as shown
CA	9	western crabapple	<i>Pyrus fusca</i>	3'-4'	as shown
CH	7	bitter cherry	<i>Prunus emarginata</i>	3'-4'	as shown
CW	1	black cottonwood	<i>Populus trichocarpa</i>	3'-4'	as shown
DF	14	Douglas-fir	<i>Pseudotsuga menziesii</i>	3'-4'	as shown
H	16	western hemlock	<i>Tsuga heterophylla</i>	3'-4'	as shown
PW	9	Pacific willow	<i>Salix lasioandra</i>	3'-4'	as shown
PW (Whips)	128	Pacific willow	<i>Salix lasioandra</i>	whips*	as shown
SSP	6	Sitka spruce	<i>Picea sitchensis</i>	4'-6'	as shown
VM	11	vine maple	<i>Acer circinnatum</i>	4'-6'	as shown
WRC	27	western redcedar	<i>Thuja plicata</i>	4'-6'	as shown
Shrubs					
BHR	13	bald-hip rose	<i>Rosa gymnocarpa</i>	3'-4'	as shown
IP	8	indian plum/soberberry	<i>Oenothera cernua</i>	3'-4'	as shown
NR	13	Nootka rose	<i>Rosa nutkana</i>	3'-4'	as shown
OG	28	tail Oregon grape	<i>Mahonia aquifolium</i>	1 gal.	as shown
OS	22	cosanapray	<i>Holodiscus discolor</i>	3'-4'	as shown
RD	42	red-oak dogwood	<i>Cornus stolonifera</i>	3'-4'	as shown
RE	23	red elderberry	<i>Sambucus racemosa</i>	3'-4'	as shown
S	54	salal	<i>Gaultheria shallon</i>	1 gal.	as shown
SB	104	salmonberry	<i>Rubus spectabilis</i>	3'-4'	as shown
SNB	18	snowberry	<i>Symphoricarpos albus</i>	3'-4'	as shown
SP	33	Douglas' spiraea	<i>Spiraea douglasii</i>	2'-3'	as shown
THB	12	thimbleberry	<i>Rubus parviflorus</i>	3'-4'	as shown
TWS	17	twinsberry	<i>Lonicera involucrata</i>	3'-4'	as shown
WR	17	Wood's rose	<i>Rosa woodsii</i>	3'-4'	as shown
Herbs					
210	arrowhead	<i>Sagittaria</i> sp.	tubers	48"11	
80	broadleaf waterplantain	<i>Alisma plantago-aquatica</i>	propagule	48"11	
110	burreed	<i>Sparganium</i> sp.	clump	48"11	
255	cattail	<i>Typha latifolia</i>	tuber	36"-48"11	
110	hardstem bulrush	<i>Scirpus acutus</i>	clump	48"11	
55	large-leaved sedge	<i>Gaura macrophyllum</i>	clump	36"11	
180	Pacific water parsley	<i>Oenanthe sarmentosa</i>	tuber/clump	36"11	
40	pig-suck/youth-on-age	<i>Talinia tenuifolia</i>	clump	36"11	
85	slough sedge	<i>Carex oenoplia</i>	clump	24"11	
40	small-fruited bulrush	<i>Scirpus microcarpus</i>	clump	36"-42"11	
40	spike rush	<i>Eleocharis</i> sp.	clump	36"11	
Hydroseed					

For inside of berm and areas between wetlands creation area and trail, pavement replacement areas and in the area of the sport courts, applied at 30#/Acre:

68 percent	meadow fescue (<i>Festuca pratensis</i>)	16 percent	redtop bentgrass (<i>Agrostis alba</i>)
10 percent	water foxtail (<i>Alopecurus geniculatus</i>)	6 percent	white clover (<i>Trifolium repens</i>)

