

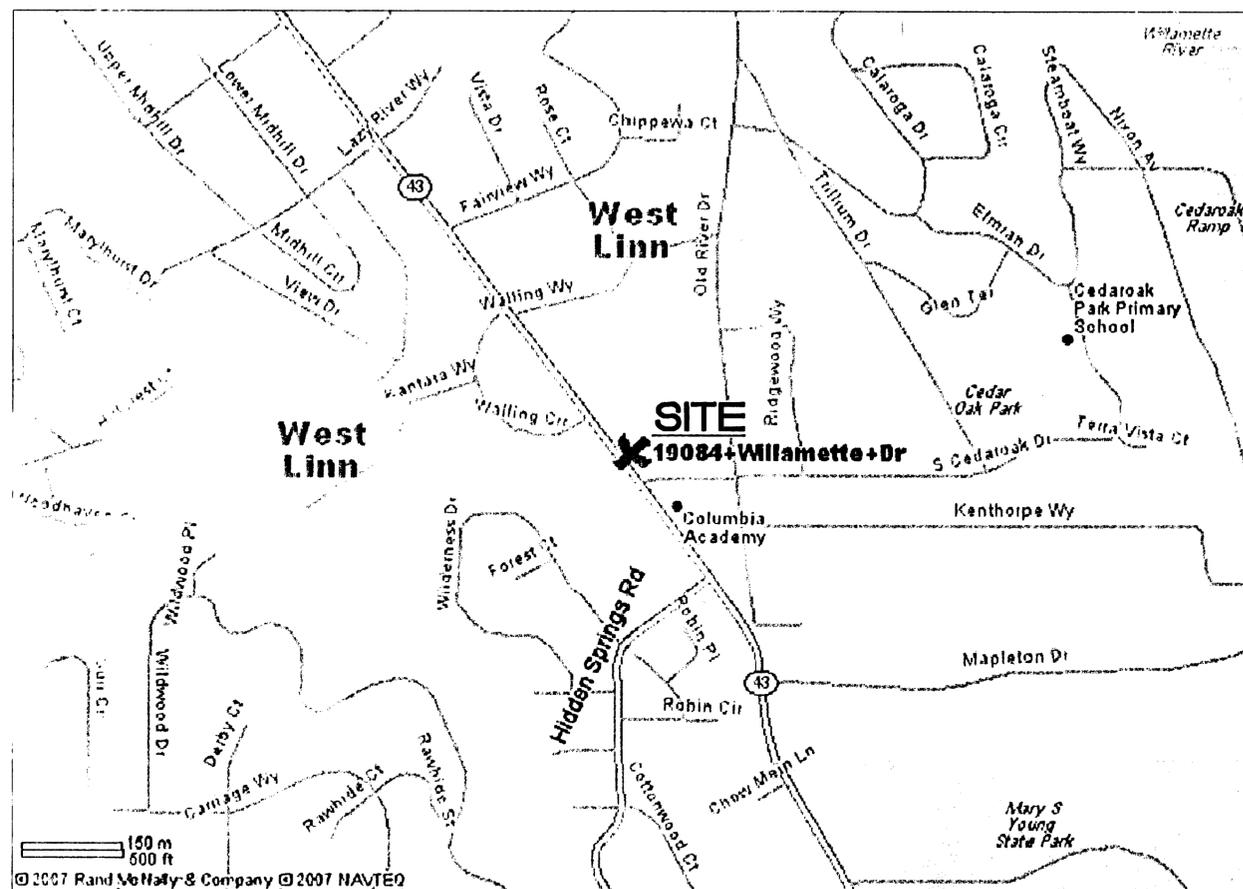
WILLAMETTE VILLAGE

Willamette Village, LLC

ALL OF LOTS 15 AND 16, TOGETHER WITH A PORTION OF LOTS 17 AND 18
OF THE DULY RECORDED PLAT OF "CEDAROAK PARK"

DR-06-43

HIGHWAY 43 AT MILE POST 8.72



VICINITY MAP
N.T.S.

LEGEND

	EXISTING CATCH BASIN
	EXISTING SANITARY SSMH
	EXISTING UTILITY POLE
	EXISTING EDGE OF ASPHALT
	EXISTING EDGE OF SHOULDER
	EXISTING WATER LINE
	EXISTING STORM LINE
	EXISTING SANITARY LINE
	RIGHT-OF-WAY LINE
	CENTERLINE
	PROPERTY BOUNDARY
	EXISTING CENTER OF CREEK
	EXISTING 10' INDEX CONTOUR
	EXISTING 2' NORMAL CONTOUR
	PROPOSED CATCH BASIN
	PROPOSED SSMH
	PROPOSED UTILITY POLE
	PROPOSED CURB & GUTTER
	PROPOSED SAWCUT LINE
	PROPOSED WATER LINE
	PROPOSED STORM LINE
	PROPOSED 10' INDEX CONTOUR
	PROPOSED NORMAL CONTOUR
	EXIST CONCRETE WALK
	EXIST ASPHALT PAVEMENT
	PROPOSED RIP-RAP PAD
	PROPOSED CONCRETE WALK
	PROPOSED ASPHALT PAVEMENT
	PROPOSED 2" ASPHALT GRIND INLAY

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ABBREVIATIONS

AC	ASPHALT
BOW	BACK OF WALK
BW	BOTTOM OF WALL
TW	TOP OF WALL
CSP	CONCRETE SEWER PIPE
D.I.	DUCTILE IRON PIPE
ELEV	ELEVATION
EXIST	EXISTING
FG	FINISH GRADE
GB	GRADE BREAK
ROW	RIGHT-OF-WAY
TC	TOP OF CURB

FEBRUARY 2008

DEVELOPER:

Willamette Village, LLC
17898 SW ADVANCE RD.
WEST LINN, OR. 97068
(503) 655-7631

ENGINEER:

SISUL ENGINEERING
JOE EGNER
4317 NE THURSTON WAY, SUITE 230
VANCOUVER, WA. 98662
(360) 696-3664

PROJECT POINT OF CONTACT:

Von Structures
MONTE VON STRUCK
13055 SW HART ROAD
BEAVERTON, OR. 97008
(971) 255-9798

PROPERTY DESCRIPTION:

TAX LOTS 1700, 700, AND 702 OF TAX MAP "2 1E 23AA";
NE 1/4 OF THE NE 1/4 OF SECTION 23, TOWNSHIP 2 SOUTH,
RANGE 1 EAST OF THE WILLAMETTE MERIDIAN, IN THE
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

PROJECT LOCATION:

19084 WILLAMETTE DRIVE, WEST LINN, OREGON
±270 FEET NORTHEAST OF THE INTERSECTION OF WILLAMETTE
DRIVE (U.S. HWY 43) AND S. CEDAROAK DRIVE (CO RD 2391)

EXISTING LAND USE:

GENERAL COMMERCIAL ON 2.15 ACRES

BENCHMARK:

ELEVATIONS ARE BASED ON CITY OF LAKE OSWEGO
BENCHMARK NO. 22R-1, A BRASS DISK LOCATED IN THE
NORTHEAST CURB RETURN AT THE INTERSECTION OF
WILLAMETTE DRIVE AND S. CEDAROAK DRIVE
NGVD 29: ELEV = 184.57'

AS BUILT

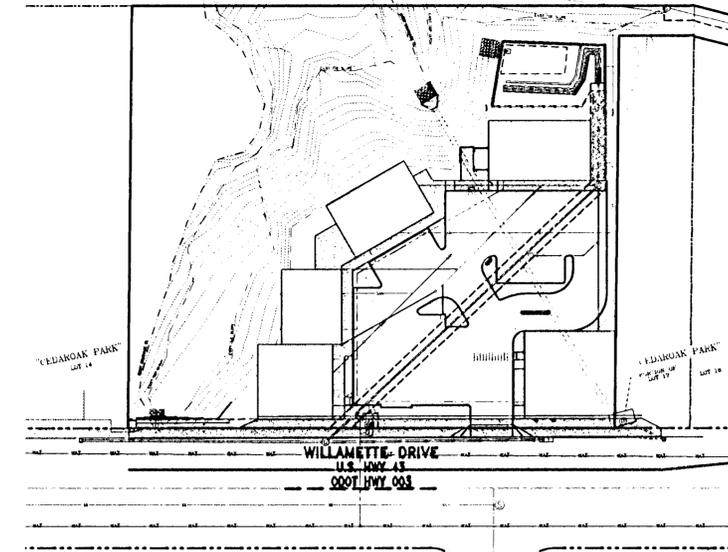
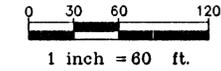
MOST RECENT REVISION TO
THIS SET OF PLANS:

8-5-08

WILLAMETTE VILLAGE

19084 WILLAMETTE DRIVE, WEST LINN, OREGON

GRAPHIC SCALE



WILLAMETTE VILLAGE

GENERAL NOTES AND SPECIFICATIONS

SISUL ENGINEERING
4317 NE THURSTONE WAY, SUITE 200
VANCOUVER, WASHINGTON 98665
(800) 686-3884

DATE	FEB 2008
SCALE	1" = 20'
DRAWN	LJJ
JOB	SVA07-069
SHEET	C18
OF	9 SHEETS

Standard Notes for Sediment Fences:

- The filter fabric shall be purchased in a continuous roll out to the length of the barrier to avoid use of joints. When joints are necessary, filter cloth shall be spliced together only at a support post, with a minimum 6-inch overlap, and both ends securely fastened to the post, or overlap 2" x 2" posts and attach as shown on the detail sheet 3-2.
- The filter fabric fence shall be installed to follow the contours where feasible. The fence posts shall be spaced a maximum of 6 feet apart and driven securely into the ground a minimum of 24 inches.
- The filter fabric shall be a minimum vertical burial of 6 inches. All excavated material from filter fabric fence installation, shall be backfilled and compacted, along the entire disturbed area.
- Standard or heavy duty filter fabric fence shall have manufactured stitched loops for 2" x 2" post installation. Stitched loops shall be installed on the uphill side of the sloped area.
- Filter fabric fences shall be removed when they have served their useful purposes, but not before the upslope area has been permanently protected and stabilized.
- Filter fabric fences shall be inspected by applicant/contractor immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

Standard Notes for Erosion Control:

- Approval of this erosion/sedimentation control (ESC) plan does not constitute an approval of permanent road or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.)
- The implementation of these ESC plans and the construction, maintenance, replacement, and upgrading of these ESC facilities is the responsibility of the applicant/contractor until all construction is completed and approved and vegetation/landscaping is established.
- The boundaries of the clearing limits shown on this plan shall be clearly flagged in the field prior to construction. During the construction period, no disturbance beyond the flagged clearing limits shall be permitted. The flagging shall be maintained by the applicant/contractor for the duration of construction.
- The ESC facilities shown on this plan must be constructed in conjunction with all clearing and grading activities, and in such a manner as to ensure that sediment and sediment-laden water do not enter the drainage system, roadways, or violate applicable water standards.
- The ESC facilities shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these ESC facilities shall be upgraded as needed for unexpected storm events and to ensure that sediment and sediment-laden water do not leave the site.
- The ESC facilities shall be inspected daily by the applicant/contractor and maintained as necessary to ensure their continued functioning.
- The ESC facilities on inactive sites shall be inspected and maintained a minimum of once a month or within the 24 hours following a storm event.
- At no time shall more than one foot of sediment be allowed to accumulate within a trapped catchbasin. All catchbasins and conveyance lines shall be cleaned prior to paving. The cleaning operation shall not flush sediment-laden water into the downstream system.
- Stabilized construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to ensure that all paved areas are kept clean for the duration of the project.
- Clean waste material excavated from road cut or trenching areas not used in street fill areas may be spread evenly across lot areas in depths of less than one foot, except where noted otherwise on the plans.
- Large organic material, miscellaneous pipe or construction material must be removed from the site and disposed of properly.
- All erosion control facilities shall meet the requirements of the Clackamas County Department of Utilities, Erosion Prevention and Sediment Control Plans Technical Guidance Handbook, revised August, 1994 and the Oregon Administrative Rules.

General Notes:

- The Design Engineer will be responsible for inspection of the proposed improvements with oversight from the City's Public Works and Engineering staff.
- A work schedule will be required from the contractor so that the Engineer can have an inspector onsite at the appropriate times. If the work schedule is revised the contractor is to notify the Engineer of the changes. Additionally, the contractor is to give the Engineer at least 24 hours notice of any testing requiring the presence of the Engineer and/or City staff or ODOT.
- The contractor is to receive the approval of the Engineer, ODOT and the City of any proposed changes to the plans or standard requirements.
- A Building Department Plumbing Permit is required for utilities beyond the first cleanout or meter on private property.
- A Public Improvement Guarantee Agreement or a Public Works Permit, a pre-construction meeting with the City of West Linn and installation of erosion control measures are required prior to beginning construction.
- Prior to site clearing, construction "snow" fencing shall be placed around trees to be preserved 10 feet beyond the drip-line of the trees and shall remain in place throughout the infrastructure improvements.
- A City representative must be present at all testing and the city shall be furnished a copy of all test results.
- All fees for street trees shall be paid to the City of West Linn Parks and Recreation Department.
- No building permits will be given until the improvements have been accepted by the City as substantially complete.

Utilities:

- If not noted on the plans utility information and crossing locations will have to be obtained from the utilities.
- Utility contacts are as follows: PGE - Cindy Manselle, 650-1411 or Joyce Shuler, 650-1483; AT & T Cable - Tanya Trujillo, 605-4914, U.S. West Communications - Lori Dorney 242-4596, Northwest Natural Gas - Scott Palmer 721-2447.

Storm Drains:

- Eight inch to 24-inch storm drain pipe is preferred to be *seamless* ribbed PVC pipe conforming to ASTM F 794. Where larger pipe is required or lack of cover prevents use of ribbed PVC pipe, pipe shall be Class 3 non-reinforced, concrete pipe conforming to ASTM C14, reinforced concrete pipe conforming to ASTM C-76, Class IV, or ductile iron pipe conforming to AWWA C151 Class 52. Rubber joints are required for all concrete pipe. Six inch and smaller storm drain pipe shall conform to ASTM D 3034 PVC pipe.
- Outer inlets shall be poured in-place concrete with a minimum compressive strength of 3500 psi. Frame shall be fabricated of structural steel, ASTM A-7, A-36, A-375.
- Manhole base may be poured in place concrete with a minimum compressive strength of 3000 psi or precast. Manhole risers and tops shall be precast sections with a minimum compressive strength of 4000 psi. Tops shall be eccentric cones except where insufficient headroom requires flat tops. Interior dimensions noted on the plans are minimums. Some or all of the storm drain manholes required will be oversized manholes, contractor shall check with manhole manufacturer for actual size of manhole needed for type and size of pipe to be used. Inverts shall be constructed so as to provide smooth flow-through characteristics. Pipe shall be connected to manhole by means of a flexible connection and shall have a shear joint located 18" outside of the manhole.
- All manholes located in easement areas require tamper proof lids and lid shall be set 6 inches above proposed grade.
- Cleanout pipe, fittings, and joints shall be the same specifications as for pipe. Castings are shown on detail and shall conform to ASTM A48 (Grade 30). Cleanout riser shall match downstream pipe diameter.
- Granular backfill (3/4"-0) is to be compacted to 95% maximum dry density per AASHTO T-180 test method and native material shall be compacted to 95% of in-place dry density of surrounding soil.
- Storm drain service laterals shall be 4" pipe conforming to the same specifications as the storm drain main lines. Service laterals shall be installed to a point beyond the line or utility easement as shown on the plan. The service lateral shall be plugged with a 4" rubber ring plug, and the location of the laterals end marked with a 2"x4" stake painted white.
- Riprap where noted on the plans is to be Class 50 in accordance with Oregon State Highway Division specification 714.
- Storm drains shall be tested for deflection in accordance with Division 601.03.11 and video inspected in accordance with Division 601.03.12 of the West Linn Standard Construction Specifications. All tests shall be witnessed by the Engineer and a representative of the City.
- A plumbing permit from the City of West Linn Building Department is required for storm drains beyond the first cleanout.
- All materials, installation, tests, and inspections to be in strict accordance with the City of West Linn Standard Construction Specifications.

Streets:

- New street sections are to be cleared of all surface vegetation and other miscellaneous structures or materials. Grub improvement areas to remove all buried vegetative matter and debris to a depth of 8" below subgrade. Properly dispose of all waste material.
- Street subgrade shall conform to Division 501 of the City of West Linn Standard Construction Specifications. Areas to receive fill are to be inspected by City of West Linn personnel prior to placement of the fill. The Contractor shall have fill areas tested for compaction by a certified testing lab in accordance with W.L.S.C.S. Division 501.03.08. Such testing will be at the contractor's expense.
- Aggregate base rock shall conform to the requirements of W.L.S.C.S. Division 205. Base course shall be 1 1/2"-0 crushed rock and leveling course shall be 3/4"-0. City of West Linn requires a proof roll with a loaded 10 yard dump truck of the subgrade prior placement of the rock and again after placement of the base rock and prior to paving. **All underground utilities including laterals, services and power or gas conduits will be in place before subgrade proof roll will take place.**
- Asphalt concrete shall conform to the requirements of W.L.S.C.S. Division 205. 1 1/2" base lift shall be Class 'B' A.C. and 1 1/2" final lift shall be Class 'C' A.C. meeting the specifications of W.L.S.C.S. Division 505. The top lift of asphalt concrete shall not be placed prior to receiving permission from the City of West Linn Engineering Department.
- Construct curb and gutter using 3300 psi concrete meeting the specifications of W.L.S.C.S. Division 205 (after 28 days) with maximum 1 1/2" aggregate size. Contraction joints at 15' maximum on centers. Three inch weepholes are to be installed on all lots uphill or even with the street. Generally weepholes shall be located at the center and lowest edge of curb for each lot. Handicap ramps shall be located at each curb return at intersections unless otherwise noted on the plans. Contractor shall stamp location of sewer and water crossings with an (S) or a (W).
- All materials, installation, tests, and inspections to be in strict accordance with Public Works Standard Construction Standards.
- A street construction encroachment permit or similar permit may be required from the City of West Linn. Construction permit fees or other similar fees or bonding required of the contractor will be the contractor's responsibility to obtain.

