XREF LIST
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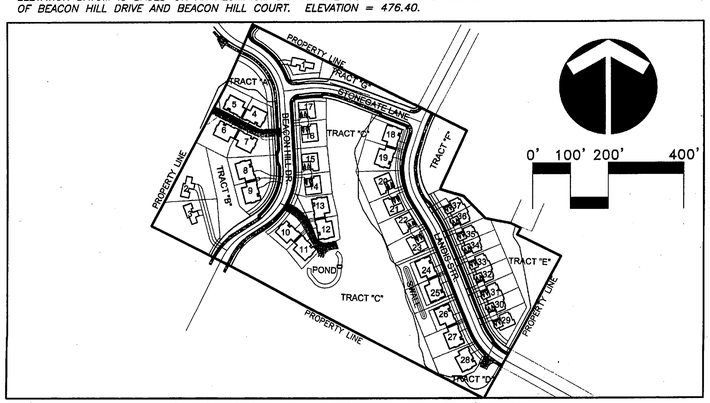
Resolved
D579MAP
D579X001

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "CITY OF WEST LINN STREET/UTILITY DESIGN AND CONSTRUCTION STANDARDS", DATED MAY 22, 2000 AND OAR'S CHAPTER 333. ALL STREET, STORM SEWER AND SANITARY SEWER CONSTRUCTION THAT IS NOT ADDRESSED IN THE CITY'S STANDARDS SHALL BE IN ACCORDANCE WITH APWA STANDARDS. ALL WATER SYSTEM CONSTRUCTION THAT IS NOT ADDRESSED IN THE CITY'S STANDARDS SHALL BE IN ACCORDANCE WITH AWWA STANDARDS. CONTRACTOR TO OBTAIN A COPY OF THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT PRIOR TO CONSTRUCTION.
2. PRIOR TO ANY CONSTRUCTION, LOCATIONS OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR. WHEN ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. ORGANIC AND NON-DESIRABLE MATERIALS SHALL BE REMOVED FROM THE CONSTRUCTION AREA AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
4. ALL FILL AREAS SHALL BE STRIPPED OF ORGANIC MATERIAL. FILL WILL BE PLACED IN 6-INCH LAYERS AND COMPACTED TO 95 PERCENT RELATIVE MAXIMUM DENSITY ACCORDING TO AASHTO T-180 STANDARDS. LANDSCAPE AREAS SHALL BE COMPACTED TO 90 PERCENT. THE CONTRACTOR SHALL PROVIDE COMPACTION TESTING, ONE FOR EVERY 10,000 SQUARE FEET OF AREA AND FOR EVERY 2 LAYERS OR 16" AND EVERY 100 LINEAR FEET OF FILL PLACED. COMPACTION REPORTS FROM A NATIONALLY ACCREDITED TESTING LAB SHALL BE SUPPLIED TO THE ENGINEER. A COPY OF THE REPORTS SHALL BE GIVEN TO THE CITY.
5. CONTRACTOR SHALL LEAVE ALL AREAS OF THE PROJECT FREE OF DEBRIS AND UNUSED CONSTRUCTION MATERIALS.
   a. AREAS TO BE LANDSCAPED SHALL BE SMOOTHED AND LEFT TO THE GRADES INDICATED ON THE GRADING PLAN, PLUS OR MINUS 0.1 FOOT.
   b. ALL DISTURBED AREAS NOT TO BE LANDSCAPED SHALL BE SEEDED PER EROSION CONTROL NOTES ON SHEET C2.1 TO PREVENT EROSION.
   c. ALL EXCESS/EXTRA MATERIAL SHALL BE REMOVED FROM THE SITE.
6. ANY CHANGES FROM THE APPROVED PLANS SHALL BE REQUESTED BY THE CONTRACTOR IN WRITING. THE DESIGN ENGINEER AND THE CITY OF WEST LINN'S PROJECT ENGINEER MUST APPROVE THE CHANGE PRIOR TO ITS IMPLEMENTATION. COMPLEXITY OF MODIFICATION WILL DETERMINE IF REVISED PLANS ARE REQUIRED.
7. CITY OF WEST LINN DETAILS SHALL BE USED AT LOCATIONS AS SPECIFIED IN THE PLANS, SEE DETAIL SHEETS.
8. DURING CONSTRUCTION, ALL EROSION CONTROL MEASURES SHALL CONFORM TO CLACKAMAS COUNTY EROSION CONTROL STANDARDS AND WILL BE STRICTLY ENFORCED.
9. IN CASE OF A DISCREPANCY BETWEEN THE DRAWINGS AND THE FIGURES WRITTEN THEREON, THE FIGURES SHALL BE DEEMED TO GOVERN.
10. THE OWNER WILL SUPPLY ONE SET OF STAKES FOR EACH CONSTRUCTION OPERATION AS DESCRIBED IN THE CONTRACT DOCUMENTS AND SPECIFICATIONS. THE CONTRACTOR SHALL DESIGNATE A REPRESENTATIVE OR REPRESENTATIVES WHO ARE AUTHORIZED TO REQUEST STAKES. STAKING REQUESTS FROM AUTHORIZED REPRESENTATIVE SHALL BE MADE TO DAVE LIDEN AT OTAK (503-699-2401) AT LEAST 48 HOURS IN ADVANCE OF THE NEED FOR SAID STAKES. ONLY REQUESTS FROM AUTHORIZED REPRESENTATIVES WILL BE HONORED. ANY RESTAKING WILL BE DONE AT THE EXPENSE OF THE CONTRACTOR.
11. THE DESIGN ENGINEER WILL PROVIDE THE CITY OF WEST LINN A LETTER INDICATING THAT ALL IMPROVEMENTS WERE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN PLANS AND SPECIFICATIONS.
12. WEEK DAY WORK HOURS ARE 7:00 AM TO 6:00 PM; SATURDAY, SUNDAY AND HOLIDAY WORK HOURS ARE LIMITED TO 9:00 AM TO 6:00 PM.
13. THE CITY OF WEST LINN SHALL BE PRESENT WHEN TESTING IS PREFORMED AND SUPPLIED WITH A COPY OF TEST RESULTS. ALL FACILITIES WILL BE ACCEPTED BY THE CITY PRIOR TO CONNECTION TO EXISTING SYSTEMS.
14. ALL FEES FOR STREET TREES SHALL BE PAID TO THE CITY OF WEST LINN PARKS AND RECREATION DEPT.
15. NO BUILDING PERMITS SHALL BE ISSUED UNTIL ALL REQUIRED IMPROVEMENTS HAVE BEEN DEEMED SUBSTANTIALLY COMPLETE.
16. THE CONTRACTOR SHALL REMOVE ALL SOFT OR OTHERWISE UNSUITABLE MATERIAL AT SUBGRADE AND REPLACE WITH APPROVED MATERIAL AT THE DIRECTION OF THE PROJECT GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL COMPACT TO A LINE ONE FOOT BEHIND THE CURB.
17. FINAL SUBGRADE PROOF-ROLL WITH 10 CY TRUCK LOADED WITH ROCK IS REQUIRED PRIOR TO PLACING AGGREGATE BASE.
18. FINAL BASE ROCK PROOF ROLL WITH 10 CY TRUCK LOADED WITH ROCK IS REQUIRED PRIOR TO PAVING. BASE ROCK TO BE COMPACTED TO 95 PERCENT RELATIVE MAXIMUM DENSITY ACCORDING TO AASHTO T-180 STANDARDS.
19. PLEASE NOTE CITY OF WEST LINN STANDARD CONSTRUCTION SPECIFICATION SECTION 505.03.11 FOR WEATHER RELATED LIMITATIONS ON THE PLACEMENT OF ASPHALTIC CONCRETE.
20. THE DENSITY OF THE COMPACTED BASE LIFT OF AC SHALL BE AT LEAST 92% OF RICE IN CONFORMANCE WITH AASHTO T209 AS MODIFIED BY THE OREGON STATE HIGHWAY DEPARTMENT.
21. THE DENSITY OF THE COMPACTED TOP LIFT OF AC SHALL BE AT LEAST 92% OF RICE IN CONFORMANCE WITH AASHTO T209 AS MODIFIED BY THE OREGON STATE HIGHWAY DEPARTMENT.
22. DENSITY TESTS WILL BE REQUIRED PER CITY OF WEST LINN STANDARD CONSTRUCTION SPECIFICATIONS. COPIES OF ALL REPORTS ARE TO BE SUPPLIED TO THE CITY INSPECTOR AND DESIGN ENGINEER.
23. CONTRACTOR SHALL SUBMIT SCHEDULE DETAILING SEQUENCE OF CONSTRUCION PRIOR TO THE PRE-CONSTRUCTION MEETING. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN DETAILING THE CLOSURE OF BEACON HILL LANE / CT. AND THE DETOUR ROUTE IN CONFORMANCE WITH THE CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES TO OTAK, INC. AND THE CITY OF WEST LINN FOR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING. CITY MUST APPROVE TRAFFIC CONTROL PLAN AND CONTROLS MUST BE IN PLACE PRIOR TO BEGINNING CONSTRUCITON. ALL EXISTING SIGNS SHALL BE RESET AFTER CONSTRUCTION.
24. TRANSITION ZONE BOUNDARIES TO BE STAKED AND APPROVED PRIOR TO ANY CLEARING AND GRADING TO THE SITE.

BENCH MARK

ELEVATION DATUM IS BASED ON AN ALUMINUM CAP AT THE CENTERLINE INTERSECTION OF BEACON HILL DRIVE AND BEACON HILL COURT. ELEVATION = 476.40.



PROJECT MAP

SCALE AS SHOWN

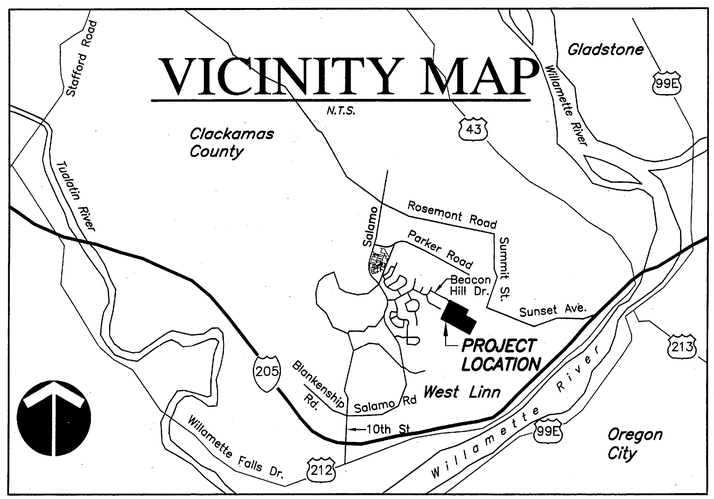
PUBLIC IMPROVEMENT PLANS
TANNER'S STONEGATE
WEST LINN, OREGON

STORM DRAIN AND SANITARY SEWER NOTES:

1. MANHOLE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF WEST LINN'S PUBLIC WORKS STANDARDS. MANHOLES SHALL CONFORM TO ASTM C-478.
2. TRENCH BEDDING, PIPE ZONE AND BACKFILL IN PAVED AREAS WILL BE 3/4-INCH MINUS CRUSHED AGGREGATE COMPACTED TO 95 PERCENT RELATIVE MAXIMUM DENSITY, AASHTO T-180. UNPAVED AREAS OUTSIDE ROW TO BE CLASS A NATIVE BACKFILL MATERIAL (SEE WEST LINN DETAIL WL-200 ON SHEET C5.1) UNLESS OTHERWISE NOTED. CLASS A NATIVE BACKFILL TO BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY, AASHTO T-180.
3. ALL PUBLIC STORM DRAINS SHALL BE CONSTRUCTED WITH PVC D 3034, AS SPECIFIED IN DIVISION SIX - STORM DRAIN TECHNICAL REQUIREMENTS, OF THE WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS. UNLESS NOTED OTHERWISE ON PLANS.
4. ALL PUBLIC SANITARY SEWERS SHALL BE CONSTRUCTED WITH PVC D3034 PIPE PIPE AS SPECIFIED IN DIVISION THREE - SANITARY SEWER TECHNICAL REQUIREMENTS, OF THE WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS, UNLESS NOTED OTHERWISE ON PLANS.
5. PRIOR TO ACCEPTANCE, ALL PUBLIC SANITARY SEWERS SHALL BE TV, PRESSURE, AND DEFLECTION TESTED IN ACCORDANCE WITH THE CITY OF WEST LINN'S REQUIREMENTS. ALL PUBLIC STORM SEWERS SHALL BE TV AND DEFLECTION TESTED.
6. THE DETENTION FACILITIES NEED TO BE TESTED FOR LEAKAGE..
7. WATER TIGHT PLUGS SHALL BE INSTALLED IN THE ENDS OF SANITARY AND STORM LATERALS AND A 2" X 4" WOOD MARKER PLACED AT THE LATERAL END FROM PIPE INVERT TO AT LEAST 36" ABOVE THE FINISH GRADE. THE 2" X 4" TOP SHALL BE PAINTED (GREEN FOR SANITARY) AND (WHITE FOR STORM) AND MARKED WITH THE DEPTH OF THE LATERAL MEASURED FROM THE FINISHED GROUND ELEVATION TO THE INVERT OF PIPE AT THE TIME THE CURBS ARE POURED, AN (S FOR SANITARY) AND (SD FOR STORM) SHALL BE STAMPED IN THE TOP OF THE CURB AT EACH POINT A LATERAL CROSSES BENEATH THE CURBLINE.
8. ALL SANITARY SEWER MANHOLES SHALL BE VACUUM TESTED.
9. EXISTING SANITARY SEWER LINE TO BE RELOCATED BEFORE SITE IS GRADED.
10. CONSTRUCTION NOTES FOR STORM AND SANITARY SEWERS ARE ON SHEET C3.0 AND C4.0 RESPECTIVELY.

WATER NOTES:

W1. ALL WATER PIPE AND FITTINGS SHALL BE DUCTILE IRON CLASS 52 AND CONFORM TO STANDARD CITY SPECIFICATIONS AND DETAILS. ALL WATER SERVICE LINES TO BE TYPE K COPPER PIPE PER CITY OF WEST LINN SPECIFICATIONS.
W2. WATERLINES SHALL BE PRESSURE TESTED FOLLOWING COMPLETION. PRESSURE TESTS SHALL BE IN ACCORDANCE TO THE CITY OF WEST LINN'S STANDARDS WITH A MINIMUM TEST PRESSURE OF 180 PSI. WHEN THE PRESSURE TEST IS PERFORMED, THE TEST PRESSURE OF 180 PSI SHALL STABILIZE BEFORE THE TEST BEGINS. SERVICE LINES WILL ALSO BE TESTED TO THE METER LOCATION .
W3. PRIOR TO BEING PLACED INTO SERVICE, THE WATERLINE SHALL BE FLUSHED, STERILIZED AND FLUSHED AGAIN ALL IN ACCORDANCE WITH STANDARD METHODS OF THE HEALTH DIVISION, DEPARTMENT OF HUMAN RESOURCES, STATE OF OREGON.
W4. PRIOR TO CONNECTION TO EXISTING WATERLINE, A SAMPLE SHALL BE TAKEN AND TESTED FOR BACTERIOLOGICAL QUALITY. RESULTS MUST BE WITHIN STANDARDS OF THE STATE OF OREGON.
W5. CONCRETE THRUST BLOCKING SHALL BE PROVIDED AT ALL WATERLINE FITTINGS AS REQUIRED BY CITY STANDARDS. BLOCKING SHALL BE 3000 PSI CONCRETE PLACED AGAINST UNDISTURBED EARTH AND CLEAR OF JOINT ACCESSORIES. BEARING AREA OF THRUST BLOCK SHALL BE COMPUTED ON THE BASIS OF ALLOWABLE SOIL BEARING PRESSURE. ALL PIPE FITTINGS IN CONTACT WITH CONCRETE SHALL BE WRAPPED IN PLASTIC.
W6. MINIMUM COVER OVER WATERLINES IS TO BE 36" AS MEASURED FROM FINISH GRADE TO TOP OF PIPE. MINIMUM VERTICAL SEPARATION BETWEEN WATERLINE AND SANITARY SEWER AT A CROSSING IS 18". SANITARY SEWER AT WATERLINE CROSSINGS WITH LESS THAN THE MINIMUM VERTICAL SEPARATION SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH WATERTIGHT JOINTS. IN SUCH CASES THE 18-FOOT LENGTH OF SANITARY SEWER SHALL BE CENTERED AT THE CROSSING.
W7. ALL WATER SERVICES SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 2' AT THE MAINLINE.
W8. FIRE HYDRANT ASSEMBLIES TO BE MUELLER CENTURION A-423 OR CLOW MEDALLION F-2545 AND ARE TO BE INSTALLED PER CITY OF WEST LINN STANDARD SPECIFICATIONS AND DETAILS
W9. TRENCH BEDDING, PIPE ZONE AND BACKFILL IN PAVED AREAS WILL BE 3/4-INCH MINUS CRUSHED AGGREGATE COMPACTED TO 95 PERGENT RELATIVE MAXIMUM DENSITY, AASHTO T-180. UNPAVED AREAS OUTSIDE ROW TO BE CLASS A NATIVE BACKFILL MATERIAL (SEE WEST LINN DETAIL WL-200 ON SHEET SC-12) UNLESS OTHERWISE NOTED. CLASS A NATIVE BACKFILL TO BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY, AASHTO T-180.
W10. ALL WATERLINE PRESSURE AND CHLORINATION TESTING SHALL BE PREFORMED WITH THE CITY PRESENT.
W11. CONSTRUCTION NOTES FOR WATERLINE ARE ON SHEET C4.0 .



SHEET INDEX

OWNER/APPLICANT

Name: Norway Development
Contact: Dan Maloney
Phone: (503) 656-7000
Fax: (503) 656-0686

CIVIL ENGINEER/SURVEYOR

Name: Otak Incorporated
Contact: Adnan Hadad, P.E.
Phone: (503) 635-3618
Fax: (503) 635-5395

GEOTECHNICAL ENGINEER

Name: Geotechnical Resources, Inc.
Contact: Gene Tupper, P.E.
Phone: (503) 641-3478
Fax: (503) 644-8034

PLANNING AND DESIGN

Name: Ken Catlett
Contact:
Phone: (503) 654-0180
Fax:

STRUCTURAL ENGINEERING

Name: David A. Hall
Contact:
Phone: (503) 231-8727
Fax: (503) 231-8726

GOVERNING JURISDICTION

Name: City of West Linn
Contact: Engineering Division
Phone: (503) 722-5500
Fax: (503) 656-4106

LOCATING EXISTING UTILITIES

--- 48 HOUR NOTICE REQUIRED PRIOR TO EXCAVATION ---

ONE CALL SYSTEM
(GENERAL TELEPHONE, NORTHWEST NATURAL GAS, U.S. WEST, U.S. SPRINT) (503) 246-6699
PORTLAND GENERAL ELECTRIC (503) 643-5454, EXT. 312, 313, 314
TCI CABLE TELEVISION 243-7491
REPAIR EMERGENCIES
NORTHWEST NATURAL GAS (503) 226-4211, EXT. 4413
CITY OF WEST LINN
WATER OPERATIONS (503) 656-3535
SANITARY SEWER OPERATIONS

THE CONTRACTOR, IN LOCATING AND PROTECTING UNDERGROUND UTILITIES, MUST COMPLY WITH THE REGULATIONS OF O.R.S. 757.541 TO 757.571

ATTENTION EXCAVATORS: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of these rules from the Center by calling (503) 232-1987. If you have any questions about the rules, you may contact the call Center. YOU MUST NOTIFY THE CENTER AT LEAST 2 BUSINESS DAYS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL (503) 246-6699.

BUILDING LOCATIONS SHOWN ARE FOR REFERENCE ONLY, NOT FOR AS-BUILT INFORMATION.

AS BUILTS

REVISIONS | NO. | DATE | BY | APPD.

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADDAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate
001001 CITY OF WEST LINN, OREGON
COVER SHEET

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

10579
Project No.
D579C1-0
File No.
C1.0
Sheet No.

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D579X001
D579X190
D579X230

CONDITIONS OF APPROVAL

Based upon staff findings attached, the Planning Director finds that the approval criteria have been met and this application shall be approved with the following conditions:

1. Lots 6 and 7 shall be eliminated on the Final Plat. The area of lots 6 and 7 shall be added to adjacent open space tracts. Unless the area identified as proposed lot 5 is approved as a lot pursuant to condition of approval 2 before a final plat is filed that includes that area, lot 5 shall be eliminated from the Final Plat and its area shall be identified as an open space tract or merged with an adjoining open space tract.

2. Tree preservation easements shall be placed on those trees which are not within open space tracts as shown on the 'Saved Trees Plan' sheet submitted by the applicant on July 21, 1999, as modified by the detailed plans for lots 2, 3, and 4 submitted at the October 25, 1999 hearing; provided trees on Lot 1 are not required to be included in the tree preservation easement. Where required, tree preservation easements shall include the area within the drip line plus a 10-foot radius from the outer edge of the drip line.

   a. The applicant may remove trees 2101A, 2101B, 2101, and 1850B if the applicant demonstrates, through at least a Type II process, that these trees must be removed to allow construction of LANDIS Street and that 'all reasonable grading plans have been considered and cannot work.'

   b. If the Planning Director concludes trees 2101A, 2101B, 2101, and 1850B can be removed as provided above, the Planning director may approve the creation of proposed lot 5 provided the applicant also proposes a specific building envelope for that complies with applicable standards of the City Code as part of the Type II review required above, and the lot is approved subject to a condition that prohibits construction outside of the approved building envelope except to the extent otherwise permitted by law.

   c. If lot 5 is permitted as provided above, it may be included in any phase of subdivision or may be a phase unto itself.

3. Lot 1 shall be developed within the footprint as shown on the applicant's submittal of September 14, 1999 entitled 'Lot 1.' Lots 2, 3, and 4 shall be developed within the footprints as shown in the applicant's submittal of October 25, 1999 entitled 'Sleepy Hollow Town Homes Detached House Studies Lots 3 through 7' and in compliance applicable setback requirements. The applicant shall file with the Final Plat a map delineating those footprints on the lots and shall file with the deeds to the property a restriction prohibiting development outside the envelope unless approved in advance by the City of West Linn.

4. The individual building footprints shown on the site plan may be modified to allow for a 20 foot deep garage driveway from the edge of the street right of way or privat lane. Other modifications to the building footprints may be approved through at least a Type II process.

5. Beacon Hill shall be designed with a paved width of 28 feet, with on-street parking on one side of the roadway as approved by the City Engineer.

6. STONEGATE LANE shall have on-street parking allowed on the side of the roadway as approved by The City Engineer except at the Tanner Creek crossing, where no on-street parking shall be allowed.

7. LANDIS Street shall have on-street parking allowed on one side of the roadway as approved by the City Engineer.

8. The final street design plans for LANDIS Street shall eliminate the sidewalk and planter strip on the northern side of the roadway to the east of Lot 25.

9. The final street design plans for STONEGATE LANE shall show a 24 foot pavement widt for the bridge section, show a single four foot wide sidewalk on the one side of the street (with no planter strip on the bridge section) between Beacon Hill Drive and LANDIS Street, and eliminate the sidewalk and planter strip on the other side of the roadway between Beacon Hill Drive and LANDIS Street. However, the small portion of the west side of LANDIS Street north of STONEGATE LANE shall have a sidewalk from the intersection to the northern boundary.

10. LANDIS Street shall be realigned so that the eastern edge of the right of way at th northerly property boundary is 93 feet from the eastern property line.

11. The applicant shall either 1) prepare final street design plans and then construct Beacon Hill Drive to meet acceptable AASHTO standards for 'K' Values (related to the length of a road curve and its horizontal grade), or 2) provide a traffic control plan for Beacon Hill Drive which reduces traffic speeds in order to justify a lower 'K' value than the AASHTO standard to the satisfaction of the City Engineer.

12. The looped private drives serving Lots 38-43 around the 'plaza' shall be constructed with a minimum paved width of 20 feet and minimum curve radii of 25 feet in order to meet fire safety standards.

13. A temporary turnaround at the east end of LANDIS Street shall be constructed whic conforms to Tualatin Valley Fire and Rescue District standards.

14. The applicant shall design and construct an irrigation system for the two entryway median islands and Tract 'C' during construction of required public improvements to the satisfaction of the City Engineer.

15. The final design plans for Beacon Hill Drive shall show modify the two entryway median islands if necessary to allow passage of the West Linn-Wilsonville School District buses to the satisfaction of the City Engineer.

16. Final improvement plans shall show the storm detention ponds for the project located entirely outside of the drainageway ans drainageway transition areas. Alternative storm detention facilities for the eastern half of the project (Phase 2), such as detention tanks located under LANDIS Street, may be necessary.

17. a. The applicant shall stub the water system serving the eastern half of the project (Phase 2) to the east boundary of the site. The applicant shall provide a 'blow-off' parallel pipe and/or similar designs approved by the City Engineer to ensure adequate water quality is available to the site. The proposed water system design shall be shown on the final construction plans for the Phase 2.

   b. Prior to approval of final plans, the applicant shall provide water system designs and supporting modeling calculations sufficient to demonstrate to the satisfaction of the City Engineer that adequate fire flows will be provided to the site.

18. Private storm drainage facilities shall be required for all lots on the downhill side of Beacon Hill Drive and LANDIS Street, and their design shall be approved by the City Engineer prior to issuance of a grading permit.

19. The applicant shall construct an all weather road to provide access for the maintenance of the storm water detention facilities located outside of the public right of way if any. The design of this maintenance access road shall be approved by the City Engineer prior to the issuance of a grading permit.

20. The sanitary sewer line from Cascade Summit shall be re-routed and put back service before any other grading activity occurs on the site.

21. The applicant shall provide evidence that the U.S. Army Corps of Engineers and Division of State Lands have approved the crossing of STONEGATE LANE over Tanne Creek, the crossing of Beacon Hill Drive over the western tributary to Tanner Creek, and the intrusion of any utility lines within wetland areas.

22. The culvert for the western tributary of Tanner Creek as where Beacon Hill passed over it shall be designed as an arched, or bottomless, culvert, to the satisfaction of the City Engineer.

23. The applicant shall provide calculations proving that both the Tanner Creek a Tanner Creek tributary road culverts are designed and sized for a 100 year storm event, to the satisfaction of the City Engineer.

24. The applicants' surveyor shall place temporary wooden stakes along transition boundaries at 30 to 50-foot intervals and at all boundary direction changes. A fe #25 shall be paid by the applicant to the City for each permanent 'Protection Zon stake that is required. The applicant is responsible for placing the temporary stakes and paying the fee for the 'Permanent Zone' stakes prior to any clearing grading of the site.

25. Regarding tree preservation:

   a. Chain link fencing shall be installed at the dripline for all trees wit of any site work, or near any construction area. 'Site work areas' and 'nea any construction areas' shall be defined as any area that could receive dirt debris, or have the ground traversed with equipment or have the natural grade modified.

   b. Only if such fence placement at the dripline is unfeasible, fencing m installed out of the root zone and in manner that prohibits any contact with the tree trunk.

   c. The City Arborist shall inspect and approve all on-site tree protec measures, and tree pruning, including placement of protection fences prior to the start of site work. It is the applicants' responsibility to contact the C Arborist and arrange for this approval to take place. No permits from the Engineering, Planning, or Building Departments shall be issued without approval from the City Arborist regarding tree protection measures, and regarding proposed tree pruning of 'trees to remain' on the site.

   d. All tree protection measures shall remain in place and fully functio the entire time that site work and construction is taking place.

26. For all trails required to provide connectivity between streets and trails on site, the grade if the pedestrian pathways shall generally not exceed 12%, short sections (no longer than 50 feet, not constituting more than 20% of the linear ler of the trails) can have a maximum 15% grade. Any greater grades must be accommodated through the use of stairs. Trails required for connectivity are the following: 1) between the western boundary of the property and Beacon Hill Drive, 2) between Beacon Hill drive and LANDIS Street, 3) between LANDIS Street and Reed Street, and 4) between STONEGATE LANE and the northern property boundary. The design and precise location of the pedestrian pathways shall be approved by the City Planning Director prior to issuance of a grading permit. The pathways shall avoid damaging significant trees to the satisfaction of the City Arborist.

27. The following trails shall have a surface with a minimum width of six feet: 1) between the western boundary of the property and Beacon Hill Drive, 2) between Beacon Hill Drive and LANDIS Street, 3) between LANDIS Street and Reed Street, ar between STONEGATE LANE and the northern property boundary.

28. The trail north from LANDIS Street shall connect to the Reed Street right o Design of this trail segment shall be approved by the city Planning Director prior issuance of a grading permit.

29. The trail section between the western boundary of the property and Beacon Drive shall be paved with asphalt or concrete. The trails located between Beacon Hill Drive and LANDIS Street within the Tanner Creek area shall be unpaved except for a wooden footbridge crossing of Tanner Creek with footings in the upland are The individual trails to 'feature areas' within the site shall be unpaved. The trail connecting LANDIS Street and Reed Street shall be paved with asphalt or concrete

30. The applicant shall either dedicate all open space tracts to the City of West shall provide evidence to the satisfaction of the Planning Director that all open space tracts shall be owned and maintained by a homeowner's association or non-profit conservancy and preserved in their natural state with a conservation easement. If the latter option is chosen, the trail between the western boundary the project and Beacon Hill Drive, the trail between Beacon Hill Drive and LANDIS Street, the trail between LANDIS Street and Reed Street, and the trail from STON Street to the northern property boundary shall be contained within a 20 foot wid public easement.

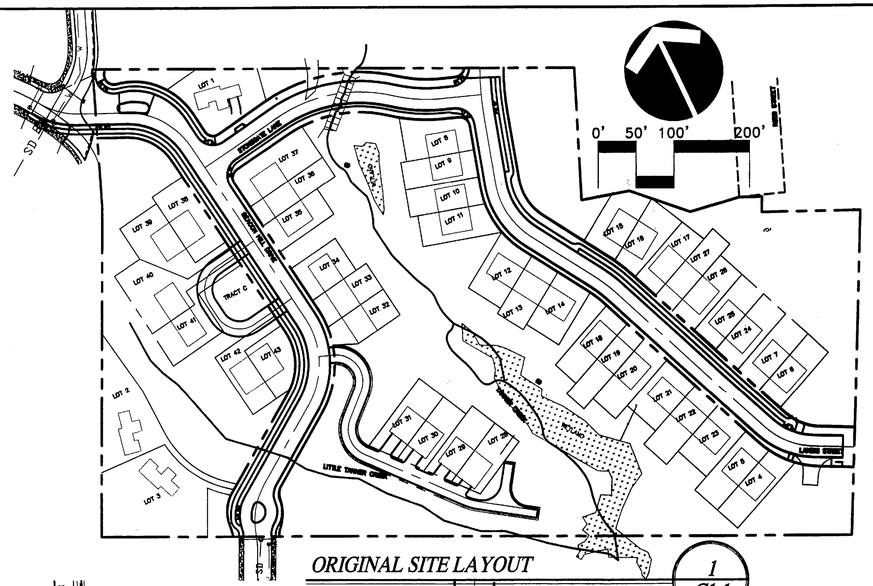
31. No grading shall be allowed within the drainageway transition areas except as necessary for road and utility construction.

32. The applicant shall submit an erosion control plan and narrative that is consis with the'Erosion Prevention and Sediment Control Plans Technical Guidance Handbook' prepared by Clackamas County Department of Utilities (August 1994). The plan shall be submitted with the public improvement plans and building plans and must be approved by the City Engineer and City Building Official prior to site work.

33. The applicant shall submit a plan for removal of invasive and non-indigenous pl species from the drainageway and drainageway transition areas and shall complete the plan prior to occupancy of any residences. Removal of invasive species from natural drainageway shall not occur on or between the months of November through March. The applicant shall notify the Parks Department prior to spraying and planting the drainageway in order to get approval of herbicides. The applican shall not replant during summer months when survival rate is low due to little irrigation.

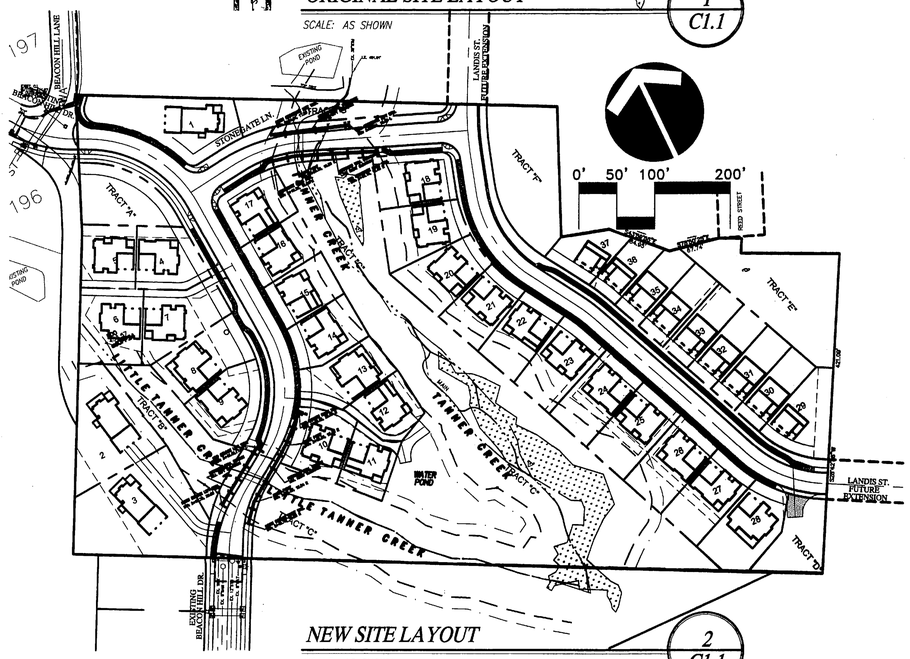
34. The applicant shall submit a plan for landscaping of the 'Feature Plaza' in Tra to be approved by the City Planning Director prior to issuance of a grading permi

35. Development of Phase 1 (that portion of the project west of Tanner Creek) require completion of all improvements west of Tanner creek natural drainageway, and all improvements within the natural drainageway which are necessary for the provisions of utility services to Phase 1. Development of Phase 2 (that portion of project east of Tanner Creek) will require all remaining improvements to be completed.



ORIGINAL SITE LAYOUT — 1 / C1.1

SCALE: AS SHOWN



NEW SITE LAYOUT — 2 / C1.1

SCALE: AS SHOWN

LOT NUMBER REVISIONS

OLD LOT #	NEW LOT #	OLD LOT #	NEW LOT #	OLD LOT #	NEW LOT #	OLD LOT #	NEW LOT #	OLD LOT #	NEW LOT #
1	1	11	19	21	25	31	10	41	8
2	2	12	20	22	26	32	13	42	9
3	3	13	21	23	27	33	14	43	9
4	28	14	22, 23	24	31	34	15		
5	27, 28	15	37	25	32	35	16		
6	29	16	36	26	33	36	16		
7	30	17	35	27	34	37	17		
8	18	18	22	28	NONE	38	4		
9	18	19	23	29	12	39	5		
10	19	20	24	30	10	40	6,7		

NOTE: CONDITIONS OF APPROVAL REFERENCE THE ORIGINAL SITE LAYOUT AND OLD LOT NUMBERS. THIS TABLE CROSS REFERENCES THE GENERAL AREA OF THE OLD LOT NUMBERS WITH THE NEW LOT NUMBERS OF THE PROPOSED DEVELOPMENT.

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REVISIONS | NO. | DATE | BY | APPD.

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HAYDAR
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
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Tanner's Stonegate
CITY OF WEST LINN, OREGON
CONDITIONS OF APPROVAL
AS BUILTS

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3818
FAX: (503) 635-5395

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Project No.
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File No.
C1.1
Sheet No.