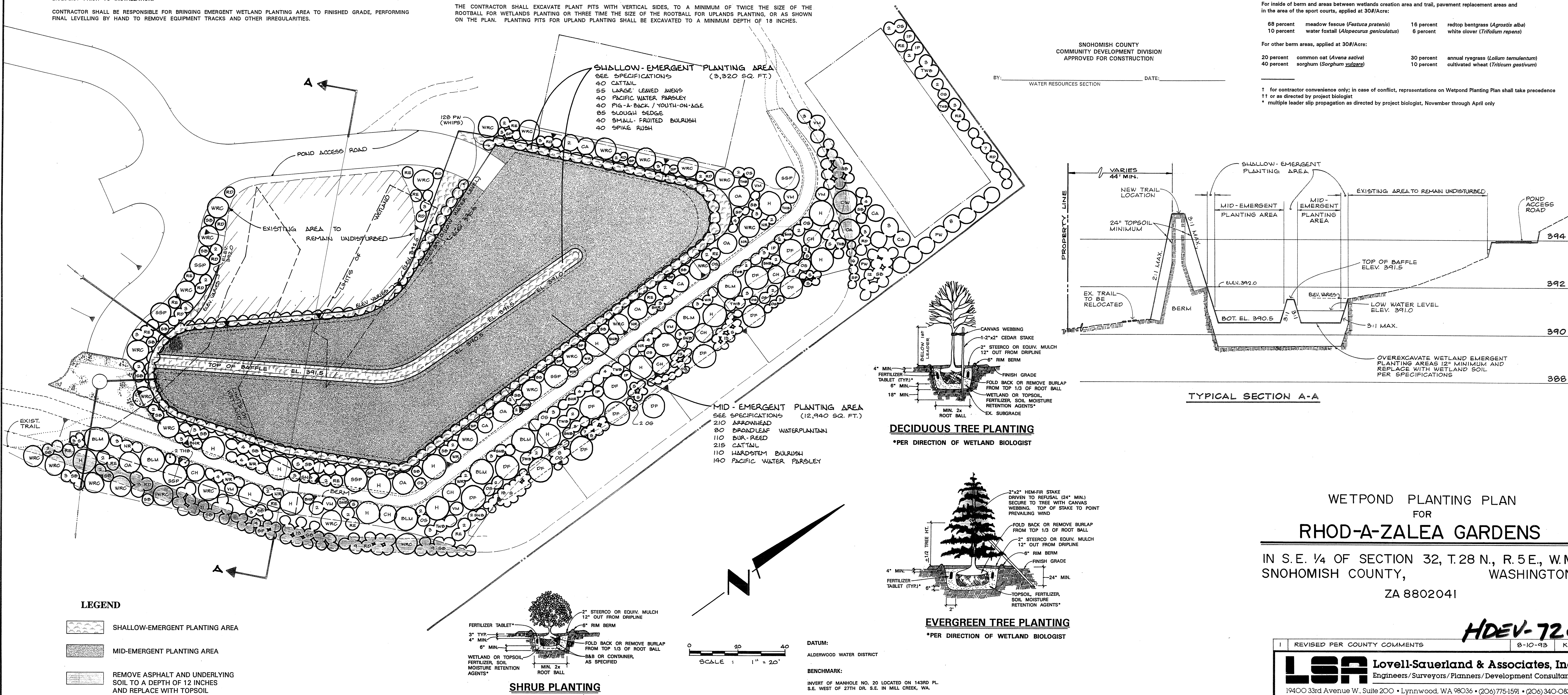
For other berm areas, applied at 30#/Acre:

20 percent	common oat (<i>Avena sativa</i>)	30 percent	annual ryegrass (<i>Lolium temulentum</i>)
40 percent	sorghum (<i>Sorghum vulgare</i>)	10 percent	cultivated wheat (<i>Triticum aestivum</i>)