Sanitary Sewer:

- Pipe shall be PVC sewer pipe conforming to ASTM D-3034-SDR 35. Minimum stiffness shall be 46 psi and joint type shall be elastomeric gasket conforming to ASTM D-3212.
- Manhole base shall be poured in place concrete base with a minimum compressive strength of 3300 psi or precast. Manhole risers and tops shall be precast sections with minimum compressive strength of 4000 psi. Tops shall be eccentric cones except where insufficient headroom required flat tops. Inverts shall be constructed so as to provide smooth flow-through characteristics and channels must be able to pass a 7" x 30" cylinder into pipes. PVC pipe shall be connected to manhole by means of a flexible connection and shall have a shear joint located 18" outside of manhole. Cement grout for connecting PVC sewer pipe to manhole will not be permitted.
- All manholes located in easement areas require tamper proof lids and the lid shall be set 6 inches above proposed grade.
- Cleanout pipe, fittings, and joints shall be the same specifications as for pipe. Castings are as shown on detail and shall conform to ASTM A48 (Grade 30). Cleanout riser shall match downstream pipe diameter. Frame shall set on 4"x 24" x 24" concrete pad.
- Granular backfill (3/4" x 0) is to be compacted to 95% maximum dry density per AASHTO T-180 test method and native material shall be compacted to 95% of in-place dry density of surrounding soil. Excavation, bedding and backfill shall be in accordance with Division 204 of the City of West Linn Standard Construction Specifications. Backfill under new streets shall be Class "B" and backfill in existing streets shall be Class "E".
- PVC service laterals shall be 4" pipe conforming to the same specifications as the sewer mains. Service laterals shall be installed to a point beyond the line of the sewer or utility easement as shown on the plan. The service lateral shall be plugged with a 4" rubber ring plug, and the location of the lateral's end marked with a 2" x 4" stake painted green.
- Sanitary sewer pipe and appurtenances shall be tested for leakage in accordance with W.L.S.C.S. Division 301.03.09 and manholes shall be vacuum tested in accordance with W.L.S.C.S. Division 302.03.07. All tests shall be witnessed by the Engineer and the City of West Linn. All tests shall be passed and new line shall be accepted prior to connection to existing system.
- A plumbing permit from the City of West Linn Building Department is required for sanitary sewer laterals beyond the first cleanout.
- All materials, installation, tests, and inspections to be made in strict accordance with City of West Linn Public Works Standard Construction Specifications.

Water Supply

- Water mains shall be ductile iron pipe conforming to AWWA C151 Class 52. Pipe is to have cement mortar lining and bituminous seal coat conforming to AWWA C104. Joints are to be push-on rubber gasketed joints unless noted otherwise on the plan. Pipe fittings are to be of the same material and class as pipe and of domestic origin.
- Water mains to have a minimum cover of 36".
- Restrained joints shall be required for transmission pipelines which cross unstable land, railroad tracks, freeways, watercourses or other locations which could either result in unusual ground movements or could result in significant damage to property or life should a leak occur. Where tees, elbows - (horizontal or vertical), or significant change in water main alignment exist, the joint shall be properly restrained with Megalug bolts and Field Lok gaskets (or City Engineer approved equal); the exception shall be fire hydrant laterals that shall be constructed in accordance with West Linn Drawing No. WL-401.
- Gate valves shall be resilient seat, non rising stem with "O" ring packing, complying with AWWA Class "C" Specifications. The valves shall be designed to withstand a working pressure of 150 psi, and shall conform to AWWA C504. Valve boxes shall be "Vancouver" pattern.
- Fire hydrants shall conform with AWWA Specification C-502. Pumper outlet is to face the direction of access. Acceptable models are Mueller Centurion A-423 or Clow Medallion F-2545. Hydrant color shall be yellow.
- Granular backfill (3/4"-0) is to be compacted to 95% maximum dry density per AASHTO T 180 test method and native material shall be compacted to 95% of in-place dry density of surrounding soil. Excavation, bedding and backfill shall be in accordance with Division 204 of the City of West Linn Standard Construction Specifications. Backfill under new streets shall be Class "B" and backfill in existing streets shall be Class "E".
- Service laterals shall be Type K copper. Lateral sizes shall be 1" minimum. For double services two 1" water services shall be laid side by side with 18" separation. Taps into main to be at 18" centerline minimum. Angle meter stops to be 18" from property line and not in the driveway approach.
- All waterlines will be pressure tested and purification tested before connection to the city water system. Pressure test shall be conducted at 180 psi or 1.5 times the normal working pressure, whichever is higher and shall meet the requirements of Division 403.14 of the West Linn Public Works Standard Construction Specifications.
- Chlorination shall conform with Division 403.14 of the W.L.S.C.S.
- Do not connect new pipe to existing pipe prior to testing. The City of West Linn requires acceptance of new waterline prior to connection to existing water system.
- A plumbing permit from the City of West Linn Building Department is required for service lateral installations beyond the water meter.
- All materials, installations, tests and chlorination to be in strict accordance with the City of West Linn Public Works Standard Construction Specifications, and the Oregon State Health Division Administrative Rules, Chapter 333.

Note:

- ALL WORK IN ODOT RIGHT-OF-WAY REQUIRES ODOT PERMITS INCLUDING AN ACCESS PERMIT FOR PUBLIC ACCESS TO THE SITE.
- ALL WORK DONE IN THE ODOT RIGHT-OF-WAY SHALL MEET ODOT SPECIFICATIONS AND REQUIREMENTS IN ALL CASES.

Structural Fill Notes:

- Besides the structural fill that will be required for construction of street improvements a structural fill is also to be built on lots where noted on the plans to the specifications noted below.
- All miscellaneous materials and the organic layer under the fill area shall be stripped or removed. All stumps in the fill area must be removed in their entirety.
- The contractor shall retain the services of a Geotechnical Engineer and testing lab to inspect and provide testing services and to certify that the structural fill meets the compaction requirements appropriate for home construction and the requirements of the City of West Linn Grading Permit for this project. The contractor must obtain the grading permit and attend a grading pre-construction meeting with the City of West Linn prior to beginning work on the project.
- Fill material should be placed in horizontal lifts approximately 8 inches thick (loose) and compacted to at least 95% of the maximum dry density, as determined by ASTM D 698, except as modified by the Geotechnical Engineer. Moisture content of the structural fill shall be controlled to within 2% of the optimum moisture content at the time of compaction, unless modified by the Geotechnical Engineer.
- Inspections by City of West Linn personnel will be required after stripping of topsoil and prior to fill placement, after each lift completed under a roadway and after all fill is completed. To request an inspection, call City of West Linn at least 24 hours in advance.
- At the completion of fill activities a final report to the City of West Linn by the Geotechnical Engineer is required.

Extended Dry Detention Water Quality:

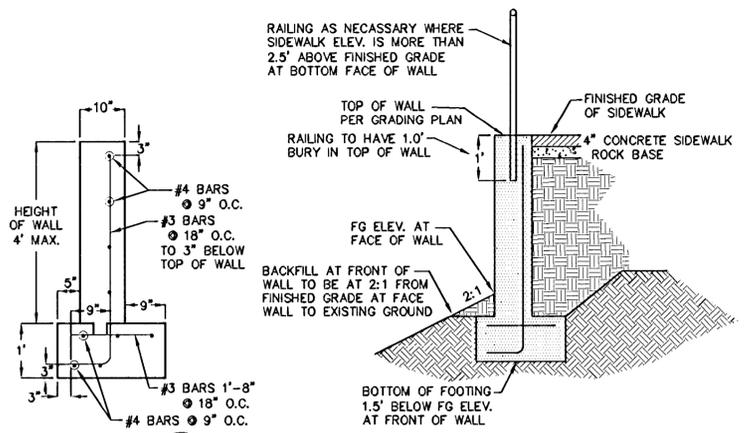
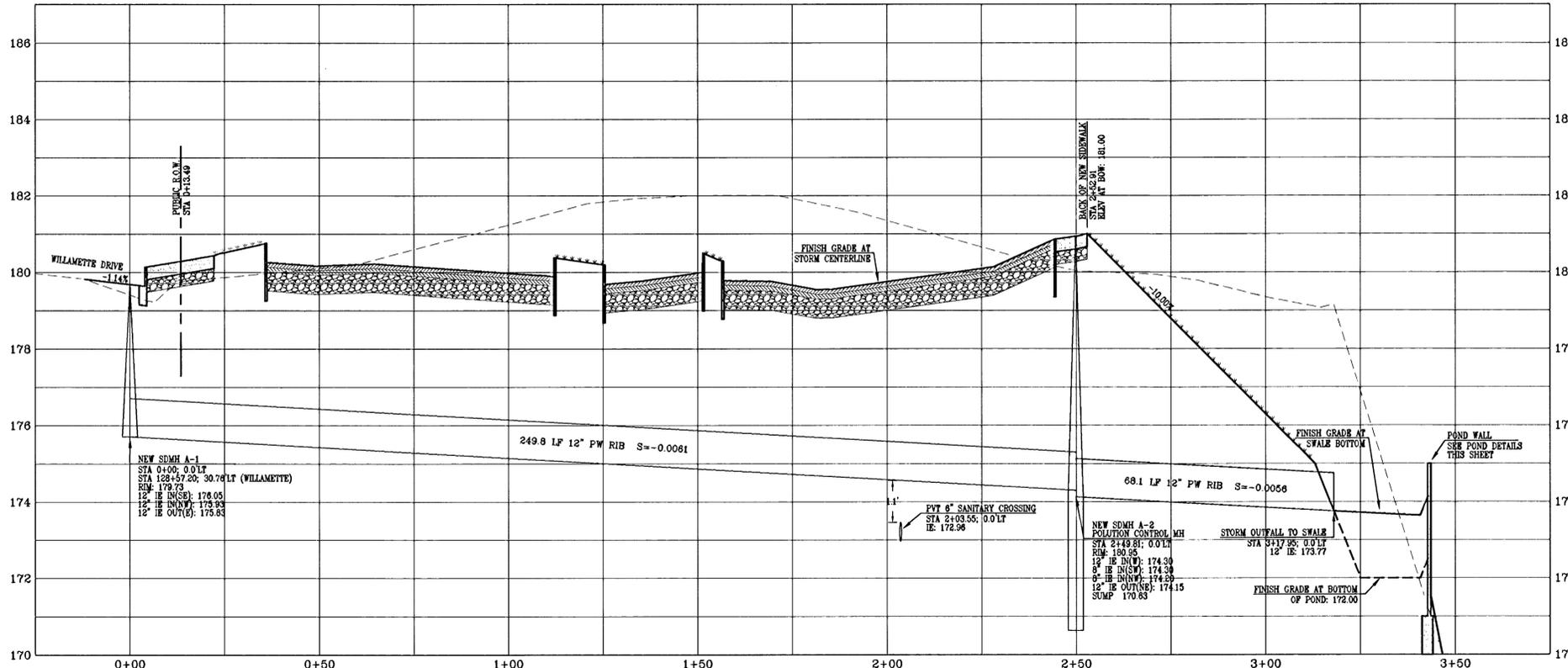
- Storm drain water quality and detention pond shall be seeded with the following seed mixture:
40% Agrostis alba (Redtop)
25% Alopecurus pratensis (Meadow Foxtail)
20% Lolium perenne (perennial Ryegrass)
15% Phleum pratense (Timothy)
- Application rates should be per the supplier's recommendations, or at the following weight per 1000 square foot basis:
Hydroseeding:
5 lbs seed mix
7 lbs 10-20-20 (N-P-K) fertilizer
50 lbs wood cellulose fiber mulch
Broadcast Seeding:
5 lbs seed mix
7 lbs 10-20-20 (N-P-K) fertilizer
70 lbs wood cellulose fiber mulch
- Pond bottom should be mowed and cleaned of debris in the spring of each year, as soon as practical after the start of the growing season (March 1st), but no later than May 1st.
- Sediment in the pond should be removed if accumulations exceeding 2" are in evidence, or every two years.
- Sediment accumulations in the inlet/outlet structures shall be removed biannually by the City of West Linn Public Works personnel.
- A four-foot high matte black chain link fence shall be installed around the water quality and detention facility in accordance with the Conditions of Approval.

AS BUILT



10/5/09

WILLAMETTE VILLAGE 19084 WILLAMETTE DRIVE, WEST LINN, OREGON



STEEL-PLATE CATCHBASINS SHALL NOT BE LESS THAN 10 GAUGE WITH WELDED SEAMS WITH SLEEVES ATTACHED FOR CONNECTING THE STORM DRAIN LINES.

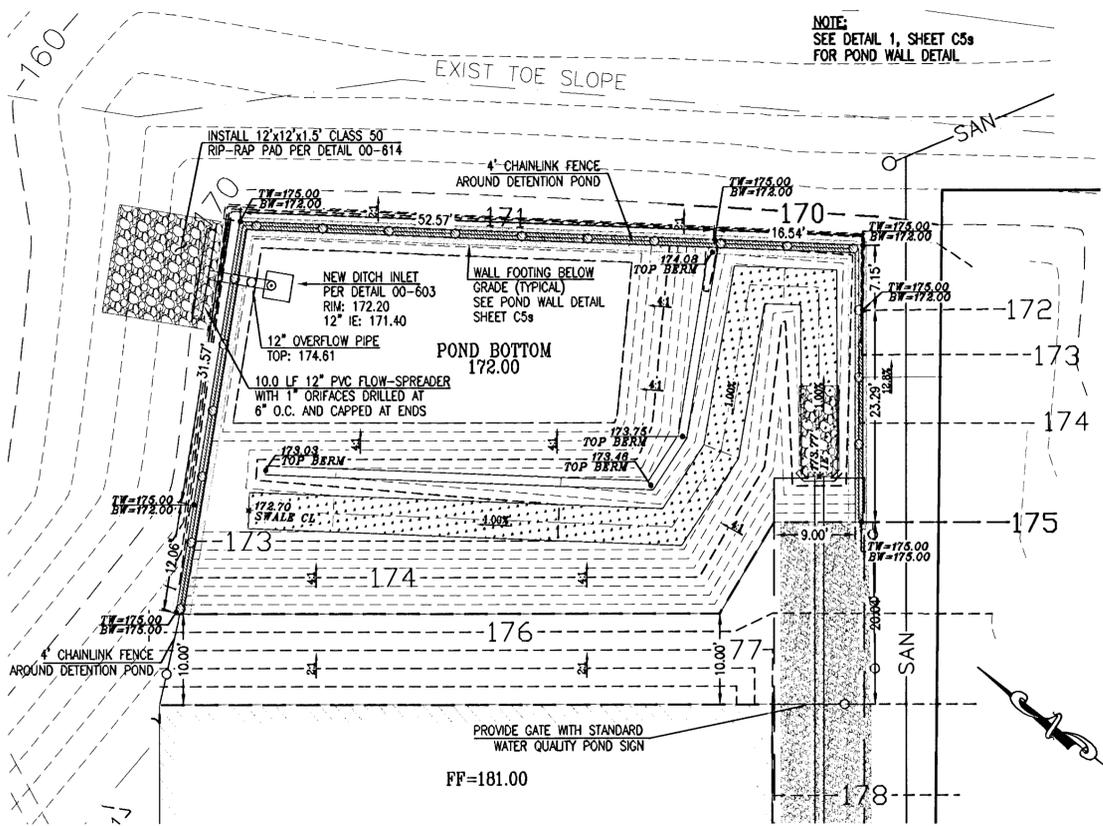
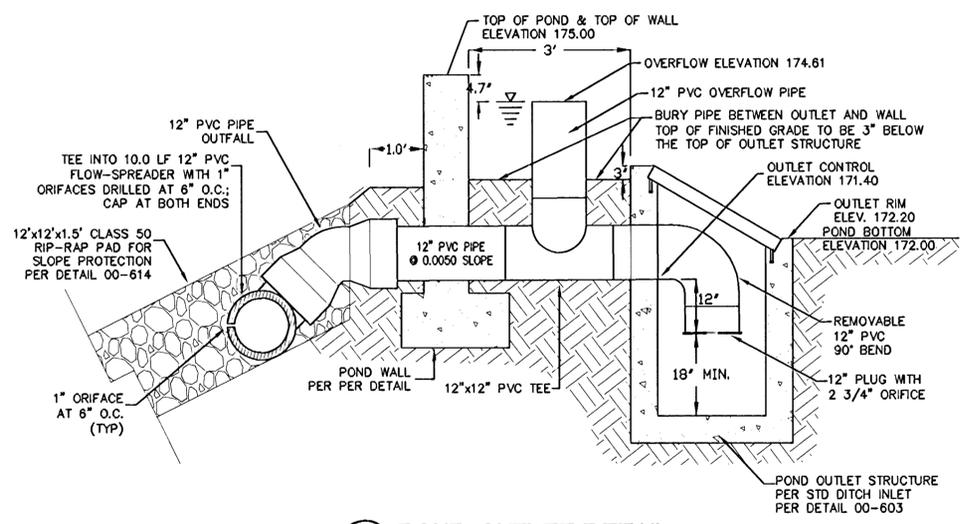
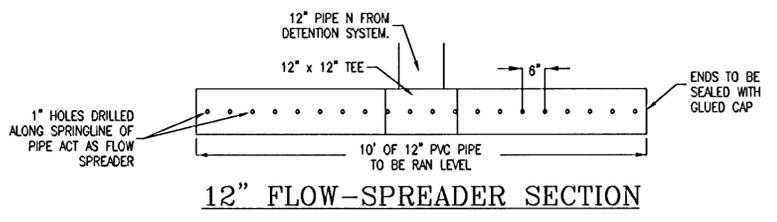
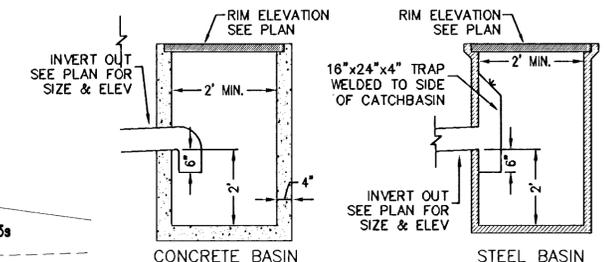
CATCHBASINS MADE OF CAST IRON SHALL HAVE A WALL THICKNESS OF NOT LESS THAN 1/4" WITH SLEEVES ATTACHED FOR CONNECTING THE STORM DRAIN LINES.