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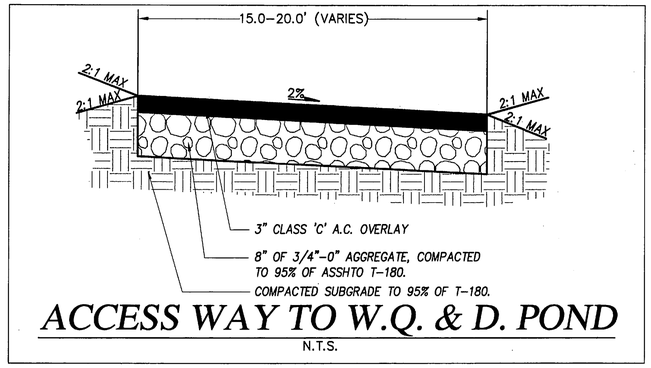

ACCESS WAY TO W.Q. & D. POND

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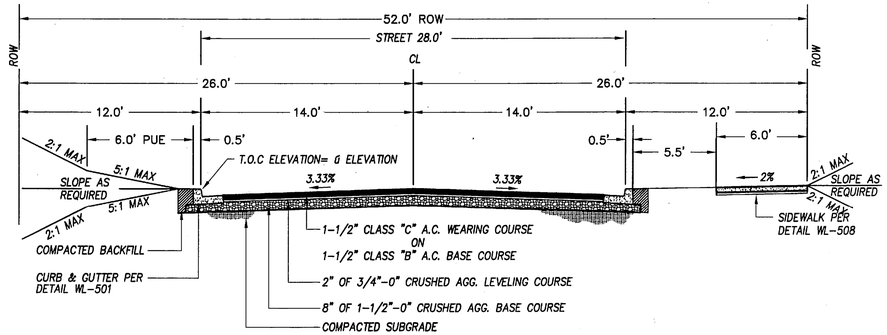

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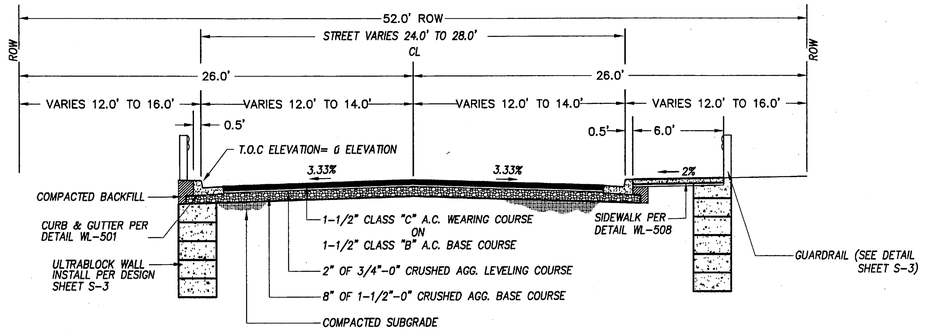
STONEGATE LANE (STA 3+56.43 TO STA 4+82.20)



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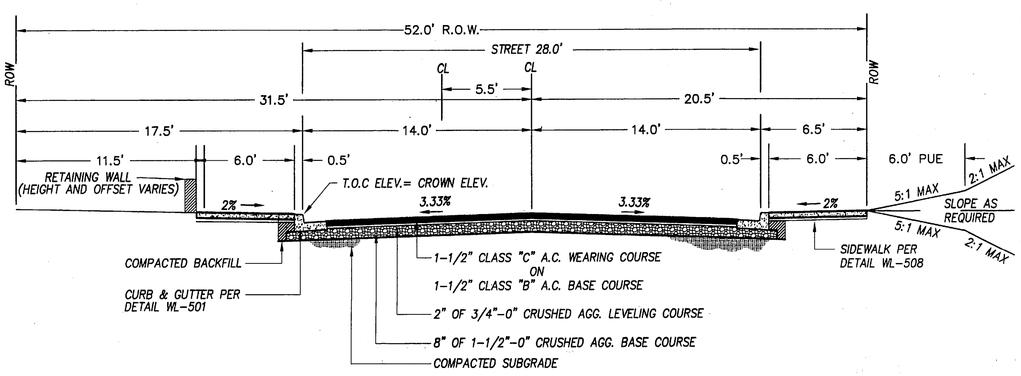
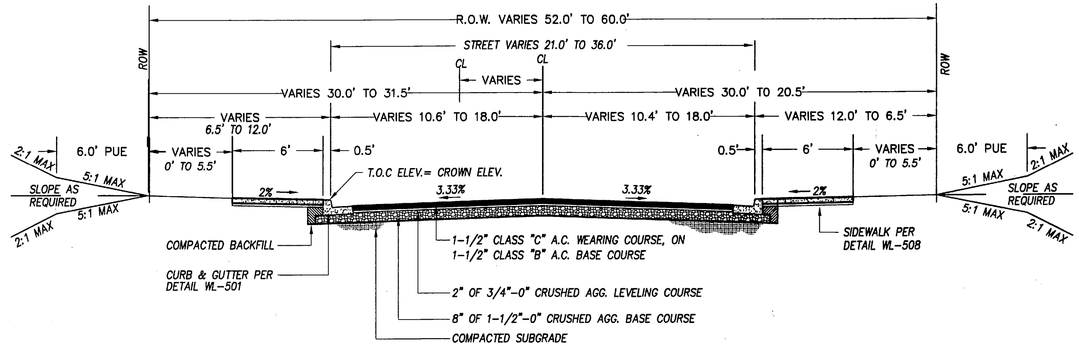
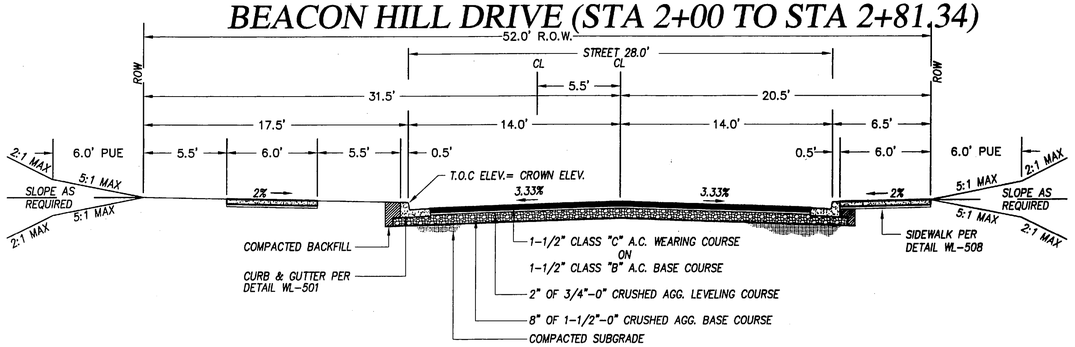


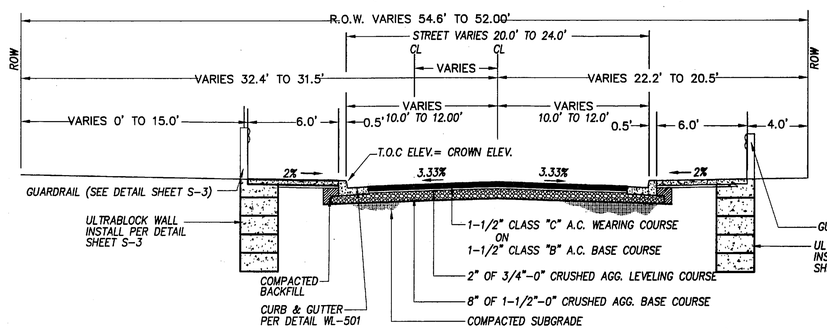
LANDIS STREET (STA 3+00 TO STA 5+95.45)



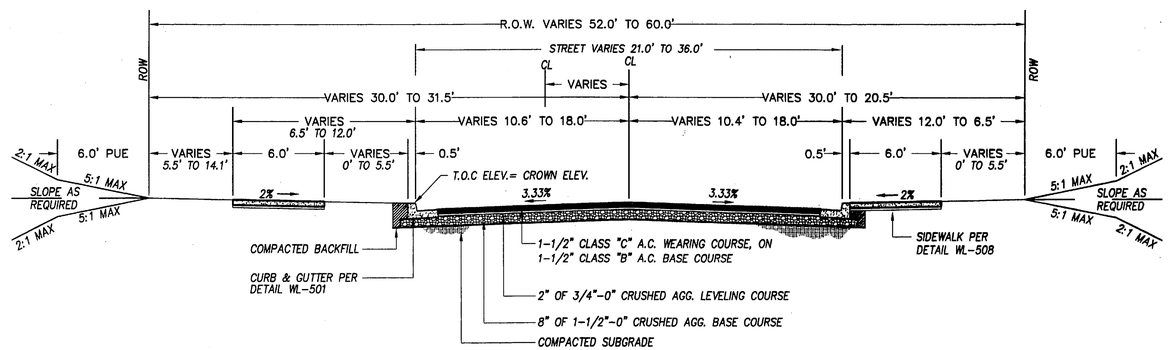
BEACON HILL DRIVE (STA 2+00 TO STA 2+81.34)



BEACON HILL DRIVE (STA 4+29.50 TO STA 9+04)
LANDIS STREET (5+95.45 TO 10+41.44)



BEACON HILL (2+81.34 TO 3+57.67)



BEACON HILL DRIVE (STA 3+57.67 TO STA 4+29.50)

AS BUILTS

NO.	DATE	BY	APPD.	REVISIONS

08/21/2001
Date
AAH/BLW/JAH
Designed
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Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADDAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
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Tanner's Stonegate
CITY OF WEST LINN, OREGON
TYPICAL STREET SECTIONS

otak
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17355 SW Boones Ferry Road
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Project No.
D579C1-2
File No.
C1.2
Sheet No.

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D579X190
D579X230
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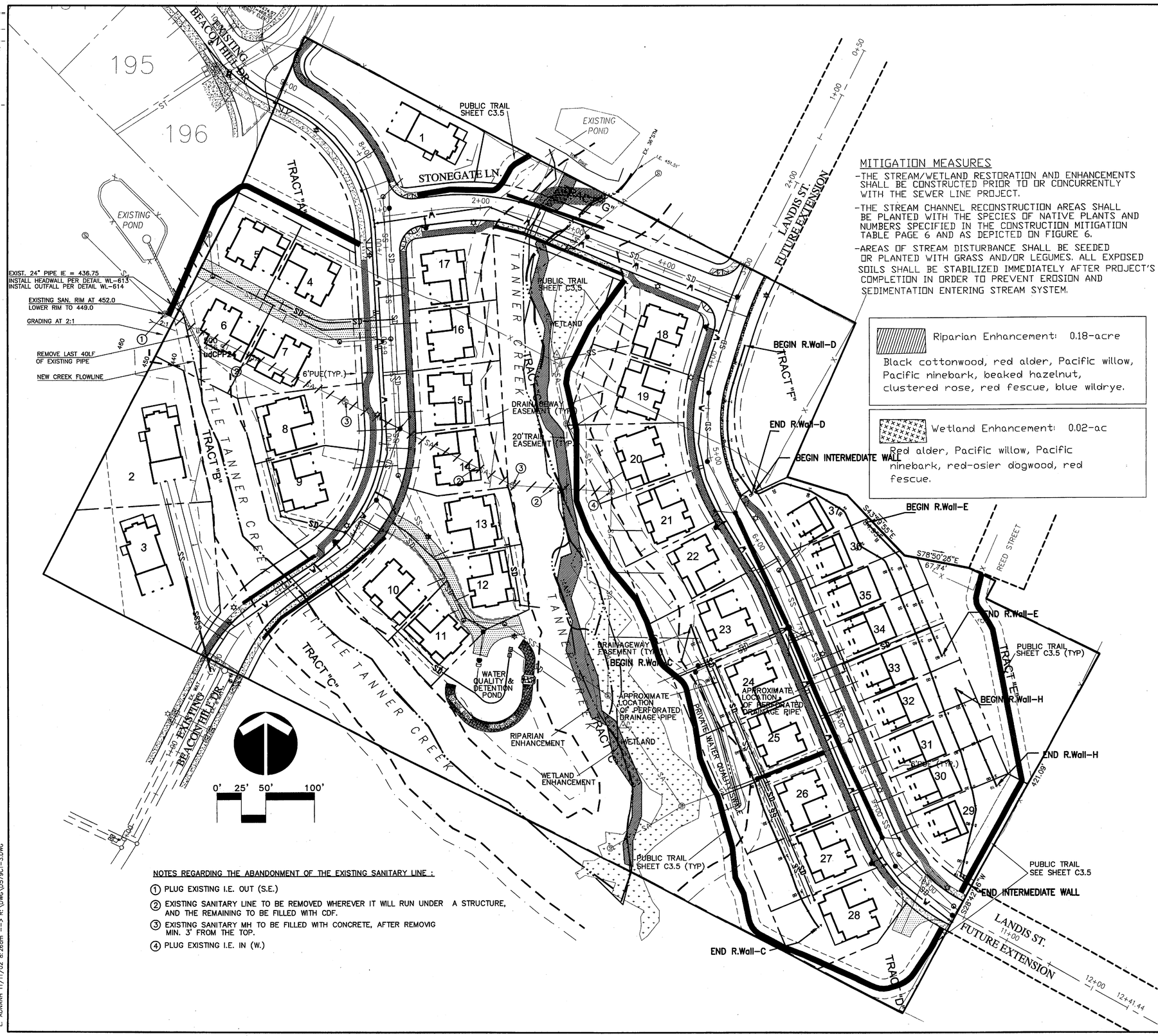

MITIGATION MEASURES

-THE STREAM/WETLAND RESTORATION AND ENHANCEMENTS SHALL BE CONSTRUCTED PRIOR TO OR CONCURRENTLY WITH THE SEWER LINE PROJECT.

-THE STREAM CHANNEL RECONSTRUCTION AREAS SHALL BE PLANTED WITH THE SPECIES OF NATIVE PLANTS AND NUMBERS SPECIFIED IN THE CONSTRUCTION MITIGATION TABLE PAGE 6 AND AS DEPICTED ON FIGURE 6.

-AREAS OF STREAM DISTURBANCE SHALL BE SEEDED OR PLANTED WITH GRASS AND/OR LEGUMES. ALL EXPOSED SOILS SHALL BE STABILIZED IMMEDIATELY AFTER PROJECT'S COMPLETION IN ORDER TO PREVENT EROSION AND SEDIMENTATION ENTERING STREAM SYSTEM.

Riparian Enhancement: 0.18-acre

Black cottonwood, red alder, Pacific willow, Pacific ninebark, beaked hazelnut, clustered rose, red fescue, blue wildrye.

Wetland Enhancement: 0.02-ac

Red alder, Pacific willow, Pacific ninebark, red-osier dogwood, red fescue.

NOTES REGARDING THE ABANDONMENT OF THE EXISTING SANITARY LINE :

1. PLUG EXISTING I.E. OUT (S.E.)
2. EXISTING SANITARY LINE TO BE REMOVED WHEREVER IT WILL RUN UNDER A STRUCTURE, AND THE REMAINING TO BE FILLED WITH CDF.
3. EXISTING SANITARY MH TO BE FILLED WITH CONCRETE, AFTER REMOVIG MIN. 3' FROM THE TOP.
4. PLUG EXISTING I.E. IN (W.)

LEGEND

- RIGHT-OF-WAY LINE
- FUTURE RIGHT-OF-WAY LINE
- PROPERTY LINE
- LOT LINE
- EASEMENT LINE
- TRANSITION ZONE LINE
- BUILDING SETBACK LINE
- STREET CENTERLINE
- TRAIL

EXISTING UTILITIES

- ST — STORM LINE
- WA — WATER LINE
- SA — SANITARY LINE
- SA — SAN LINE TO BE ABANDONED IN PLACE
- SANITARY MANHOLE
- STORM MANHOLE
- STORM INLET
- WM — WATER METER
- FIRE HYDRANT
- WATER VALVE
- STREET LIGHT
- X — EXISTING FENCE

PROPOSED UTILITIES

- SS — SANITARY LINE
- SANITARY MANHOLE
- SD — STORM LINE
- SD — STORM DETENTION PIPE
- STORM MANHOLE
- STORM INLET
- WATER LINE
- FIRE HYDRANT ASSEMBLY
- WATER METER WITH CORP. STOP AT WATER MAIN
- WATER VALVE
- WATER BLOW-OFF ASSEMBLY
- WATER AIR-RELEASE ASSEMBLY
- STREET LIGHT

TANNER STONEGATE
WEST LINN, OREGON
STREET LIGHTING LEGEND

PROPOSED PUBLIC STREET LIGHT: 30-foot, bronze round, tapered, direct bury, fiberglass light pole, with a 150Watt, 240Volt, HPS, "Cobra" style luminaire, mounted on an 6-feet aluminum mastarm, 25-feet above the roadway.
QTY REQUIRED: Three (2) lights.

PROPOSED PUBLIC STREET LIGHT: 30-foot, bronze round, tapered, direct bury, fiberglass light pole, with a 100Watt, 240Volt, HPS, "Shoe box" style luminaire, mounted on an 8-inch mastarm, 25-feet above the roadway.
QTY REQUIRED: Eleven (12) lights.

PROPOSED PRIVATE STREET LIGHT: Same as above but on the private drives. Requires private street light controller, PVC conduit wire & permit.
QTY REQUIRED: Two (2) lights.

Street light electrical design by:
R.J. Rouse Electric, Inc.
19450 SW Cipole Rd., Ste 107
Tualatin, OR 97062
(503) 612-0840, FAX: (503) 612-0891
All per IES, PGE and Municipal street lighting specifications.

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HASHAD
RENEWAL 06/30/2003

REVISIONS | NO. | DATE | BY | APPD.

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate

CITY OF WEST LINN, OREGON

COMPOSITE UTILITY PLAN

AS BUILTS

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

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Project No.
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File No.
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D579X190
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TRAILS

0' 40' 80' 160'

STONEGATE LN.
TRACT "G"
EXISTING
BEACON HILL DR.
LANDIS ST.
FUTURE EXTENSION
TRACT "A"
TRACT "B"
TRACT "C"
TRACT "D"
TRACT "E"
TRACT "F"
TANNER CREEK
LITTLE TANNER CREEK
MAIN TANNER CREEK
REED STREET
LANDIS ST.
FUTURE EXTENSIO

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37

1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00

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08/21/2001
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REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADDAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
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Oregon City, Oregon 97045
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Tanner's Stonegate
CITY OF WEST LINN, OREGON
PLAT PLAN

AS BUILTS

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17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
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Sheet No.

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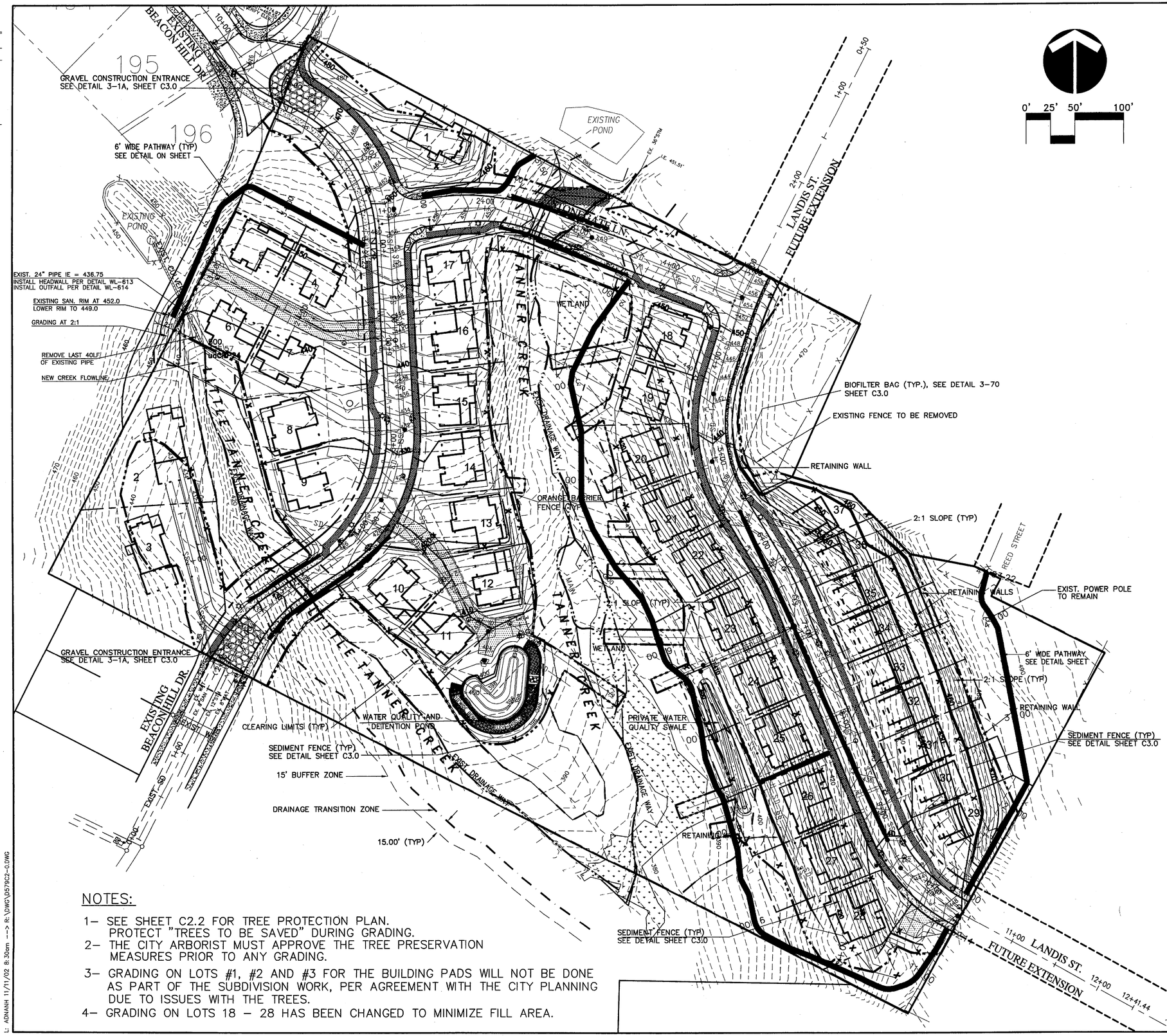

0' 25' 50' 100'

GRADING LEGEND

- EXISTING 10' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING TREES
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED CLEARING LIMITS
- PROPOSED SEDIMENT FENCE
- ORANGE FENCE (ALONG TRANSITION ZONE
- PROPOSED CONSTRUCTION FENCE
- PROPOSED CONSTRUCTION ENTRANCE
- CURB INLET WITH SEDIMENT PROTECTION

BUILDING NUMBER	MINIMUM F.F. ELEV.
1	469.00
2	437.00
3	437.00
4	448.00
5	448.00
6	440.00
7	440.00
8	430.00
9	428.00
10	410.00
11	408.00
12	414.00
13	420.00
14	428.00
15	436.00
16	444.00
17	448.00
18	444.00
19	440.00
20	436.00
21	436.00
22	433.00
23	431.00
24	433.00
25	433.00
26	434.00
27	436.00
28	440.00
29	446.00
30	440.00
31	440.00
32	438.00
33	438.00
34	436.00
35	436.00
36	438.00
37	438.00

NOTES:

1- SEE SHEET C2.2 FOR TREE PROTECTION PLAN. PROTECT "TREES TO BE SAVED" DURING GRADING.
2- THE CITY ARBORIST MUST APPROVE THE TREE PRESERVATION MEASURES PRIOR TO ANY GRADING.
3- GRADING ON LOTS #1, #2 AND #3 FOR THE BUILDING PADS WILL NOT BE DONE AS PART OF THE SUBDIVISION WORK, PER AGREEMENT WITH THE CITY PLANNING DUE TO ISSUES WITH THE TREES.
4- GRADING ON LOTS 18 - 28 HAS BEEN CHANGED TO MINIMIZE FILL AREA.

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADDAD
RENEWAL 06/30/2003

REVISIONS

NO.	DATE	BY	APPD.

AS BUILTS

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate
CITY OF WEST LINN, OREGON
GRADING AND EROSION CONTROL PLAN

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

10579
Project No.
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EROSION CONTROL NOTES

1. Owner or designated person shall be responsible for proper installation and maintenance of all erosion and sediment control measures, in accordance with local, State, and Federal regulations.
2. The implementation of these ESC plans and construction, maintenance, replacement, and upgrading of these ESC facilities is the responsibility of the contractor until all construction is completed and approved by the local jurisdiction, and vegetation/landscaping is established. The developer shall be responsible for maintenance after the project is approved until the lots are sold.
3. The boundaries of the clearing limits shown on this plan shall be clearly marked in the field prior to construction. During the construction period, no disturbance beyond the clearing limits shall be permitted. The markings shall be maintained by the applicant/contractor for the duration of construction.
4. 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 insure that sediment and sediment laden water does not enter the drainage system, roadways, or violate applicable water standards.
5. The ESC facilities shown on this plan are minimum requirements for anticipated site conditions. During construction period, these ESC facilities shall be upgraded as needed for unexpected storm events and to ensure that sediment and sediment laden water does not leave the site.
6. The ESC facilities shall be inspected daily by the applicant/contractor and maintained as necessary to ensure their continued functioning.
7. At no time shall sediment be allowed to accumulate more then 1/3 the barrier height. All catch basins and conveyance lines shall be cleaned prior to paving. The cleaning operations shall not flush sediment-laden water into the downstream system.
8. Stabilized gravel entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to insure that all paved areas are kept clean for the duration of the project.
9. Storm drain inlets, basins, and area drains shall be protected until pavement surfaces are completed and/or vegetation is re-established.
10. Pavement surfaces and vegetation are to be placed as rapidly as possible.
11. Seeding shall be performed no later than September 1 for each phase of construction.
12. If there are exposed soils or soils not fully established from October 1st through April 30th, the wet weather erosion prevention measures will be in effect. See the Erosion Prevention and Sediment Control Planning and Design Manual (Chapter 4) for requirements.
13. The developer shall remove ESC measures when vegetation is fully established.

EROSION CONTROL GENERAL NOTES

EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE CLACKAMAS COUNTY EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL PUBLISHED DECEMBER 2000.

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, DETENTION 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 INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM 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-LADEN WATER DOES 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 CATCH BASIN. ALL CATCH BASINS 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 INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

SEDIMENT FENCES

THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT 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.

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 2'-6" OR 18".

A TRENCH SHALL BE EXCAVATED, ROUGHLY 8 INCHES WIDE BY 12 INCHES DEEP, UPSLOPE AND ADJACENT TO THE WOOD POST TO ALLOW THE FILTER FABRIC TO BE BURIED.

THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 30 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

SEDIMENT FENCES SHALL BE REMOVED BY THE CONTRACTOR WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

SEDIMENT 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.

EROSION CONTROL AND POLLUTION CONTROL MEASURES

EROSION CONTROL MEASURES FOR DISTURBED AREAS:

ALL DISTURBED SLOPES GREATER THAN 3:1 THAT HAVE BEEN GRADED AND COMPACTED PRIOR TO OCTOBER 1ST SHALL BE HYDROSEEDED USING THE FOLLOWING SPECIFICATIONS:

SEEDING SHALL NOT BE DONE DURING WINDY WEATHER OR WHEN THE GROUND IS FROZEN, EXCESSIVELY WET OR OTHERWISE UNTILLABLE.

SEED MAY BE SOWN BY THE FOLLOWING METHOD:

HYDROSEED WHICH UTILIZES WATER AS THE CARRYING AGENT, AND MAINTAINS CONTINUOUS AGITATION THROUGH PADDLE BLADES. IT SHALL HAVE AN OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND, AND MIX INTO A HOMOGENEOUS SLURRY THE SPECIFIED AMOUNT OF SEED AND WATER OR OTHER MATERIAL. DISTRIBUTION AND DISCHARGE LINES SHALL BE LARGE ENOUGH TO PREVENT STOPPAGE AND SHALL BE EQUIPPED WITH A SET OF HYDRAULIC DISCHARGE SPRAY NOZZLES WHICH WILL PROVIDE A UNIFORM DISTRIBUTION OF THE SLURRY.

GRASS SHALL BE SEEDED AT THE RATE OF NOT LESS THAN ONE HUNDRED THIRTY (130) POUNDS PER ACRE. SEED MIX SHALL INCLUDE:

STATE HIGHWAY ROADSIDE SEEDING MIX.

FERTILIZER SHALL BE APPLIED AT THE RATE OF 300 POUNDS PER ACRE.

NITROGEN - 22%

PHOSPHORIC ACID - 16%

SOLUBLE POTASH - 8%

WOOD CELLULOSE FIBER SHALL BE APPLIED AT THE RATE OF ONE AND ONE (1-1/2) TONS PER ACRE.

THE EXACT TIME FOR SEEDING WILL BE DETERMINED BY ACTUAL WEATHER CONDITIONS. THE NORMAL SATISFACTORY PERIOD FOR SEEDING SHALL BE CONSIDERED BETWEEN MARCH 1 TO JUNE 1 AND SEPTEMBER 1 TO OCTOBER 1 UNLESS OTHERWISE AUTHORIZED BY THE OWNER EXCEPT THAT CONTRACTOR MAY PERFORM SEEDING OPERATIONS FROM JUNE 1 TO SEPTEMBER 1 PROVIDED THAT HE WATERS THE NEW GRASS TO THE SATISFACTION OF THE OWNER. WHEN DELAYS IN OPERATIONS CARRY THE WORK BEYOND THE MOST FAVORABLE PLANTING SEASON, OR WHEN WEATHER CONDITIONS ARE SUCH THAT SATISFACTORY RESULTS ARE NOT LIKELY TO BE OBTAINED FOR ANY STAGE OF THE SEEDING OPERATIONS, THE CONTRACTOR WILL STOP THE WORK AND IT SHALL BE RESUMED ONLY WHEN THE DESIRED RESULTS ARE LIKELY TO BE OBTAINED. IF OPERATIONS EXTEND PAST OCTOBER 1 ALTERNATE HAY PLACEMENT AND SPRING SEEDING SHALL BE SUBSTITUTED.

THE CONTRACTOR SHALL PROTECT ALL SEEDED AREAS FROM EROSION UNTIL FINAL INSPECTION AND ACCEPTANCE HAS BEEN MADE. AREAS DAMAGED BY EROSION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

ALL DISTURBED AREAS WITH SLOPES LESS THAN 3:1 THAT HAVE BEEN GRADED AND COMPACTED SHALL BE SEEDED PRIOR TO OCTOBER 1, WITH THE SAME SEED AND FERTILIZER MIX AS USED IN HYDROSEEDING AND SPREAD EVENLY OVER THE SITE.

ALL DISTURBED AREAS NOT GRADED AND COMPACTED PRIOR TO OCTOBER 1, SHALL BE SEEDED WITH 200 LBS PER ACRE OF HIGHWAY MIX AND SPREAD WITH A HAY MULCH LAYER 1 1/2" TO 2" THICK.

EROSION CONTROL PROTECTION SHALL BE CONSIDERED COMPLETE AND SUCCESSFUL WHEN A GRASS MAT HAS BEEN ESTABLISHED.

ADDITIONAL TEMPORARY EROSION CONTROL (DURING CONSTRUCTION)

HAY BALES WILL BE PLACED AT THE TOP OF ALL MAJOR FILL SLOPES WHEN NECESSARY, TO PREVENT SILT FROM WASHING INTO EXISTING DRAINAGE WAYS. (SILTATION BARRIER).

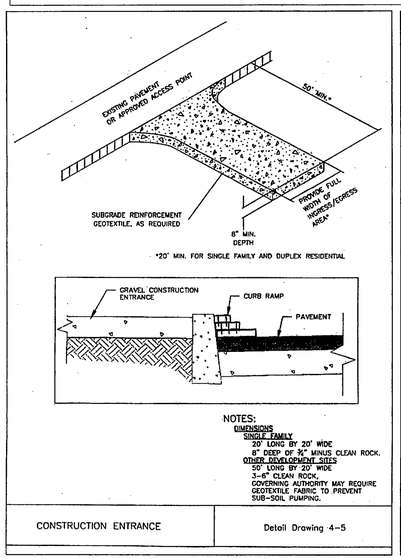
TEMPORARY DITCHES WILL BE CONSTRUCTED AS NECESSARY TO ASSURE DRAINAGE IS CHANNELED TO THE FACILITIES BEING PROVIDED.

IF CONSTRUCTION TAKES PLACE DURING RAINY SEASON, HAY BALES AND "MIRAFI" 140 S FABRIC WILL BE REQUIRED AT ALL STORM DRAINAGE INLETS UNTIL ROCKING OF STRETCH IS COMPLETED AND DISTURBED SLOPES STABILIZED BY HYDROSEEDING.

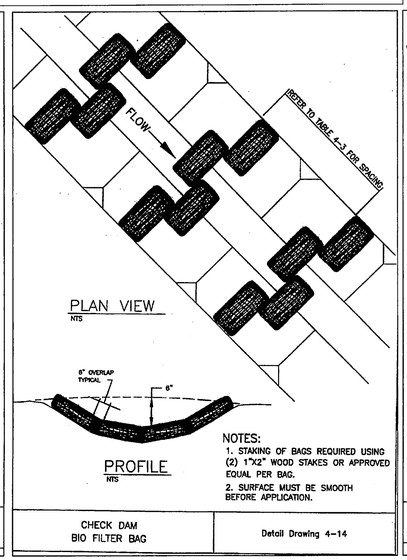
EROSION CONTROL MATRIX

EROSION MEASURES / SITE SITUATION	1 GRAVEL CONSTRUCTION ENTRANCE	2 SEDIMENT FENCE/BARRIER AT TOE OF DISTURBED AREA OR STOCKPILE	3 SIDEWALK SUBGRADE GRAVEL BARRIER (SITE SLOPES TO STREET AT <5% GRADE) ALTERNATE TO #2	4 UNDISTURBED BUFFER AT TOE OF DISTURBED AREAS (ALTERNATE TO #2) (SITE SLOPES <10%)	5 SEDIMENT FENCE OR BARRIER INSTALLED ON CONTOURS (SPACING)	6 TEMP. INTERCEPTOR DIKES/SWALES AROUND ACTIVE WORK AREAS	7 CHECK DAMS	8 STORM DRAIN INLET PROTECTION BARRIER	9 6-MIL PLASTIC SHEET COVER	10 2"- MIN. STRAW MULCH COVER	11 ESTABLISH GRASS	12 EROSION BLANKETS WITH ANCHORS	13 SEDIMENT TRAP OR POND	14 RE-ESTABLISH VEGETATION OR LANDSCAPE PRIOR TO REMOVAL OF EROSION CONTROL MEASURES
SINGLE FAMILY/ DUPLEX RESIDENTIAL														
SLOPE <2%	X		A(2)											X
SLOPE >2%	X	X		A(2)										X
STOCK PILES		X		X					✱	□				
COMMERCIAL, SUBDIVISION LARGE SITE CONSTRUCTION														
SITE SLOPE <2%	X	X				##			□	□	✱	□		X
SITE SLOPE <10%	X	X		A(2)	X300'	##			□	□	✱	□		X
SITE SLOPE <15%	X	X			X150'	##			□	□	✱	□		X
SITE SLOPE <20%	X	X			X100'	##			□	□	✱	□		X
SITE SLOPE <30%	X	X			X 50'	##			□	□	✱	□		X
SITE SLOPE <50%	X	X			X 25'	##			□	□	✱	□		X
STOCK PILE SLOPE >50%	X				X 25'	##			□	□	✱	□		X
UTILITIES CONSTRUCTION														
CATCH BASIN DRAINAGE							X	X						X
DITCH DRAINAGE														X
STOCK PILES														
STOCK PILES									✱	□				
DITCHES/SWALES														
(CONSTRUCTION/PROTECTION)		X					X		✱	□	□	0		X

KEY: X = BASE MEASURE; A = ALTERNATE TO BASE MEASURE INDICATED IN PARENTHESIS; # = OPTIONAL BASE MEASURE CAN USE AS APPLICABLE; ✱ = SUPPLEMENTAL WET WEATHER MEASURE (NOVEMBER 1-APRIL 30) (SEEDING PRIOR TO SEPTEMBER 1); □ = ALTERNATE WET WEATHER MEASURE TO ✱



CONSTRUCTION ENTRANCE | Detail Drawing 4-5



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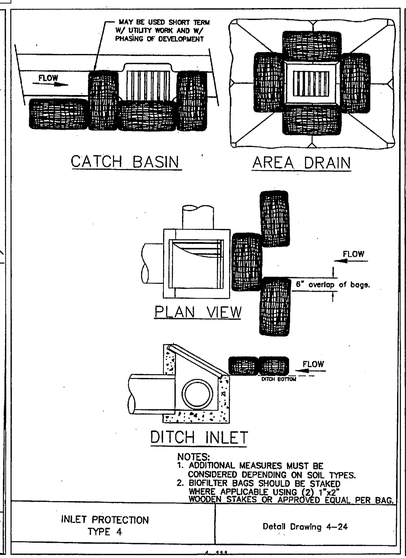
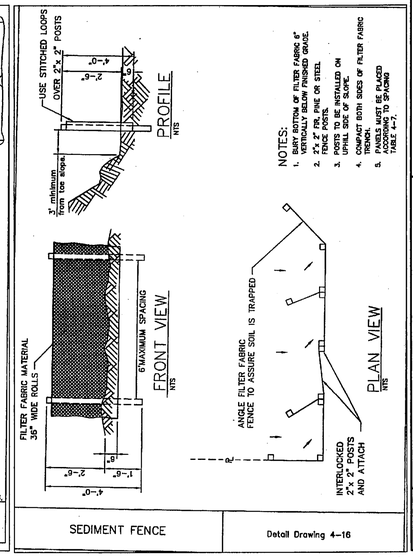


INLET PROTECTION TYPE 4 | Detail Drawing 4-24



SEDIMENT FENCE | Detail Drawing 4-16

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REGISTERED PROFESSIONAL ENGINEER 46494PE OREGON DECEMBER 14, 2000 ADNAN ANIS HADDAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate
CITY OF WEST LINN, OREGON
EROSION CONTROL NOTES AND DETAILS

AS BUILTS

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

10579
Project No.
D579C2-1
File No.
C2.1
Sheet No.

XREF LIST
Ltscale: 1
Resolved
D579X001
D579X190
D579X230
D579X400
D579X430
D579X600

GRADING LEGEND

- 400 — EXISTING 10' CONTOUR
- 398 — EXISTING 5' CONTOUR
- EXISTING TREES
- PROPOSED 10' CONTOUR

BEACON HILL LANE
EXISTING BEACON HILL DR.
STONEGATE LN.
LANDIS ST.
FUTURE EXTENSION
REED STREET
TRACT "A"
TRACT "B"
TRACT "C"
TRACT "D"
TRACT "E"
TRACT "F"
TANNER CREEK
EXISTING POND
FUTURE EXTENSION
LANDIS ST.

0' 25' 50' 100'

NOTE:

1– THE CITY ARBORIST MUST APPROVE THE TREE PRESERVATION MEASURES PRIOR TO ANY GRADING.

2– A PLAN FOR REMOVAL OF INVASIVE AND NON–INDIGINOUS PLANTS IN THE DRAINAGE WAY AND TRANSITION ZONE AND A PLANTINGS PLAN IN THE SAME AREA MUST BE SUBMITTED AND COMPLETED PRIOR TO OCCUPANCY OF ANY RESIDENCES.

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REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2001
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Tanner's Stonegate

CITY OF WEST LINN, OREGON

TREE PRESERVATION PLAN

AS BUILTS

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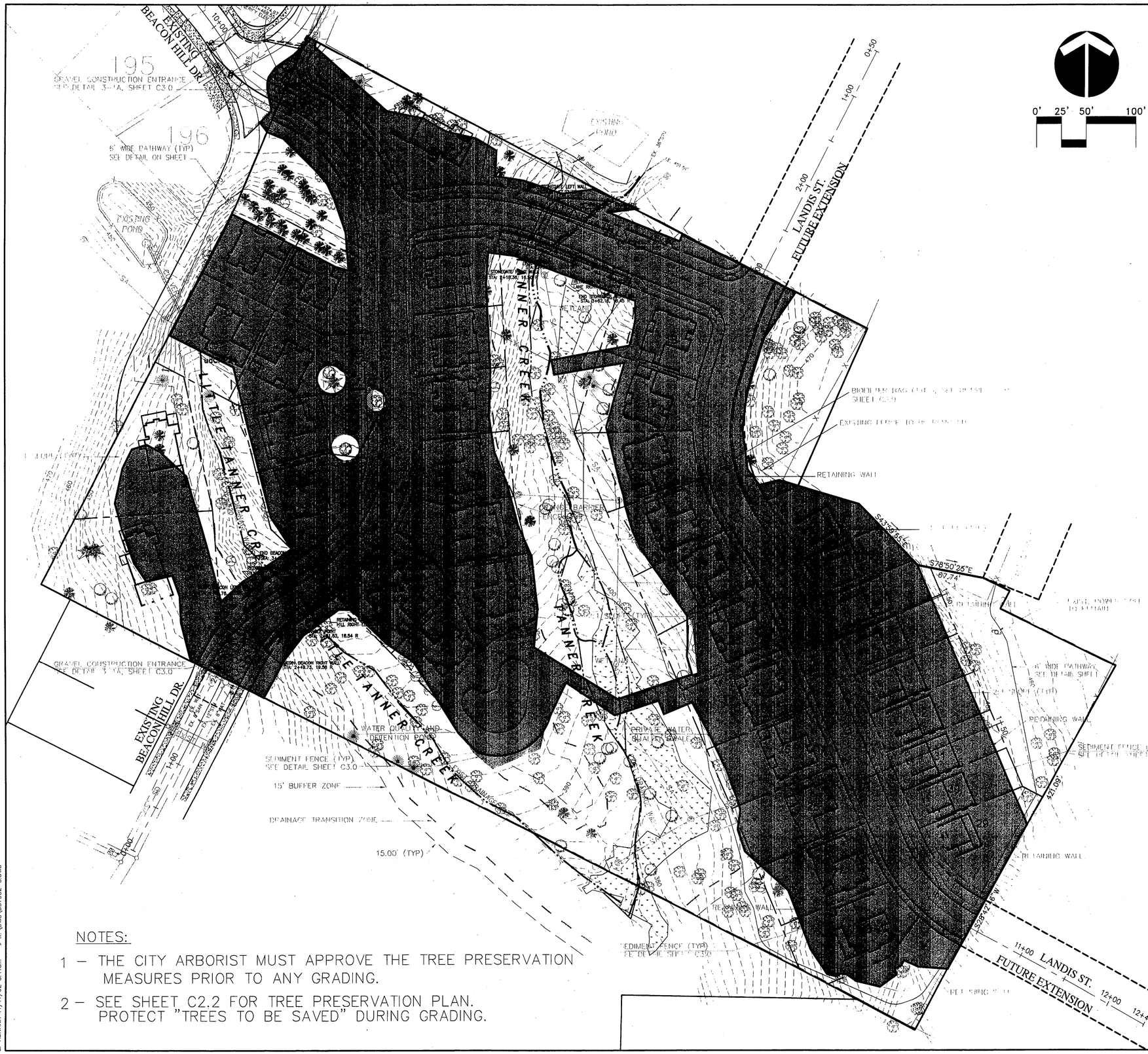

GRADING LEGEND

- EXISTING 10' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING TREES
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED CLEARING LIMITS
- PROPOSED SEDIMENT FENCE
- ORANGE FENCE (ALONG TRANSITION ZONE
- PROPOSED CONSTRUCTION FENCE
- PROPOSED CONSTRUCTION ENTRANCE
- CHAINLINK FENCE

NOTES:

1 – THE CITY ARBORIST MUST APPROVE THE TREE PRESERVATION MEASURES PRIOR TO ANY GRADING.