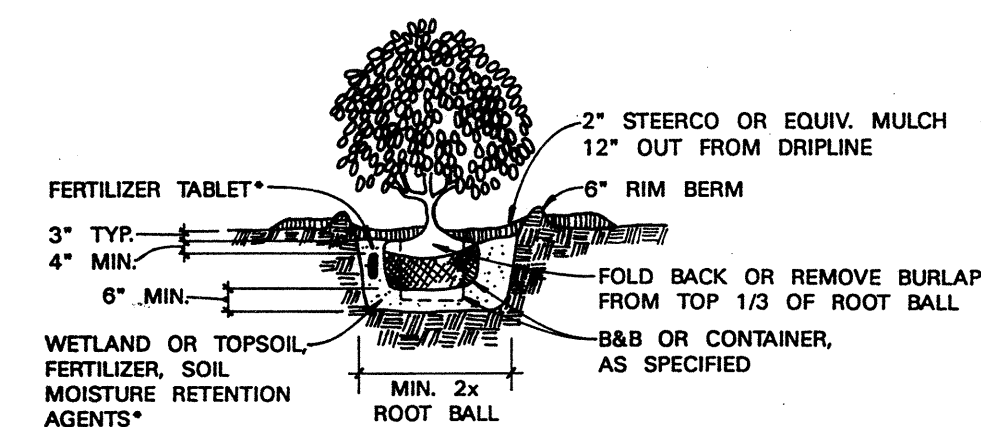
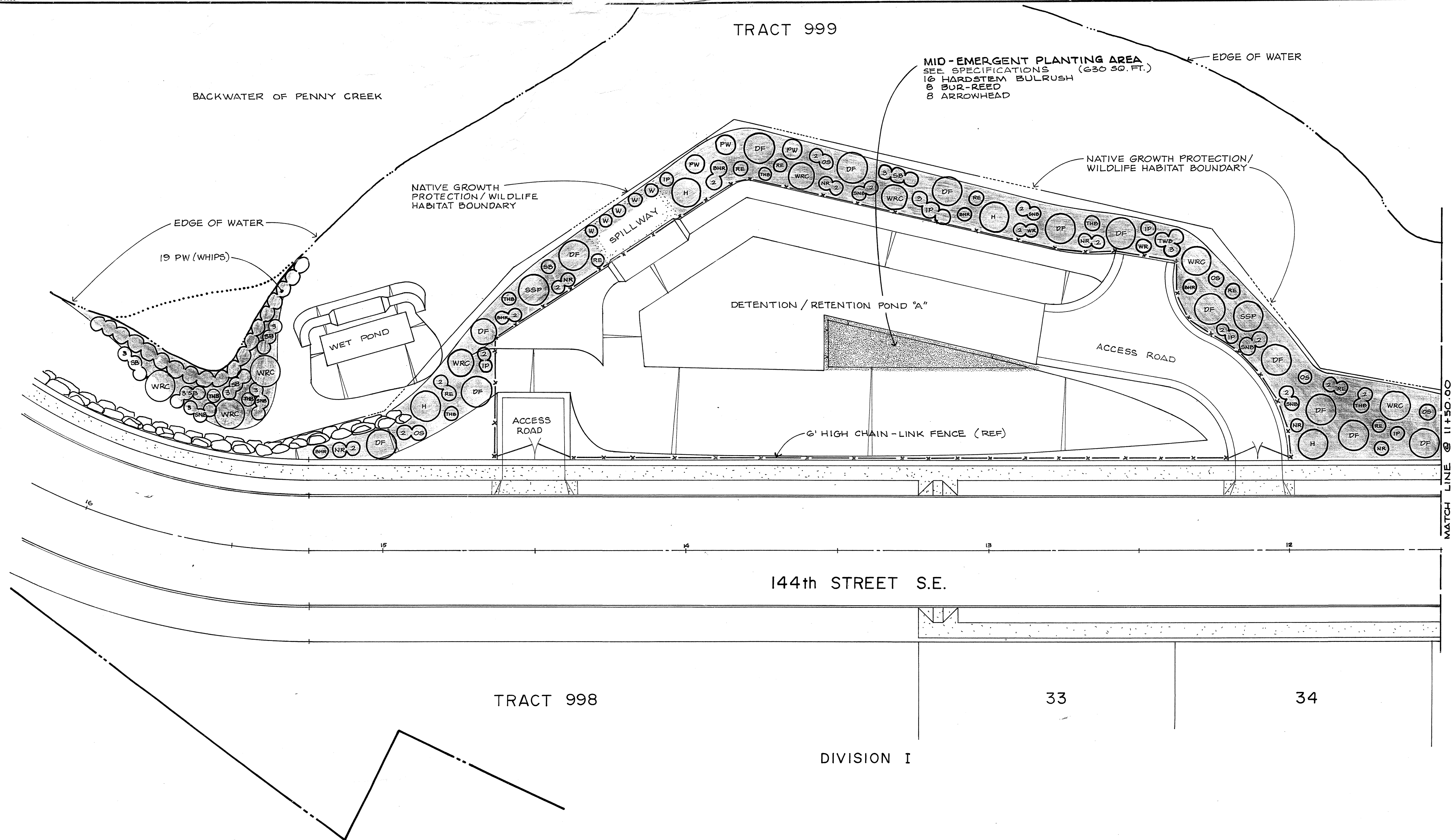
1 for contractor convenience only; in case of conflict, representations on Wetpond Planting Plan shall take precedence