STEEL CATCHBASINS SHALL BE ASPHALT COATED INSIDE & OUT.

CONCRETE CATCHBASINS SHALL HAVE A WALL THICKNESS OF 4" & BE REINFORCED WITH #4 BARS @ 6" O.C.

CATCHBASINS ARE TO BE PREFABRICATED OR POURED IN PLACE.

GRATE TO BE WELDED STEEL DROP IN GRATE (ASTM A36).
 END BARS 1/2"x2"; CROSS BARS 1/2"x2" @ 2" O.C.;
 BIKE STRAPS 1/8"x1"; 16,000 lb> UNIFORM LOAD CAPACITY.



AS BUILT



REVISIONS	BY
REVISED PER COOT COMMENTS 5/23/08	JE
REVISED PER WEST LINN COMMENTS 7/15/08	JE
AS BUILT 7/8/09	JE
REVISED POND FENCE 10/3/09	JE

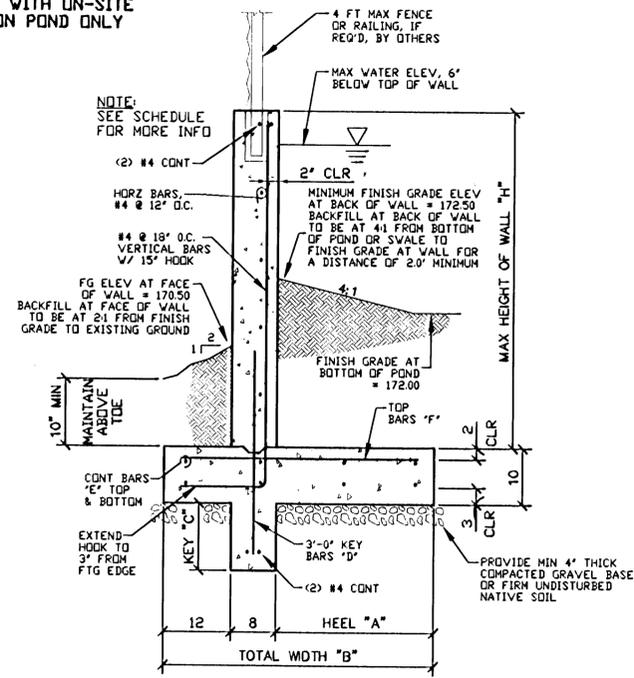
WILLAMETTE VILLAGE
VON STRUCTURES
STORM LINE 'A' PROFILE
AND POND DETAILS

SISUL ENGINEERING
 4517 NE THURSTON WAY, SUITE 230
 VANCOUVER, WASHINGTON 98665
 (360) 696-3884
 07-069_Site_Plan@Pro.org

DATE: FEB 2008
 SCALE: AS NOTED
 DRAWN: LJJ
 JOB: SVA07-069
 SHEET: **C48**
 OF 9 SHEETS

WILLAMETTE VILLAGE 19084 WILLAMETTE DRIVE, WEST LINN, OREGON

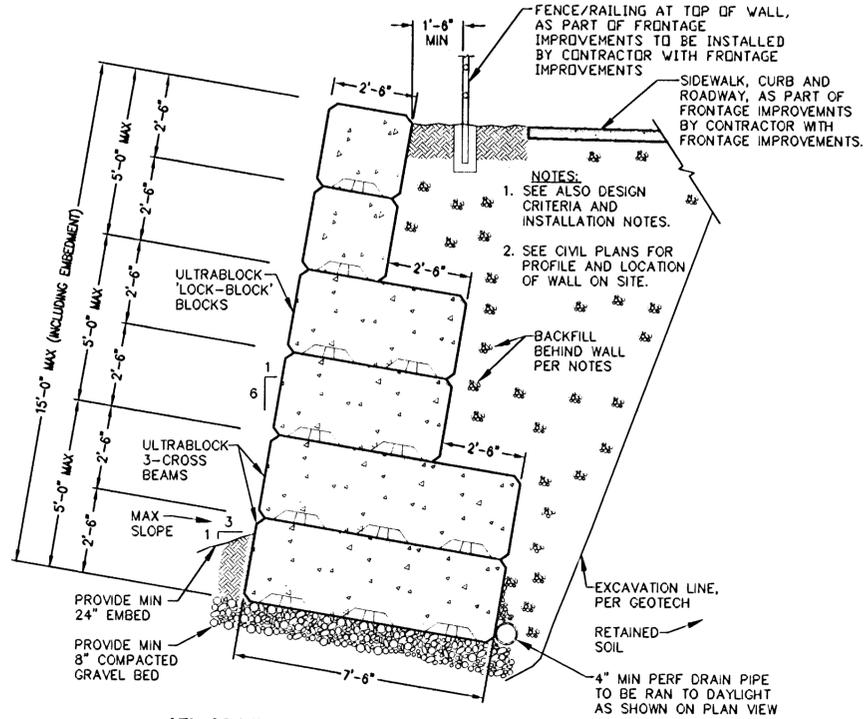
NOTE:
FOR USE WITH ON-SITE
DETENTION POND ONLY



CONCRETE POND RETAINING WALL SCHEDULE						
MAX WALL HEIGHT 'H'	FTG HEEL 'A'	FTG WIDTH 'B'	KEY DEPTH 'C'	KEY VERTICAL DOWELS 'D'	CONTINUOUS BARS T & B IN FOOTING 'E'	TOP BARS 'F'
3'-0"	1'-4"	3'-0"	N/A	N/A	(3) #4	#4 @ 36" O.C.
4'-0"	1'-4"	3'-0"	1'-0"	#4 @ 18" O.C.	(3) #4	#4 @ 36" O.C.
5'-0"	2'-4"	4'-0"	1'-0"	#4 @ 18" O.C.	(4) #4	#4 @ 18" O.C.

1
C5a 5'-0" AND UNDER CONCRETE POND WALL
N.T.S. X001004

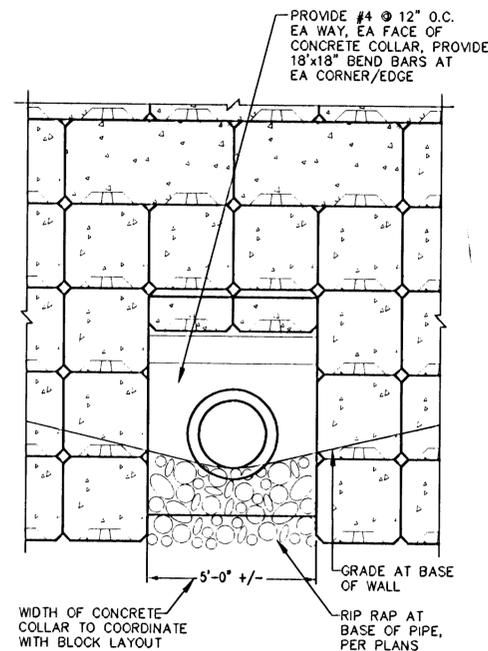
NOTE:
SEE PLAN VIEW, ENLARGEMENT, AND
TYPICAL STREET SECTIONS FOR LOCATION
OF WALL IN RELATION TO PUBLIC RIGHT-OF-WAY



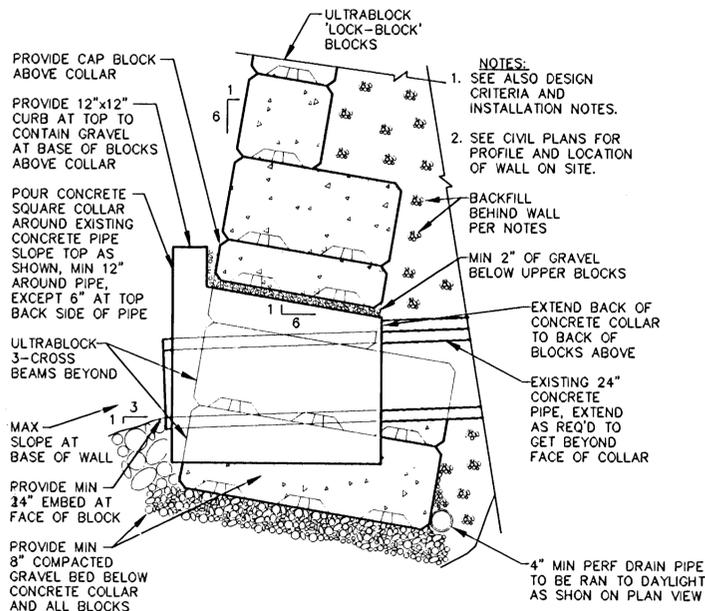
2
C5a 15'-0" HIGH MAX 'LOCK-BLOCK' WALL
WITH SIDEWALK AND ROAD ABOVE
3/8" = 1'-0" X001002