2 – SEE SHEET C2.2 FOR TREE PRESERVATION PLAN. PROTECT "TREES TO BE SAVED" DURING GRADING.

NO.	DATE	BY	APPD.	REVISIONS

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REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADDAD
RENEWAL 06/30/2003

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AS BUILTS

Tanner's Stonegate

CITY OF WEST LINN, OREGON

CLEARING LIMIT PLAN

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Project No.
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File No.
C2.3
Sheet No.

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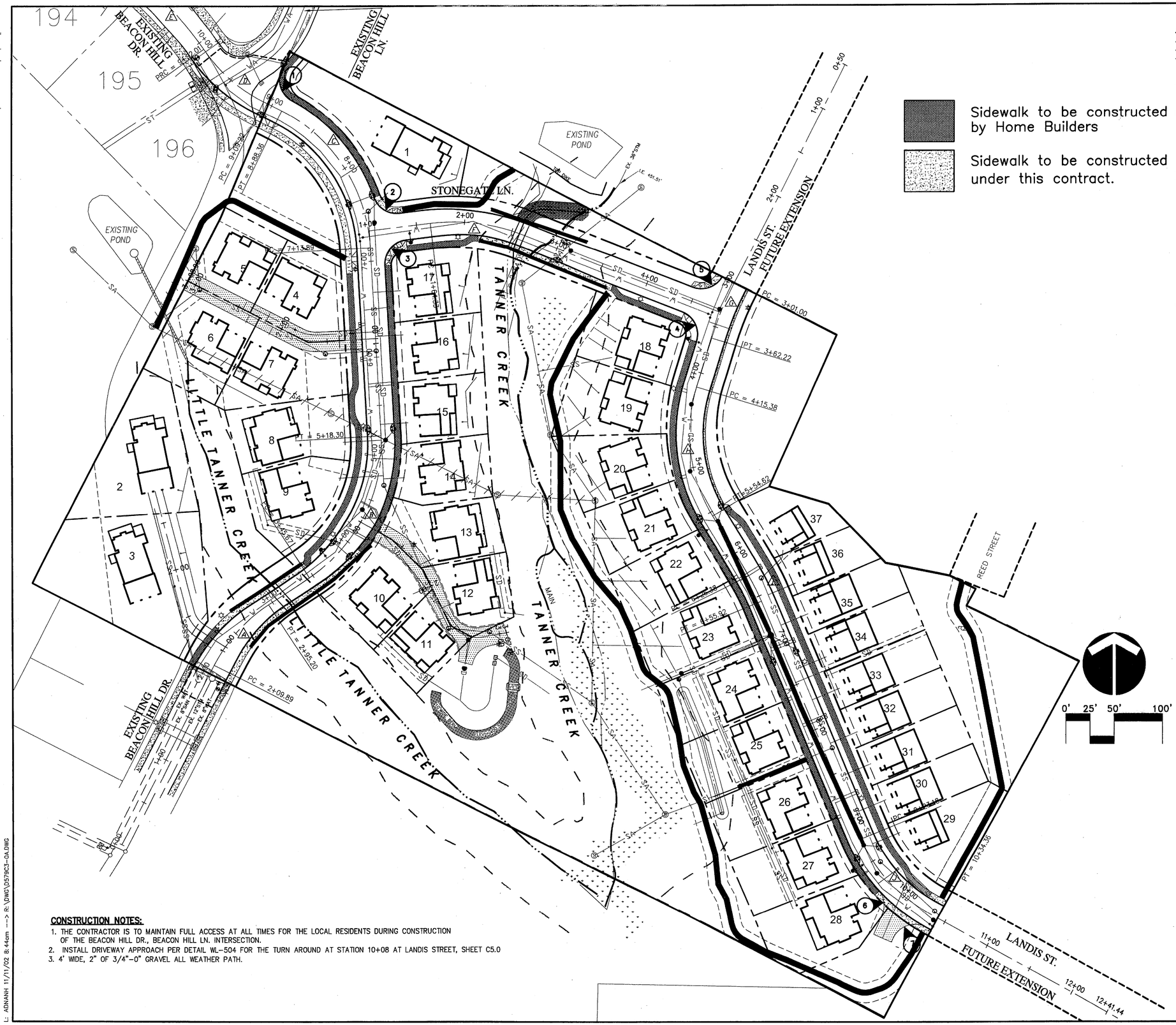

Sidewalk to be constructed by Home Builders

Sidewalk to be constructed under this contract.

LEGEND

- RIGHT-OF-WAY LINE
- FUTURE RIGHT-OF-WAY LINE
- PROPERTY LINE
- LOT LINE
- EASEMENT LINE
- TRANSITION ZONE LINE
- BUILDING SETBACK LINE
- STREET CENTERLINE
- TRAIL

EXISTING UTILITIES

- ST — STORM LINE
- WA — WATER LINE
- SA — SANITARY LINE
- SA — SAN LINE TO BE ABANDONED IN PLACE
- SANITARY MANHOLE
- STORM MANHOLE
- STORM INLET
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- STREET LIGHT
- EXISTING FENCE

PROPOSED UTILITIES

- SS — SANITARY LINE
- SANITARY MANHOLE
- SD — STORM LINE
- SD — STORM DETENTION PIPE
- STORM MANHOLE
- STORM INLET
- W — WATER LINE
- FIRE HYDRANT ASSEMBLY
- WATER METER WITH CORP. STOP AT WATER MAIN
- WATER VALVE
- WATER BLOW-OFF ASSEMBLY

CURB RETURN DATA

		T.O.C.
BCR STA: 8+83.59, 14.00' RT BEACON HILL		472.82
△ = 107°48'07"	1/4 △	473.64
R = 25.00' (1)	1/2 △	474.48
L = 47.04'	3/4 △	475.42
ECR STA: 9+06.04, 47.24' RT BEACON HILL		476.50

		T.O.C.
BCR STA: 1+33.89 14.00' L STONEGATE		457.16
△ = 76°57'49"	1/4 △	457.94
R = 25.00' (2)	1/2 △	459.28
L = 33.58'	3/4 △	460.77
ECR STA: 7+61.97 14.00' RT BEACON HILL		462.02

		T.O.C.
BCR STA: 6+94.89 14.00' RT BEACON HILL		453.97
△ = 86°20'30"	1/4 △	455.16
R = 25.00' (3)	1/2 △	456.26
L = 37.67'	3/4 △	456.98
HIGH POINT 76°12'12"		457.09
ECR STA: 1+37.52 14.00' RT STONEGATE		456.99

		T.O.C.
BCR STA: 4+45.08 14.00' RT STONEGATE		453.76
△ = 85°25'30"	1/4 △	453.21
R = 25.00' (4)	1/2 △	452.30
L = 37.27'	3/4 △	451.16
ECR STA: 3+70.22 14.00' RT LANDIS		449.96

		T.O.C.
BCR STA: 3+00.01 14.00' RT LANDIS		460.14
△ = 82°03'26"	1/4 △	458.45
R = 25.00' (5)	1/2 △	456.43
L = 35.80'	3/4 △	454.68
ECR STA: 4+45.16 14.00' LT STONEGATE		453.77

		T.O.C.
BCR STA: 9+76.50 14.00' RT LANDIS		443.99
△ = 64°15'36"	1/4 △	444.53
R = 25.00' (6)	1/2 △	444.91
HIGH POINT 48°00'50"		445.05
L = 28.04'	3/4 △	445.05
ECR STA: 9+95.65 29.45' RT LANDIS		444.88

		T.O.C.
BCR STA: 10+15.75 42.78' RT LANDIS		446.32
△ = 95°38'45"	1/4 △	446.90
R = 25.00' (7)	1/2 △	447.60
L = 41.73'	3/4 △	448.40
ECR STA: 10+35.85 14.00' RT LANDIS		449.30

CL CURVE DATA

CURVE	LENGTH	RADIUS	DELTA
A	85.32	165.00	29°37'32"
B	172.63	165.00	59°56'43"
C	174.47	165.00	60°35'04"
D	82.79	165.00	28°44'57"
E	107.99	330.00	18°45'00"
F	99.72	200.00	28°34'05"
G	61.22	350.00	10°01'19"
H	139.23	165.00	48°20'54"
I	29.54	200.00	08°27'41"
J	111.19	165.00	38°36'32"

CONSTRUCTION NOTES:

1. THE CONTRACTOR IS TO MAINTAIN FULL ACCESS AT ALL TIMES FOR THE LOCAL RESIDENTS DURING CONSTRUCTION OF THE BEACON HILL DR., BEACON HILL LN. INTERSECTION.
2. INSTALL DRIVEWAY APPROACH PER DETAIL WL-504 FOR THE TURN AROUND AT STATION 10+08 AT LANDIS STREET, SHEET C5.0
3. 4' WIDE, 2" OF 3/4"-0" GRAVEL ALL WEATHER PATH.

REVISIONS

NO.	DATE	BY	APPD.

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REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HAYDAR
RENEWAL 06/30/2003

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Tanner's Stonegate

CITY OF WEST LINN, OREGON

STREET PLAN

AS BUILTS

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D579C3-0A
File No.
C3.0A
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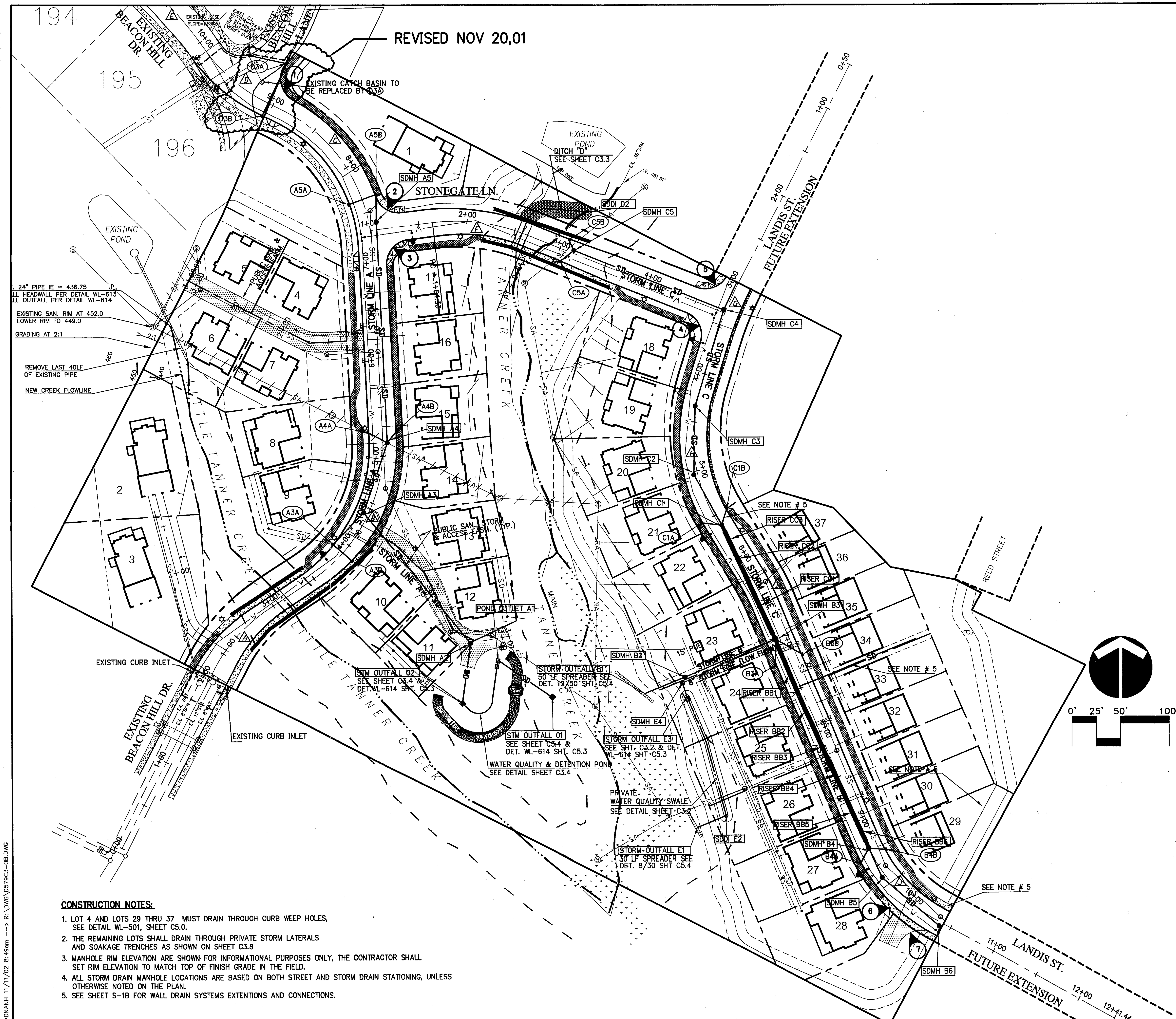

LEGEND

- RIGHT-OF-WAY LINE
- FUTURE RIGHT-OF-WAY LINE
- PROPERTY LINE
- LOT LINE
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- TRANSITION ZONE LINE
- BUILDING SETBACK LINE
- STREET CENTERLINE
- TRAIL

EXISTING UTILITIES

- ST — STORM LINE
- WA — WATER LINE
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- SA — SAN LINE TO BE ABANDONED IN PLACE
- SANITARY MANHOLE
- STORM MANHOLE
- STORM INLET
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- STREET LIGHT
- EXISTING FENCE

PROPOSED UTILITIES

- SS — SANITARY LINE
- SANITARY MANHOLE
- SD — STORM LINE
- SD — STORM DETENTION PIPE
- STORM MANHOLE
- STORM INLET
- W — WATER LINE
- FIRE HYDRANT ASSEMBLY
- WATER METER WITH CORP. STOP AT WATER MAIN
- WATER VALVE
- WATER BLOW-OFF ASSEMBLY

CURB INLET DATA

A3A STA: 3+89.90, 12.72' LT
TO FACE OF CURB (BEACON)
TOC: 426.00
IE IN: 420.00
IE OUT: 419.30
45.48 LF 12" pvc
S= 0.0336
USE DETAIL WL-601

A3B STA: 3+89.90 12.13' LT
TO FACE OF CURB (BEACON)
TOC: 425.95
IE OUT: 421.40
26.86 LF 10" PVC
S= 0.0521
USE DETAIL WL-601

A4A STA: 5+25.00 14.00' LT
TO FACE OF CURB (BEACON)
TOC: 433.56
IE OUT: 428.01
22.03 LF 10" STM
S= 0.1266
USE DETAIL WL-601

A4B STA: 5+25.00 14.00' RT
TO FACE OF CURB (BEACON)
TOC: 433.49
IE OUT: 428.66
13.58 LF 10" STM
S= 0.2533
USE DETAIL WL-601

A5A STA: 7+64.00 14.00' LT
TO FACE OF CURB (BEACON)
TOC: 462.50
IE OUT: 458.55
30.00 LF 10" STM
S= 0.000
USE DETAIL WL-601

A5B STA: 7+64.00 14.00' RT
TO FACE OF CURB (BEACON)
TOC: 462.34
IE IN: 458.61
IE OUT: 457.47
28.89 LF 12" STM
S= 0.1616
USE DETAIL WL-601

B3A STA: 7+18.00 14.00' RT
TO FACE OF CURB (LANDIS)
TOC: 432.81
IE OUT: 426.21
29.02 LF 10" STM
S= 0.0138
USE DETAIL WL-601

B3B STA: 7+18.00 14.00' LT
TO FACE OF CURB (LANDIS)
TOC: 432.84
IE OUT: 428.14
29.48 LF 10" STM
S= 0.0790
USE DETAIL WL-601

B4A STA: 9+40.02 14.00' RT
TO FACE OF CURB (LANDIS)
TOC: 440.97
IE OUT: 436.60
16.44 LF 10" STM
S= 0.1582
USE DETAIL WL-601

B4B STA: 9+39.99 14.00' LT
TO FACE OF CURB (LANDIS)
TOC: 441.10
IE OUT: 436.70
16.78 LF 10" STM
S= 0.1609
USE DETAIL WL-601

C1A STA: 5+49.99 14.00' RT
TO FACE OF CURB (LANDIS)
TOC: 437.30
IE OUT: 432.14
19.99 LF 10" STM
S= 0.0935
USE DETAIL WL-600

C1B STA: 5+49.98 14.00' LT
TO FACE OF CURB (LANDIS)
TOC: 437.25
IE OUT: 433.20
19.16 LF 10" STM
S= 0.1597
USE DETAIL WL-600

C5A STA: 3+05.35, 12.19' RT
TO FACE OF CURB (STONEGATE)
TOC: 449.18
IE OUT: 444.60
17.48 LF 10" STM
S= 0.0423
USE DETAIL WL-601

C5B STA: 3+05.35, 12.19' LT
TO FACE OF CURB (STONEGATE)
TOC: 448.73
IE OUT: 444.43
12.62 LF 10" STM
S= 0.0452
USE DETAIL WL-601

D3A STA: 9+05.79 44.35' RT
TO FACE OF CURB
(ECR 1 BEACON HILL)
TOC: 476.30
IE IN: 469.51
IE OUT: 469.33
40.23 LF 10" STM
S= 0.0070
USE DETAIL WL-600

D3B STA: 9+05.10, 14.00' LT
TO FACE OF CURB (BEACON)
TOC: 474.02
IE OUT: 471.00
58.39 LF 10" STM
S= 0.0255
USE DETAIL WL-601

REVISED NOV 20, 01

CONSTRUCTION NOTES:

1. LOT 4 AND LOTS 29 THRU 37 MUST DRAIN THROUGH CURB WEEP HOLES, SEE DETAIL WL-501, SHEET C5.0.
2. THE REMAINING LOTS SHALL DRAIN THROUGH PRIVATE STORM LATERALS AND SOAKAGE TRENCHES AS SHOWN ON SHEET C3.8
3. MANHOLE RIM ELEVATION ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, THE CONTRACTOR SHALL SET RIM ELEVATION TO MATCH TOP OF FINISH GRADE IN THE FIELD.
4. ALL STORM DRAIN MANHOLE LOCATIONS ARE BASED ON BOTH STREET AND STORM DRAIN STATIONING, UNLESS OTHERWISE NOTED ON THE PLAN.
5. SEE SHEET S-1B FOR WALL DRAIN SYSTEMS EXTENTIONS AND CONNECTIONS.

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STORM DRAIN PLAN

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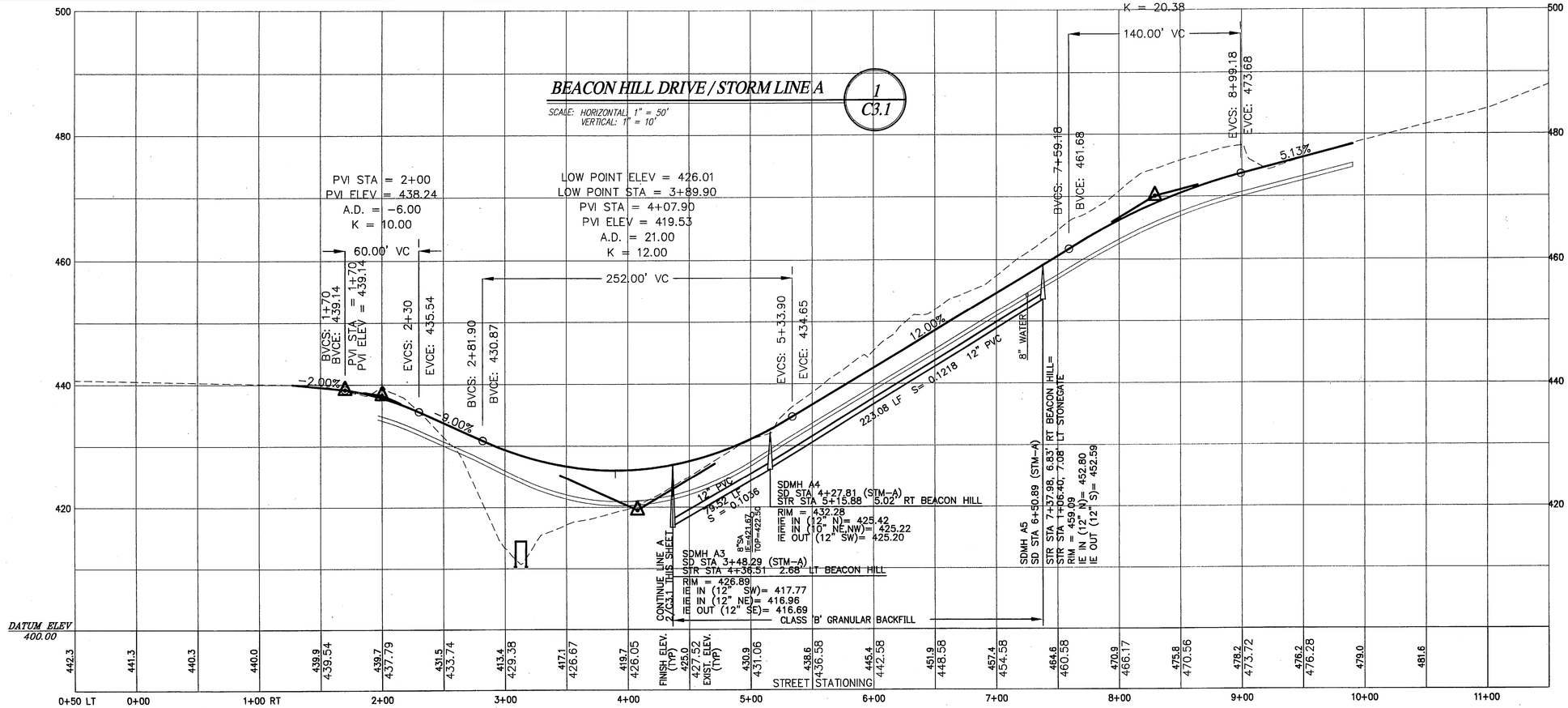
BEACON HILL DRIVE / STORM LINE A

1 / C3.1

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 10'



STORM LINE A

2 / C3.1

SCALE: HORIZONTAL 1"= 50'
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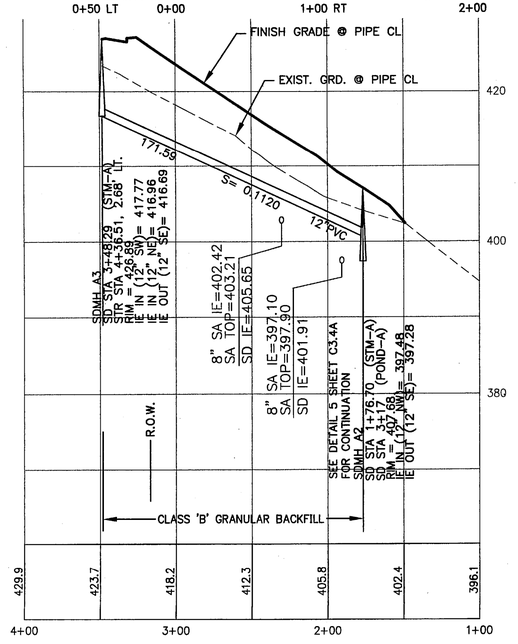
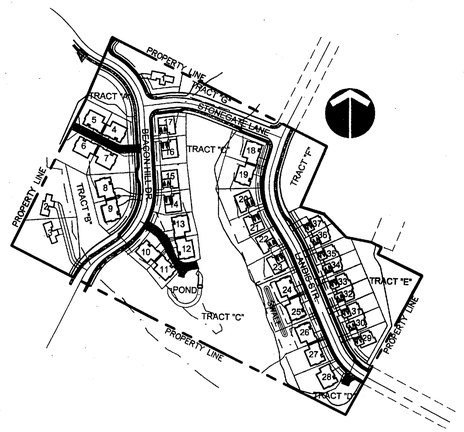
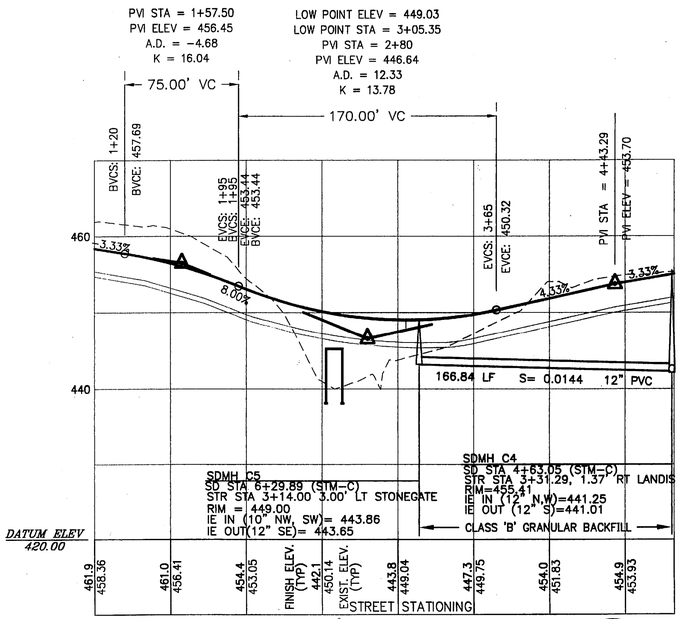




KEYMAP

3 / C3.1

SCALE: AS SHOWN



STONEGATE LANE / STORM LINE C

4 / C3.1

SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 10'

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REVISIONS

NO.	DATE	BY	APPD.

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HABBAB
RENEWAL 06/30/2003

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AS BUILTS

Tanner's Stonegate
CITY OF WEST LINN, OREGON
STREET AND STORM PROILES

otak
Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
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FAX: (503) 635-5395

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Project No.
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File No.
C3.1
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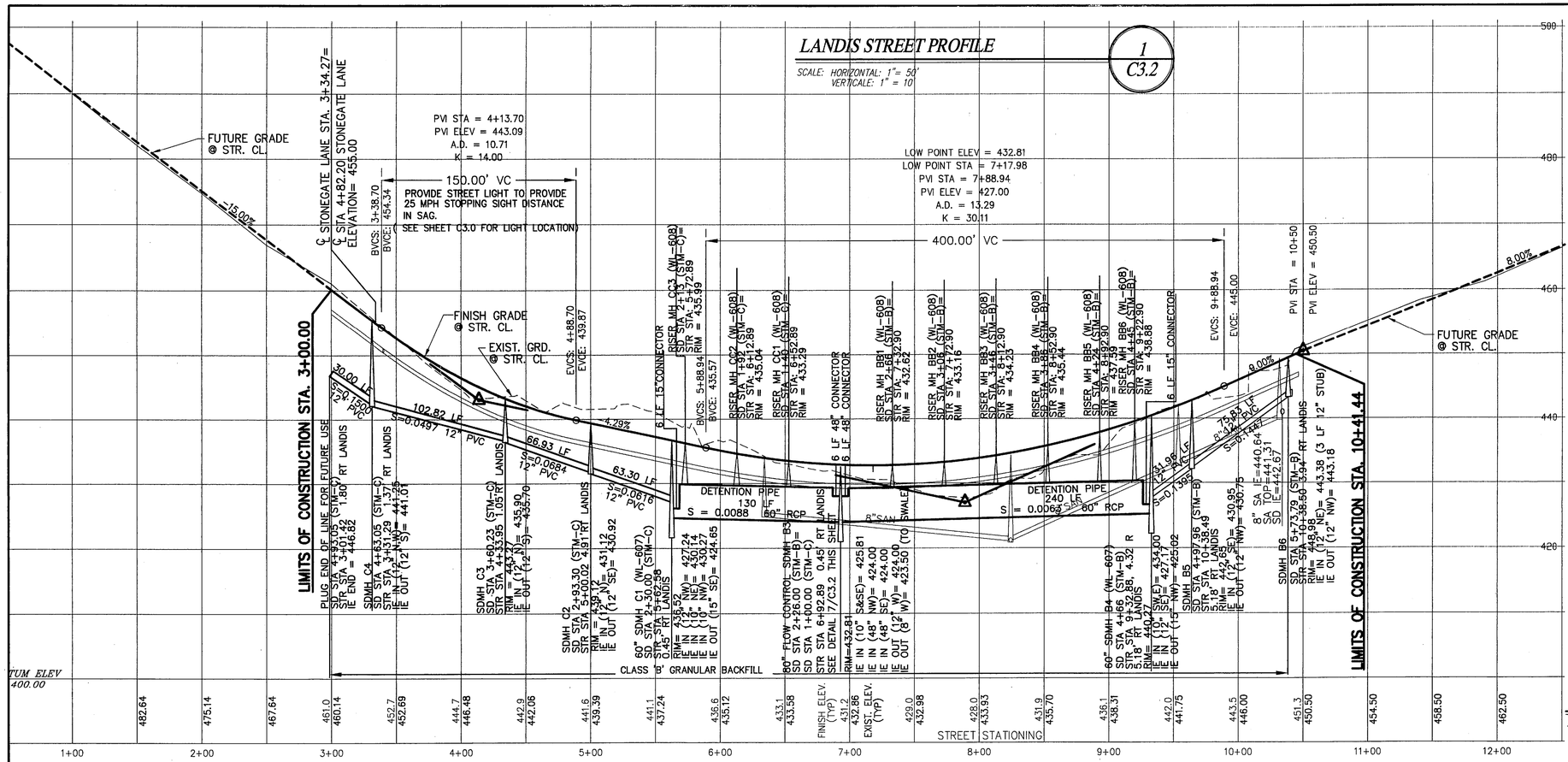
D579X400
D579X430
D579X610
D579X630
D579X900

LANDIS STREET PROFILE

1 / C3.2

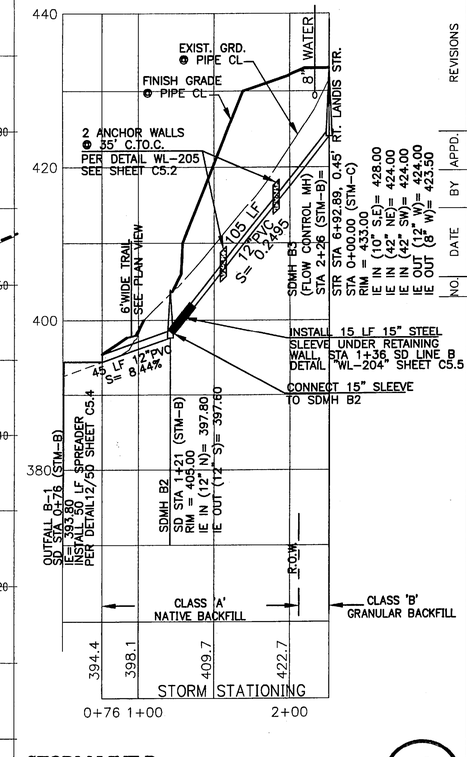
SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 10'



STORM LINE B

2 / C3.2

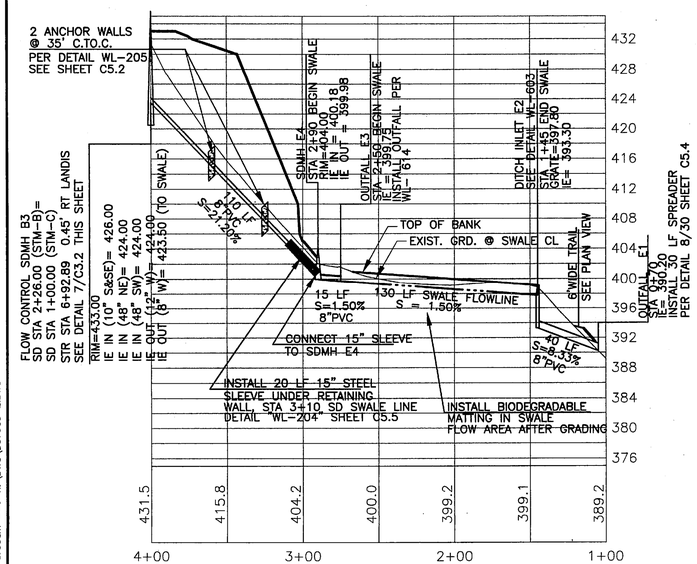
SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 10'



WATER QUALITY SWALE PROFILE

3 / C3.2

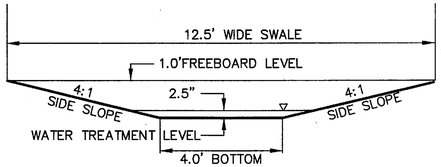
SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 10'



SWALE CROSS SECTION

4 / C3.2

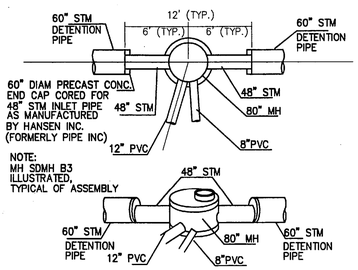
SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 10'



DETENTION PIPE END CAP

5 / C3.2

SCALE: N.T.S.



WATER QUALITY SWALE SHALL BE SEEDED IN ACCORDANCE WITH CITY OF PORTLAND B.E.S. MANUAL, SEPTEMBER 2000:
HOBBS AND HOPKINS, PRO-TIME 840, NATIVE, BIO-FILTER MIX (OR APPROVED ALTERNATE):

BLUE WILDRYE	47.0%
NATIVE RED FESCUE	40.0%
TUFTED HAIRGRASS	10.0%
WESTERN MANNAGRASS	2.0%
AMERICAN SLOUGHGRASS	1.0%

SWALE PLANTING NOTE

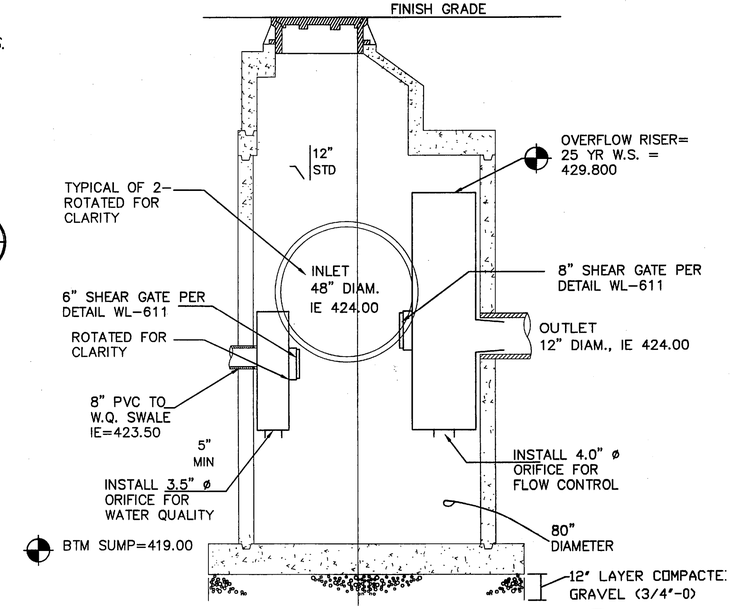
6 / C3.2

SCALE: N.T.S.

FLOW CONTROL MH- SDMH B-3

7 / C3.2

SCALE: 1"=4'H



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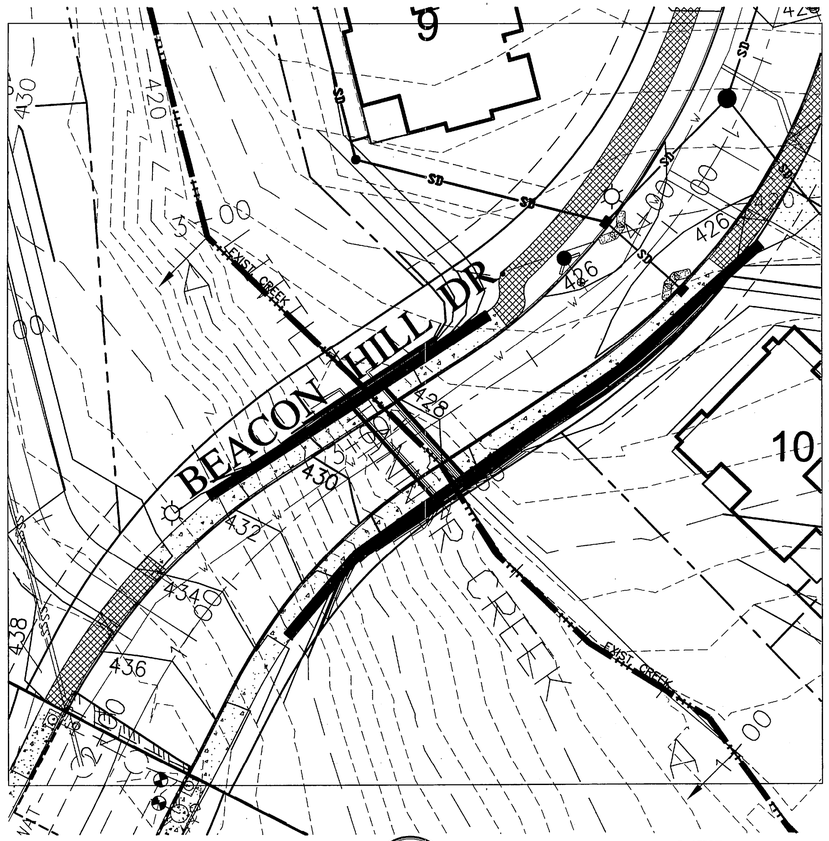


LITTLE TANNER CREEK CROSSING

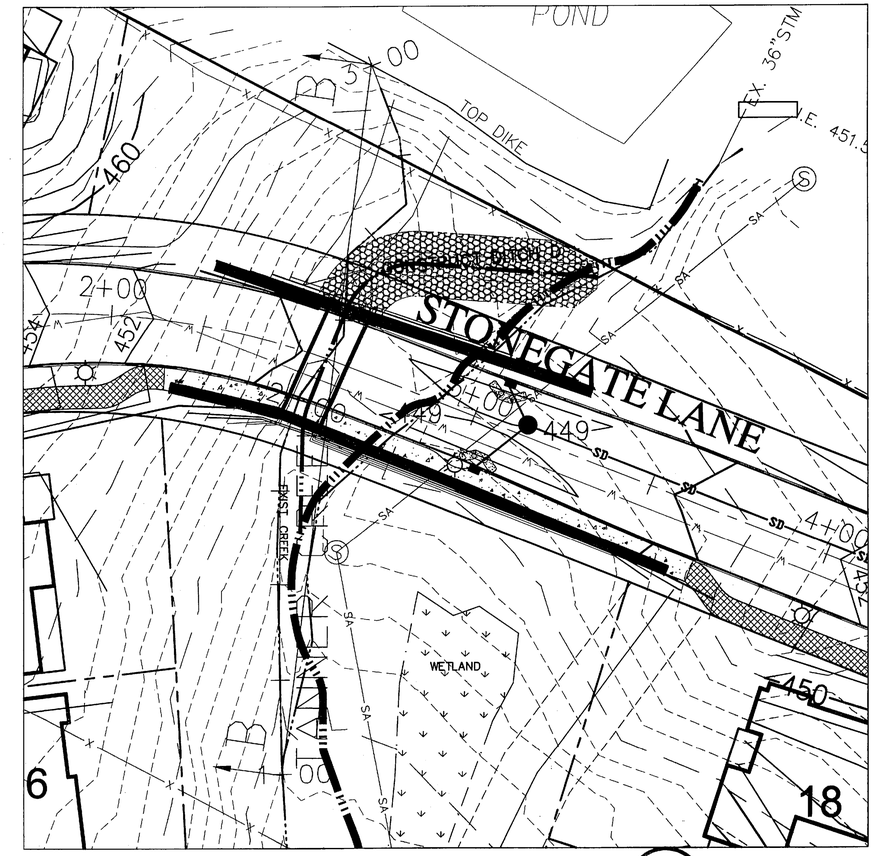
SCALE: AS SHOWN

1 / C3.3

0' 10' 20' 40'

CULVERTS NOTE;

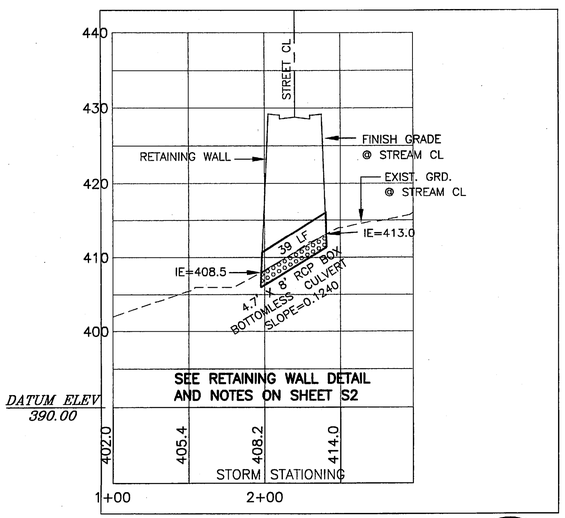
THE BOTTOM OF THE CULVERTS SHALL BE CONSTRUCTED TO FISH AND WILDLIFE STANDARDS AND SHALL BE INSPECTED AND ACCEPTED BY FISH & WILDLIFE.