11 or as directed by project biologist

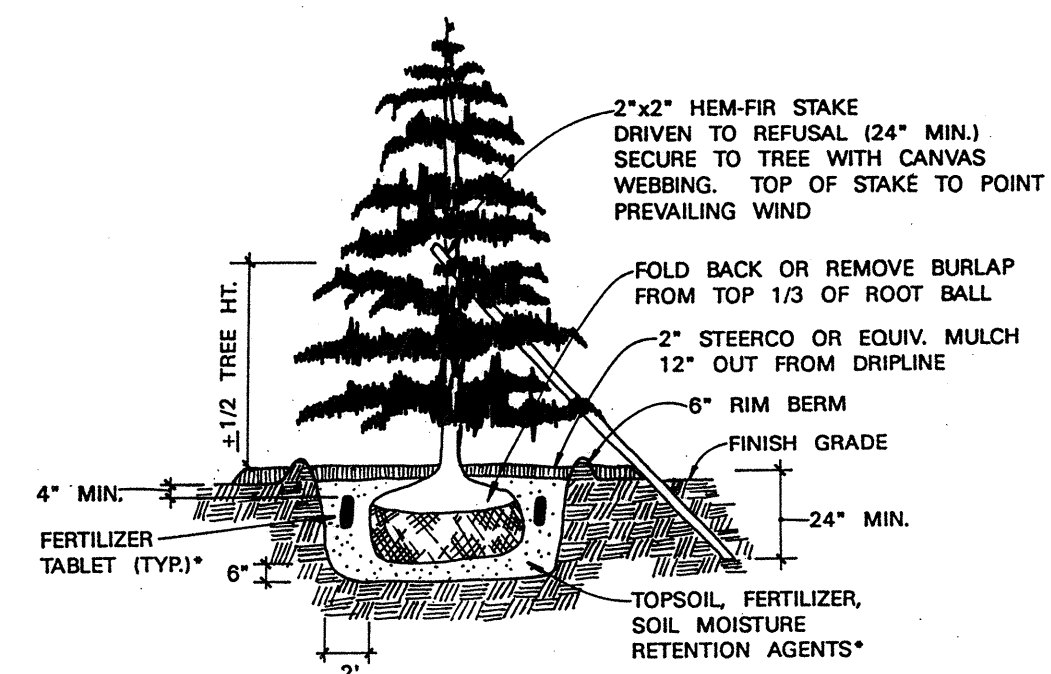
* multiple leader slip propagation as directed by project biologist, November through April only