DESIGN CRITERIA AND ULTRABLOCK AND CAST-IN-PLACE WALLS INSTALLATION NOTES:

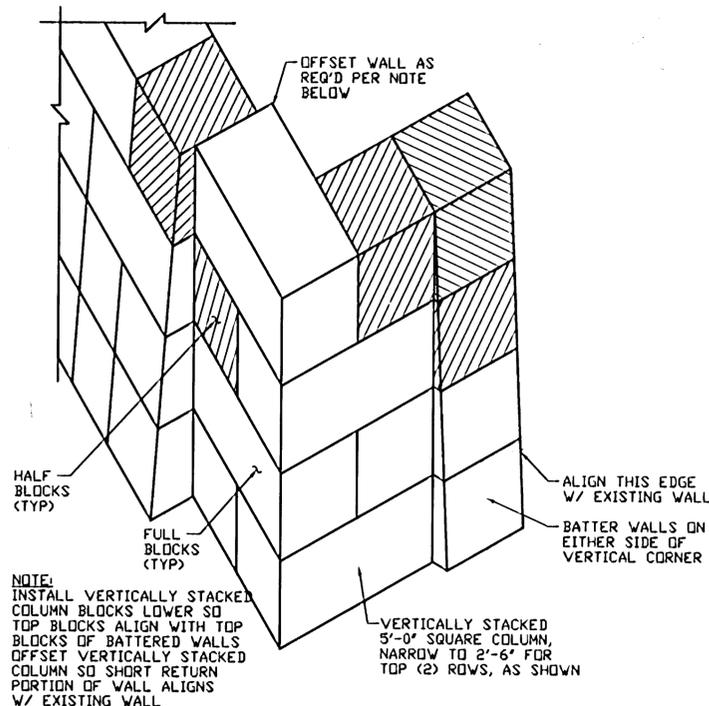
- ULTRABLOCK BLOCKS ARE TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
- DESIGN IS PER AASHTO 2002 DESIGN METHOD AND IS BASED ON THE FOLLOWING: (PER GEOTECH REPORT BY CARLSON GEOTECHNICAL, DATED 12/16/02)
ACTIVE EARTH COEFFICIENT, k_a (ULTRABLOCK WALL): 0.295
(FROM MSEW - AASHTO 2002 DESIGN METHOD)
SEISMIC ACTIVE EARTH COEFFICIENT, k_{a0} (ULTRABLOCK WALL): 0.361
(FROM MSEW - AASHTO 2002 DESIGN METHOD, W/ 0.15 g)
EQUIVALENT FLUID PRESSURE (CIP POND WALL): 62.4 PCF
MAXIMUM ALLOWABLE SOIL BEARING PRESSURE: 2,000 PSF
(ULTRABLOCK WALLS OVER 10 FT REQUIRE 2,500 PSF BEARING CAPACITY)
COEFFICIENT OF FRICTION AT BASE OF WALL: 0.32
PASSIVE PRESSURE ON C.I.P. WALLS: 250 PCF
UNIT WEIGHT OF ON-SITE MATERIAL: 125 PCF
INTERNAL ANGLE OF ON-SITE MATERIAL: 33 DEGREES
ROADWAY VEHICLE LIVE LOAD SURCHARGE: 250 PSF
(ONLY USED ON PORTIONS OF ULTRABLOCK WALL OVER 5 FT)
- AS REQUIRED HEIGHT OF ULTRABLOCK MODULAR WALL DECREASES BELOW MAXIMUM HEIGHT INDICATED, REMOVE BLOCKS FROM THE BOTTOM UP (I.E. FOR A 10'-0" HIGH WALL, USE THE TOP (4) ROWS SHOWN IN THE DETAIL).
- INSTALL ULTRABLOCK WALL W/ 6 TO 1 BATTER (9.5 DEGREES). ALIGN FRONT FACE OF BLOCKS ABOVE CONCRETE COLLAR WITHIN 6" OF BACK OF COLLAR.
- PROVIDE MINIMUM EMBEDMENT PER DETAILS.
- MINIMUM FACTOR OF SAFETY: (REDUCED BY 1.33 FOR SEISMIC LOADING)
FACTOR OF SAFETY AGAINST SLIDING: 1.5
FACTOR OF SAFETY AGAINST OVERTURN: 2.0
(FS=1.5 FOR CONCRETE POND WALL)
- BACKFILL BEHIND ULTRABLOCK WALL SHALL BE CLEAN ANGULAR COMPACTED GRAVEL THAT MEETS THE PROPERTIES OUTLINED UNDER NOTE 2 ABOVE AND SHALL HAVE LESS THAN 5% PASSING THE NUMBER 200 SIEVE. GRAVEL BACKFILL AND LEVELING BED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557. OVER EXCAVATION MAY BE REQUIRED TO OBTAIN PROPER BEARING CAPACITY. VERIFY CONDITIONS WITH GEOTECH OF RECORD AND REQUIRED BEARING CAPACITY WITH BEARING PRESSURES INDICATED UNDER NOTE 2. LIGHT WALK-BEHIND COMPACTOR SHALL BE USED WITHIN 3 FT OF THE BACK OF THE ULTRABLOCK BLOCKS. BACKFILL BEHIND THE CAST-IN-PLACE CONCRETE POND WALL SHALL BE PER CIVIL PLANS.
- CAST CONCRETE COLLAR AROUND EXISTING 24" CONCRETE PIPE SO THAT THE TOP SLOPES AS INDICATED AND THE WIDTH OF THE COLLAR ALIGNS WITH THE LAYOUT OF THE ULTRABLOCK WALL BLOCKS.
- CONCRETE COMPRESSIVE STRENGTH TO BE MINIMUM 3,000 PSI AT 28 DAYS. BACKFILL OF WALL AND PLACEMENT OF ULTRABLOCK BLOCKS ABOVE COLLAR ALLOWED WHEN REQUIRED STRENGTH HAS BEEN REACHED.
- REBAR TO BE ASTM-615, GRADE 60.
- CONTRACTOR TO PROVIDE TEMPORARY SHORING, IF REQ'D, TO SAFELY INSTALL THE ULTRABLOCK WALL (VERIFY WITH GEOTECH OF RECORD).
- SEE CIVIL PLANS FOR PLAN VIEW OF WALL, RAILING REQUIREMENTS AND DETAILS AND ALL OTHER CIVIL INFORMATION.



3
C5a CONCRETE COLLAR AROUND EXISTING PIPE
3/8" = 1'-0" X001003



4
C5a 90 DEGREE OUTSIDE CORNER
SCALE: 3/8" = 1'-0" X001004



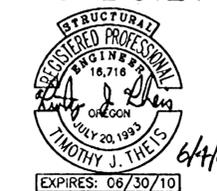
REVISIONS	BY
REVISED PER ADOT COMMENTS 5/23/04	J.E.E.
REVISED PER ADOT COMMENTS 8/2/04	J.E.E.
REVISED NOTES PER COMMENTS 8/5/04	J.E.E.
REVISED PER ADOT COMMENTS 8/5/04	J.E.E.
REVISED PER ADOT COMMENTS 7/8/09	J.E.E.

WILLAMETTE VILLAGE
VON STRUCTURES

WALL DETAILS

ISIJUL ENGINEERING
4517 NE THURSTON WAY, SUITE 280
Vancouver, Washington 98666
(360) 686-3884