TANNER CREEK CROSSING PLAN

SCALE: AS SHOWN

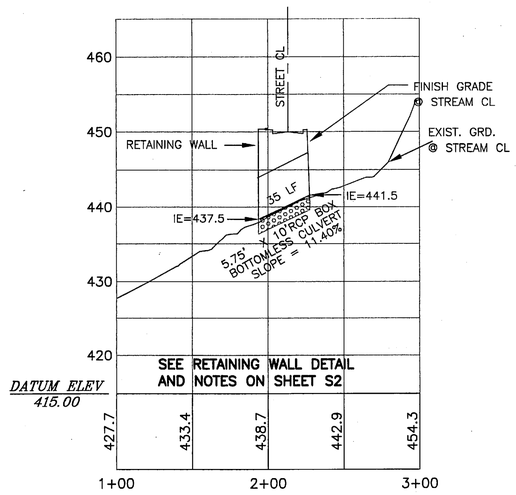
2 / C3.3



LITTLE TANNER CREEK SECTION A-A

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 10'

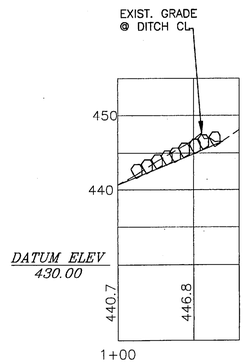
3 / C3.3



TANNER CREEK SECTION B-B

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 10'

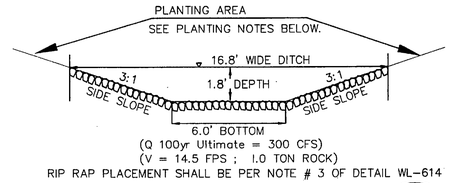
4 / C3.3



DITCH D PROFILE

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 10'

5 / C3.3



DITCH D CROSS SECTION

SCALE: HORIZONTAL: 1" = 4'
VERTICAL: 1" = 4'

6 / C3.3

NOTES;

ALL PLANTING AREAS WILL BE WATERED UNTIL THE PLANTS HAVE ESTABLISHED.

PLANTING POCKET BACKFILL WILL INCLUDE 25% LEAF COMPOST MIXED WITH NATIVE TOPSOIL.

ALL PLANTING AREAS WILL BE TOP-DRESSED WITH A 2" LAYER OF MEDIUM BARK MULCH.

SEE SHEET C3.4B FOR PLANTING LISTS, SHRUB PLANTING AND TREE STAKING DETAILS.

NO.	DATE	BY	APPD.	REVISIONS

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REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HAIDAR
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
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Oregon City, Oregon 97045
PHONE: (503) 656-7000
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AS BUILTS

Tanner's Stonegate
CITY OF WEST LINN, OREGON
STREAM CROSSING PLAN AND PROFILE

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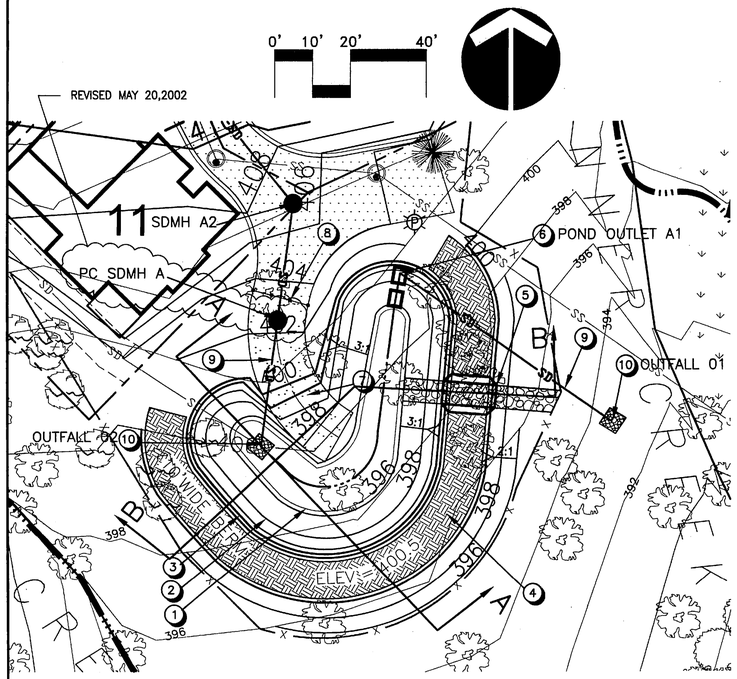


WATER QUALITY & DETENTION POND

SCALE: 1"=20'H

1 C3.4

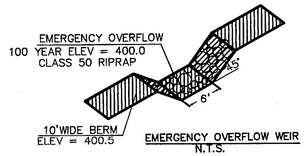
POND "A" CONSTRUCTION NOTES

1. ACTUAL BOTTOM ELEVATION=395.6 (0.4' OF PERMENANT POOL) BOTTOM W.Q. TREATMENT LEVEL = 396.0
2. WATER QUALITY SURFACE ELEVATION=398.00 (VOLUME=3125 CF)
3. 25 YEAR WATER DETENTION SURFACE ELEVATION=399.50 (VOLUME=4180 CF)
4. 10'WIDE BERM WITH 2" OF 3/4"-0" GRAVEL FOR ALL WEATHER ACCESS ELEVATION=400.5
5. EMERGENCY OVERFLOW WEIR (SEE DETAIL 4/C3.4) (RIP-RAP ALL DRAINAGE SPILLWAY AS SHOWN ON PLAN PER WL-614, SHEET C5.3.
6. POND OUTLET A1 (DETAIL WL-610 SHEET C5.5)
7. ALL WEATHER ACCESS ROAD INTO POND AT 7:1 SLOPE. 15' WIDE, 10" OF 3/4"-0" AGGREGATE COMPACTED
8. INSTALL 4 BOLLARDS (METAL POST) 2 FIXED BOLLARDS ON ROAD SIDES , AND 2 REMOVABLE BOLLARDS EQUALLY LOCATED BETWEEN THE FIXED BOLLARDS.
9. SEE SD POND A PROFILE DETAIL 5/C3.4 THIS SHEET
10. INSTALL CLASS 100 RIP-RAP PAD PER WL-613 & WL-614 SHEET C5.3
11. CONSTRUCT BERMS IN ACCORDANCE GENERAL NOTES, PROJECT DOCUMENTS AND THE RECOMMENDATIONS OF GEOTECHNICAL ENGINEER
12. INSTALL LINER.

NOTES:

1. PROVIDE MINIMUM OF 6" OF TOP SOIL ON EXPOSED POND SURFACES
2. APPLY BIO-FILTER SEED MIX AT RATE OF 5 LB/ 1000 SF (HOBBS AND HOPKINS, PRO-TIME 710, BIO-FILTER MIX FOR WATER AND SHADY AREAS)

PR8820 PERRENIAL RYEGRASS	***LOLIUM PERENNE***	60.0%
CINDY CREEPING RED FESCUE	***FESTICA RUBRA*** "CINDY"	20.0%
REDTOP BENTGRASS	***AGROSTIS ALBA***	5.0%
HIGHLAND COLONIAL BENTGRASS	***AGROSTIS TENIUS***	5.0%
SABRE ROUGH BLUEGRASS	***POA TRIVIALIS*** "SABRE"	5.0%
SHAMROCK CLOVER	***TRIFOLIUM DUBIUM***	5.0%

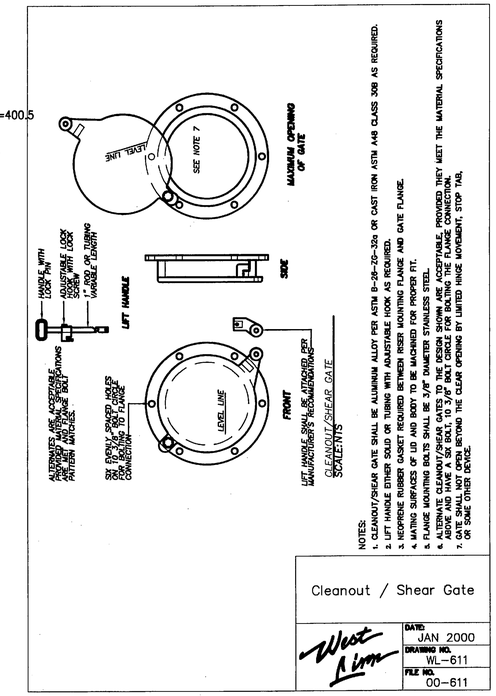


EMERGENCY OVERFLOW WEIR
N.T.S.

EMERGENCY OVERFLOW WEIR

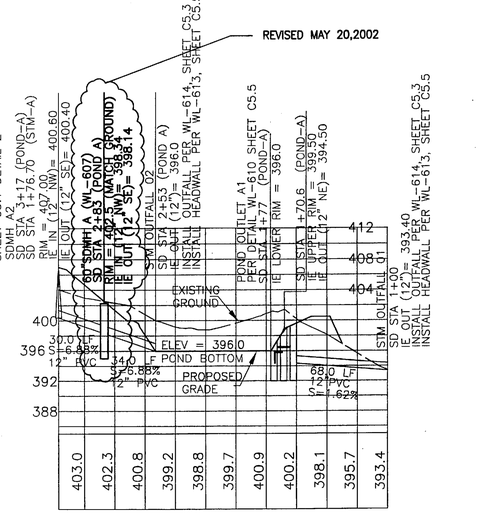
SCALE: NTS

4 C3.4



Cleanout / Shear Gate

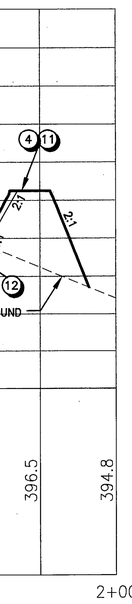
DATE:	JAN 2000
DRAWING NO.	WL-611
FILE NO.	00-611



SD POND A PROFILE

SCALE: 1"=50'H
1"=10'V

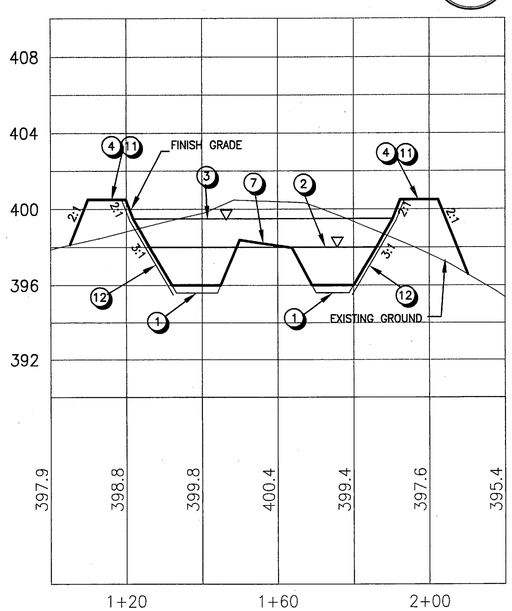
5 C3.4



CROSS SECTION A-A

SCALE: 1"=20'H
1"=2'V

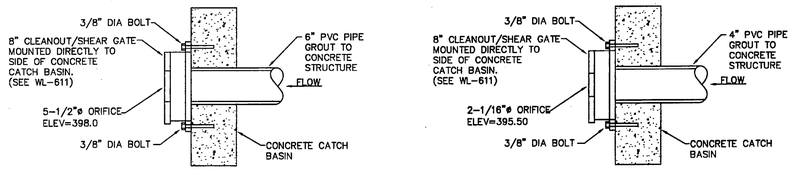
2 C3.4



CROSS SECTION B-B

SCALE: 1"=20'H
1"=2'V

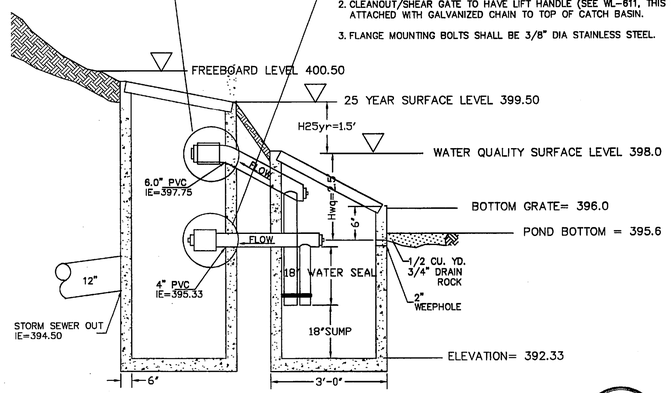
3 C3.4



25-YR DETENTION ORIFICE

WATER QUALITY ORIFICE

NOTES:
1. NEOPRENE RUBBER GASKET REQUIRED BETWEEN GATE FLANGE AND CONCRETE CATCH BASIN.
2. CLEANOUT/SHEAR GATE TO HAVE LIFT HANDLE (SEE WL-611, THIS SHEET) ATTACHED WITH GALVANIZED CHAIN TO TOP OF CATCH BASIN.
3. FLANGE MOUNTING BOLTS SHALL BE 3/8" DIA STAINLESS STEEL.



MODIFIED POND OUTLET (WL-610) # A1

SCALE: NTS REVISED 11-13-01

6 C3.4

NO.	DATE	BY	APPD.	REVISIONS
	08/21/2001			Date
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	AAH/BLW/JAH			Drawn
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REGISTERED PROFESSIONAL ENGINEER 46494PE OREGON DECEMBER 14, 2000 ADNAN ANIS HATMAL
RENEWAL 06/30/2003

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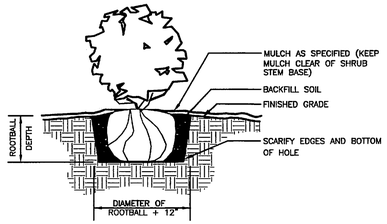
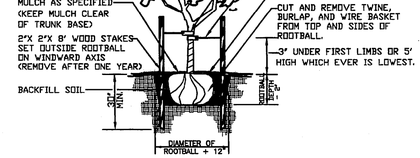
0' 5' 10' 20'

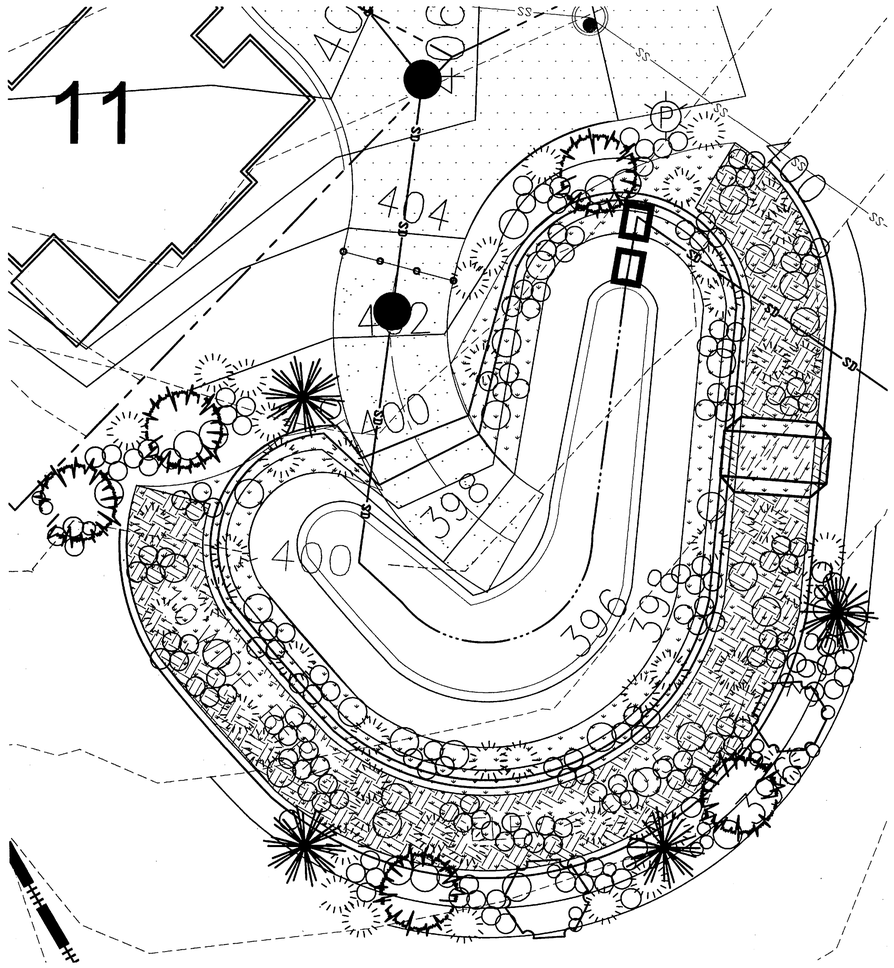


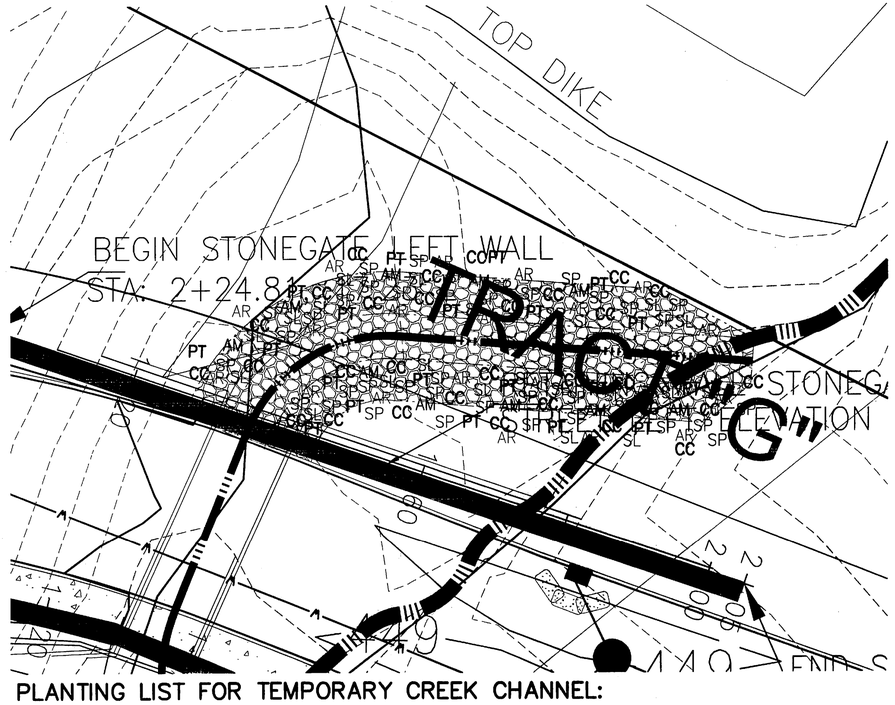
1 SHRUB PLANTING DETAIL
NOT TO SCALE

NOTE: STAKE ALL EVERGREEN TREES 8' AND SHORTER AND DECIDUOUS TREES LESS THAN 4" CALIPER. DO NOT STAKE VINE MAPLES. TREES 1 1/2" CALIPER AND LESS SHALL BE STAKED WITH A SINGLE WOOD STAKE UNLESS OTHERWISE SPECIFIED.



2 TREE STAKING DETAIL
NOT TO SCALE





PLANTING LIST FOR TEMPORARY CREEK CHANNEL:

COMMON NAME	SCIENTIFIC NAME	CONTAINER SIZE	SPACING	QUANTITY	SYMBOL
BLACK COTTONWOOD	POPULUS TRICHOCARPE	2 TO 5 GAL	25 FT	20 EACH	PT
RED ALDER	ALNUS RUBRE	2 TO 5 GAL	25 FT	20 EACH	AR
BIGLEAF MAPLE	ACAR MACROPHYLLUM	2 TO 5 GAL	20 FT	10 EACH	AM
PACIFIC WILLOW	SALIX LASIANDRA	CUTTINGS	5 FT	20 EACH	SL
PIPER'S WILLOW	SALIX PIPERLI	CUTTINGS	5 FT	40 EACH	SP
BEAKED HAZELNUT	CORYLUS CORNUTA	1 TO 2 GAL	20 FT	30 EACH	CC

PLANT LIST FOR POND AREA:

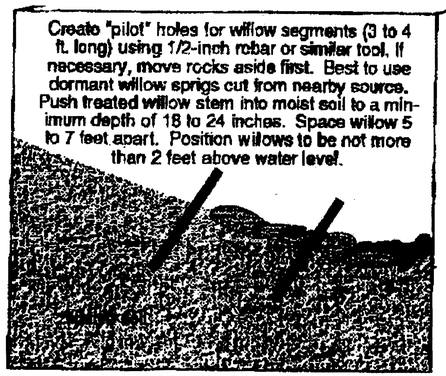
SYMBOL	COMMON/BOTANICAL NAMES, SIZE AND CONDITION
4	DOUGLAS FIR / PSEUDOTSUGA MENZIESII 6' TALL AND 12' TALL, B&B
5	THUJA PLICATA / WESTERN RED CEDAR 7–8' TALL.
50	RED OSIER DOGWOOD / CORNUS STOLONIFERA 15" TO 18", CONTAINER/B&B
1	DOUGLAS HAWTHORN / CRATAEGUS DOUGLASII 5' TO 6' TALL, BRANCHED.
30	WESTERN SPIRAEA / SPIRAEA DOUGLASII 15" TO 18" CONTAINER
131	RED FLOWERING CURRANT / RIBES SANQUINEUM 15" TO 18", CONTAINER
77	OREGON GRAPE / MAHONIA AQUIFOLIUM 15" TO 18", CONTAINER
1	OREGON ASH / FRAXINUS LATIFOLIA 6' – 8' TALL, B&B

PLANTING NOTES FOR POND AREA

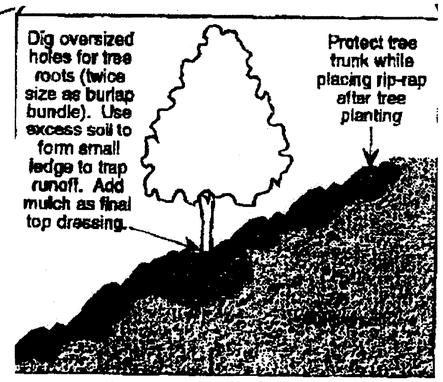
- USE PRO–TIME 710 FOR THE SEED MIX IN WATER QUALITY AREA (398 LEVEL) OF THE POND.

ABOVE THE WATER QUALITY ELEVATION APPLY BIO–FILTER SEED MIX AT RATE OF 5 LB/ 1000 SF:

PR8820 PERRENIAL RYEGRASS LOLIUM PERENNE 60.0%
CINDY CREEPING RED FESCUE FESTICA RUBRA "CINDY" 20.0%
REDTOP BENTGRASS AGROSTIS ALBA 5.0%
HIGHLAND COLONIAL BENTGRASS AGROSTIS TENIUS 5.0%
SABRE ROUGH BLUEGRASS POA TRIVIALIS "SABRE" 5.0%
SHAMROCK CLOVER TRIFOLIUM DUBIUM 5.0%



TYPICAL WILLOW STAKING DETAIL



TYPICAL JOINT PLANTING DETAIL

GENERAL PLANTING NOTES;

ALL PLANTING AREAS WILL BE WATERED UNTIL THE PLANTS HAVE ESTABLISHED.

PLANTING POCKET BACKFILL WILL INCLUDE 25% LEAF COMPOST MIXED WITH NATIVE TOPSOIL.

ALL PLANTING AREAS WILL BE TOP–DRESSED WITH A 2" LAYER OF MEDIUM BARK MULCH.

WHEN PLANTING PROVIDE IDENTIFICATION OF PLANTING SPECIES.

AS BUILTS

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HARMAN
RENEVAL 06/30/2003

REVISIONS | NO. | DATE | BY | APPD.

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate
CITY OF WEST LINN, OREGON
DETENTION FACILITY LANDSCAPE PLAN

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

10579
Project No.
D579C3-4B
File No.
C3.4B
Sheet No.

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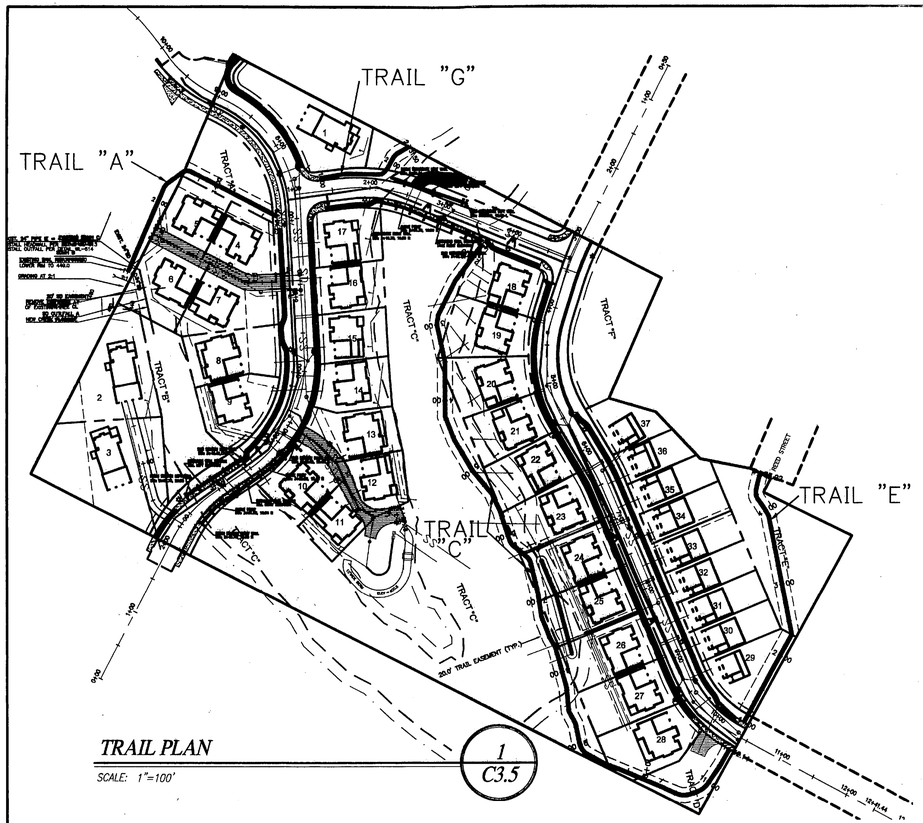
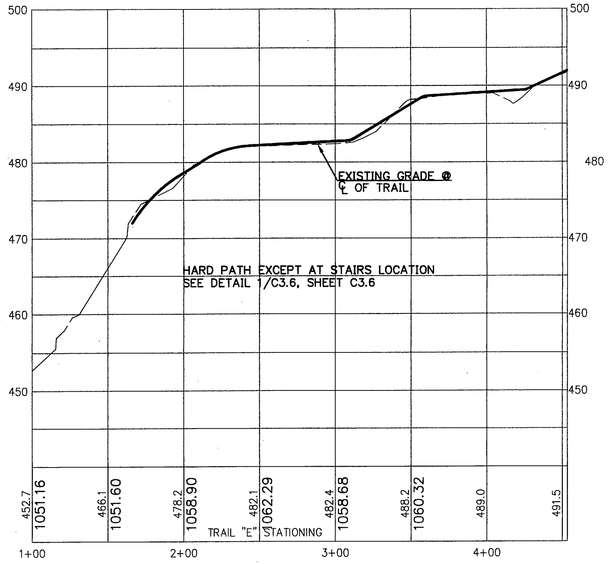


TRAIL PLAN

SCALE: 1"=100'

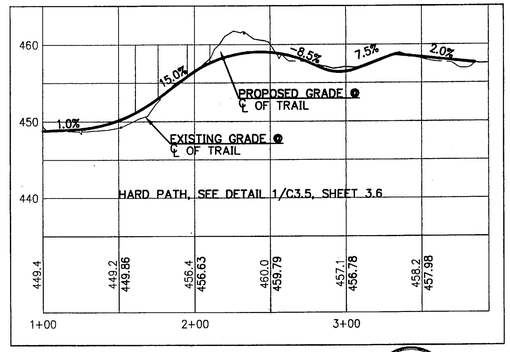
1 / C3.5



TRAIL "E" PROFILE

SCALE: 1"=50' HORIZ.
1"=10' VERT.

2 / C3.5



TRAIL "A" PROFILE

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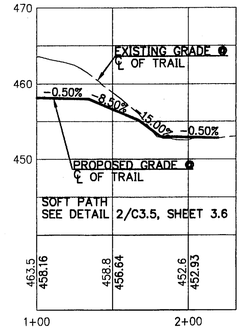
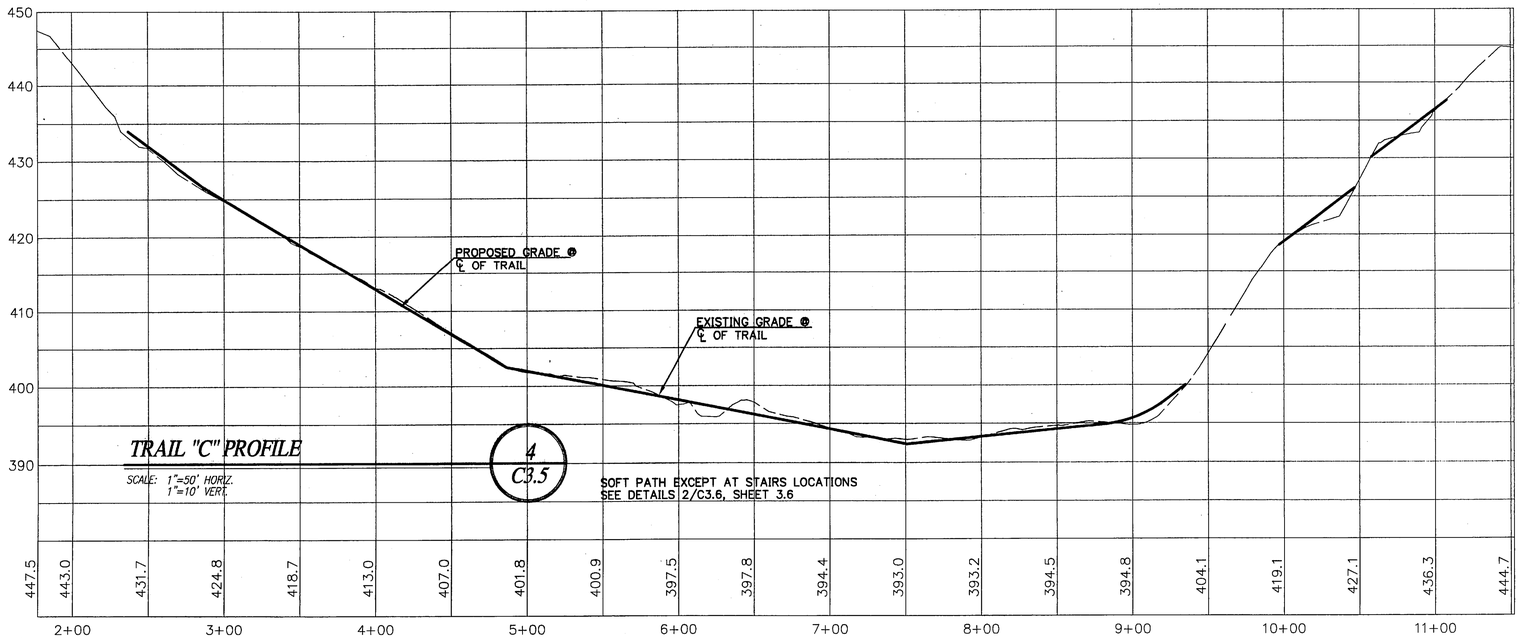
3 / C3.5



TRAIL "G" PROFILE

SCALE: 1"=50' HORIZ.
1"=10' VERT.

5 / C3.5



TRAIL "C" PROFILE

SCALE: 1"=50' HORIZ.
1"=10' VERT.

4 / C3.5

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08/21/2001
Date
AAH
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AAH
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REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2001
ADNAN ANIS HASSAN
RENEWAL 06/30/2003

REVISIONS

NO.	DATE	BY	APPD.

NORWAY DEVELOPMENT
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Oregon City, Oregon 97045
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AS BUILTS

Tanner's Stonegate
001001
CITY OF WEST LINN, OREGON

PUBLIC OFFSITE TRAIL PLAN AND PROFILES

otak Incorporated
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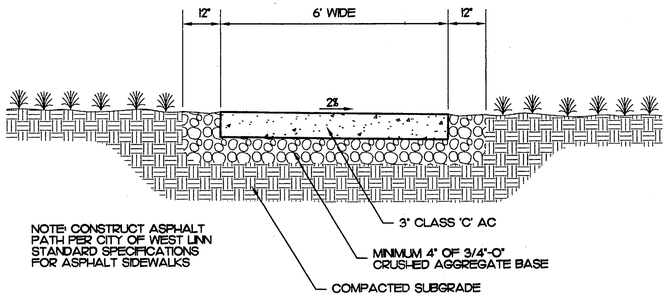
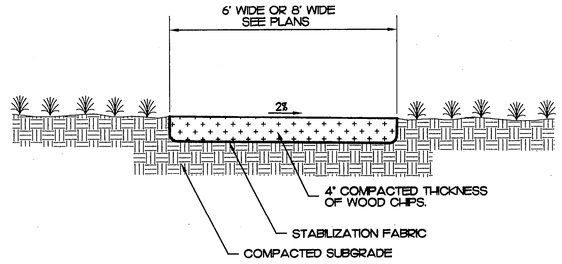


1 C3.6 TRAIL SECTION - 6' HARD PATH

NOT TO SCALE



2 C3.6 TRAIL SECTION- SOFT PATH

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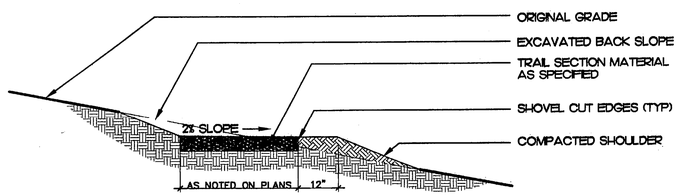
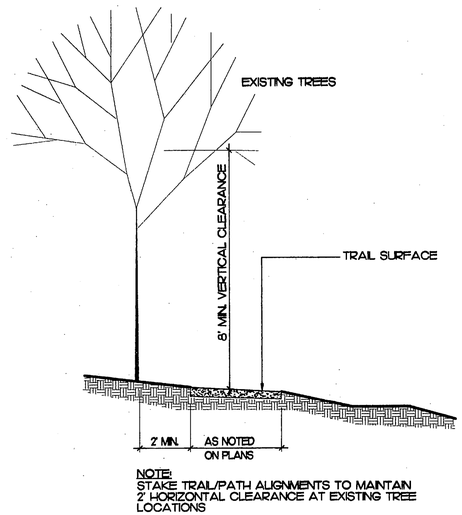


3 C3.6 TRAIL SECTIONS AT CROSS SLOPES

NOT TO SCALE



4 C3.6 TRAIL SECTIONS AT TREE

NOT TO SCALE

NO.	DATE	BY	APPD.