**SHRUB PLANTING**

*PER DIRECTION OF WETLAND BIOLOGIST

**EVERGREEN TREE PLANTING**

*PER DIRECTION OF WETLAND BIOLOGIST

LEGEND

REPLANTING AREA

SPECIFICATIONS

THIS WORK SHALL CONSIST OF FURNISHING ALL MATERIALS, LABOR, EQUIPMENT AND RELATED ITEMS NECESSARY FOR PLANTING AND WARRANTING FOR A 365 DAY LANDSCAPE ESTABLISHMENT PERIOD AND OTHER PLANT MATERIALS AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE WORK INCLUDES, BUT IS NOT LIMITED TO, TREATMENT OF SUBGRADE, PREPARATION OF EXISTING SOIL, PLACEMENT AND GRADING OF PREPARED SITE SOIL AND/OR IMPORTED SOIL, AND TRIM/GRADING, INSTALLATION OF SPECIFIED PLANT MATERIALS, SEEDING, CLEAN-UP, DEBRIS REMOVAL, PROTECTIVE MAINTENANCE AND GUARANTEE.

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CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT EXISTING SITE IMPROVEMENTS. DAMAGE SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AND AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING VEGETATION AND BUFFERS WITHIN THE NATIVE GROWTH PROTECTION AREAS TO REMAIN (AS INDICATED BY PROJECT BIOLOGIST) DURING CONSTRUCTION.

ALL WORK SHALL CONFORM TO THE TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN AND OTHER CONSTRUCTION REQUIREMENTS AND STANDARDS CONTAINED IN THE REPLANTING PLAN.

THE CONTRACTOR SHALL NOTIFY PROJECT BIOLOGIST OF ADVERSE DRAINAGE CONDITIONS AFFECTING PLANT GROWTH OR OTHER ADVERSE CONDITIONS WHICH MAY AFFECT PLANT GROWTH. IF CONTRACTOR ENCOUNTERS UNUSUAL CONDITIONS LIKELY TO BE DETRIMENTAL TO NEW PLANTINGS, NOTIFY PROJECT BIOLOGIST IMMEDIATELY. PROJECT BIOLOGIST WILL APPROVE ANY CHANGES IN RESPONSE TO SUCH CONDITIONS.

TOPSOILS FROM SITE PREPARATION MAY BE USED IN CONSTRUCTION OF THE TOP 24 INCHES OF THE REPLANTING AREA, PROVIDED THAT SUCH TOPSOIL IS FREE OF WOODY DEBRIS AND OTHER DELETERIOUS MATERIAL. ANY ADDITIONAL TOPSOIL REQUIRED FOR PLANTING SHALL BE COMPRISED OF TWO PARTS SANDY LOAM, ONE PART BUILDERS SAND AND ONE PART NON-WOODY FERTILE MULCH AND OBTAINED FROM AN APPROVED SOURCE. ALL TOPSOILS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY PROJECT BIOLOGIST PRIOR TO INSTALLATION.

FOLLOWING ESTABLISHMENT OF SUBGRADE IN THE REPLANTING AREA, TOPSOILS SHALL BE ADDED TO A MINIMUM DEPTH OF 12 INCHES IN THREE EQUAL LIFTS TO MEET GRADE, WITH THE FIRST AND SECOND LIFTS TO BE ROTOTATED TO A DEPTH OF 12 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING REPLANTING TO FINISHED GRADE, PERFORMING FINAL LEVELLING BY HAND TO REMOVE EQUIPMENT TRACKS AND OTHER IRREGULARITIES.

ALL REPLANTING WORK SHALL BE UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN AND THE PROJECT BIOLOGIST.

PLANT LOCATIONS ON REPLANTING PLAN ARE DIAGRAMMATIC AND MAY BE SUBJECT TO ADJUSTMENT IN THE FIELD BY THE PROJECT BIOLOGIST. QUANTITIES IN THE PLANT SCHEDULE ARE FOR THE CONTRACTOR'S CONVENIENCE; IF THERE IS A DISCREPANCY, THE DIAGRAMMATIC REPRESENTATION ON THE PLANS SHALL GOVERN.