AS BUILT



DATE FEB 2008
SCALE AS NOTED
DRAWN LJJ
JOB SVA07-069
SHEET **C58**
OF 9 SHEETS

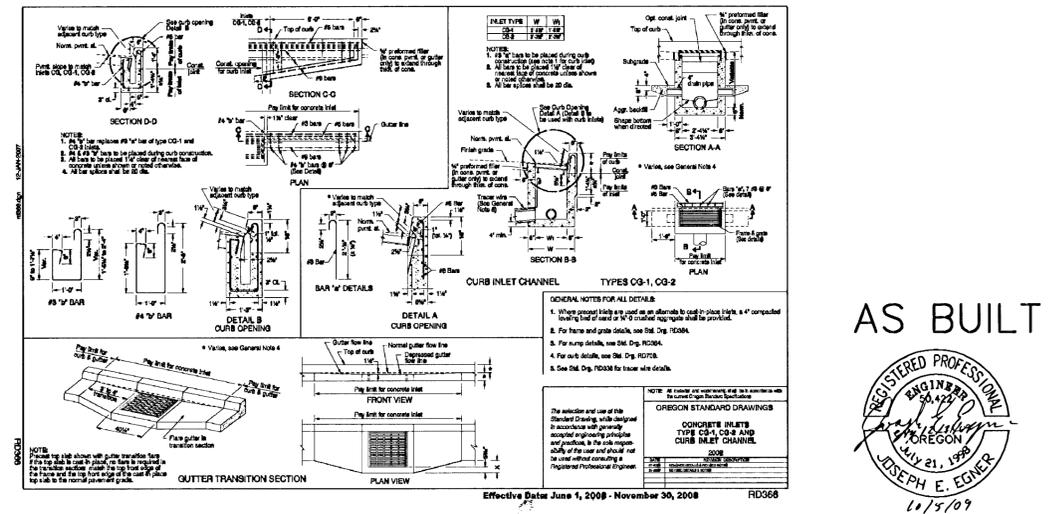
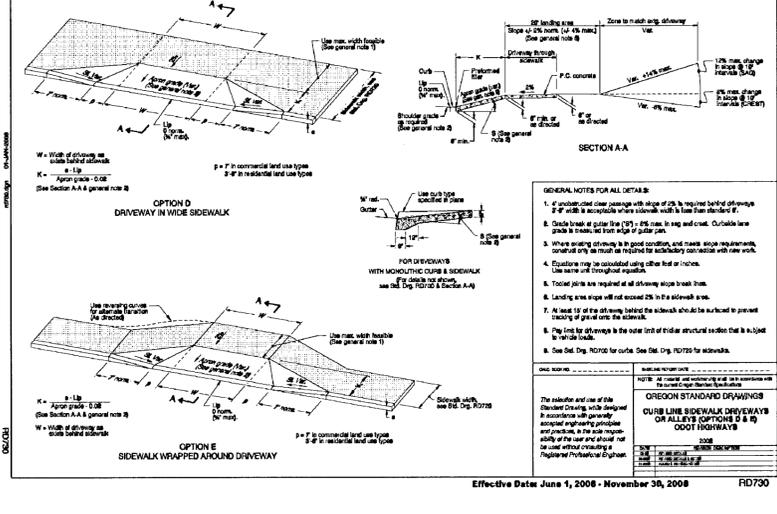
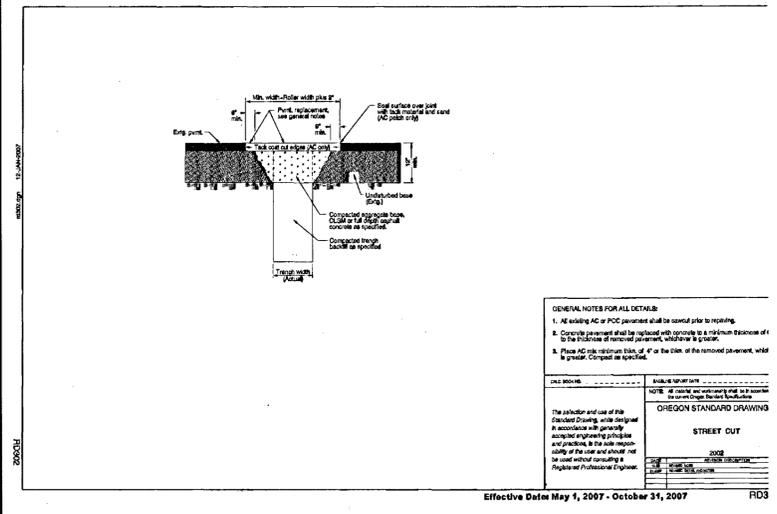
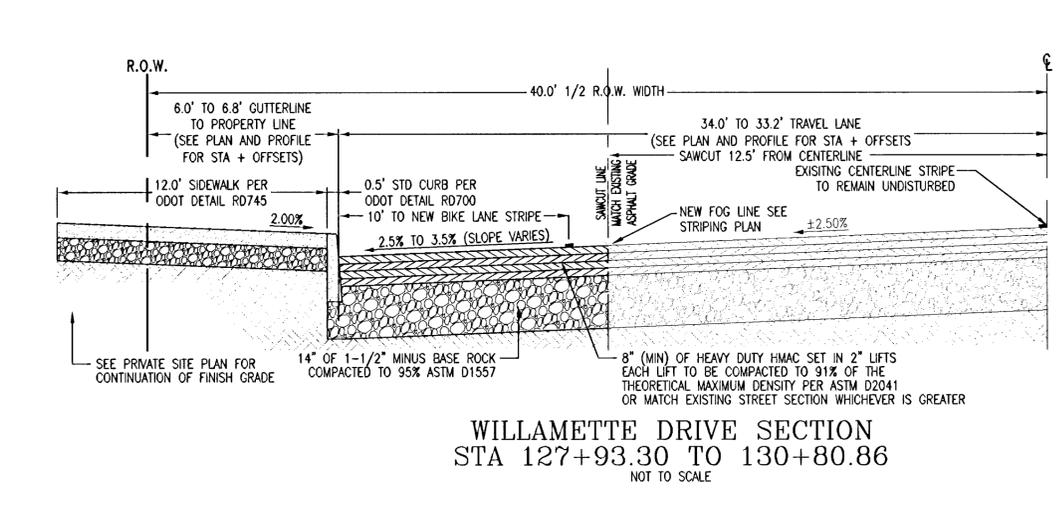
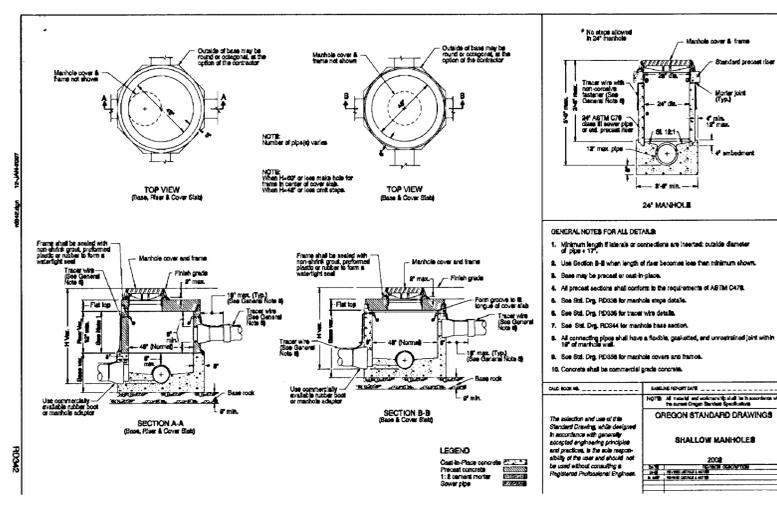
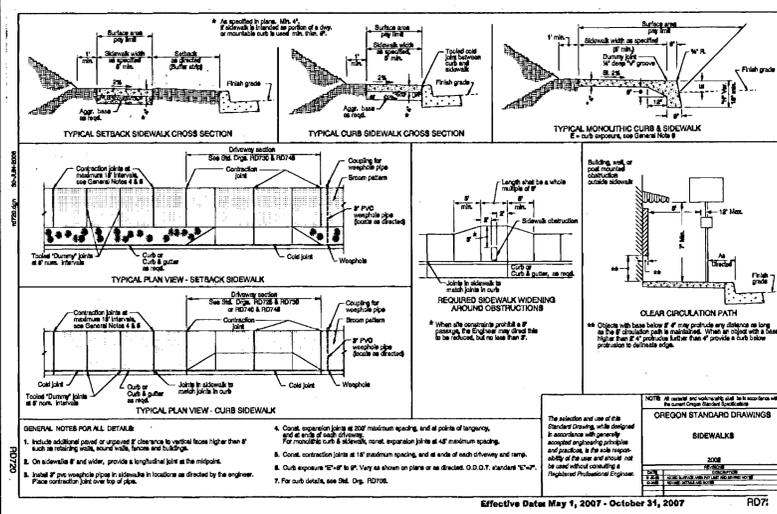
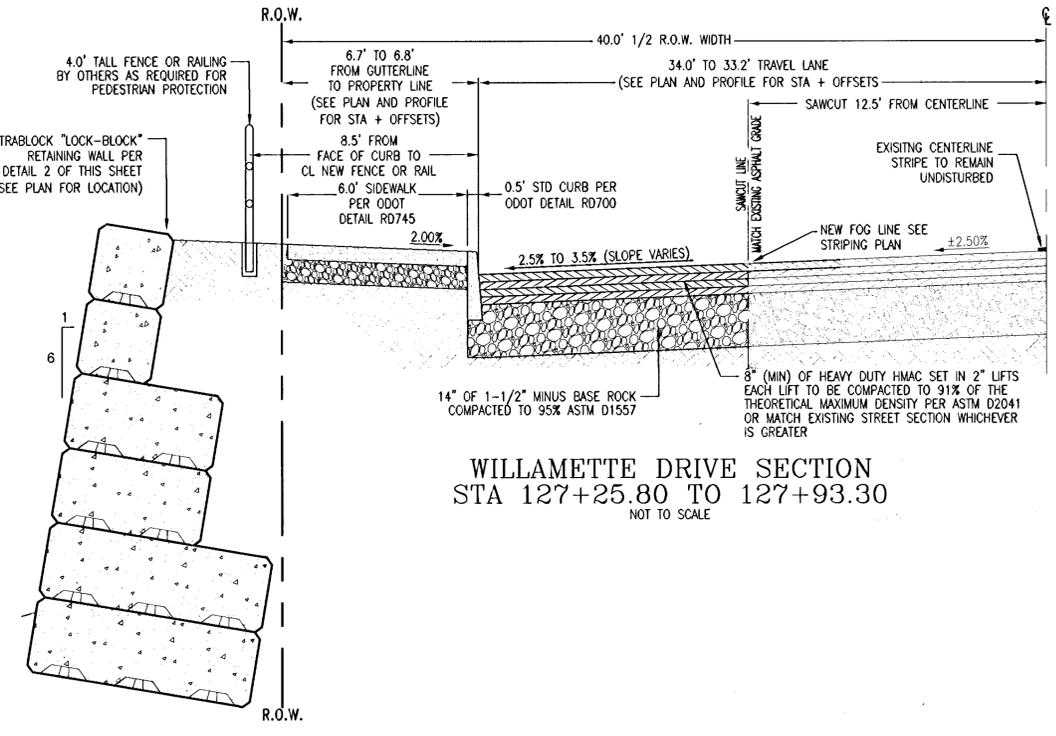
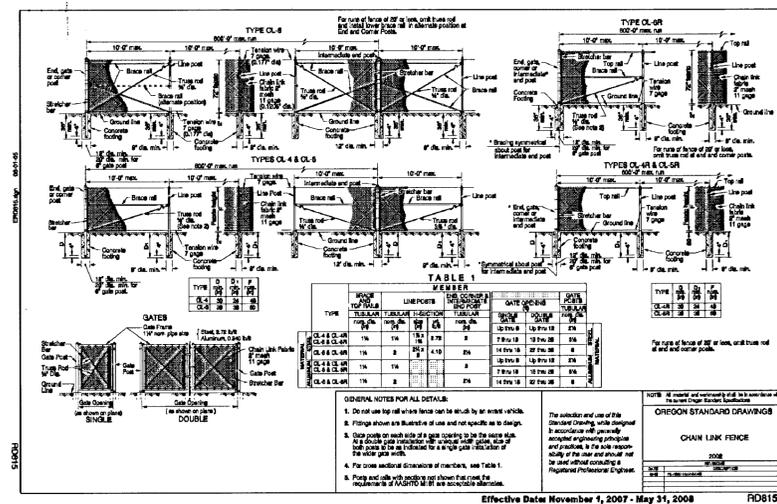
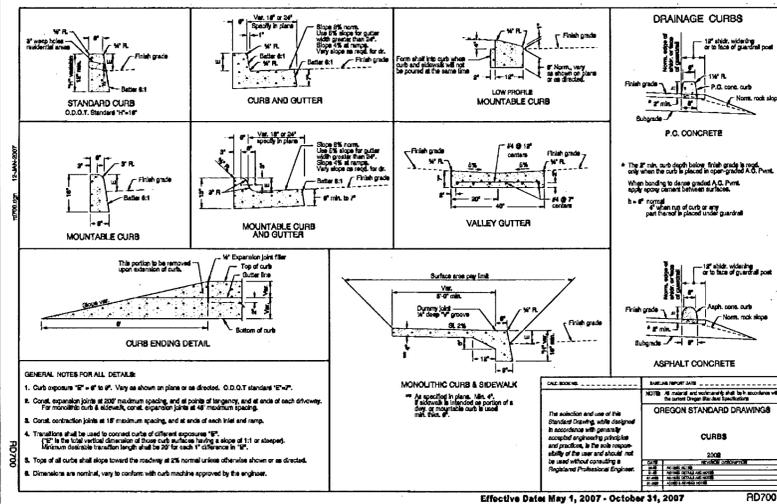
REVISIONS	BY
REVISED PER ODOT COMMENTS 9/23/08	JEE
REVISED PER ODOT COMMENTS 9/23/08	JEE
AS BUILT 7/16/09	JEE