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REGISTERED PROFESSIONAL ENGINEER
46494PE
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ADNAN ANIS HADDAD
RENEWAL 06/30/2003

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AS BUILTS

Tanner's Stonegate
001001
CITY OF WEST LINN, OREGON

PUBLIC OFFSITE TRAIL DETAILS

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10579
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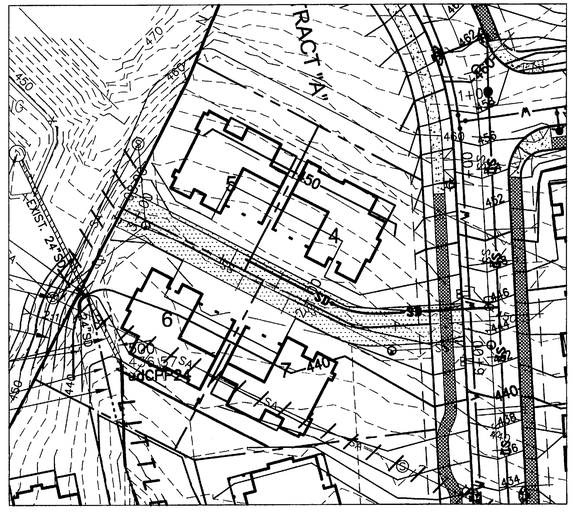
D579X400
D579X430
D579X600
D579X630
D579X900

0' 10' 20' 40'

DRIVEWAY LOTS 2-3 PLAN

SCALE: AS SHOWN

1 / C3.7

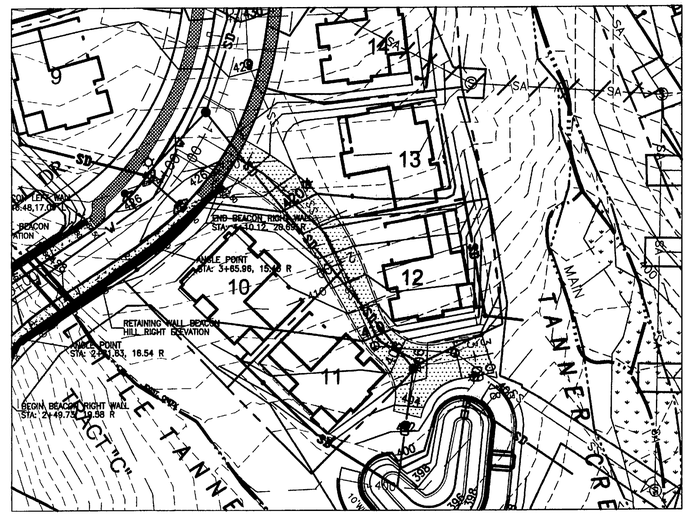


0' 10' 20' 40'

DRIVEWAY LOTS 4-7 PLAN

SCALE: AS SHOWN

3 / C3.7

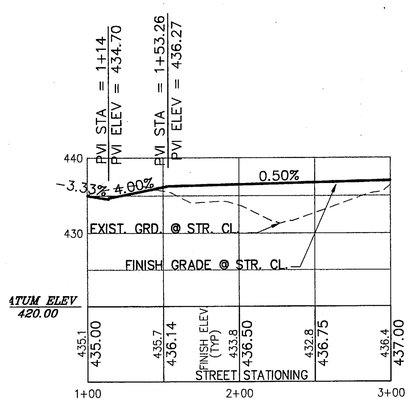


0' 10' 20' 40'

DRIVEWAY LOTS 10-13 PLAN

SCALE: AS SHOWN

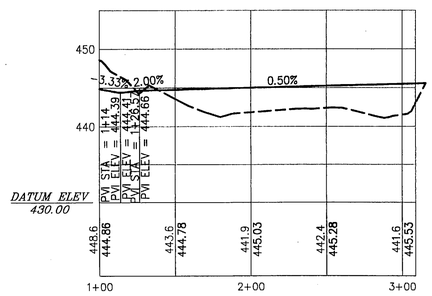
5 / C3.7



DRIVEWAY LOTS 2-3 PROFILE

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 10'

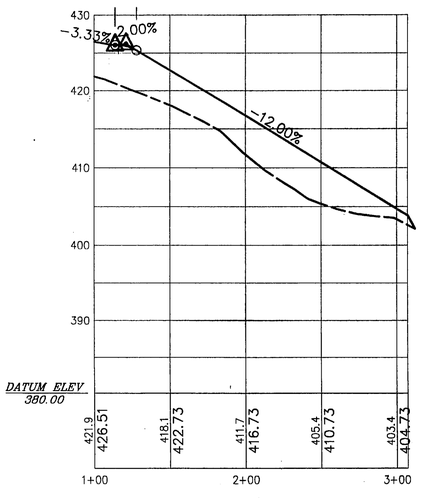
2 / C3.7



DRIVEWAY LOTS 4-7 PROFILE

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 10'

7 / C3.7



DRIVEWAY LOTS 10-13 PROFILE

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 10'

6 / C3.7

NO.	DATE	BY	APPD.	REVISIONS

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Date
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Designed
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Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADDAD
RENEWAL 06/30/2003

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Oregon City, Oregon 97045
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AS BUILTS

Tanner's Stonegate

CITY OF WEST LINN, OREGON

DRIVEWAY AND ACCESS ROAD PROFILES

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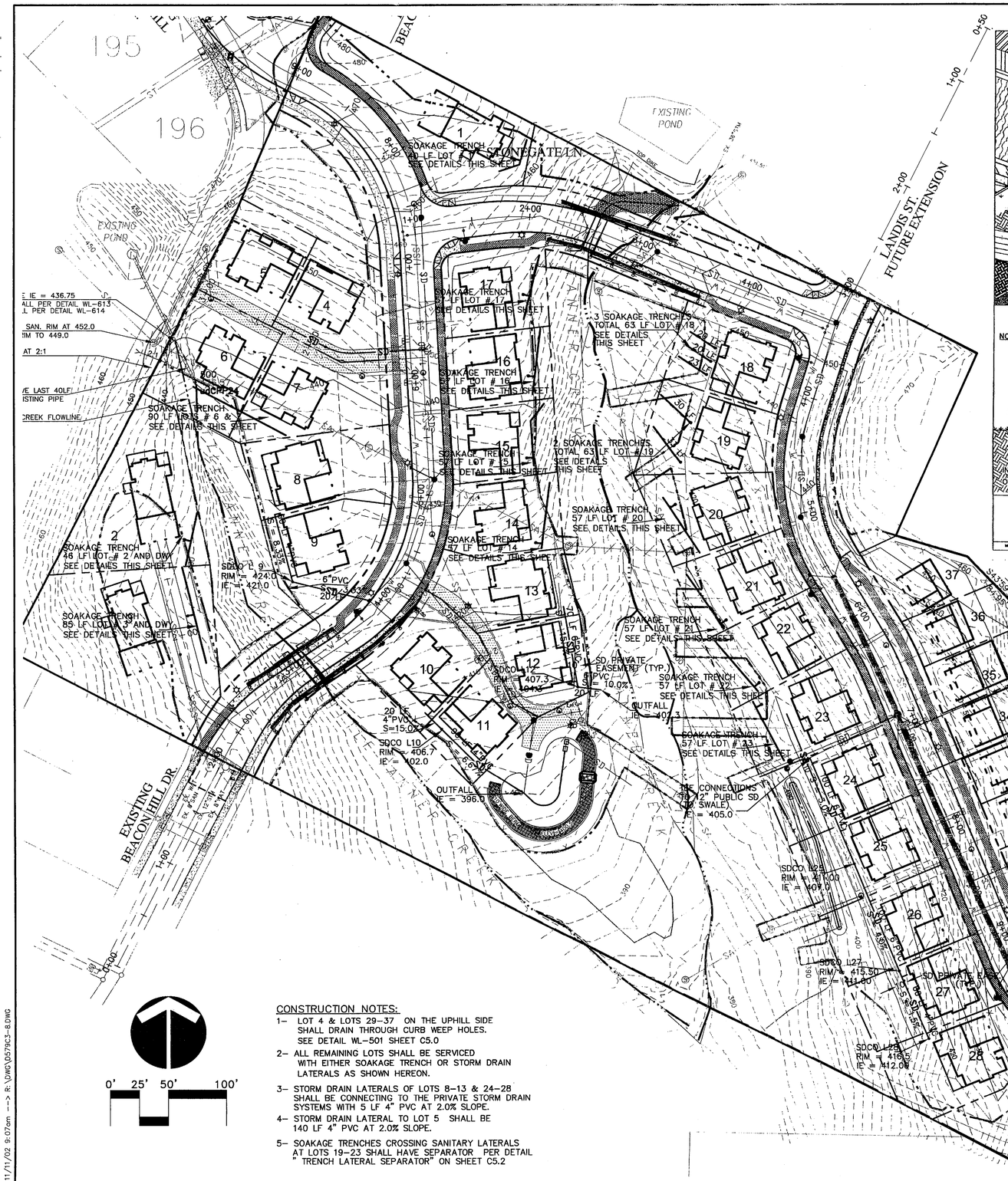


CONSTRUCTION NOTES:

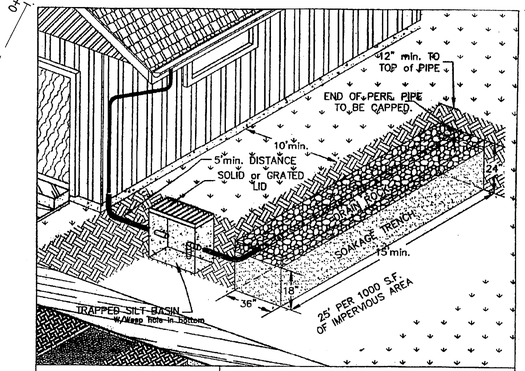
1- LOT 4 & LOTS 29-37 ON THE UPHILL SIDE SHALL DRAIN THROUGH CURB WEEP HOLES. SEE DETAIL WL-501 SHEET C5.0

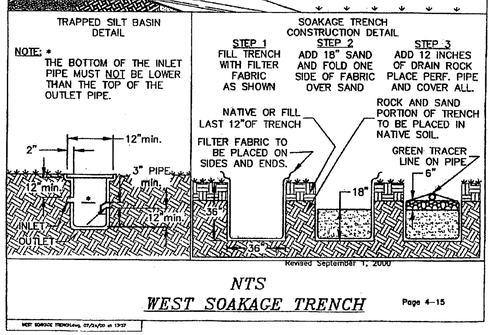
2- ALL REMAINING LOTS SHALL BE SERVICED WITH EITHER SOAKAGE TRENCH OR STORM DRAIN LATERALS AS SHOWN HEREON.

3- STORM DRAIN LATERALS OF LOTS 8-13 & 24-28 SHALL BE CONNECTING TO THE PRIVATE STORM DRAIN SYSTEMS WITH 5 LF 4" PVC AT 2.0% SLOPE.

4- STORM DRAIN LATERAL TO LOT 5 SHALL BE 140 LF 4" PVC AT 2.0% SLOPE.

5- SOAKAGE TRENCHES CROSSING SANITARY LATERALS AT LOTS 19-23 SHALL HAVE SEPARATOR PER DETAIL " TRENCH LATERAL SEPARATOR" ON SHEET C5.2





Revised September 1, 2000

NTS

WEST SOAKAGE TRENCH

Page 4-15

WEST SOAKAGE TRENCH.dwg, 07/24/01 at 13:27

Stormwater Management/Disposal Trench

Applicable to Areas West of the Willamette

Sandfilter Soakage Trench Sizing:
25 linear feet of trench for every 1000 sf of impervious surface is required. A minimum 15-foot long soakage trench is required. Soakage trenches 15 feet long may serve a maximum of 600 sf of horizontally projected roof area or other impervious surface. This is a minimum sizing for treatment. However, if mitigation occurs on the site, this sizing may be increased by OPDR for stormwater disposal purposes due to soil percolation rates.

Trench

- Sandfilter soakage trench and perforated pipe must be installed level and parallel to contour of finish grade.
- Sandfilter soakage trench shall be located no closer than 10 feet to any building and not closer than 5 feet from property line.
- Sandfilter soakage trench must be filled with a minimum of 18" Medium Sand meeting OAR 340-71-295 (3)(e).
- Minimum 6" of ¾" - 2 ½" round or crushed rock to cover sand separated by one layer of filter fabric.
- The pipe shall be laid on top of this gravel and covered with filter fabric.
- At least 12" minimum of backfill shall be placed over this trench.
- All trenches shall be constructed on native soil and are not subject to vehicular traffic or construction work that will compact the soil, thus reducing the permeability.
- Slope shall not exceed 20% without a stamped and signed geotechnical report addressing slope stability.

Sand
Medium Sand meeting OAR 340-71-295 (3)(e). Sieve analysis of the medium sand to be loaded into the filter may be required to be made by a qualified party and a report provided to City of Portland plumbing inspector at the time of inspection. Analysis to comply with ASTM C136, Standard Methods for Sieve Analysis of Fine and Coarse Aggregate and in conjunction and accordance with ASTM C-117, Standard Test Method for Materials Finer than No.200 Sieve in Mineral Aggregates by Washing.

Sieve #	% Passing
3/8	100%
#4	95-100%
#8	80-100%
#16	45-85%
#30	15-60%
#50	3-15%
#100	4% or less

Pipe

- The solid pipe from building or other source to connection with perforated pipe must be installed at a ¼" per foot slope.
- All piping within 10 feet of building must be sch. 40 ABS, sch. 40 pvc, cast iron, sch. 40 ABS, 3" sch. 40 PVC or 3" cast iron pipe may be used for rain drain piping serving not more than 1500 sf of roof or surface area. Use 4" pipe if area is greater than 1500 sf.
- Non-Metallic pipe must have a minimum cover of 12" measured from top of pipe to finished grade.
- The pipe within the trench shall either be PVC D2729or HDPE Leach field pipe.

Filter Fabric must be one of the following types/brands:
LINQ 125EX; LINQ TYPAR3201; TNS R035; TNS E040; TNS R040; TNS R042; AMOCO 4535; Marafi 140NL

SERVICES/STORMWATER MOT/WEST.DOC

FOR INFORMATION PURPOSE ONLY. APPROVED BY BUILDING DEPARTMENT, DATE 07.13.01.

LEGEND

- RIGHT-OF-WAY LINE
- FUTURE RIGHT-OF-WAY LINE
- PROPERTY LINE
- LOT LINE
- EASEMENT LINE
- TRANSITION ZONE LINE
- BUILDING SETBACK LINE
- STREET CENTERLINE
- TRAIL

EXISTING UTILITIES

- ST STORM LINE
- WA WATER LINE
- SA SANITARY LINE
- XA SAN LINE TO BE ABANDONED IN PLACE
- SANITARY MANHOLE
- STORM MANHOLE
- STORM INLET
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- STREET LIGHT
- EXISTING FENCE

PROPOSED UTILITIES

- SANITARY LINE
- SANITARY MANHOLE
- SD STORM LINE
- SD STORM DETENTION PIPE
- STORM MANHOLE
- STORM INLET
- W WATER LINE
- FIRE HYDRANT ASSEMBLY
- WATER METER WITH CORP. STOP AT WATER MAIN
- WATER VALVE
- WATER BLOW-OFF ASSEMBLY

NO	DATE	BY	APPD.

REVISIONS

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HASSAN
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
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Tanner's Stonegate

CITY OF WEST LINN, OREGON

SOAKAGE TRENCHES AND PRIVATE STORM DRAIN PLAN

AS BUILTS

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17355 SW Boones Ferry Road
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Project No.
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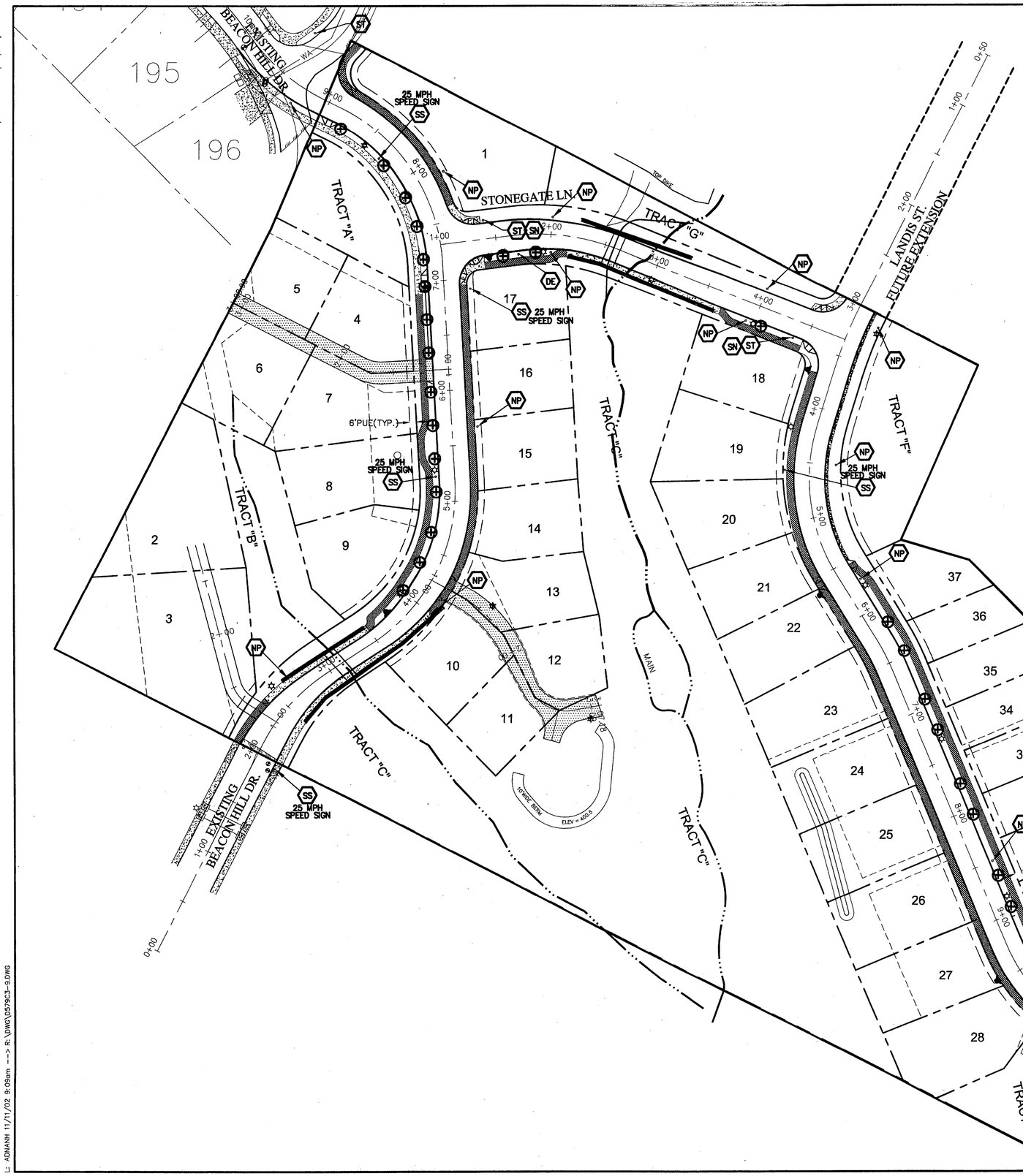


0' 25' 50' 100'

LEGEND

- RIGHT-OF-WAY LINE
- FUTURE RIGHT-OF-WAY LINE
- PROPERTY LINE
- LOT LINE
- EASEMENT LINE
- TRANSITION ZONE LINE
- BUILDING SETBACK LINE
- STREET CENTERLINE
- TRAIL

EXISTING UTILITIES

- STORM LINE
- WATER LINE
- SANITARY LINE
- SAN LINE TO BE ABANDONED IN PLACE
- SANITARY MANHOLE
- STORM MANHOLE
- STORM INLET
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- STREET LIGHT
- EXISTING FENCE

PROPOSED UTILITIES

- SANITARY LINE
- SANITARY MANHOLE
- STORM LINE
- STORM DETENTION PIPE
- STORM MANHOLE
- STORM INLET
- WATER LINE
- FIRE HYDRANT ASSEMBLY
- WATER METER WITH CORP. STOP AT WATER MAIN
- WATER VALVE
- WATER BLOW-OFF ASSEMBLY
- WATER AIR-RELEASE ASSEMBLY
- STREET LIGHT

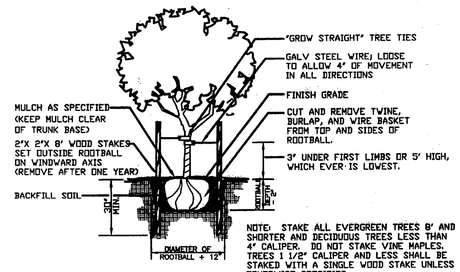
LEGEND

- ST STOP SIGN
- SN STREET NAME
- NP NO PARKING SIGN
- SS SPEED SIGN
- DE DEAD END SIGN

PLANT LIST

⊕ *Raywood Ash*
Fraxinus latifolia
1–1/2" caliper

Actual planting locations for each lot to be shown on the site plan when submitted for each individual residential building permit.



NOTE: STAKE ALL EVERGREEN TREES 8' AND SHORTER AND DECIDUOUS TREES LESS THAN 4" CALIPER. DO NOT STAKE VINE MAPLES. TREES 1 1/2" CALIPER AND LESS SHALL BE STAKED WITH A SINGLE WOOD STAKE UNLESS OTHERWISE SPECIFIED.

1 / L-1 TREE PLANTING DETAIL
NOT TO SCALE

NO.	DATE	BY	APPD.	REVISIONS

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Tanner's Stonegate

CITY OF WEST LINN, OREGON

SIGNAGE PLAN & STREET TREE PLAN

AS BUILTS

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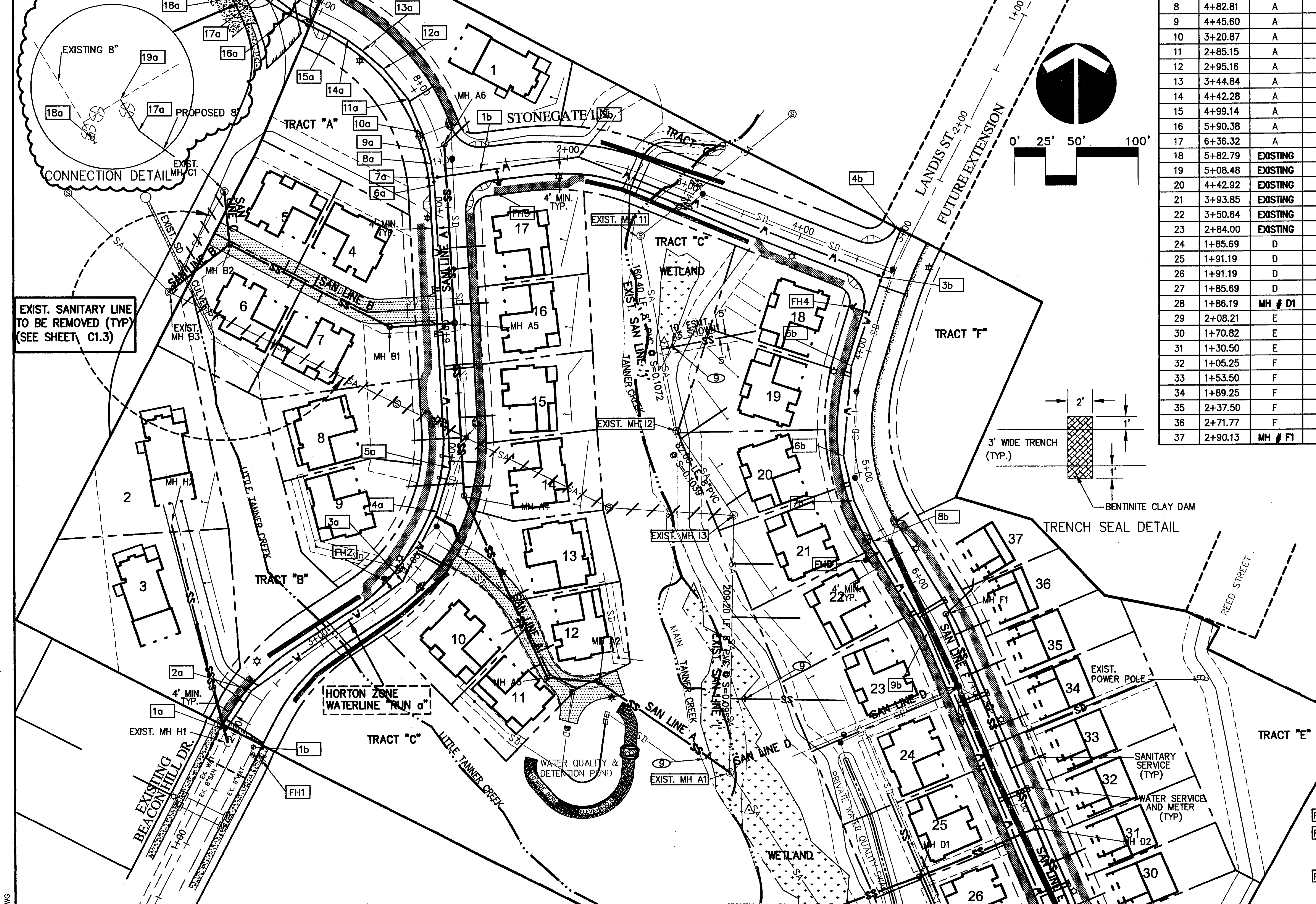

SANITARY SEWER CONSTRUCTION NOTES:

1. MANHOLE RIM ELEVATION ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL SET RIM ELEVATION TO MATCH TOP OF FINISH GRADE IN THE FIELD.
2. ALL SANITARY SERVICE LINES SHALL BE STAMPED IN CURB WITH "S".
3. ALL SANITARY SERVICE LINES SHALL BE 4" PVC WITH A MINIMUM SLOPE AT 2%, UNLESS OTHERWISE SHOWN ON PLAN.
4. ALL SANITARY SERVICE LINES SHALL BE EXTENDED 8' BEYOND RIGHT OF WAY (2' BEYOND PUE) AND SHALL HAVE A MINIMUM OF 4' COVER AT RIGHT OF WAY LINE.
5. ALL SANITARY MANHOLE LOCATIONS ARE BASED ON BOTH STREET AND SANITARY SEWER STATIONING, UNLESS OTHERWISE NOTED ON THE PLAN.
6. ALL SANITARY SERVICE LINE LOCATIONS ARE BASED ON SANITARY SEWER STATIONING ONLY, UNLESS OTHERWISE NOTED ON THE PLAN.
7. EXISTING SANITARY SEWER LINE TO BE REMOVED PRIOR TO OTHER SITE IMPROVEMENT.
8. SANITARY LATERALS TO LOTS 2 & 3 SHALL BE AT 1% SLOPE.

(9) CLAY DAM TRENCH SEALS, SEE DETAIL HEREON.

SANITARY SERVICE LINES TABLE

NOTE: FOR SAN. SERVICE LINES THAT ARE CONNECTED TO SAN. MANHOLES, SEE SAN. SEWER PROFILES FOR INVERTS AT MANHOLES.

BLDG #	SAN. STA	SAN. LINE	LENGTH (LF)	IE @ MAIN	SLOPE	IE @ LOT
1	7+20.37	MH # A6	27.30	453.50	0.1282	457.00
2	2+82.74	EXIST. H1	182.74	432.27	0.0100	434.27
3	2+00.00	EXIST. H1	100.00	432.27	0.0100	433.44
4	2+22.60	B	11.00	433.26	0.5218	439.00
5	2+49.56	B	11.00	433.42	0.5073	439.00
6	2+40.52	B	9.00	433.37	0.4033	437.00
7	2+13.66	B	9.00	433.21	0.4211	437.00
8	4+82.81	A	39.57	423.06	0.0957	427.00
9	4+45.60	A	46.17	419.44	0.0554	422.00
10	3+20.87	A	18.66	404.50	0.4555	413.00
11	2+85.15	A	9.00	400.21	1.4211	413.00
12	2+95.16	A	16.00	401.41	0.4744	409.00
13	3+44.84	A	16.00	407.38	0.3513	413.00
14	4+42.28	A	22.40	419.12	0.1732	423.00
15	4+99.14	A	28.50	424.65	0.1526	429.00
16	5+90.38	A	28.50	434.34	0.1635	439.00
17	6+36.32	A	28.50	440.92	0.1081	444.00
18	5+82.79	EXISTING	77.36	419.94	0.1300	430.00
19	5+08.48	EXISTING	44.00	411.81	0.1861	420.00
20	4+42.92	EXISTING	20.00	405.00	0.4500	414.00
21	3+93.85	EXISTING	32.55	400.02	0.3680	412.00
22	3+50.64	EXISTING	55.00	395.88	0.2567	410.00
23	2+84.00	EXISTING	91.93	389.50	0.1469	403.00
24	1+85.69	D	73.29	399.71	0.0995	407.00
25	1+91.19	D	15.00	401.07	0.0662	411.00
26	1+91.19	D	20.00	401.07	0.5465	412.00
27	1+85.69	D	78.45	399.71	0.1694	413.00
28	1+86.19	MH # D1	140.64	400.02	0.0923	413.00
29	2+08.21	E	31.50	430.96	0.2235	438.00
30	1+70.82	E	30.50	427.59	0.2430	435.00
31	1+30.50	E	30.50	423.96	0.2636	432.00
32	1+05.25	F	37.50	421.32	0.2581	431.00
33	1+53.50	F	30.50	422.29	0.2200	429.00
34	1+89.25	F	30.50	423.00	0.1967	429.00
35	2+37.50	F	30.50	423.97	0.1649	429.00
36	2+71.77	F	30.50	424.65	0.1754	430.00
37	2+90.13	MH # F1	30.05	425.18	0.1604	430.00

WATER CONSTRUCTION NOTES:

HORTON ZONE WATERLINE "RUN a"

- 1a STA 1+97.68, 14.00' LT. BEACON HILL DR. REMOVE EXISTING TEMPORARY 4" BLOWOFF AND THRUST BLOCK, FLUSH EXISTING 8" DIP AND CONNECT TO NEW 8" DIP WATERLINE.
- 2a STA 2+34.53, 11.98' LT. BEACON HILL DR. INSTALL 1–22.50° H. MJ BEND WITH THRUST BLOCK AND DEFLECT PIPE 1.5° WEST.
- 3a STA 3+83.74, 2.78' LT. BEACON HILL DR. INSTALL 1–22.5° H. MJ BEND WITH THRUST BLOCK AND DEFLECT PIPE 5.5° WEST.
- 4a STA 4+49.23, 8.99' LT. BEACON HILL DR. INSTALL 1–11.25° H. MJ BEND WITH MEGALUG RESTRAINT JOINT AND THUST BLOCK
- 5a STA 4+87.92, 7.34' LT. BEACON HILL DR. INSTALL 1–22.5° H. MJ BEND WITH MEGALUG RESTRAINT JOINT AND THRUST BLOCK AND DEFLECT PIPE 2.5° EAST.
- 6a STA 7+19.12, 9.92' LT. BEACON HILL DR. DEFLECT PIPE 5° TO WEST.
- 7a STA 7+25.38, 10.14' LT. BEACONHILL DR. INSTALL 8"X8" FLANGED TEE AND 3–8" MJ X FLANGED GATE VALVES, ONE AT EAST, ONE AT NORTH AND ONE AT SOUTH OF TEE.
- 8a STA 7+61.72, 9.88' LT. BEACON HILL DR. DEFLECT PIPE 5° TO WEST.
- 9a STA 7+49.62, 9.80 LT. BEACON HILL DR. DEFLECT PIPE 5° TO WEST.
- 10a STA 7+66.35, 9.71' LT. BEACON HILL DR. DEFLECT PIPE 5° TO WEST.
- 11a STA 7+96.07, 8.05' LT. BEACON HILL DR. INSTALL 11.25° H. MJ BEND WITH THRUST BLOCK AND DEFLECT PIPE 4° 45' 00" TO WEST.
- 12a STA 8+30.01, 9.08' LT. BEACON HILL DR. INSTALL 11.25° H. MJ BEND WITH THRUST BLOCK.
- 13a STA 8+53.81, 9.78' LT. BEACON HILL DR. DEFLECT PIPE 5° TO WEST.
- 14a STA 8+69.50, 9.77' LT. BEACON HILL DR. DEFLECT PIPE 5° TO WEST.
- 15a STA 8+85.27, 9.63' LT. BEACON HILL DR. DEFLECT PIPE 5° TO WEST.
- 16a STA 9+19.12, 10.37' LT. BEACON HILL DR. INSTALL 11.25° H. MJ BEND WITH THRUST BLOCK.
- 17a STA 9+45.04, 9.37' LT. BEACON HILL DR. INSTALL 22.5° H. MJ BEND WITH THRUST BLOCK. AT THE SOUTH END OF TEE.
- 18a STA 9+52.41, 19.17' LT. BEACON HILL DR. INSTALL 4" BLOWOFF ASSEMBLY WITH THRUST BLOCK AT EAST OF EXISTING GATE VALVE.
- 19a STA 9+53.90, 6.26' LT. BEACON HILL DR. WET TAP NEW 8" DIP TO THE EXIST. 8" WATERLINE INSTALL 8" MJ X FLANGED GATE VALVE AT EAST.

REVISED NOV 20, 01

EXISTING SANITARY LINE I		
MH #	RIM	IE @ CENTER
I1	437.56	429.86
I2	418.75	412.47
I3	416.53	403.68
A1	392.47	383.47
I4	386.88	381.55 (BOTTOM=378.38)

WATERLINE "RUN b"

- 1b STA 1+28.89, 5.21' RT. STONEGATE LN. DEFLECT PIPE 7° SOUTH.
- 2b STA 2+08.83, 1.64 LT. STONEGATE LN. INSTALL 1–22.5° H., AND 1–11.25° H. MJ BEND WITH THRUST BLOCK
- 3b STA 4+80.69, 6.00' RT. STONEGATE LN.= STA 3+40.14, 8.27' RT. LANDIS STR. INSTALL 8"X8" FLANGED TEE AND THRUST BLOCK AND 3–8" MJ X FLANGED GATE VALVES, ONE AT EAST OF TEE, ONE AT NORTH AND SOUTH OF TEE.
- 4b STA 3+01.00, 9.84' RT. LANDIS STR. INSTALL TEMPORARY 4" BLOWOFF ASSEMBLY.
- 5b STA 4+15.38, 10.00' RT. LANDIS STR. INSTALL 1–11.25° H. MJ BEND WITH THRUST BLOCK AND DEFLECT PIPE 2° 45' 0" EAST.
- 6b STA 4+85.00, 10.00' RT. LANDIS STR. INSTALL 1–22.5° H. MJ BEND WITH THRUST BLOCK AND DEFLECT PIPE 6° 45' 0" EAST.
- 7b STA 5+19.81, 10.00' RT. LANDIS STR. INSTALL 1–11.25° H. MJ BEND WITH THRUST BLOCK AND DEFLECT PIPE 0° 45' 0" EAST.
- 8b STA 5+54.62, 10.00' RT. LANDIS STR. AND DEFLECT PIPE 6° WEST.
- 9b STA 6+41.15, 9.48' RT. LANDIS STR. DEFLECT PIPE 8° EAST AND INSTALL RESTRAINT JOINT AND THRUST BLOCK
- 10b STA 9+23.18, 10.00' RT. LANDIS STR. & DEFLECT 5° TO EAST.
- 11b STA 9+50.98, 10.00' RT. LANDIS STR. INSTALL 1–11.25° H. MJ BEND WITH THRUST BLOCK AND DEFLECT PIPE 1° 15' 00" WEST.
- 12b STA 9+78.77, 10.00' RT. LANDIS STR. INSTALL 1–11.25° H. MJ BEND WITH THRUST BLOCK AND DEFLECT PIPE 1° 15' 00" WEST.
- 13b INSTALL 8" MJ X MJ GATE VALVE, AND TEMPORARY 4" BLOWOFF ASSEMBLY WITH THRUST BLOCK.

FIRE HYDRANTS CONSTRUCTION NOTES

- FH1 EXISTING FIRE HYDRANT.
- FH2 STA 3+74.10, 15.10' LT. BEACON HILL DR. INSTALL FIRE HYDRANT ASSY. , INCLUDING 8"X6" TEE, 6" GATE VALVE, 6" D.I.P. AND THRUST BLOCK PER CITY OF WEST LINN STANDARD, DWG. NO. WL–401.
- FH3 STA 1+42.15, 17.13' RT. STONEGATE LN. INSTALL FIRE HYDRANT ASSY. , INCLUDING 8"X6" TEE, 6" GATE VALVE, 6" D.I.P. AND THRUST BLOCK PER CITY OF WEST LINN STANDARD, DWG. NO. WL–401.
- FH4 STA 3+70.13, 23.25' RT. LANDIS STR. INSTALL FIRE HYDRANT ASSY. , INCLUDING 8"X6" TEE, 6" GATE VALVE, 6" D.I.P. AND THRUST BLOCK PER CITY OF WEST LINN STANDARD, DWG. NO. WL–401.
- FH5 STA 5+64.44, 23.00' LT. LANDIS STR. INSTALL FIRE HYDRANT ASSY. , INCLUDING 8"X6" TEE, 6" GATE VALVE, 6" D.I.P. AND THRUST BLOCK PER CITY OF WEST LINN STANDARD, DWG. NO. WL–401.
- FH6 STA 9+48.00, 23.25' RT. LANDIS STR. INSTALL FIRE HYDRANT ASSY. , INCLUDING 8"X6" TEE, 6" GATE VALVE, 6" D.I.P. AND THRUST BLOCK PER CITY OF WEST LINN STANDARD, DWG. NO. WL–401.
- FH7 EXISTING FIRE HYDRANT.

WATERLINE CONSTRUCTION NOTES:

1. ALL PUBLIC WATERLINES SHALL HAVE A MINIMUM OF 3' OF COVER IN STREET RIGHT OF WAYS TO FINISH GRADE, UNLESS OTHERWISE SHOWN ON PLAN.
2. WATERLINES JOINTS AND JUNCTION LOCATIONS ARE BASED ON STREET STATIONING, UNLESS OTHERWISE NOTED.
3. ALL WATER SERVICE LINES SHALL BE SINGLE 1" COPPER PER CITY OF WEST LINN DWG. NO. WL–402.
4. ALL WATER SERVICES SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 3' AT MAINLINE.
5. ALL WATER METERS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS TO AVOID CONFLICT WITH DRIVEWAYS, STREET LIGHT POLES, STORM'S CATCH BASINS, STORM AND SANITARY LATERALS.
6. WATER LINES CROSSING POINTS SHALL BE IN CONFORMANCE WITH THE CURRENT REQUIREMENTS AND SPECIFICATIONS OF CITY OF WEST LINN AND STATE HEALTH CODES.
7. A MINIMUM OF 10' HORIZONTAL SEPERATION, BETWEEN WATERLINE AND SANITARY SEWER AND A MINIMUM OF 18" VERTICAL SEPERATION, BETWEEN WATERLINE ABOVE SANITARY SEWER BELOW, SEE CITY OF WEST LINN STANDARD.
8. CONTRACTOR SHALL NOT CONNECT PROPOSED WATERLINE TO EXISTING WATERLINE, BEFORE THE NEW WATERLINE HAS BEEN TESTED AND ACCEPTED BY THE CITY INSPECTOR. CONNECTIONS MUST BE DONE WITH THE PRESENT OF CITY OF WEST LINN INSPECTOR.

L: ADNANH 11/11/02 9:10am ---> R:\DWG\D579C4-0.DWG

REVISIONS | NO. | DATE | BY | APPD.