ALL PLANTS SHALL BE NURSERY GROWN OR TRANSPLANTED FROM SITE AREAS APPROVED FOR REMOVAL OR OTHER APPROVED AREAS AND MEET AMERICAN STANDARDS FOR NURSERY STOCK AND AMERICAN NURSERYMAN ASSOCIATION STANDARDS. ALL TREES SHALL HAVE WELL-BRANCHED TOPS WITH REASONABLY STRAIGHT, WELL DEVELOPED SINGLE LEADERS. WITH THE EXCEPTION OF BARE ROOT STOCK (IF USED), ALL NURSERY GROWN TREES AND SHRUBS SHALL BE CONTAINERIZED OR BALLED AND BURLAPPED. ALL PLANT MATERIALS USED SHALL BE NATIVE TO THE PACIFIC NORTHWEST REGION, PREFERABLY THE PUGET SOUND AREA. SUBSTITUTION OF PLANT VARIETIES DUE TO LACK OF AVAILABILITY IS SUBJECT TO APPROVAL BY THE PROJECT BIOLOGIST. ALL PLANTS SHALL BE WEED FREE AT THE TIME OF PLANTING.

PLANT MATERIAL FURNISHED SHALL BE AT LEAST THE MINIMUM SIZE SPECIFIED. LARGER STOCK MAY BE ACCEPTABLE AT NO ADDITIONAL COST, AND PROVIDING THAT THE LARGER PLANTS WILL NOT BE CUT BACK TO SIZE INDICATED. ANY UNDERGRADE PLANTS SHALL BE REMOVED AND REPLACED PRIOR TO ACCEPTANCE.

ALL SUPPLIED PLANTS SHALL BE DUG, PACKED AND TRANSPORTED IN A MANNER WHICH ENSURES AGAINST INJURY. PLANTS SHALL BE STORED IN A MANNER WHICH RESPONDS TO THEIR INDIVIDUAL HORTICULTURAL REQUIREMENTS, INCLUDING HEELIN STORAGE IF NECESSARY FOR PROTECTION OF ROOT BALLS AND PREVENTION OF DEHYDRATION.

SPECIFICATIONS

THE PROJECT BIOLOGIST SHALL INSPECT PLANT MATERIALS TO VERIFY PLANT CHARACTERISTICS AND CONFORMANCE TO THE PLANT SCHEDULE AND SHALL RESERVE THE RIGHT TO REQUIRE REPLACEMENT OR SUBSTITUTION OF PLANTS JUDGED UNACCEPTABLE.

PLANT MATERIAL SHALL NOT BE INSTALLED WHEN AMBIENT AIR TEMPERATURE MAY DROP BELOW 35° OR ABOVE 80° F OR WHEN WIND VELOCITY EXCEEDS 30 KNOTS.

THE CONTRACTOR SHALL EXCAVATE PLANT PITS WITH VERTICAL SIDES, TO A MINIMUM OF THREE TIMES THE SIZE OF THE ROOTBALL, OR AS SHOWN ON THE PLAN. PLANTING PITS FOR UPLAND PLANTING SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 18 INCHES.

THE CONTRACTOR SHALL SCARIFY SIDES OF PLANTING PITS AND BACKFILL PLANT PITS WITH A MIXTURE OF TRANSPANTER FERTILIZER, SOIL MOISTURE RETENTION AGENTS AND TOPSOIL. AT THE FOLLOWING RATIOS. DURING PLANTING, PLANT FERTILIZER TABLETS SHALL BE INSERTED IN EACH PLANT PIT ACCORDING TO THE FOLLOWING RATIOS AND PER DETAILS.