WILLAMETTE VILLAGE
VON STRUCTURES

ODOT DETAILS

SISUL ENGINEERING
4517 W. HEUSTON WAY, SUITE 230
VACAVILLE, WASHINGTON 98686
(509) 468-8644
07-2665_Sisul_Photos/Foto.org

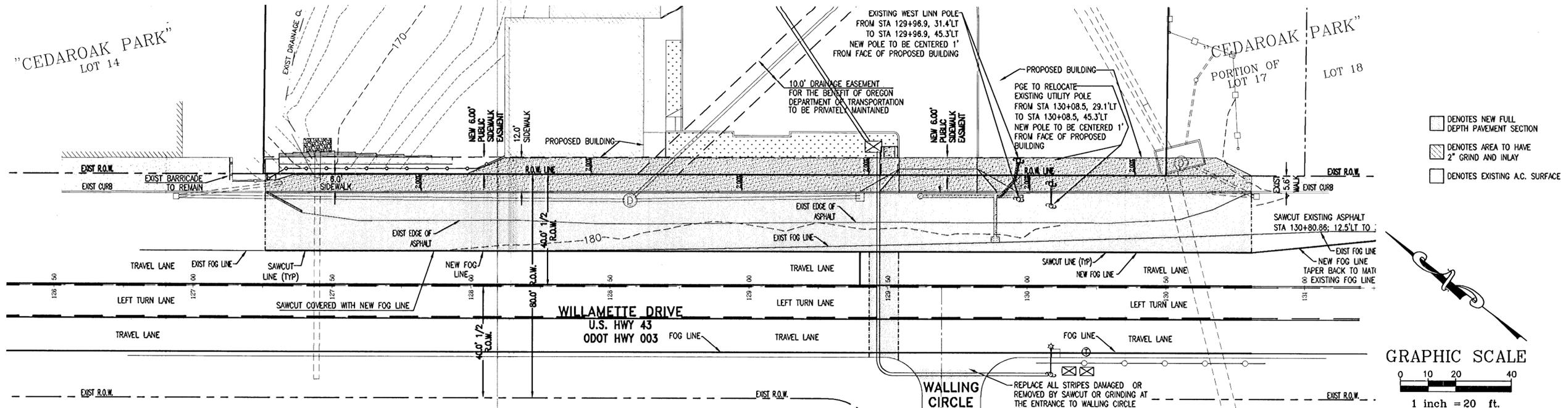
DATE	JAN 2008
SCALE	AS NOTED
DRAWN	LJJ
JOB	SVAG7-069
SHEET	C79
OF	9 SHEETS



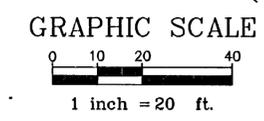
AS BUILT

REGISTERED PROFESSIONAL ENGINEER
JOSEPH E. ECKER
11/5/09

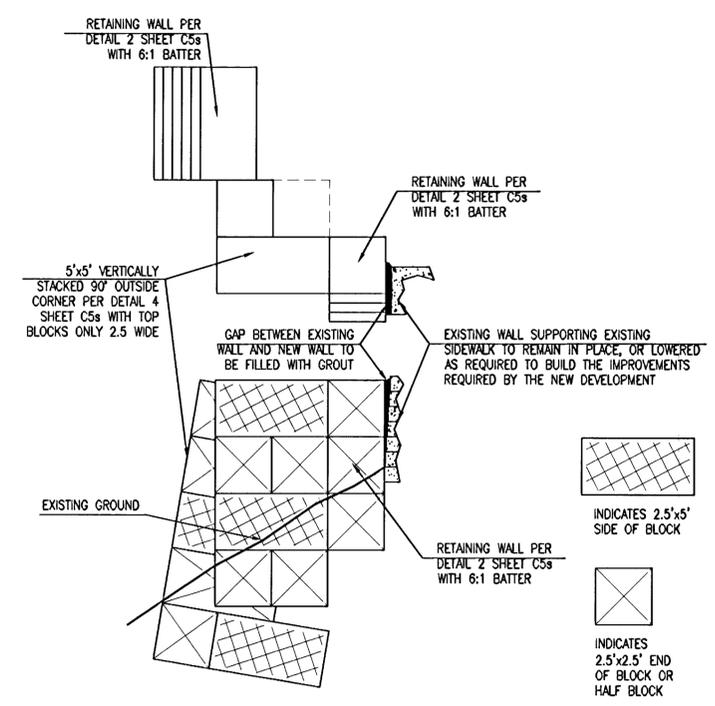
WILLAMETTE VILLAGE
19084 WILLAMETTE DRIVE, WEST LINN, OREGON



- DENOTES NEW FULL DEPTH PAVEMENT SECTION
- DENOTES AREA TO HAVE 2" GRIND AND INLAY
- DENOTES EXISTING A.C. SURFACE



WILLAMETTE DRIVE ODOT STRIPING PLAN



WALL CORNER RETURN DETAIL
NTS

AS BUILT



REVISIONS	BY
REVISED DRAWING IN BACKGROUND PER ODOT COMMENTS 8/22/08	.EE
REVISED TYPING	.EE
UTILITY CROSSING	.EE
8/22/08	
AS BUILT	.EE
7/16/09	

WILLAMETTE VILLAGE
VON STRUCTURES

PUBLIC STREET STRIPING PLAN
& WALL CORNER DETAIL

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4317 NE THURSTON WAY, SUITE 230
VANCOUVER, WASHINGTON 98663
(360) 696-3664
07-089...STRIPING Plan.dwg

DATE	JAN 2008
SCALE	1" = 20'
DRAWN	LJJ
JOB	SVA07-069
SHEET	C98
OF 9 SHEETS	