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER 46494PE OREGON DECEMBER 14, 2000 ADNAN ANIS HADDAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate

CITY OF WEST LINN, OREGON

SANITARY SEWER AND WATER PLAN

AS BUILTS

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

10579
Project No.
D579C4-0
File No.
C4.0
Sheet No.

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D579X001
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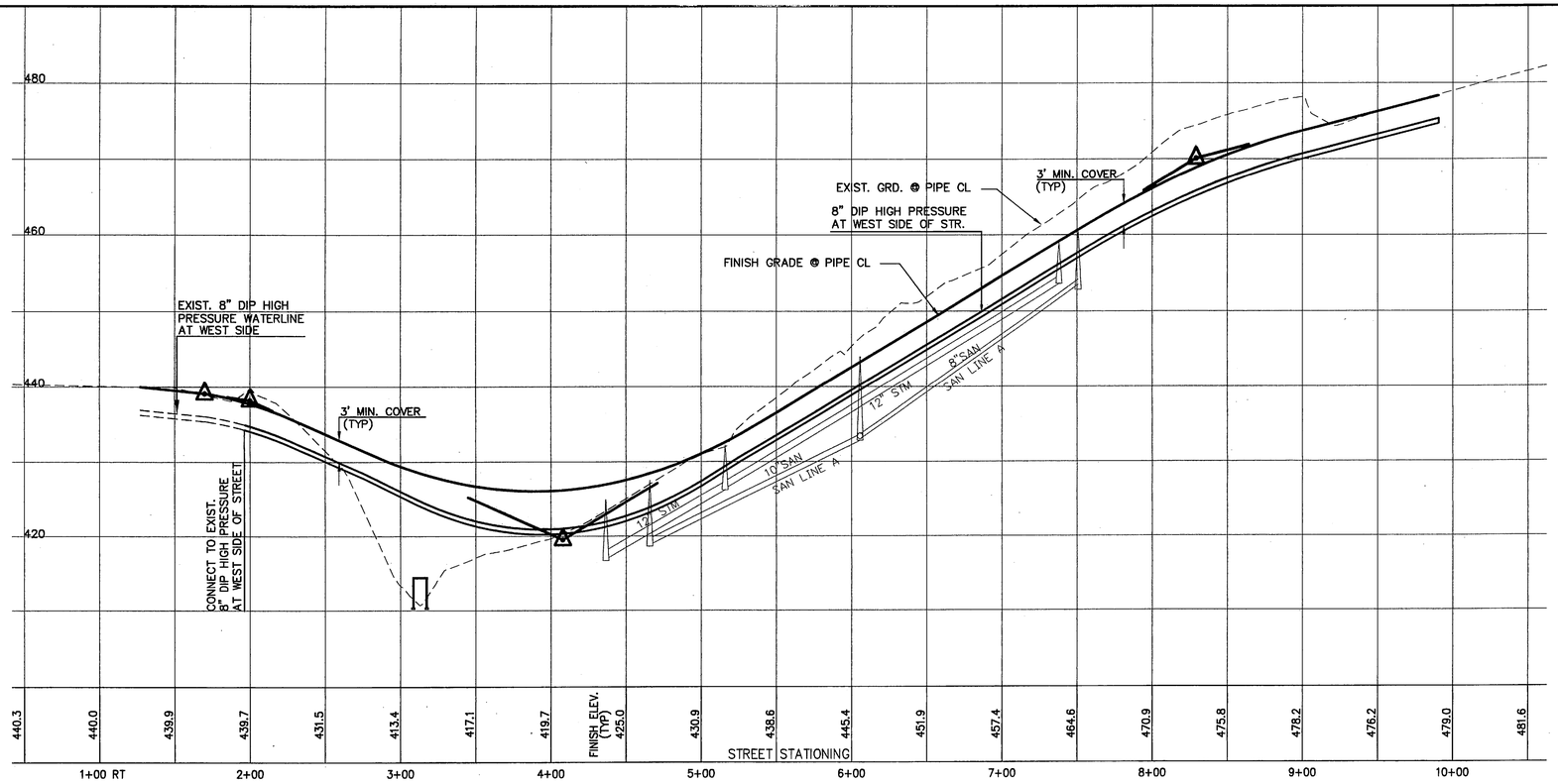
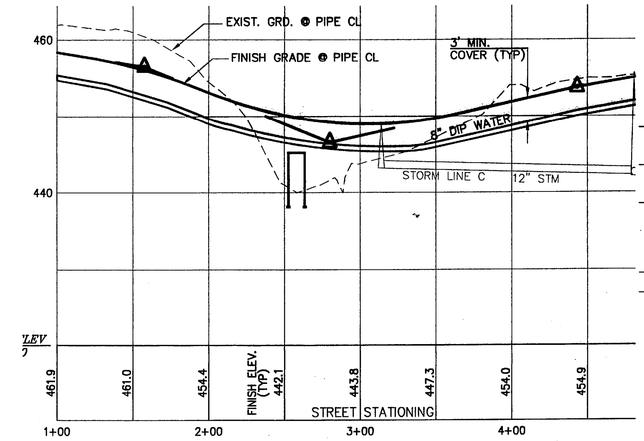


BEACON HILL DRIVE PROFILE

1 / C4.1

SCALE: HORIZONTAL 1"= 50'
VERTICAL 1"= 10'

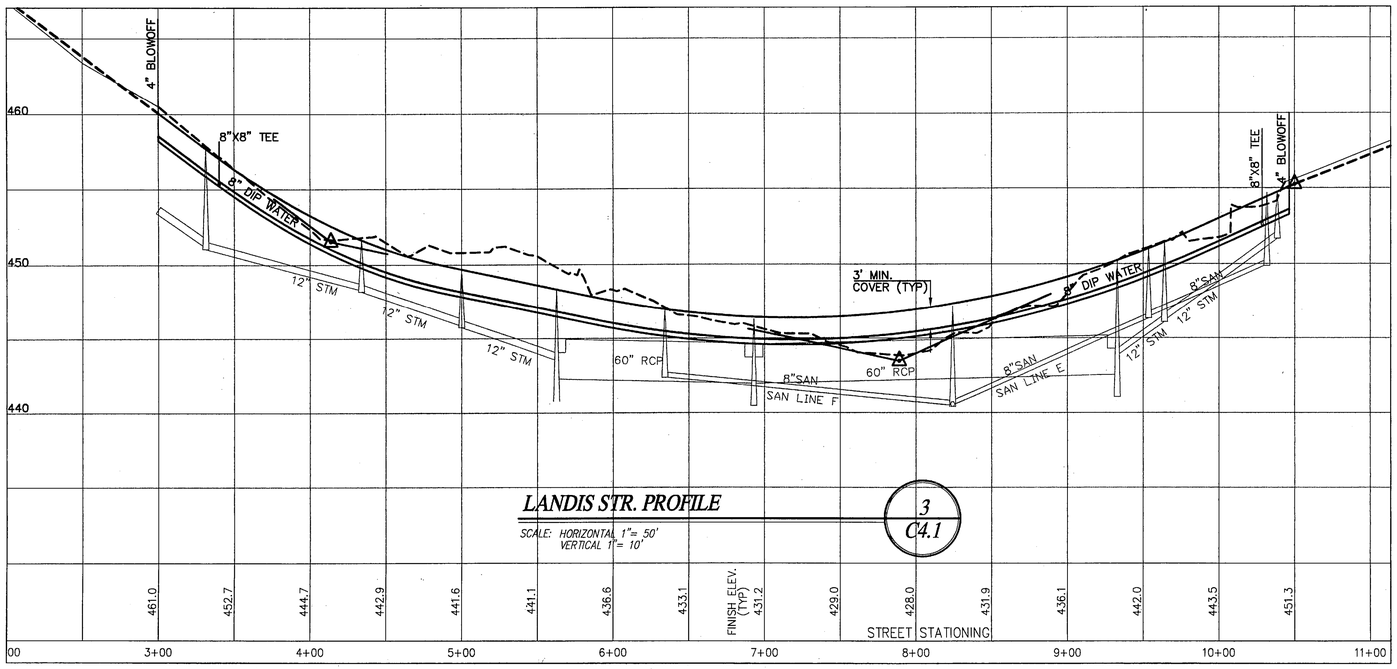
NOTE:
FOR WATERLINE AND SANITARY SEWER CONSTRUCTION NOTES, SEE SHEET C4.0



STONEGATE LANE PROFILE

2 / C4.1

SCALE: HORIZONTAL 1"= 50'
VERTICAL 1"= 10'



LANDIS STR. PROFILE

3 / C4.1

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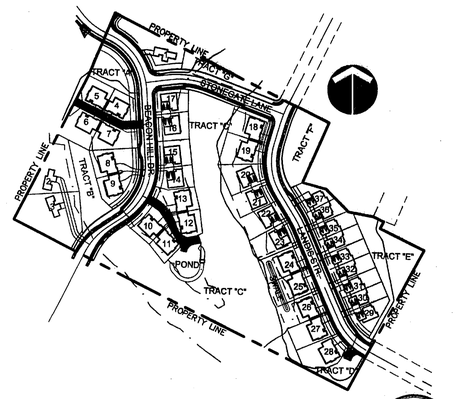

KEYMAP

4 / C4.1

SCALE: HORIZONTAL 1"=200'

08/21/2001
Date
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Designed
AAH/BLW/JAH
Drawn
Checked By Date

REVISIONS | NO. | DATE | BY | APPD.

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
AIMAN ANIS HAMAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

AS BUILTS

Tanner's Stonegate
CITY OF WEST LINN, OREGON
WATERLINE PROFILE

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
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Project No.
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File No.
C4.1
Sheet No.

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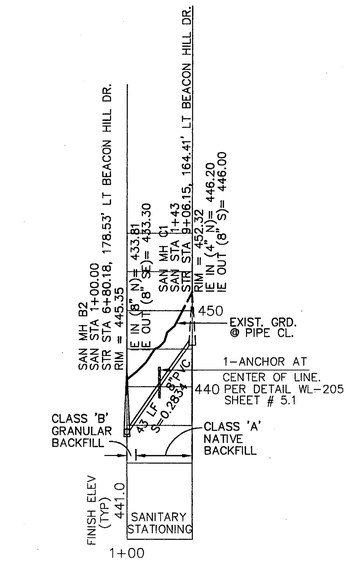
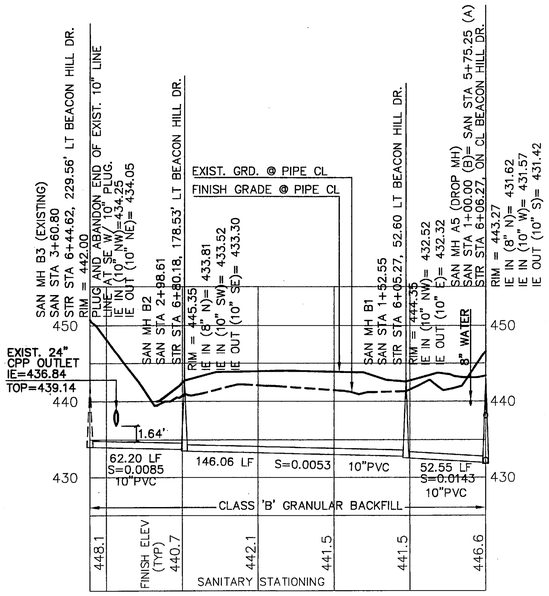


SANITARY LINE C PROFILE

1 C4.2

SCALE: HORIZONTAL 1"= 50'
VERTICAL 1"= 10'



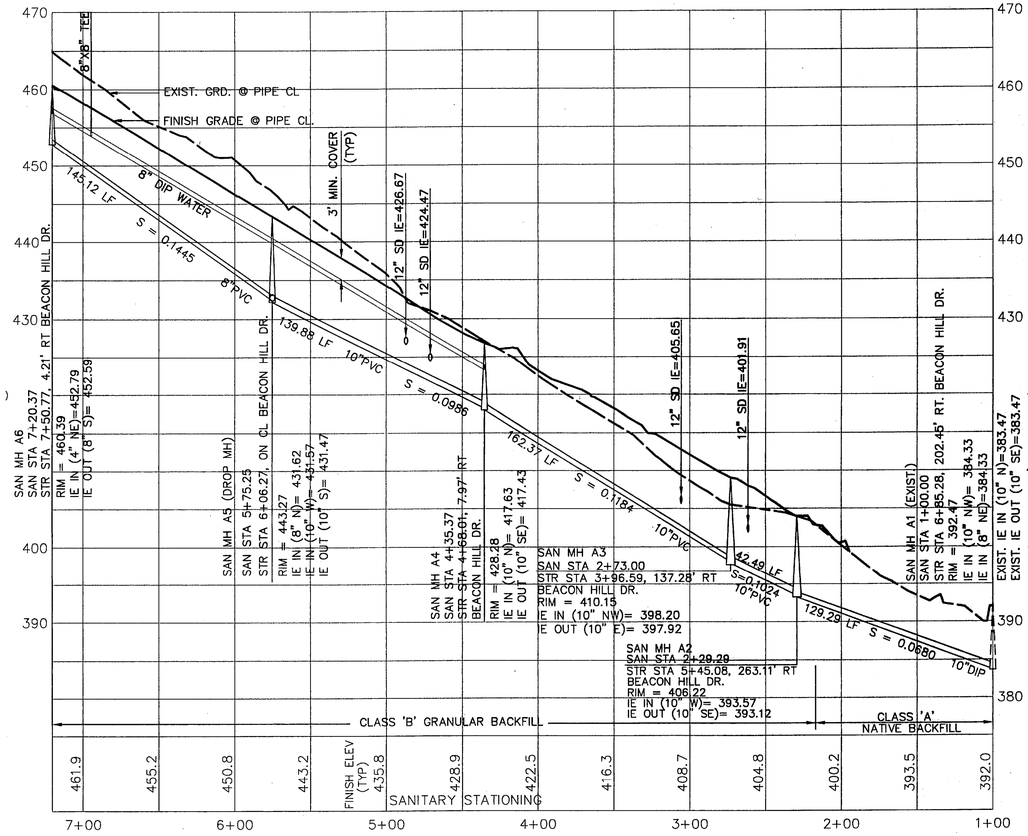
SANITARY LINE B PROFILE

2 C4.2

SCALE: HORIZONTAL 1"= 50'
VERTICAL 1"= 10'

NOTE:

– FOR WATERLINE AND SANITARY SEWER CONSTRUCTION NOTES, SEE SHEET C4.0



SANITARY LINE A PROFILE

3 C4.2

SCALE: HORIZONTAL 1"= 50'
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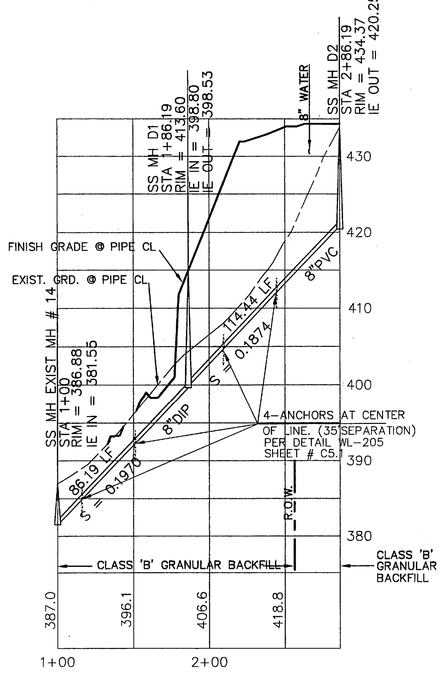
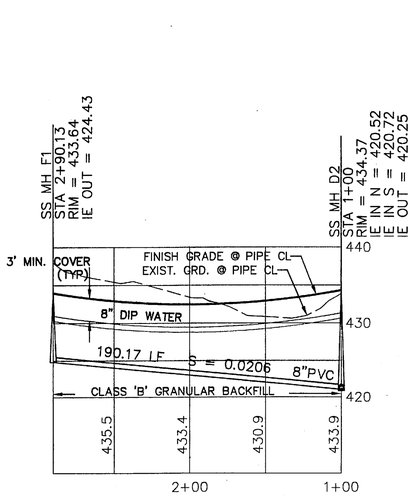


SANITARY LINE D PROFILE

4 C4.2

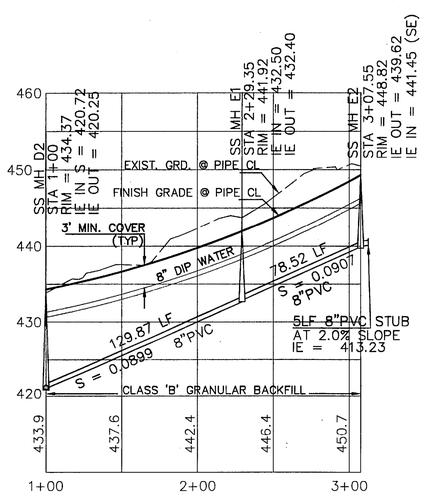
SCALE: HORIZONTAL 1"= 50'
VERTICAL 1"= 10'



SANITARY LINE F PROFILE

5 C4.2

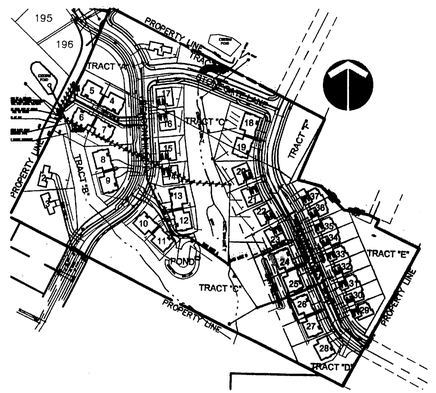
SCALE: HORIZONTAL 1"= 50'
VERTICAL 1"= 10'



SANITARY LINE E PROFILE

6 C4.2

SCALE: HORIZONTAL 1"= 50'
VERTICAL 1"= 10'



KEYMAP

8 C4.2

SCALE: HORIZONTAL 1"=200'

08/21/2001
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REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADHAD
RENEWAL 06/30/2003

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NO. | DATE | BY | APPD.

NORWAY DEVELOPMENT
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SANITARY SEWER AND WATER PROILES

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10579
Project No.
D579C4-2
File No.
C4.2
Sheet No.

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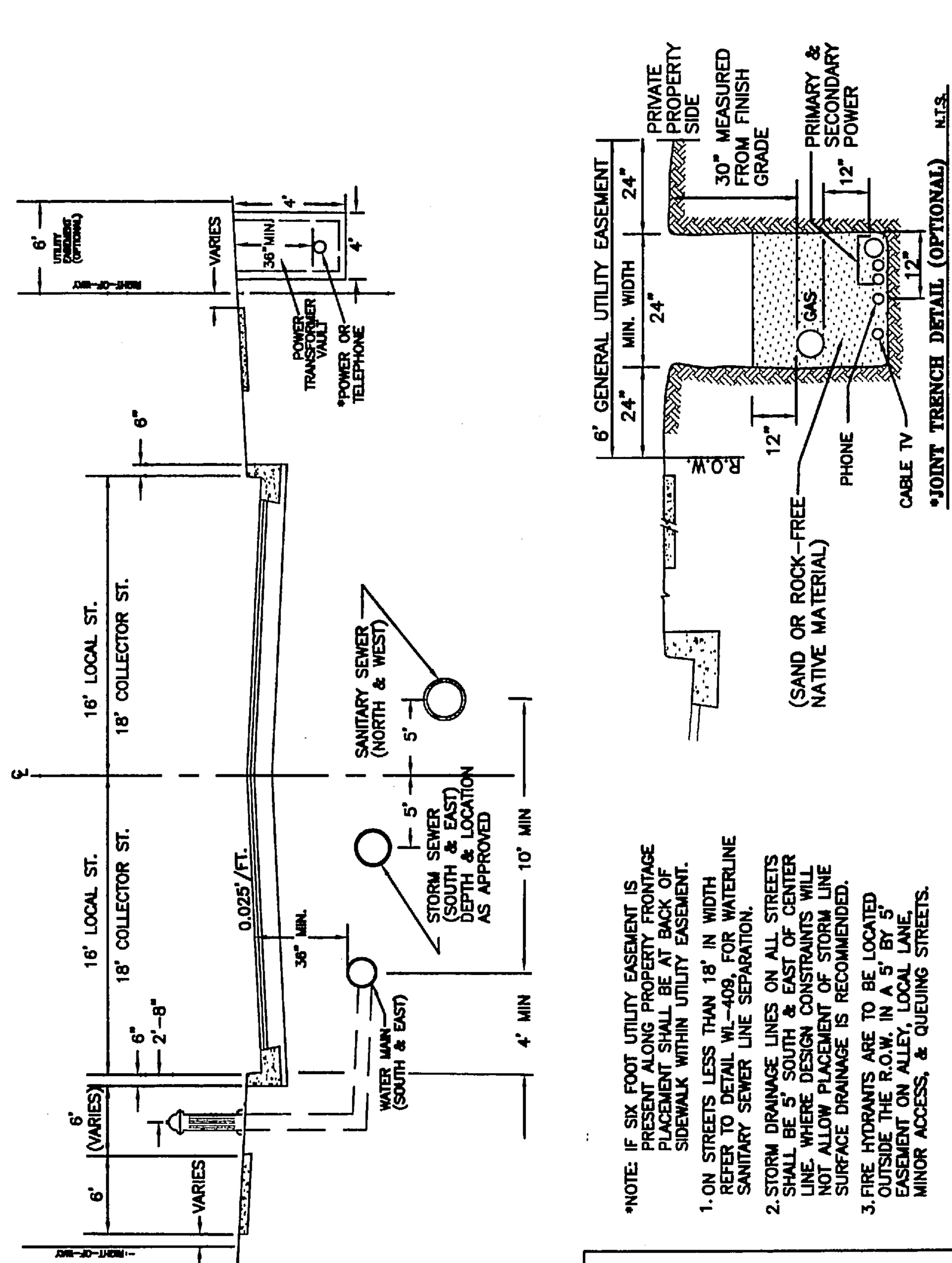
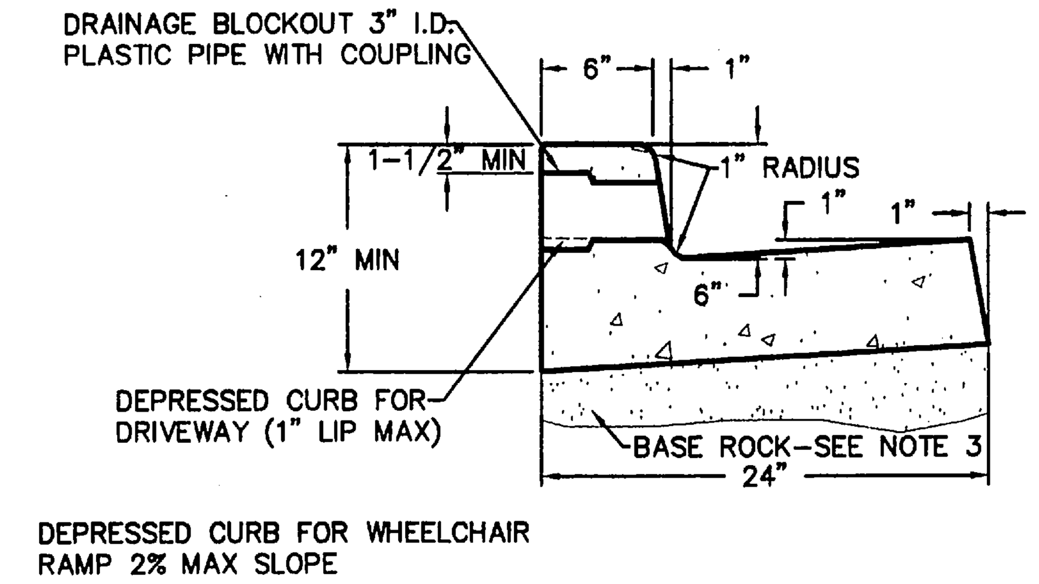
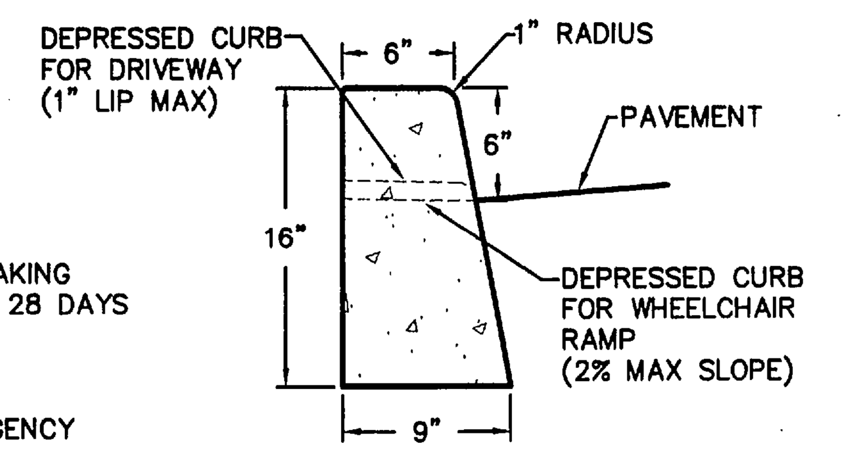


Typical Utility Placement Detail

West Linn | DATE: JAN 2000 | DRAWING NO. WL-500 | FILE NO. 00-500



TYPICAL CURB & GUTTER



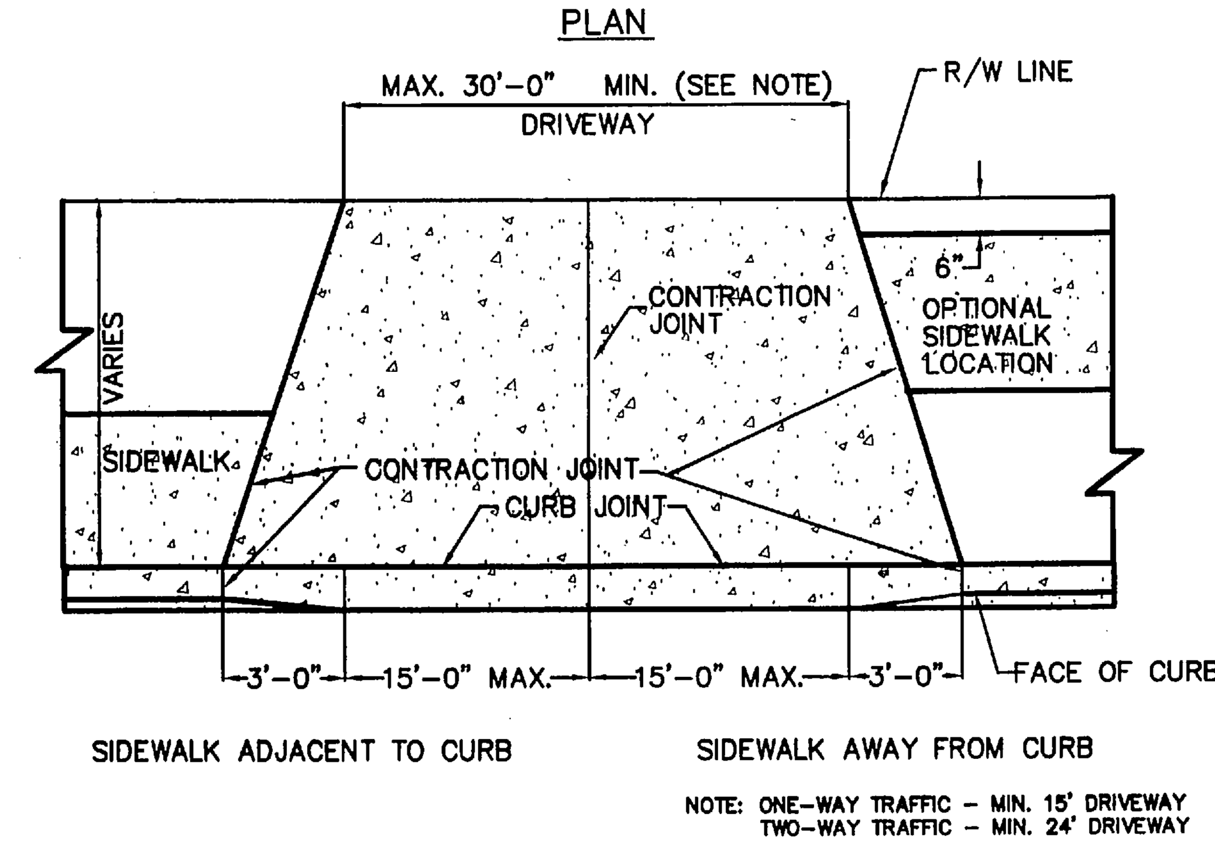
TYPICAL STRAIGHT CURB

NOTES:
1. CONCRETE SHALL HAVE A BREAKING STRENGTH OF 3300 PSI AFTER 28 DAYS
2. CONTRACTION JOINTS
   A) TO BE PROVIDED
      -AT EACH POINT OF TANGENCY
      -AT EACH COLD JOINT
      -AT EACH SIDE OF INLET STRUCTURES
      -AT BOTH SIDES OF AN APPROACH
   B) SPACING TO BE NOT MORE THAN 15 FEET
   C) THE DEPTH OF THE JOINT SHALL BE AT LEAST 1/3 OF THE THICKNESS OF CONCRETE
   D) EXPANSION JOINTS SHALL NOT BE USED
3. BASE ROCK – 1-1/2"-0", 95% COMPACTION ROCK SHALL BE TO SUBGRADE OF THE STREET SECTION OR 4" IN DEPTH, WHICHEVER IS GREATER
4. DRAINAGE BLOCK – 3" DIA. PLASTIC PIPE
   A) DRAINAGE ACCESS THROUGH EXISTING CURBS SHALL BE DONE BY:
      -CORE DRILLING
      -VERTICAL SAWCUT OF CURB 18" EACH SIDE OF DRAIN AND RE-POURED TO FULL DEPTH OF CURB
5. STAMP TOP OF CURB WITH "W" AT WATER SERVICE CROSSING AND "S" AT SANITARY LATERAL CROSSING

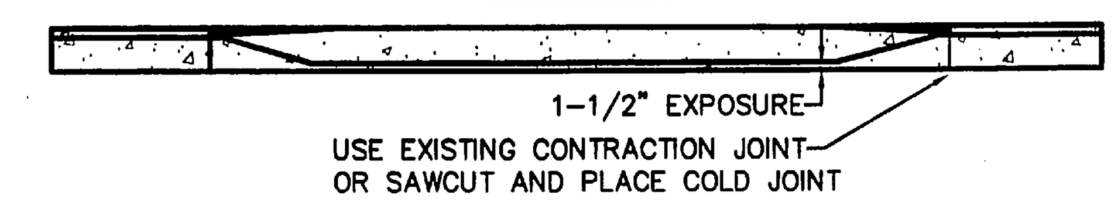
Typical Curbs

West Linn | DATE: JAN 2000 | DRAWING NO. WL-501 | FILE NO. 00-501

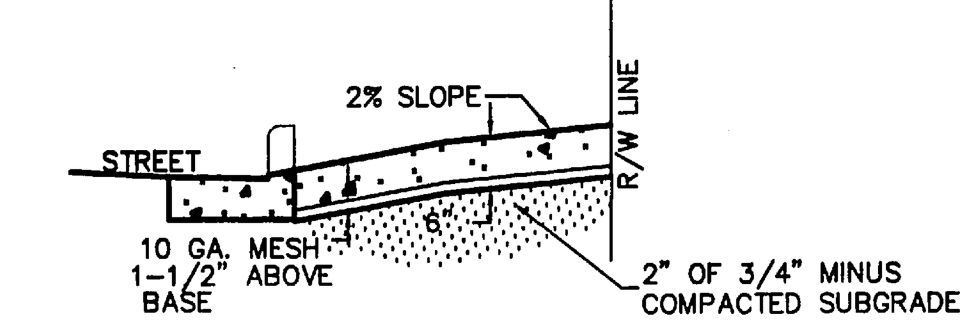
PLAN



ELEVATION



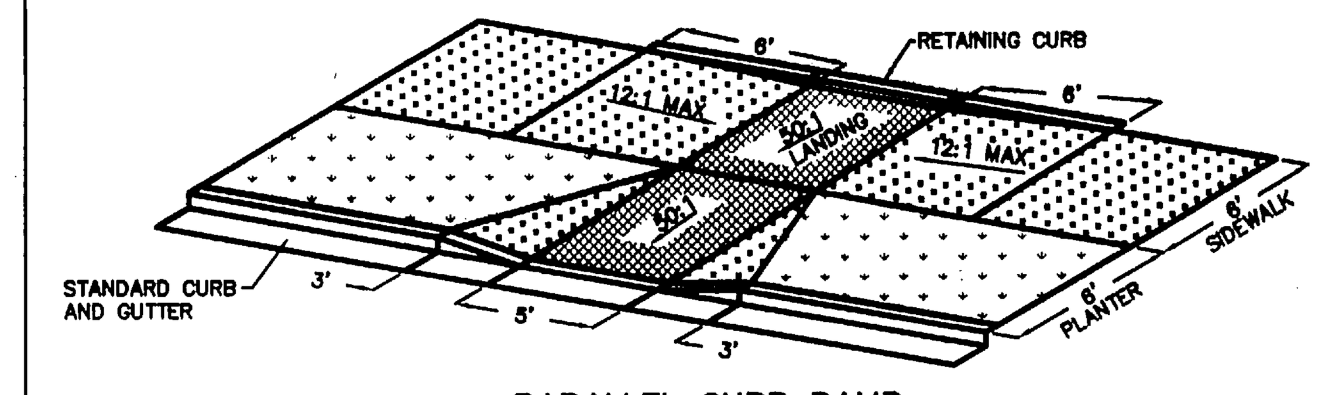
SECTION A–A



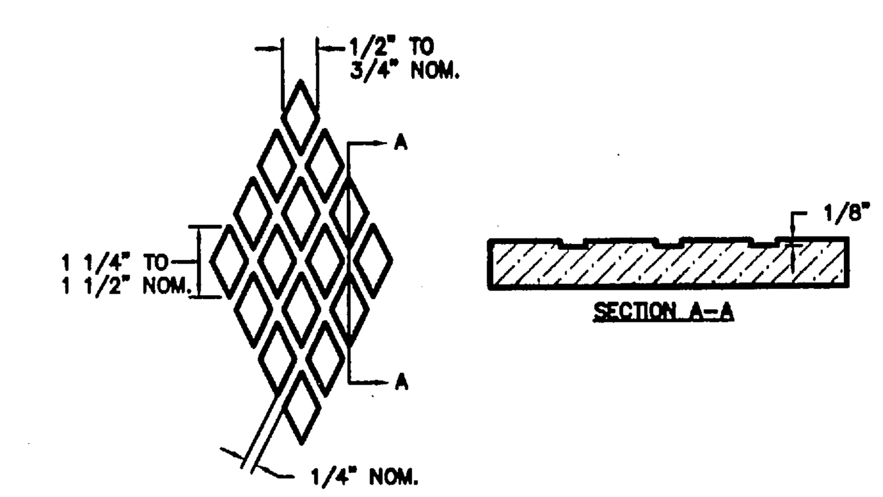
NOTES
1. CONCRETE SHALL HAVE A MINIMUM BREAKING STRENGTH OF 3300 PSI AFTER 28 DAYS, 6 SACK MIX.
2. CURB JOINT SHALL BE A TROWELED JOINT WITH A MIN. 1/2" RADIUS ALONG BACK OF CURB.
3. DRIVEWAY SHALL BE A MINIMUM 6" THICK.

Commercial Driveway

West Linn | DATE: JAN 2000 | DRAWING NO. WL-504 | FILE NO. 00-504



PARALLEL CURB RAMP

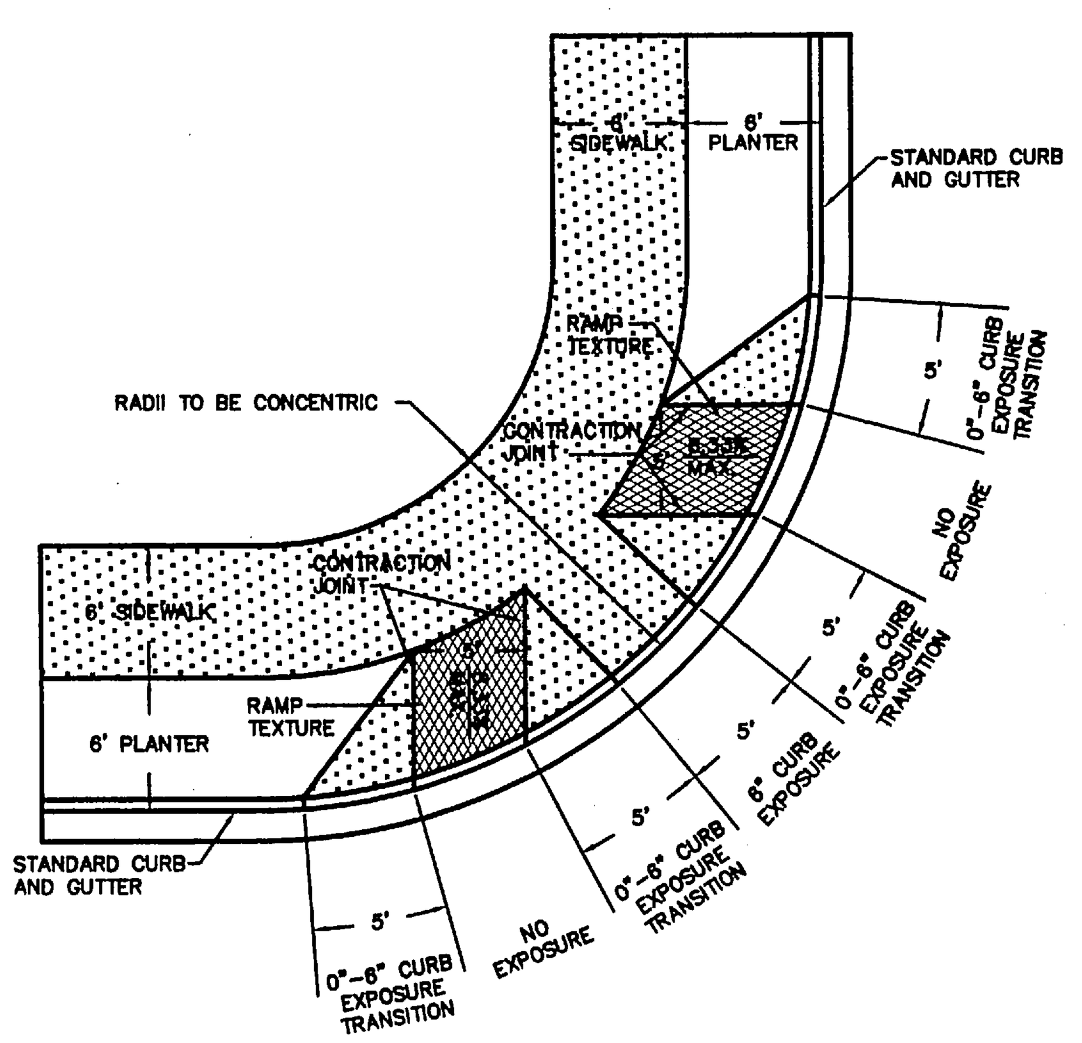


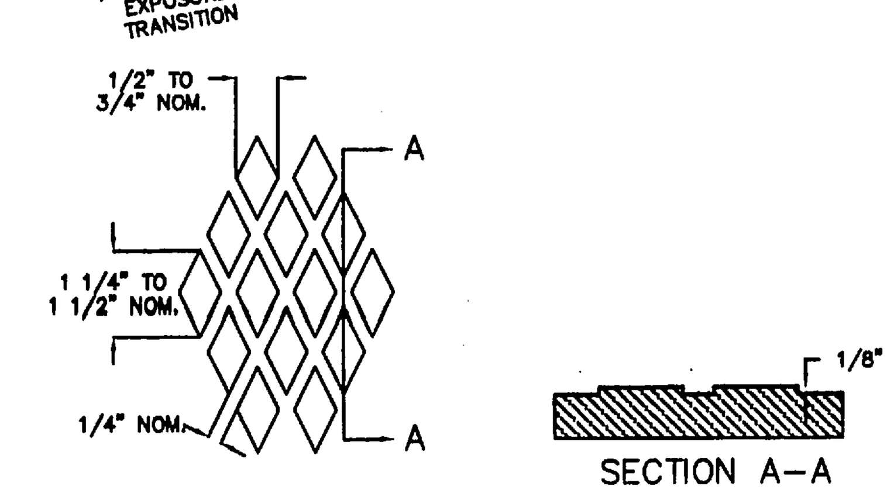
RAMP TEXTURE DETAIL

NOTES:
1. THE AMERICANS WITH DISABILITIES ACT" (ADA) REQUIRES THAT ACCESS RAMPS TO SIDEWALKS CONFORM TO ALL FEDERAL GUIDELINES. EXCEPTIONS TO THE REQUIREMENTS IN THIS DRAWING MUST BE APPROVED BY THE CITY ENGINEER AND MUST COMPLY WITH ADA.
2. NO ABOVE GROUND UTILITIES ARE PERMITTED WITHIN RAMP AREA.
3. LANDINGS SHALL BE PLACED AT THE TOP OF EACH RAMP. LANDING SLOPES SHALL NOT EXCEED 50:1 IN ANY DIRECTION. THE SLOPE OF THE SURFACING AT THE BOTTOM OF THE RAMP SHALL NOT EXCEED 20:1 FOR A DISTANCE OF 2' (SEE TYPICAL SECTION ABOVE).
4. MINIMUM LANDING DIMENSIONS SHALL BE 4' X 4'.
5. RAMP SURFACE SHALL BE TEXTURED WITH RAISED DIAMOND TEXTURE. TEXTURING SHALL BE DONE WITH AN EXPANDED METAL GRATE STAMPED INTO THE CONCRETE.
6. CONCRETE STRENGTH SHALL BE 3300 PSI.