Plant Size	4-2.2 Agro Stew Release, or Equivalent	20-10-5 Plant Tabs, Sp.	Soil Moist, or Equivalent	Soil Amendment (Sterco, or equivalent)
1 gal.	2-3 oz.	2	1-2 tsp.	1 shovelful
2 gal.	2-3 oz.	3	1-2 tsp.	1-2 shovelfuls
5 gal.	4 oz.	5	2-3 tsp.	2-3 shovelfuls
trees	4 oz.	6	4 tsp.	2-3 shovelfuls

CONTRACTOR SHALL PROVIDE A SAMPLE OF TRANSPANTER FERTILIZER, SOIL MOISTURE RETENTION AGENTS AND PLANT TABLETS FOR APPROVAL PRIOR TO INSTALLATION.

ALL PLANT PITS SHALL BE FINISHED WITH A RIM TO ENCOURAGE WATER-HOLDING. PLANTING ON SLOPES MAY REQUIRE A COMBINATION OF EXCAVATION INTO THE SLOPE AND BUILD-UP OF SOIL MATERIAL TO CREATE A LEVEL PLANTING AREA AND RIM. IMMEDIATELY AFTER PLANTING, PLANTING LOCATIONS SHALL BE SATURATED TO PRECLUDE CAPILLARY STRESS. TREES SHALL BE STAKED AS NOTED ON THE PLAN, TO THE EXTENT NECESSARY TO KEEP TREES IN PLUMB POSITION UNTIL THE TREE IS ESTABLISHED.

MULCH SHALL BE DECOMPOSED SAWDUST, STERCO* OR EQUIVALENT. GROUND BARK IS NOT ACCEPTABLE MULCH. CONTRACTOR SHALL SUBMIT MULCH SAMPLE TO THE PROJECT BIOLOGIST FOR APPROVAL PRIOR TO INSTALLATION. DEPTH OF MULCH AROUND PLANTINGS OF TREES AND SHRUBS SHALL BE 2 INCHES. MULCH SHALL EXTEND HORIZONTALLY A MINIMUM OF 12 INCHES BEYOND THE DRIP LINE OF PLANT MATERIAL, 5 TIMES THE DIAMETER OF THE ROOTBALL OR AS DIRECTED BY PROJECT BIOLOGIST AND SHALL BE PULLED BACK 2 INCHES FROM LEADERS OF TREES AND SHRUBS.

REPLANTING AREA SHALL BE HYDROSEED AT PROJECT BIOLOGIST'S DIRECTION TO REDUCE EROSION POTENTIAL. HYDROSEED MIXTURE SHALL CONSIST OF 20 PERCENT COMMON OAT (Avena sativa), 30 PERCENT ANNUAL RYEGRASS (Lolium temulentum), 40 PERCENT SORGHUM (Sorghum vulgare) AND 10 PERCENT CULTIVATED WHEAT (TRITICUM aestivum). ALL SEED SHALL BE APPLIED AT THE RATE OF THIRTY (30) POUNDS PER ACRE.

CONTRACTOR SHALL WATER NEWLY INSTALLED PLANTS TO ENSURE SURVIVABILITY AND SHALL MAINTAIN THE PLANTINGS UNTIL FINAL APPROVAL BY OWNER AND/OR SNOHOMISH COUNTY. DURING DRY PERIODS, AND UPON CONCURRENCE WITH THE PROJECT BIOLOGIST, IT MAY BE NECESSARY TO PROVIDE FOR AND IMPLEMENT A WATERING SCHEDULE IN BERM AND PAVEMENT REPLACEMENT AREAS. CONTRACTOR SHALL WARRANT ALL PLANT MATERIALS FOR SURVIVABILITY AND HEALTHY CONDITION FOR A PERIOD OF ONE YEAR FOLLOWING COMPLETION AND ACCEPTANCE OF PLANTING BY PROJECT BIOLOGIST AND/OR THE COUNTY. DURING THAT PERIOD, THE CONTRACTOR SHALL REPLACE ALL DEAD OR UNHEALTHY PLANTS DEEMED SO BY THE PROJECT BIOLOGIST, WITHIN 10 DAYS OF SUCH NOTIFICATION. SUCH REPLACEMENT WILL BE GOVERNED BY PLANS AND SPECIFICATIONS AS DIRECTED BY THE PROJECT BIOLOGIST.