Parallel Curb Ramp

West Linn | DATE: JAN 2000 | DRAWING NO. WL-506 | FILE NO. 00-506



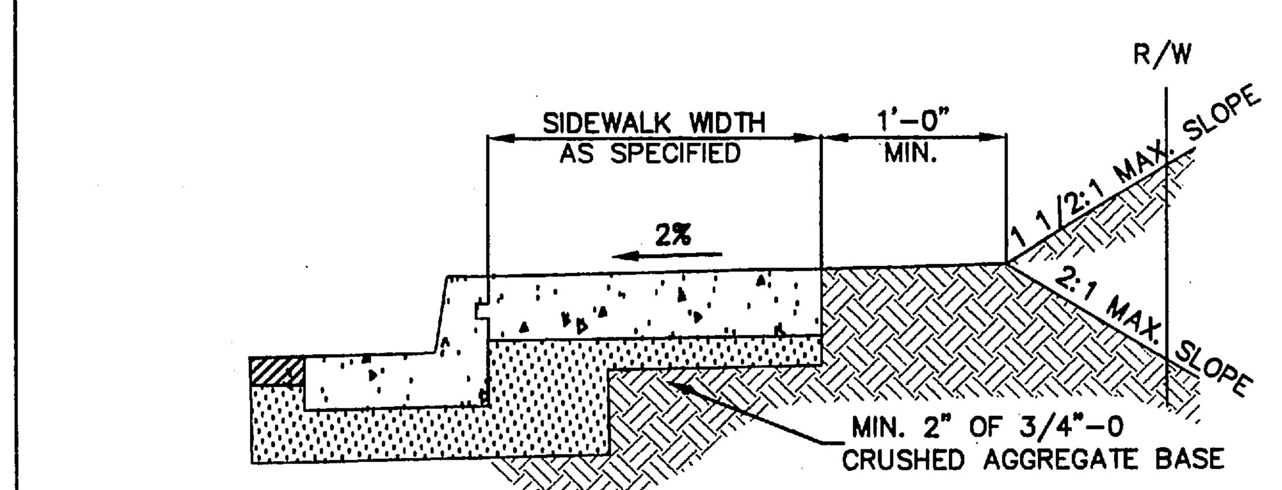


RAMP TEXTURE DETAIL

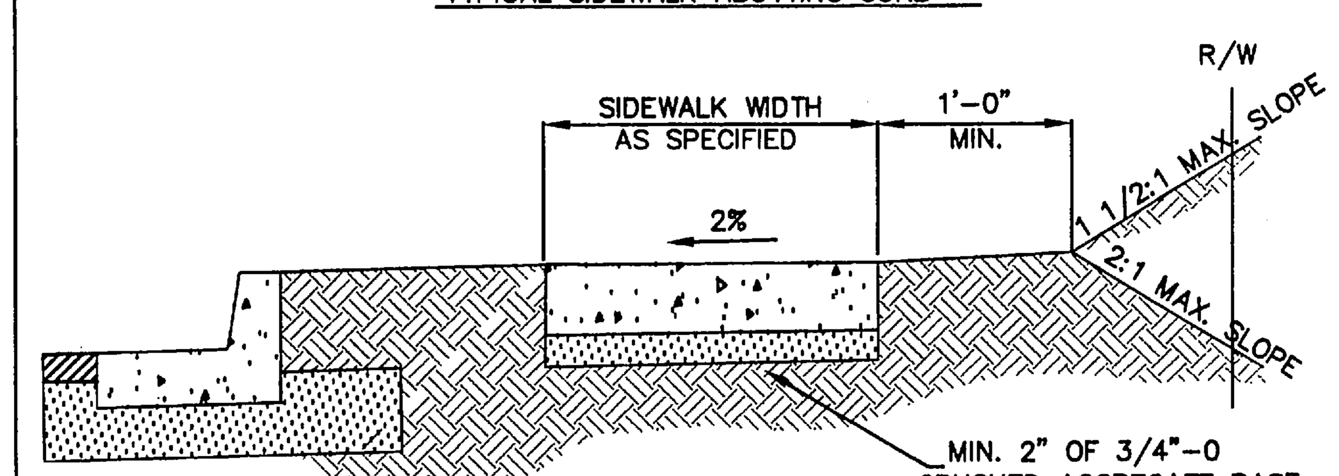
NOTES:
1. THE "AMERICANS WITH DISABILITIES ACT" (ADA) REQUIRES THAT ACCESS RAMPS TO SIDEWALKS CONFORM TO ALL FEDERAL GUIDELINES. EXCEPTIONS TO THE REQUIREMENTS IN THIS DRAWING MUST BE APPROVED BY THE CITY ENGINEER.
2. NO ABOVE GROUND UTILITIES ADRE PERMITTED WITHIN RAMP AREA.
3. RAMP SURFACE SHALL BE TEXTURED WITH RAISED DIAMOND TEXTURE. TEXTURING SHALL BE DONE WITH AN EXPANDED METAL GRATE STAMPED INTO THE CONCRETE.
4. CONCRETE STRENGTH SHALL BE 3300 PSI.
5. PLACE CONTRACTION JOINTS AS SHOWN ABOVE.
6. FOR INTERSECTING LOCAL STREETS USE DETAIL WL-507A.

Twin Curb Ramp

West Linn | DATE: JAN 2000 | DRAWING NO. WL-507B | FILE NO. 00-507B



TYPICAL SIDEWALK ABUTTING CURB

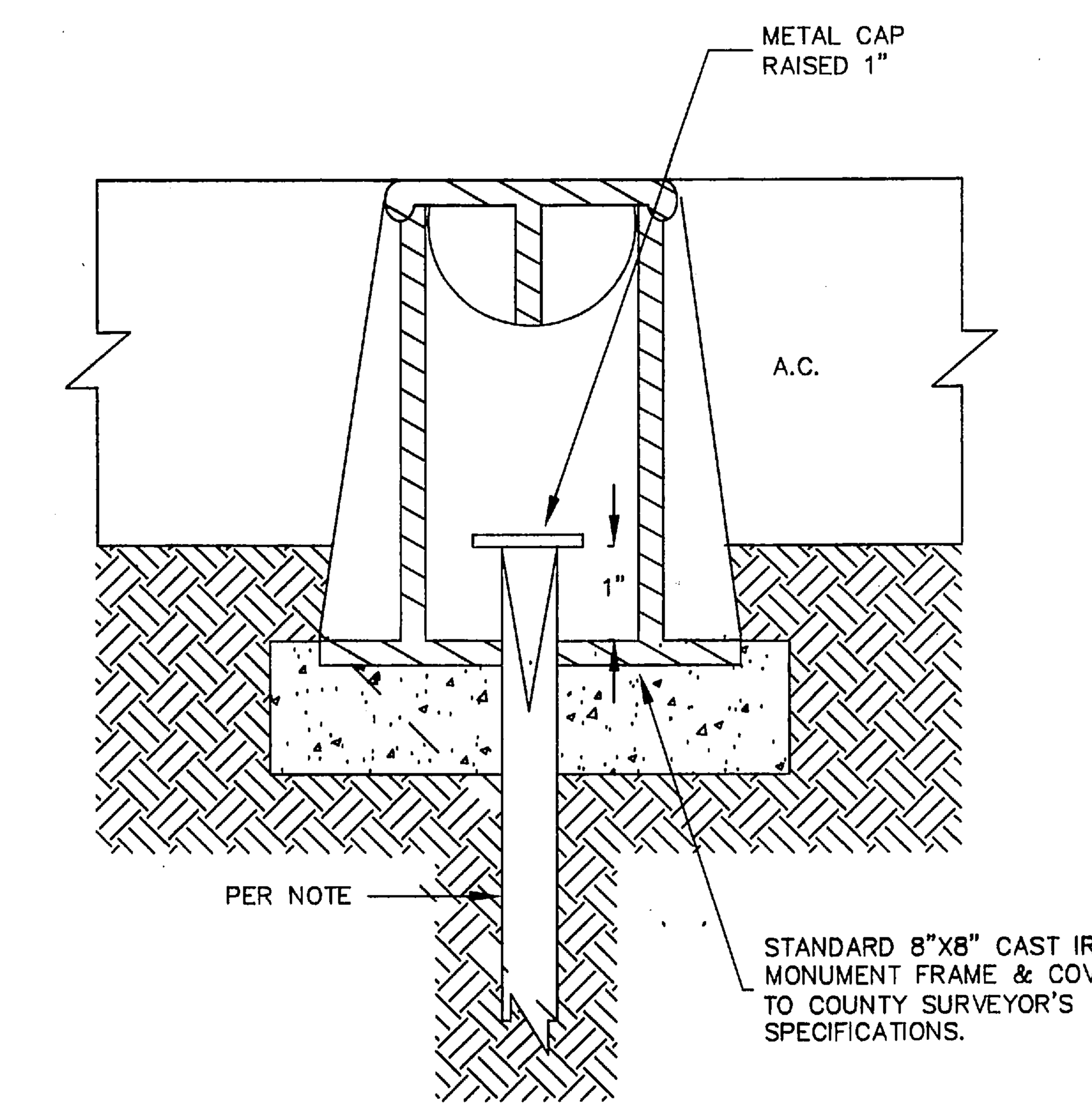


SIDEWALK AWAY FROM CURB

NOTES
1. CONCRETE SHALL BE 3300 PSI AT 28 DAYS, 6 SACK MIX, SLUMP RANGE OF 1 1/2" TO 3".
2. PANEL LENGTHS SHALL BE EQUAL TO THE SIDEWALK WIDTH, BUT MAY BE ADJUSTED WITH THE CITY ENGINEER'S APPROVAL.
3. CONTRACTION JOINTS (1/3RD OF THE THICKNESS OF CONCRETE) SHALL BE PLACED EVERY THIRD PANEL, WITH A MAX. SPACING OF 18 FEET. JOINTS SHALL ALSO BE PLACED AT THE SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, AND WHEELCHAIR RAMPS.
4. A CURING COMPOUND SHALL BE USED. WHITE REFLECTIVE SHEETING SHALL BE USED IN CASE OF RAIN.
5. FOR SIDEWALKS ADJACENT TO THE CURB AND POURED AT THE SAME TIME AS THE CURB, THE JOINT BETWEEN THEM SHALL BE A TROWELED JOINT WITH A MIN. 1/2" RADIUS.
6. THE SIDEWALK SHALL HAVE A MIN. THICKNESS OF 6" IF MOUNTABLE CURB IS USED OR IF THE SIDEWALK IS INTENDED AS A PORTION OF THE DRIVEWAY. OTHERWISE, THE SIDEWALK SHALL HAVE A MIN. THICKNESS OF 4".
7. DRAIN BLOCKOUTS IN THE CURB SHALL BE EXTENDED TO THE BACK OF THE SIDEWALK WITH A 3" DIA. PLASTIC PIPE AT A 2% SLOPE. A CONTRACTION JOINT SHALL BE PLACED OVER THE PIPE.

Concrete Sidewalk Cross Section

West Linn | DATE: JAN 2000 | DRAWING NO. WL-508 | FILE NO. 00-508



NOTES: ALL MONUMENTS SHALL USE EITHER 5/8" DIA.X 30" LONG IRON ROD OR 3/4" DIA.X 30" LONG IRON PIPE.

ALL MONUMENTS SHALL BE IN ACCORDANCE WITH ORS 209.250(4).

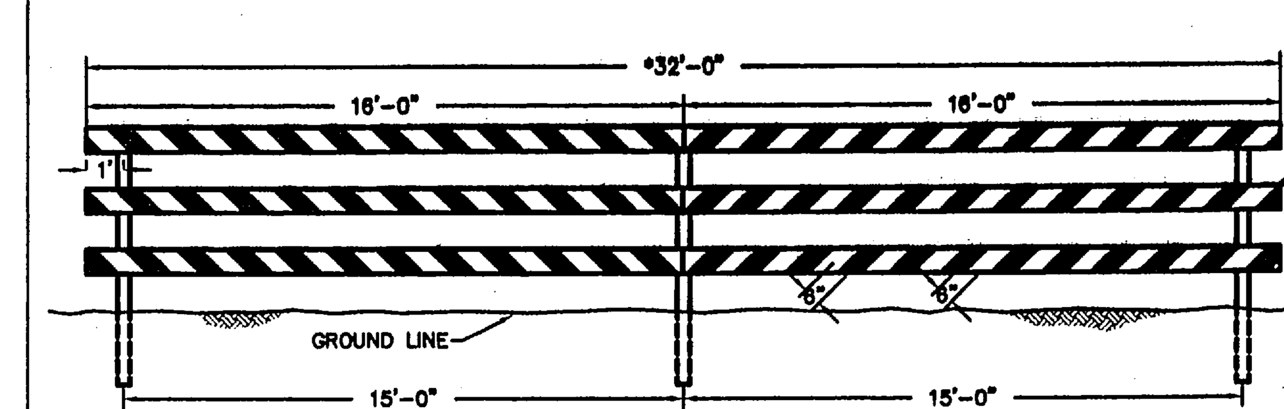
CONCRETE SHALL BE CLASS 3300.

FRAME AND COVER SHALL BE CAST IRON OR ALUMINUM.

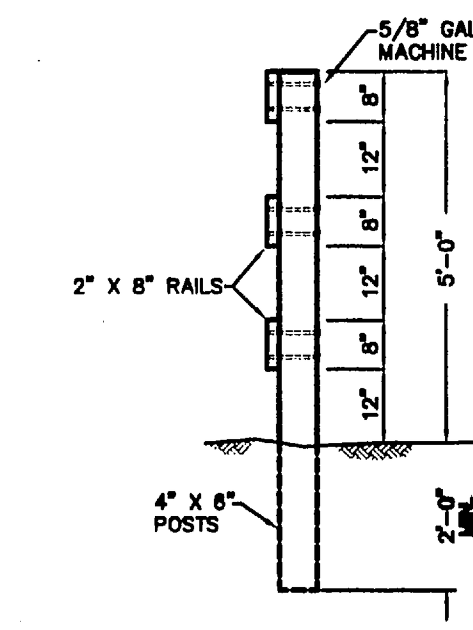
COVER SHALL HAVE "MONUMENT" CAST INTO TOP.

Centerline Survey Monuments

West Linn | DATE: JAN 2000 | DRAWING NO. WL-513 | FILE NO. 00-513



ELEVATION



END VIEW

NOTES:
1. RAILS TO BE PAINTED RED WITH WHITE STRIPES. THE WHITE STRIPES SHALL BE REFLECTORIZED
* FOR WIDER APPLICATIONS, MULTIPLE SECTIONS AS SHOWN SHALL BE USED.
2. SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND THE OREGON SUPPLEMENT.
   3F-1 BARRICADES
   6C-8 BARRICADE DESIGN
   6C-9 BARRICADE APPLICATION
3. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STATE OF OREGON STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

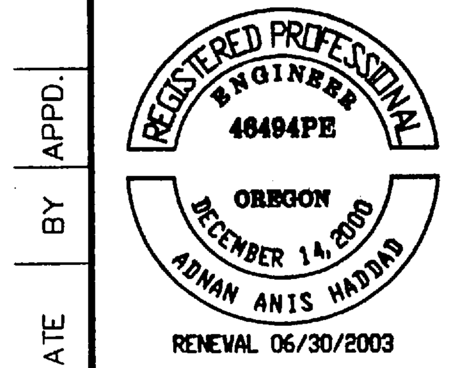
Street Barricade Type 3

West Linn | DATE: JAN 2000 | DRAWING NO. WL-516 | FILE NO. 00-516

ASBUILTS

REVISIONS | NO. | DATE | BY | APPD.

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date



NORWAY DEVELOPMENT
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Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate

CITY OF WEST LINN, OREGON

DETAIL SHEET

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

10579
Project No.
D579C5-0
File No.
C5.0
Sheet No.

[L : CEMG]-08/25/2001 3:25pm --> R:\DWG\D579C5-0.DWG

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Resolved
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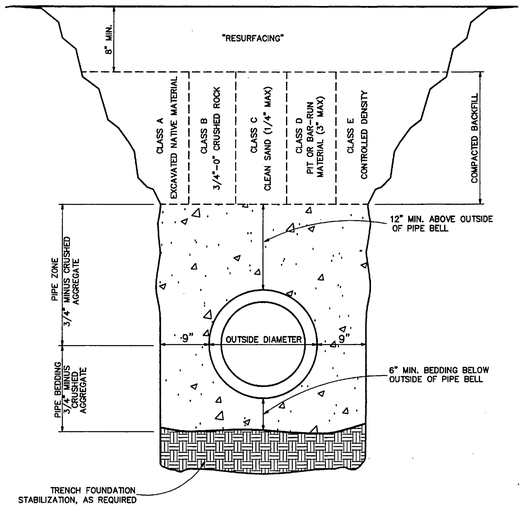
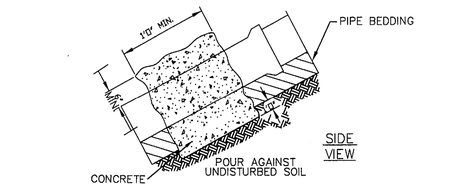


Trench Backfill, Bedding and Pipe Zone

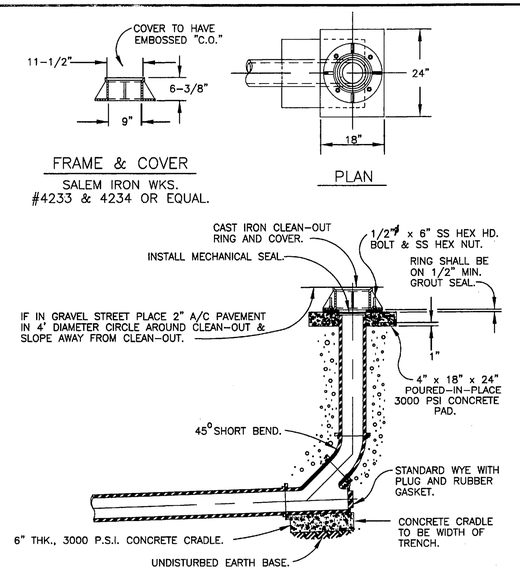
DATE:	JAN 2000
DRAWING NO.	WL–200
FILE NO.	00–200



SLOPE	MIN. ANCHOR SPACING CENTER TO CENTER
0.20 – 0.34	35'
0.35 – 0.50	25'
0.51+	CONC. 15' OR ENCASEMENT

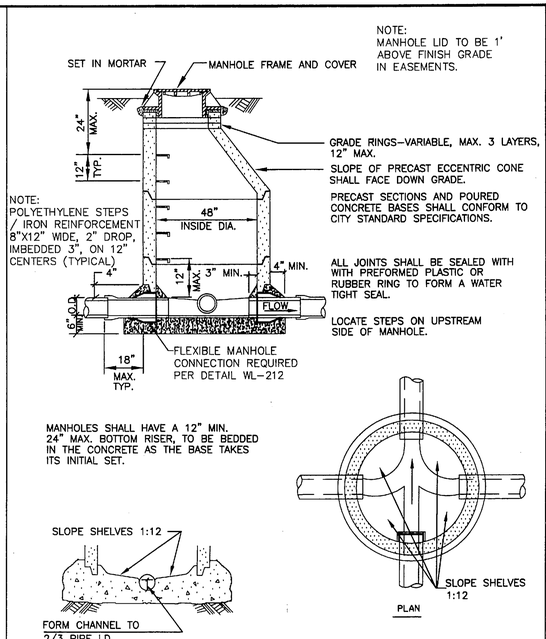
Anchor Wall

DATE:	JAN 2000
DRAWING NO.	WL–205
FILE NO.	00–205



Standard Clean Out

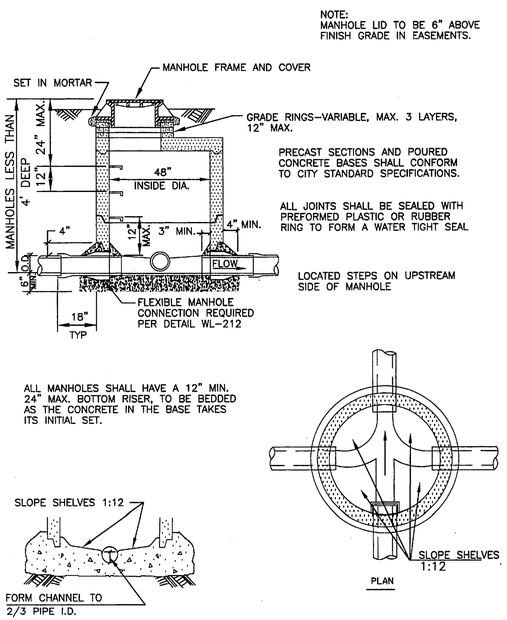
DATE:	JAN 2000
DRAWING NO.	WL–206
FILE NO.	00–206



NOTE:
CHANNELS MUST BE ABLE TO PASS A 7"X30" CYLINDER INTO PIPES. SHELF SHALL NOT BE BELOW THE TOP OF THE PIPE.

Standard Manhole for Less than 36" Pipe

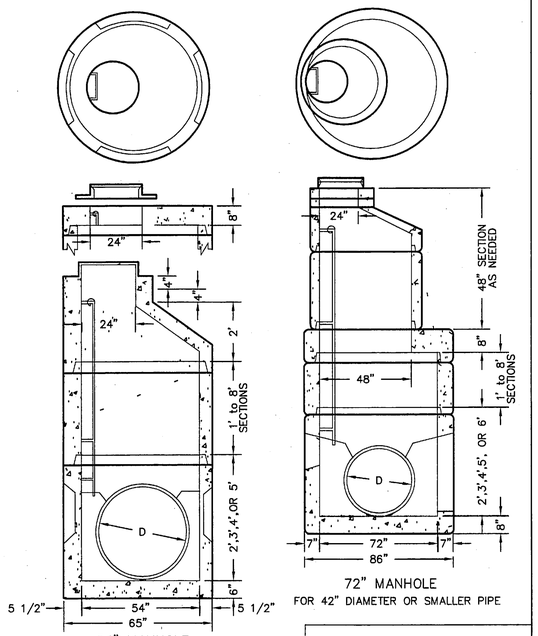
DATE:	JAN 2000
DRAWING NO.	WL–207
FILE NO.	00–207



NOTE:
CHANNELS MUST BE ABLE TO PASS A 7"X30" CYLINDER INTO PIPES. SHELF SHALL NOT BE BELOW SPRING LINE OF THE PIPE.

Shallow Manhole for Less than 36" Pipe

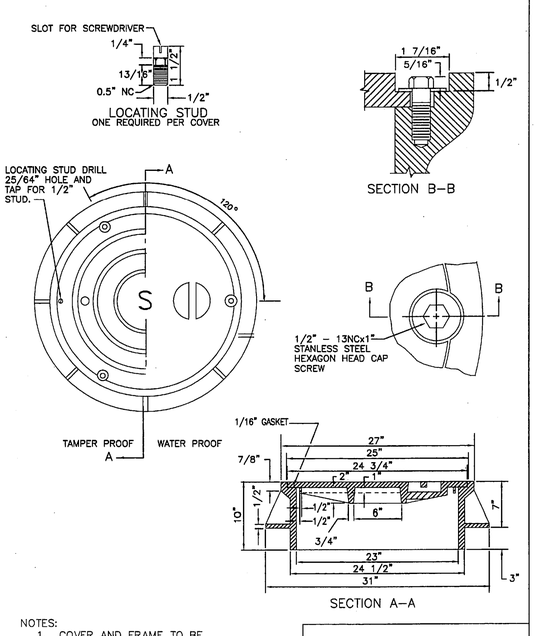
DATE:	JAN 2000
DRAWING NO.	WL–208
FILE NO.	00–208



NOTES: STANDARD MANHOLE STEPS OR LADDERS SHALL BE INSTALLED.

Special Oversize Manhole

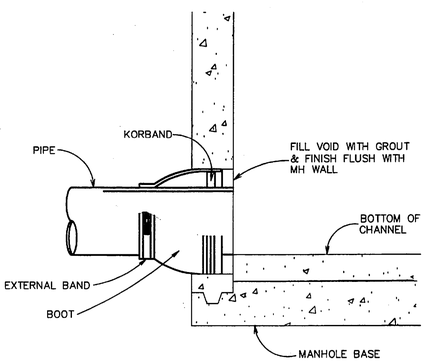
DATE:	JAN 2000
DRAWING NO.	WL–209
FILE NO.	00–209



NOTES:
1. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
2. MATERIAL SHALL BE OF GRAY CAST IRON A.S.T.M. A–48 CLASS 30.
3. 2 HOLE LID FOR SANITARY SEWER
4. 16 HOLE LID FOR STORM SEWER

Waterproof and Tamperproof Manhole Frame and Cover

DATE:	JAN 2000
DRAWING NO.	WL–214
FILE NO.	00–214



FLEXIBLE MANHOLE CONNECTION
(KOR–N–SEAL OR EQUAL)

Flexible Manhole Connection

DATE:	JAN 2000
DRAWING NO.	WL–212
FILE NO.	00–212

NO.	DATE	BY	APPD.	REVISIONS

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADDAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

ASBUILTS

Tanner's Stonegate
CITY OF WEST LINN, OREGON
DETAIL SHEET

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Phone: (503) 635–3618
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10579
Project No.
D579C5–1
File No.
C5.1
Sheet No.

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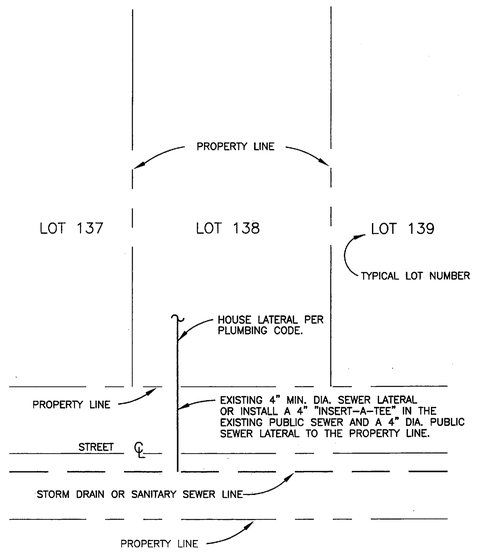
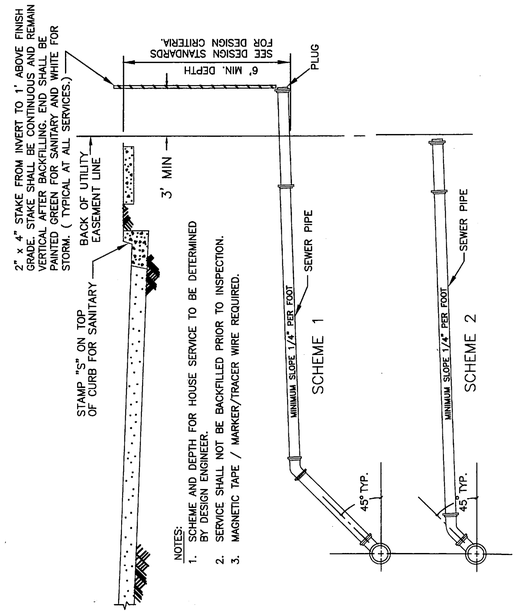


TYPICAL CONNECTION FOR SINGLE FAMILY RESIDENCE.

Sewer Connection Single Family

West Linn

DATE: JAN 2000
DRAWING NO. WL-216
FILE NO. 00-216



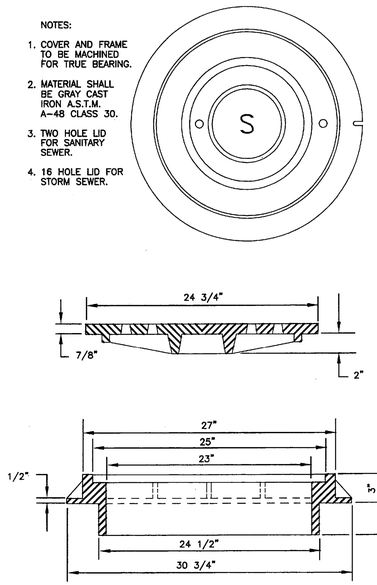
NOTES:
1. SCHEME AND DEPTH FOR HOUSE SERVICE TO BE DETERMINED BY DESIGN ENGINEER.
2. SERVICE SHALL NOT BE BACKFILLED PRIOR TO INSPECTION.
3. MAGNETIC TAPE / MARKER/TRACER WIRE REQUIRED.

Service Branch

West Linn

DATE: JAN 2000
DRAWING NO. WL-218
FILE NO. 00-218

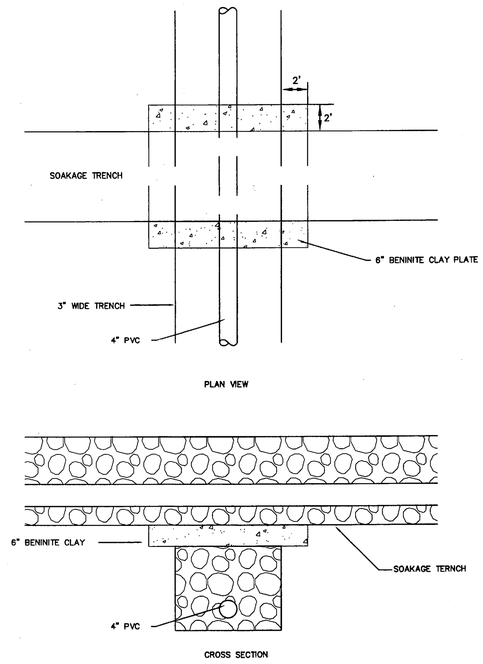
NOTES:
1. COVER AND FRAME TO BE MACHINED FOR TRUE BEARING.
2. MATERIAL SHALL BE GRAY CAST IRON A.S.T.M. A-48 CLASS 30.
3. TWO HOLE LID FOR SANITARY SEWER.
4. 16 HOLE LID FOR STORM SEWER.



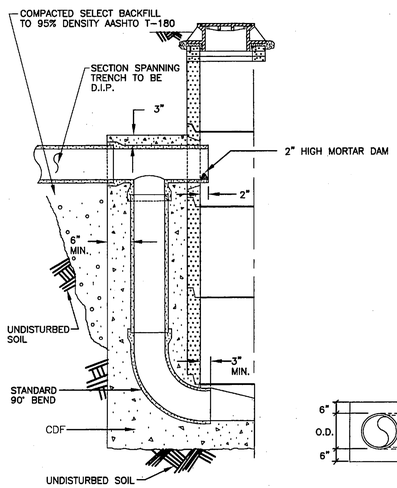
Suburban Manhole Frame and Cover 3" Depth

West Linn

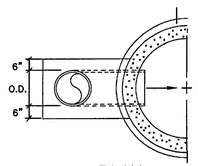
DATE: JAN 2000
DRAWING NO. WL-300
FILE NO. 00-300



Trench-Lateral Seperator



HALF SECTION

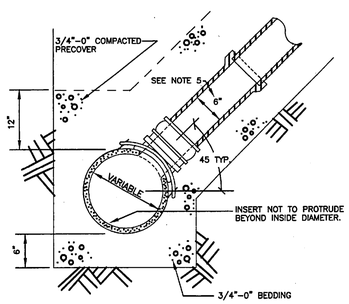


PLAN

Outside Drop Manhole

West Linn

DATE: JAN 2000
DRAWING NO. WL-301
FILE NO. 00-301



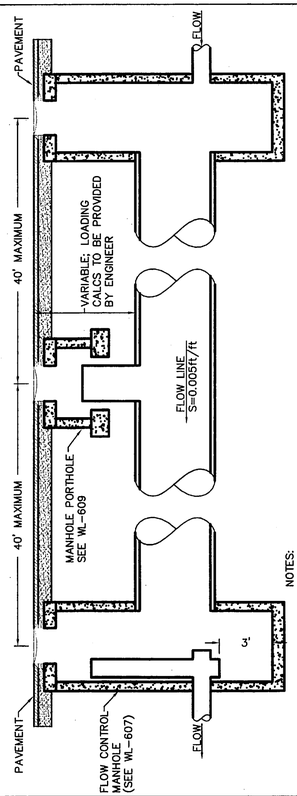
NOTES:
1. A MINIMUM OF 24 HOURS NOTICE IS REQUIRED PRIOR TO A TAP INSPECTION. ALL TRENCHES SHALL BE SHORED IN COMPLIANCE WITH OR-OSHA EXCAVATION RULES, CHAPTER 437, DIVISION "3", SUBDIVISION "P", ADOPTED SEPTEMBER 1, 1990. PUBLIC WORKS INSPECTORS WILL NOT INSPECT A TAP IN A TRENCH WITHOUT LEGAL SHORING.

   THE TAP SHALL BE INSPECTED BEFORE BACKFILL IS ALLOWED AND BEFORE THE SIDE SEWER CONNECTION IS MADE. THE CORE DRILLED "SLUG" IS TO BE SHOWN TO THE INSPECTOR TO INSURE IT WAS REMOVED FROM THE SEWER LINE.
2. ALL SERVICE LINE CONNECTIONS SHALL BE MADE WITH AN APPROVED CONNECTOR MANUFACTURED AND DESIGNED TO CONNECT TO A CORE DRILLED PIPE, FOWLER INSURT-A-TEE, SEAL TIGHT SADDLE, TAP TITE TEE, OR AN APPROVED EQUAL COMMERCIAL TAP.
3. THE CENTERLINE OF TAP IS TO BE ABOVE THE SPRINGLINE.
4. 4" MAXIMUM TAP FOR 8" MAIN (CUT-IN TEE TO BE USED FOR 6" HOUSE BRANCH ON 8" MAIN).
5. 4" HOUSE BRANCH MAY BE USED FOR SINGLE FAMILY LOTS ONLY.

Sewer Service Tap to Existing Sewers for House Laterals

West Linn

DATE: JAN 2000
DRAWING NO. WL-303
FILE NO. 00-303

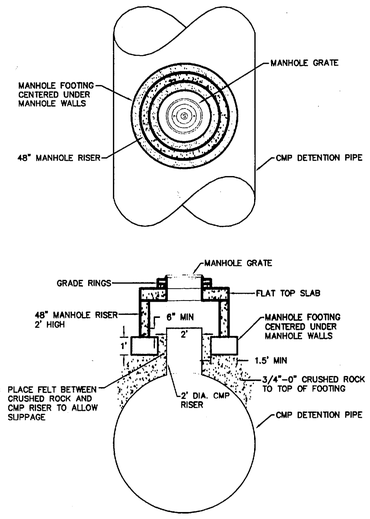


NOTES:
1. THIS DETAIL REPRESENTS A DESIGN CONCEPT. FINAL DESIGN MAY VARY DEPENDING ON SITE CONDITIONS AND SHALL BE APPROVED BY THE CITY.
2. MATERIALS FOR DETENTION PIPE AND MANHOLES SHALL HAVE A DESIGN LIFE OF 75 YEARS AND SHALL BE APPROVED BY THE CITY.
3. SUMP REQUIRED AT EACH END OF DETENTION PIPE.
4. MANHOLES MUST BE CONCRETE UNLESS OTHERWISE APPROVED BY THE CITY.
5. MANHOLE MATERIAL MAY BE SAME AS DETENTION PIPE MATERIAL. ALL FACILITIES WITHIN THE ROAD RIGHT OF WAY MUST BE DESIGNED FOR H20 LOADING.
6. DETENTION SYSTEM SHALL BE WATER TIGHT UNLESS DESIGNED AS AN INFILTRATION SYSTEM WHICH HAS BEEN APPROVED BY THE CITY.
7. MANHOLES TO BE OVERSIZED TO NECESSARY DIAMETER TO ACCOMMODATE DETENTION PIPE.
8. ALL ACCESSWAYS MUST BE 36" DIAMETER.

Underground Detention Manholes

West Linn

DATE: JAN 2000
DRAWING NO. WL-608
FILE NO. 00-608



Manhole Porthole

West Linn

DATE: JAN 2000
DRAWING NO. WL-609
FILE NO. 00-609

ASBUILTS

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADDAD
RENEWAL 06/30/2003

REVISIONS
NO. | DATE | BY | APPD.

NORWAY DEVELOPMENT
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10579
Project No.
D579C5-2
File No.
C5.2
Sheet No.

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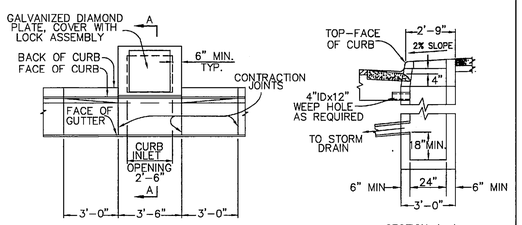
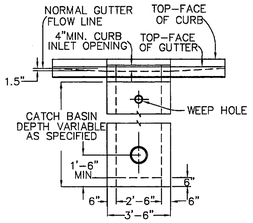
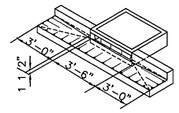


PLAN VIEW

SECTION A-A



FRONT VIEW



PERSPECTIVE VIEW SHOWING DEPRESSED GUTTER AT CURB INLET

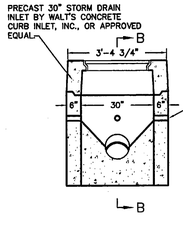
NOTES:
1. ALL FABRICATED METAL PARTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. CONCRETE SHALL BE CLASS 3000.
3. CURB INLET BASE MAY BE PRECAST OR CAST-IN-PLACE.
4. FOR SLOPES OF 5% OR GREATER, USE DWG. WL-601.