BEFORE FINAL INSPECTION, CONTRACTOR SHALL DELETERIOUS MATERIAL AND DEBRIS, RAKE PLANTING AREAS NEATLY AND TO EVEN FINISH GRADES AND REMOVE TAG LABELS FROM PLANTINGS.

PLANT SCHEDULE

Symbol	Qty	Common Name	Scientific Name	Size	Spacing (O.C.)
Trees					
DF	14	Douglas-fir	<i>Pseudotsuga menziesii</i>	3'-4'	as shown
H	26	western hemlock	<i>Tsuga heterophylla</i>	3'-4'	as shown
PW	3	Pacific willow	<i>Salix lasioandra</i>	3'-4'	as shown
W (Whips)	5	Pacific willow	<i>Salix lasioandra</i>	whips*	as shown
SSP	8	Sitka spruce	<i>Picea sitchensis</i>	4'-5'	as shown
WRC	22	western redcedar	<i>Thuja plicata</i>	4'-6'	as shown
Shrubs					
BHR	22	bold-hip rose	<i>Rosa gymnocarpa</i>	3'-4'	as shown
IP	30	Indian plum/losoberry	<i>Oemleria cerasiformis</i>	3'-4'	as shown
NR	17	Nootka rose	<i>Rosa nutkana</i>	3'-4'	as shown
OS	32	oceanspray	<i>Holodiscus discolor</i>	3'-4'	as shown
RE	22	red elderberry	<i>Sambucus racemosa</i>	3'-4'	as shown
SB	26	salmonberry	<i>Rubus spectabilis</i>	3'-4'	as shown
SNB	31	snowberry	<i>Symphoricarpos albus</i>	3'-4'	as shown
THB	26	thimbleberry	<i>Rubus parviflorus</i>	3'-4'	as shown
TWB	15	twiberry	<i>Lonicera involucrata</i>	3'-4'	as shown
WR	16	Wood's rose	<i>Rosa woodsii</i>	3'-4'	as shown

Hydroseed

For replanting areas, applied at 30#/Acre:

20 percent	common oat (Avena sativa)	30 percent	annual ryegrass (Lolium temulentum)
40 percent	sorghum (Sorghum vulgare)	10 percent	cultivated wheat (Triticum aestivum)

* for contractor convenience only; in case of conflict, representations on Wetland Planting Plan shall take precedence

* multiple leader slip propagation as directed by project biologist, November through April only

Herbs					
a	arrowhead	<i>Sagittaria sp.</i>	tubers	48" x 11"	
b	bur-reed	<i>Sparganium sp.</i>	clump	48" x 11"	
is	hardstem bulrush	<i>Scirpus acutus</i>	clump	48" x 11"	

11 or as directed by project biologist

REPLANTING PLAN

FOR

RHOD-A-ZALEA GARDENS

IN S.E. 1/4 OF SECTION 32, T.28 N., R.5 E., W.M.
SNOHOMISH COUNTY, WASHINGTON

ZA 8802041

HDEV-730

2	ADDED PLANTING WEST OF WET POND & DET. POND SWAMP.	29 SEPT. 93	ALV
1	ADDED SHT 80 PER. ROAD REALIGNMENT	24 AUG 93	K.M.
LSA Lovell-Sauerland & Associates, Inc. Engineers/Surveyors/Planners/Development Consultants 19400 33rd Avenue W., Suite 200 • Lynnwood, WA 98036 • (206) 775-1591 • (206) 340-0830			
DRAWN	CHECKED	DATE	F.B.
	ACR	AUG. 1993	399 8 399A
SCALE	HOR: 1" = 20'	VER: 1" = 2'	FILE NO.
			2866