Gutter Inlet 2 1/2 A

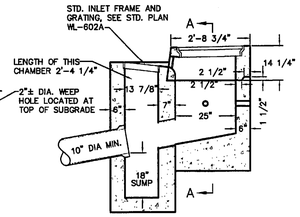
West Linn

DATE:	JAN 2000
DRAWING NO.	WL-600
FILE NO.	00-600

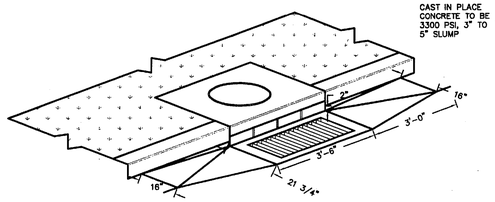
MANHOLE RIMS AND COVERS AS MANUFACTURED BY HERN IRON WORKS, COEUR D' ALENE, IDAHO. COVER PATTERN NO. 2312, RIM PATTERN NO. 2311 OR APPROVED EQUAL.



SECTION A-A



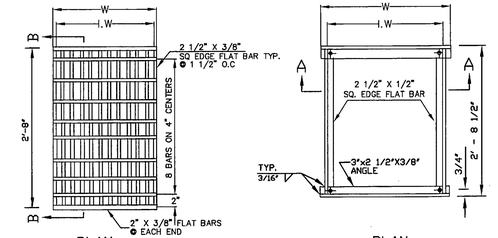
SECTION B-B



Combination Curb Inlet

West Linn

DATE:	JAN 2000
DRAWING NO.	WL-601
FILE NO.	00-601

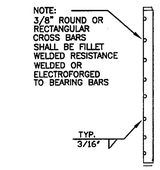


PLAN

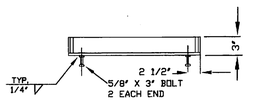
TYPE	W	I.W
STANDARD	1'-9"	1'-8 1/4"

PLAN

TYPE	DIA. PIPE	W	I.W
STANDARD	10"-12"	1'-10 3/4"	1'-9 3/8"



SECTION B-B



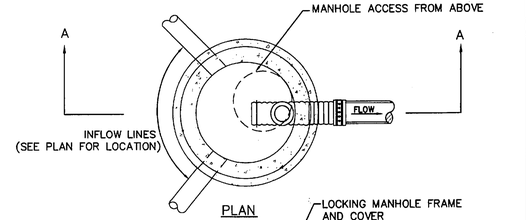
SECTION A-A'

NOTE:
USE VERTICAL BEADS IN CORNERS, FILLET WELD JOINT ON BOTOM OF FRAME GRATE MUST REST FLAT ON FRAME SURFACE.

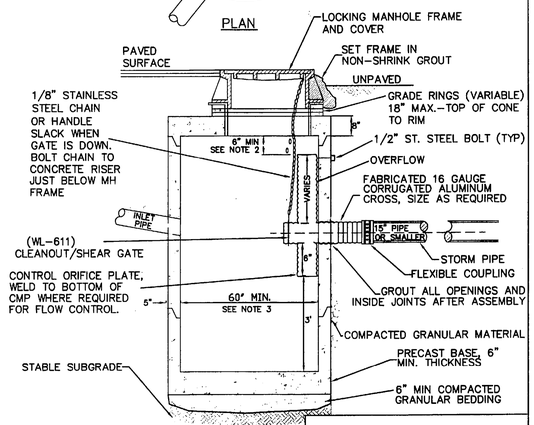
Frame & Grate for Gutter & Curb Inlets

West Linn

DATE:	JAN 2000
DRAWING NO.	WL-602A
FILE NO.	00-602A



PLAN



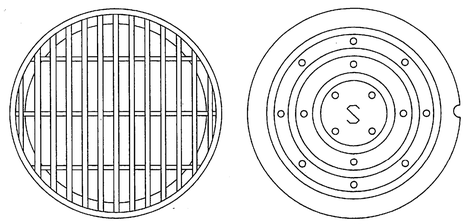
SECTION A-A

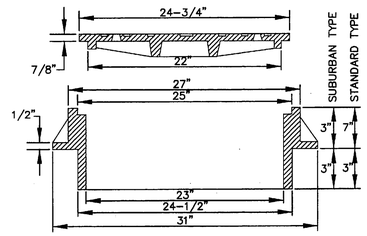
NOTES:
1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.
2. DISTANCE FROM TOP OF OVERFLOW TO MH RIM SHALL BE BASED ON OVERFLOW CAPACITY CALC'S BY DESIGN ENGINEER. ASSUME ORIFICE CONTROL.
3. 72" MINIMUM DIA. MANHOLE REQUIRED FOR OUTLET OR INLET > 21".
4. NO STEPS REQUIRED

Pollution / Flow Control Manhole

West Linn

DATED:	JAN 2000
DRAWING NO.	WL-607
FILE NO.	00-607





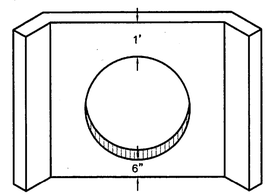
NOTES:
1. USE SUBURBAN TYPE ONLY IN NON-TRAFFIC AREAS, AND ONLY WITH APPROVAL BY THE CITY.
2. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48 CLASS 30.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
4. NOTCH LID FOR LIFTING HOOK.
5. OPEN GRATES REQUIRE APPROVAL BY CITY, AND MUST BE BICYCLE SAFE IF USED IN TRAFFIC AREAS.

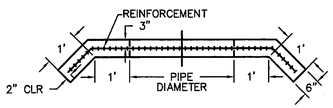
SUBURBAN AND STANDARD MANHOLE FRAME AND COVER

Manhole Covers

West Linn

DATE:	JAN 2000
DRAWING NO.	WL-605
FILE NO.	00-605





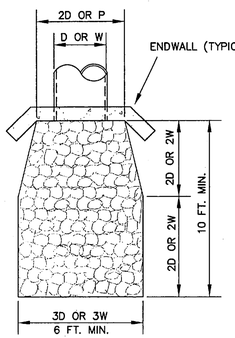
NOTES:
1. USE CONCRETE HAVING A 28 DAY DESIGN STRENGTH OF 3300 PSI.
2. OUTLET WING WALL SHALL BE USED FOR ALL OUTFALL PIPES FROM 10" TO 36".
3. THIS DETAIL REPRESENTS THE MINIMUM REQUIREMENT. THE NEED FOR ADDITIONAL STEEL, A FOOTING AND DRAINAGE BEHIND THE WALL SHALL BE INVESTIGATED BY THE DESIGN ENGINEER.
4. FOR PIPES LARGER THAN 33" OR MULTIPLE PIPE OUTLETS, USE DETAIL WL-612.
5. CONCRETE REINFORCEMENT SHALL CONSIST OF:
   A) ADDING A POLY-FIBER MESH TO THE CONCRETE MIX OR
   B) USE (2) #4 BARS ABOVE AND BELOW PIPE AND #4 BARS AT 6" O.C. VERTICALLY.

Outlet Headwall (For Outlet Pipes of 10" to 33")

West Linn

DATE:	JAN 2000
DRAWING NO.	WL-613
FILE NO.	00-613

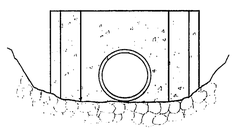
D = PIPE DIAMETER
W = BOTTOM WIDTH OF CHANNEL
P = WETTED PERIMETER OF CHANNEL



DESIGN VELOCITY FT./SEC	ROCK CLASSIFICATION BY WEIGHT
6 - 10	200 LBS.
10 - 12	1/4 TON
12 - 14	1/2 TON
14 - 16	1 TON
16 - 18	2 TON

SELECTION OF RIP RAP (SEE NOTE 1)

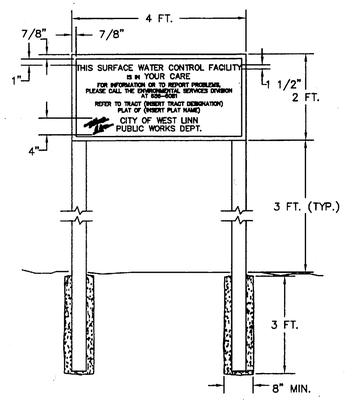
NOTES:
1. DIMENSIONS FOR RIP RAP APPLY TO FLOWS < 2 CFS RIP RAP FOR FLOWS > 2 CFS MUST BE DESIGNED BY AN ENGINEER FLOWS > 20 FPS SHALL USE ENERGY DISSIPATOR
2. TYPE OF RIP RAP
   A. REGULAR QUARRY STONE CLASS 50-200
   B. COBBLESTONE
   C. CONCRETE (ONLY ALLOWED UPON APPROVAL OF THE DISTRICT)
3. PLACEMENT
   A. MINIMUM DEPTH = 1 1/2 TIMES AVERAGE STONE SIZE
   B. ROCKS SHALL BE PLACED TO PROVIDE A MINIMUM OF VOIDS.
   C. SURFACE ROCKS OR CONCRETE SHALL PROTRUDE AT LEAST 1/2 THEIR VERTICAL DIMENSION.
   D. RIP RAP IS TO BE PLACED OVER A NATURAL BEDDING, OR IT MAY BE GROUTED OR PLACED OVER A GRAVEL BEDDING AS REQUIRED BY THE CITY.



Storm Sewer Outfall

West Linn

DATE:	JAN 2000
DRAWING NO.	WL-614
FILE NO.	00-614



SPECIFICATIONS:

SIZE:	48" BY 24"
MATERIAL:	GRADE "B" OR BETTER EXTERIOR PLYWOOD
PAINT:	FACE - 3 COATS OUTDOOR ENAMEL (SPRAYED). BACK - 1 COAT OUTDOOR ENAMEL (SPRAYED).
LETTERING:	SILK SCREEN ENAMEL WHERE POSSIBLE, OR HAND PAINTED ENAMELS.
COLORS:	BLACK AND WHITE. WHITE BACKGROUND, LETTERING AND BORDER IN BLACK
TYPE FACE:	HELVETICA. 1 1/2" TALL WITH 7/8" SPACING BETWEEN LETTERS AND OUTER BORDER. OUTER BORDER 1/2" WIDTH
INSTALLATION:	SECURED TO CHAIN LINK FENCE IF AVAILABLE, OTHERWISE INSTALL ON TWO 8 FT. LONG 4" X 4" POSTS, PRESSURE TREATED, INSTALLED IN 3 FT. DEEP CONCRETE FILLED POST HOLES (8" MIN. DIA.)

Surface Water Facility Sign

West Linn

DATE:	JAN 2000
DRAWING NO.	WL-615
FILE NO.	00-615

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HARDAN
RENEWAL 06/30/2003

REVISIONS

NO.	DATE	BY	APPD.

ASBUILTS

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate
CITY OF WEST LINN, OREGON
DETAIL SHEET

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

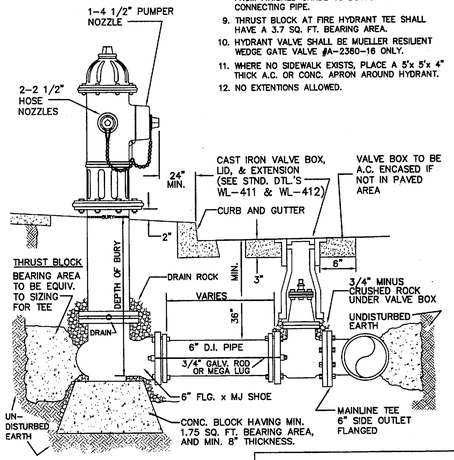
10579
Project No.
D579C5-3
File No.
C5.3
Sheet No.

L: ADNANH 05/20/02 12:56pm ---> R:\DWG\D579C5-3.DWG

XREF LIST
Ltscale: 1
Resolved
D579X001

NOTES:

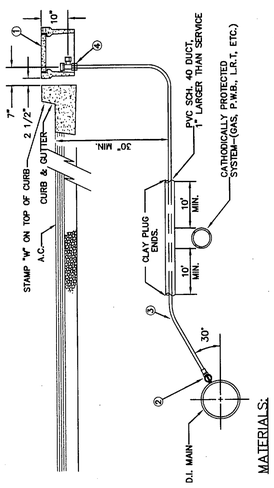
1. HYDRANTS TO BE MUELLER CENTURION MDL. A-423 ONLY WITH 1 1/2" OPER. NUTS OR CLOW MEDDALION F-2545.
2. HYDRANT COLOR TO BE MILLER EQUIP. ENAMEL O E 40 (SAFETY YELLOW).
3. JOINTS TO BE RESTRAINED BY 3/4" DIA. GALVANIZED STEEL RODS AND THRUST BLOCKS OR MEGA LUGS AND THRUST BLOCKS.
4. ALL FITTINGS IN CONTACT W/CONCRETE SHALL BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
5. MIN. 4 CU. FT. OF 1 1/2"-3/4" CLEAN DRAIN ROCK SHALL BE PLACED AROUND SHOE UP TO A MIN. OF 6" ABOVE DRAIN OUTLETS.
6. WHERE PLANTER STRIP EXISTS, HYDRANT SHALL BE PLACED SO FRONT PORT IS A MINIMUM OF 24" BEHIND FACE OF CURB.
7. WHERE INTEGRAL S/W & CURB EXISTS, HYD. SHALL BE PLACED AT BACK OF SIDEWALK, OR AS DIRECTED BY ENGINEER.
8. BURY OF HYDRANT SHALL BE MEASURED FROM FINISHED GRADE TO BOTTOM OF CONNECTING PIPE.
9. THRUST BLOCK AT FIRE HYDRANT TEE SHALL HAVE A 3.7 SQ. FT. BEARING AREA.
10. HYDRANT VALVE SHALL BE MUELLER RESILIENT WEDGE GATE VALVE #A-2360-16 ONLY.
11. WHERE NO SIDEWALK EXISTS, PLACE A 5'x 5'x 4" THICK A.C. OR CONC. APRON AROUND HYDRANT.
12. NO EXTENTIONS ALLOWED.



Standard Fire Hydrant Assembly

West Linn

DATE: JAN 2000
DRAWING NO. WL-401
FILE NO. 00-401



MATERIALS:

1. BROOKS METER BOX, BODY NO. 37, LID AND COVER NO. 37-S.
2. MUELLER CORP. STOP NO. H-15008 OR FORD F1000-4Q SET CORP. STOP WITH OPERATING NUT AT 3 OR 9 O'CLOCK.
3. 1" SOFT TEMPER, TYPE 'K' COPPER TUBING COMPLYING WITH ASTM B-88.
4. MUELLER ANGLE METER STOP NO. H-14258 (FORD NO. KV43-444W-Q).

NOTES:

1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY ENGINEER.
2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4" MINUS CRUSHED AGG. AND COMPACTED TO 95% MAX DENSITY AS DETERMINED BY AASHTO T-180.
3. WHEN AN ACTIVE CATHODIC PROTECTED SYSTEM IS ENCOUNTERED, SCH. 40 PVC SHALL BE INSTALLED AS SHOWN ABOVE WITH CLAY PLUG.
4. METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY.
5. FOR VACANT RESIDENTIAL LOTS, LOCATE SINGLE SERVICE 18" INSIDE SIDE LOT LINE.
6. TAPS INTO MAIN TO BE AT 18" CENTERLINE MIN.
7. ANGLE METER STOPS TO BE 18" FROM PROPERTY LINE AND NOT IN DRIVEWAY APPROACH.

Standard 1" Water Service

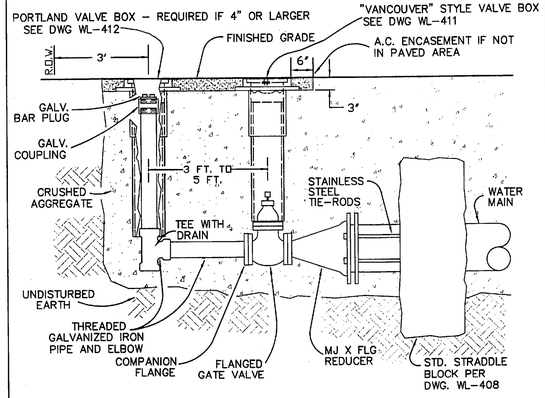
West Linn

DATE: JAN 2000
DRAWING NO. WL-402
FILE NO. 00-402

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

NOTES:

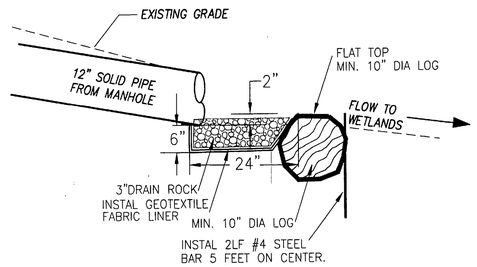
1. BACKFILL WITH SELECT CRUSHED AGGREGATE A MINIMUM OF 6' ON ALL SIDES.
2. ON TEMPORARY BLOW-OFFS ONLY, AN MJ CAP TAPPED 4" OR 6" MAY BE SUBSTITUTED FOR REDUCER.
3. TEMPORARY BLOW-OFF IS ONE REMOVED AT THE END OF PROJECT CONSTRUCTION. A PERMANENT BLOW-OFF REMAINS ON THE PROJECT AFTER ACCEPTANCE.
4. PLACE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



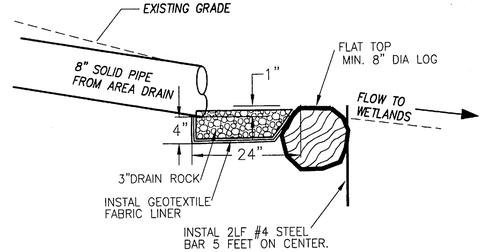
Permanent or Temporary 4" & 6" Blow-off

West Linn

DATE: JAN 2000
DRAWING NO. WL-404B
FILE NO. 00-404B



12/50 SPREADER



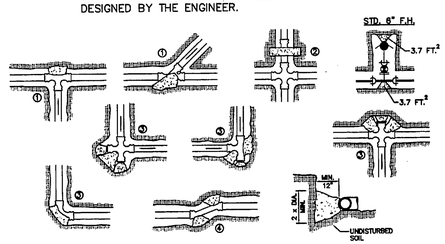
8/30 SPREADER

FITTING SIZE (Inches)	TEE, WYE, & ① HYDRANTS	STRADDLE BLOCK ②	90° BEND ③ PLUGGED CROSS TEE PLUGGED-RUNS	45° BEND ④	22 1/2° BEND ④	11 1/2° BEND ④
2	*	*	*	*	*	*
4	1.7	2.1	2.4	1.3	*	*
6	3.7	4.9	5.3	2.9	1.5	*
8	6.7	8.7	9.5	5.1	2.7	1.3
10	10.5	13.6	14.8	8	4.1	2
12	15.1	19.6	21.3	11.6	5.9	2.9
14						
16	26.8	34.8	37.9	20.5	10.4	5.2
18	33.9	44	47.9	25.9	12.8	6.7
LARGER	**	**	**	**	**	**
BEARING AREA OF THRUST BLOCKS (sq. ft.)						

1. ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS: AVG. PRESSURE = 100 PSI X 2 (safety factor); 1500 PSF SOIL BEARING CAPACITY; NORMAL DISTRIBUTION DESIGN VELOCITY NOT TO EXCEED 5 F/S.
2. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
3. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL
4. ALL CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
5. ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
6. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
7. VERTICAL THRUST DETAILS-SEE DWG. WL-407.
8. STRADDLE BLOCK DETAILS-SEE DWG. WL-408.

* BLOCK TO UNDISTURBED TRENCH WALLS

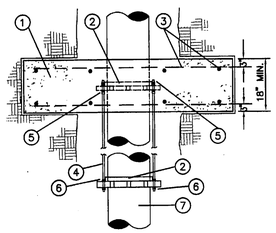
** THRUST BLOCKS FOR PIPES LARGER THAN 18" WILL BE INDIVIDUALLY DESIGNED BY THE ENGINEER.



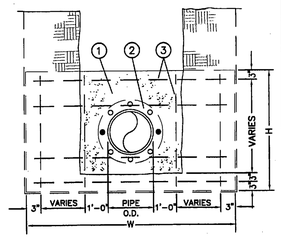
Horizontal Thrust Blocking

West Linn

DATE: JAN 2000
DRAWING NO. WL-406
FILE NO. 00-406



TOP VIEW



FRONT VIEW

MATERIALS:

1. CONCRETE STRADDLE BLOCK.
2. UNI-FLANGE, SERIES 400C, CLASS 125
3. #4 REBAR EACH WAY, 12" O/C.
4. 3/4" ALL THREAD GALVANIZED STEEL TIE RODS, QUANTITY PER ENGINEER.
5. 3/4" GALVANIZED NUTS, 2-EACH SIDE
6. 3/4" GALVANIZED NUTS, 1-EACH SIDE
7. FLANGED FITTING

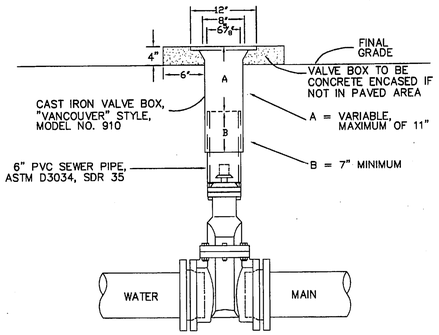
NOTES:

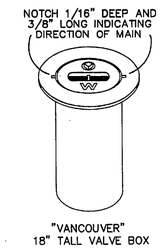
1. STRADDLE BLOCKS SHALL BE DESIGNED INDIVIDUALLY BY THE ENGINEER AND SHALL BE BASED ON THE FOLLOWING:
   a.) 200 PSI WATER PRESSURE
   b.) SOIL BRG. CAPACITY, STEEL SIZE AND SPACING BY THE ENGINEER.
2. BEARING AREA OF BLOCK SHALL BE AGAINST UNDISTURBED SOIL.
3. STRADDLE BLOCK SHALL HAVE A MINIMUM OF 18" COVER.
4. CONCRETE SHALL HAVE A MIN. 28-DAY STRENGTH OF 3300 PSI
5. ALL FITTINGS WITHIN THE CONC. SHALL BE WRAPPED IN PLASTIC OR BE COATED W/ KOPPER'S #50.
6. STRADDLE BLOCK HEIGHT(H) & WIDTH(W) SHALL BE DETERMINED BY THE ENGINEER.

Standard Straddle Block

West Linn

DATE: JAN 2000
DRAWING NO. WL-408
FILE NO. 00-408





"VANCOUVER" 18" TALL VALVE BOX

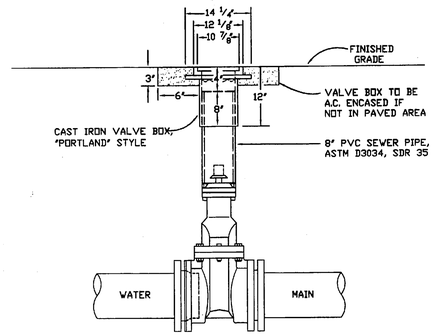
NOTES:

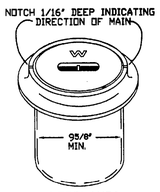
1. VALVE BOXES SHALL BE CENTERED DIRECTLY OVER THE VALVE NUT IN A VERTICAL POSITION.
2. VALVE BOX TOP SHALL BE ADJUSTED TO MEET FINISHED GRADE.
3. PVC SHALL BE ONE CONTINUOUS PIECE- NO BELLS OR COUPLERS.
4. ON VALVES 8" AND LARGER, PVC SHALL BE NOTCHED OVER VALVE PACKING BOLTS SO PVC SITS ON BONNET.

Standard Valve Box Detail

West Linn

DATE: JAN 2000
DRAWING NO. WL-411
FILE NO. 00-411





"PORTLAND" VALVE BOX

NOTES:

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

Standard Valve Box Detail for 4" or Larger Blow-offs

West Linn

DATE: JAN 2000
DRAWING NO. WL-412
FILE NO. 00-412

NO.	DATE	BY	APPD.	REVISIONS

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REGISTERED PROFESSIONAL ENGINEER
46494PE
OREGON
DECEMBER 14, 2000
ADNAN ANIS HADJAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
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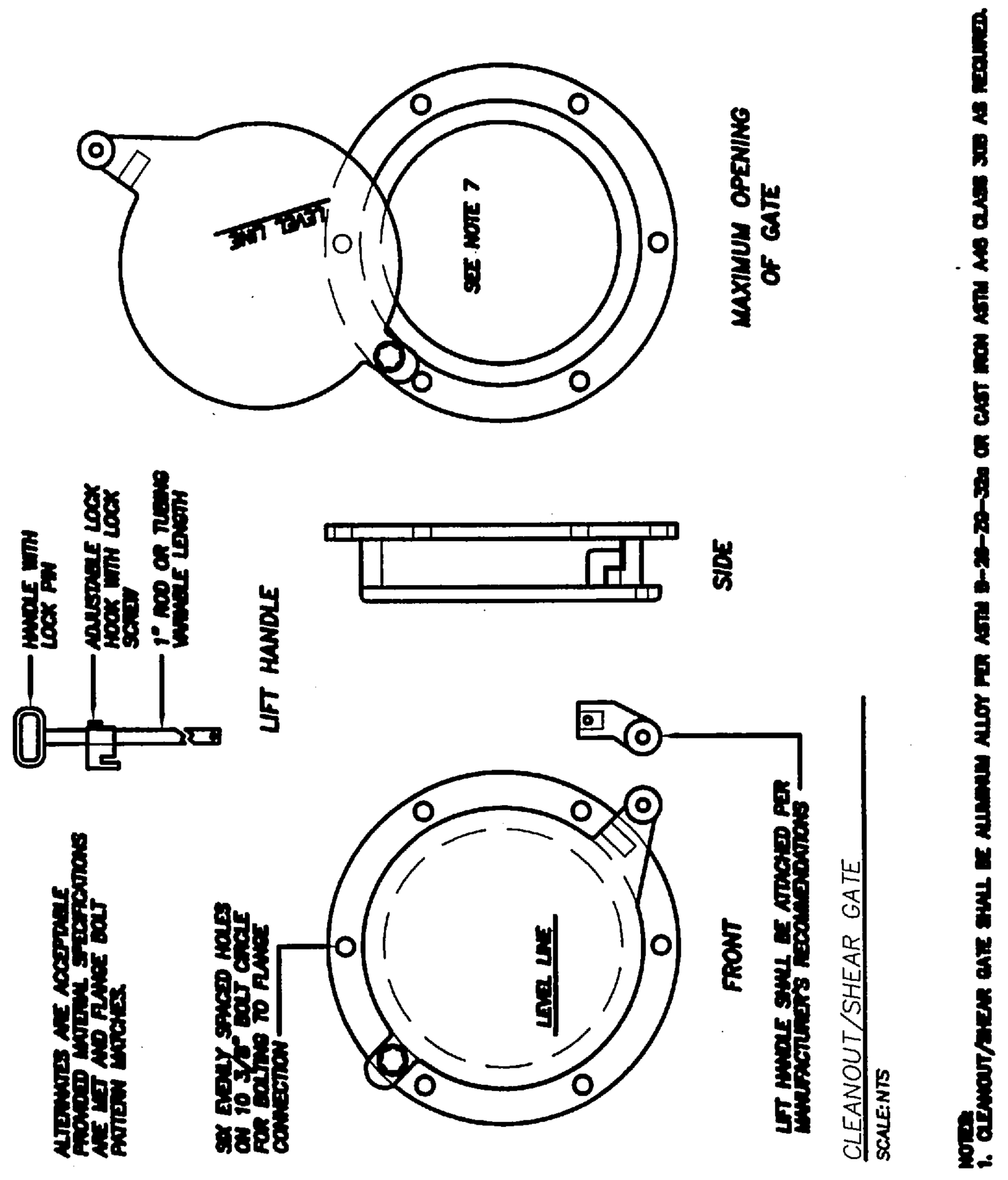
FAX: (503) 656-0686

ASBUILTS

Tanner's Stonegate
CITY OF WEST LINN, OREGON
DETAIL SHEET

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3818
FAX: (503) 635-5395

10579
Project No.
D579C5-4
File No.
C5.4
Sheet No.

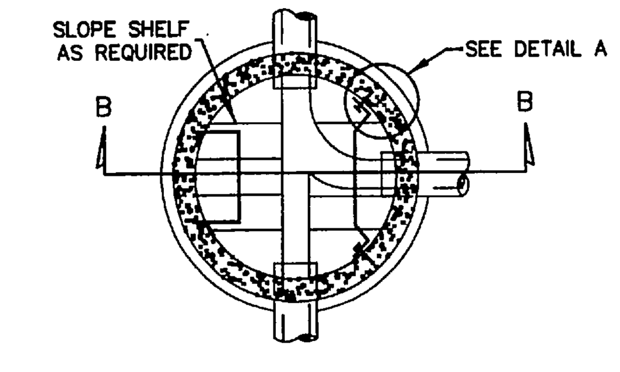


CLEANOUT/SHEAR GATE
SCALE: NTS

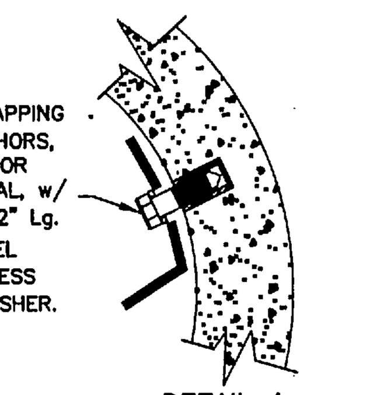
NOTES:
1. CLEANOUT/SHEAR GATE SHALL BE ALUMINUM ALLOY PER ASTM B-26-2B-328 OR CAST IRON ASTM A48 CLASS 30B AS REQUIRED.
2. LIFT HANDLE EITHER SOLID OR TUBING WITH ADJUSTABLE HOOK AS REQUIRED.
3. NEOPRENE RUBBER GASKET REQUIRED BETWEEN RISER MOUNTING FLANGE AND GATE FLANGE.
4. MATING SURFACES OF LID AND BODY TO BE MACHINED FOR PROPER FIT.
5. FLANGE MOUNTING BOLTS SHALL BE 3/8" DIAMETER STAINLESS STEEL.
6. ALTERNATE CLEANOUT/SHEAR GATES TO THE DESIGN SHOWN ARE ACCEPTABLE, PROVIDED THEY MEET THE MATERIAL SPECIFICATIONS ABOVE AND HAVE A SIX BOLT, 10 3/8" BOLT CIRCLE FOR BOLTING THE FLANGE CONNECTION.
7. GATE SHALL NOT OPEN BEYOND THE CLEAR OPENING BY LIMITED HINGE MOVEMENT, STOP TAB, OR SOME OTHER DEVICE.

Cleanout / Shear Gate

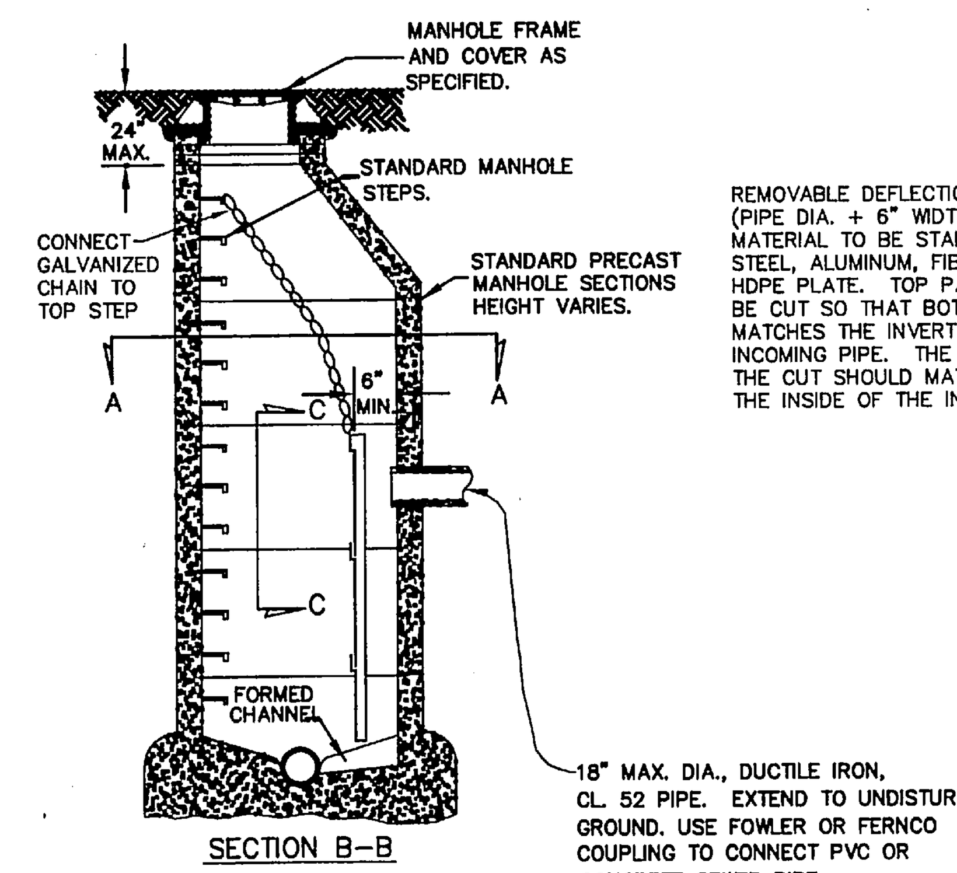
West Linn
DATE: JAN 2000
DRAWING NO. WL-611
FILE NO. 00-611



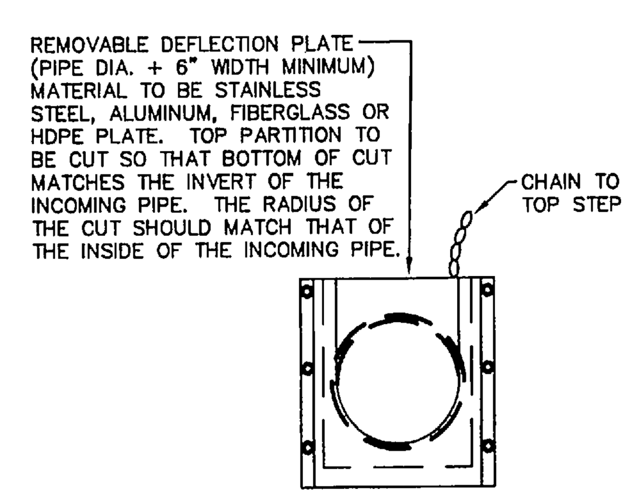
SECTION A-A



DETAIL A
(PARTITION ATTACHMENT)



SECTION B-B

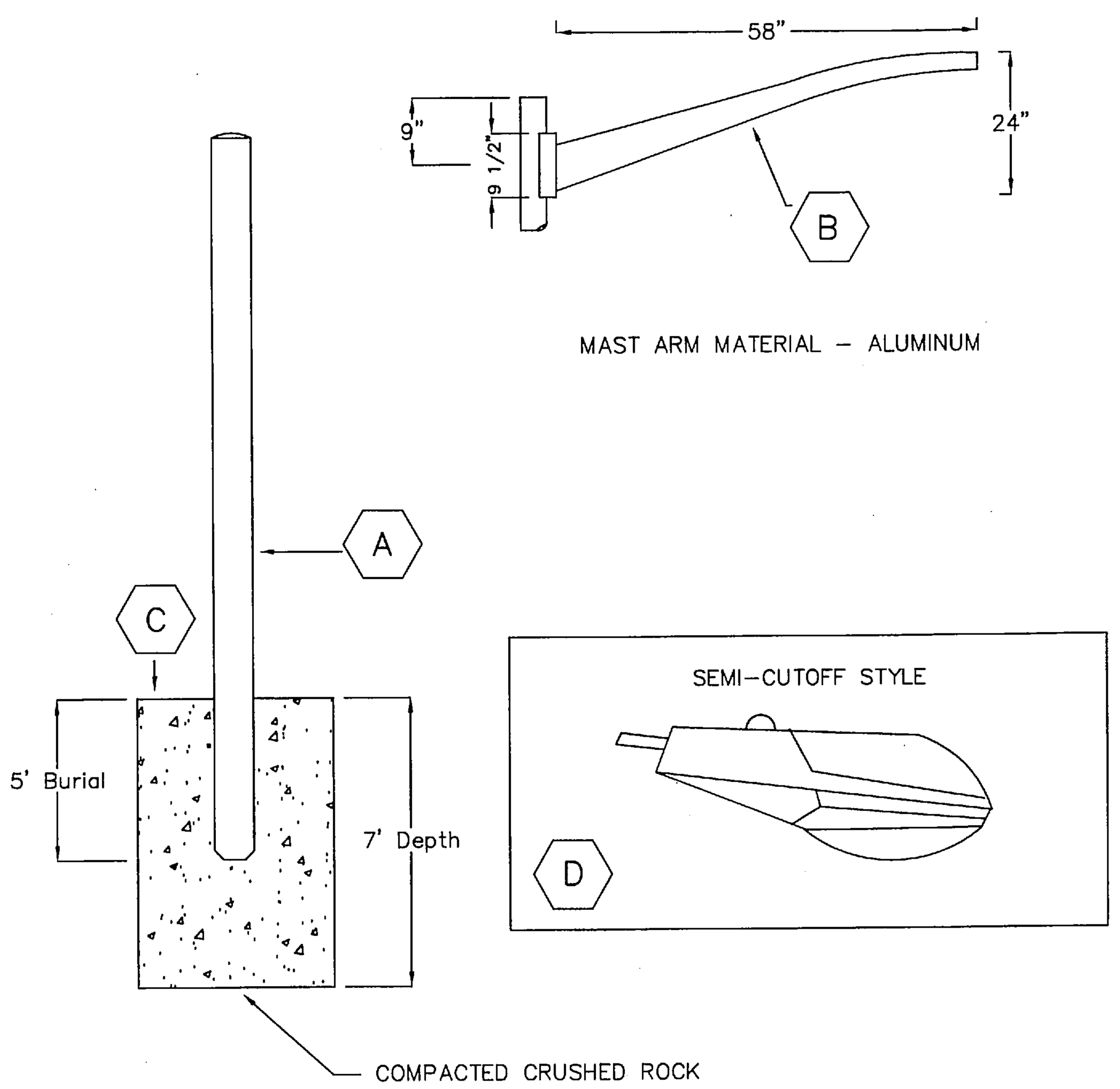


SECTION C-C

NOTES:
PARTITION MATERIAL SHALL BE 1/2" H.D.P.E. (TYPICAL PER ASSOCIATED PIPE), OR 1/8" FIBERGLASS (TYPICAL PER PIPE INC.), OR 16 GA. ALUMINUM OR 18 GA. STAINLESS STEEL. FIBERGLASS SHALL BE 3 OR 4 MAT LAYUP PER MANUFACTURER'S RECOMMENDATIONS. MAXIMUM FLOW IS 3 CFS FOR INSIDE DROP MANHOLE. FOR A 48" DIAMETER MANHOLE, THE MAXIMUM INCOMING PIPE DIAMETER IS 18". A LARGER DIAMETER INCOMING PIPE WILL REQUIRE A SPECIAL DESIGN.

Standard Inside Drop Manhole "Oregon Drop" Manhole

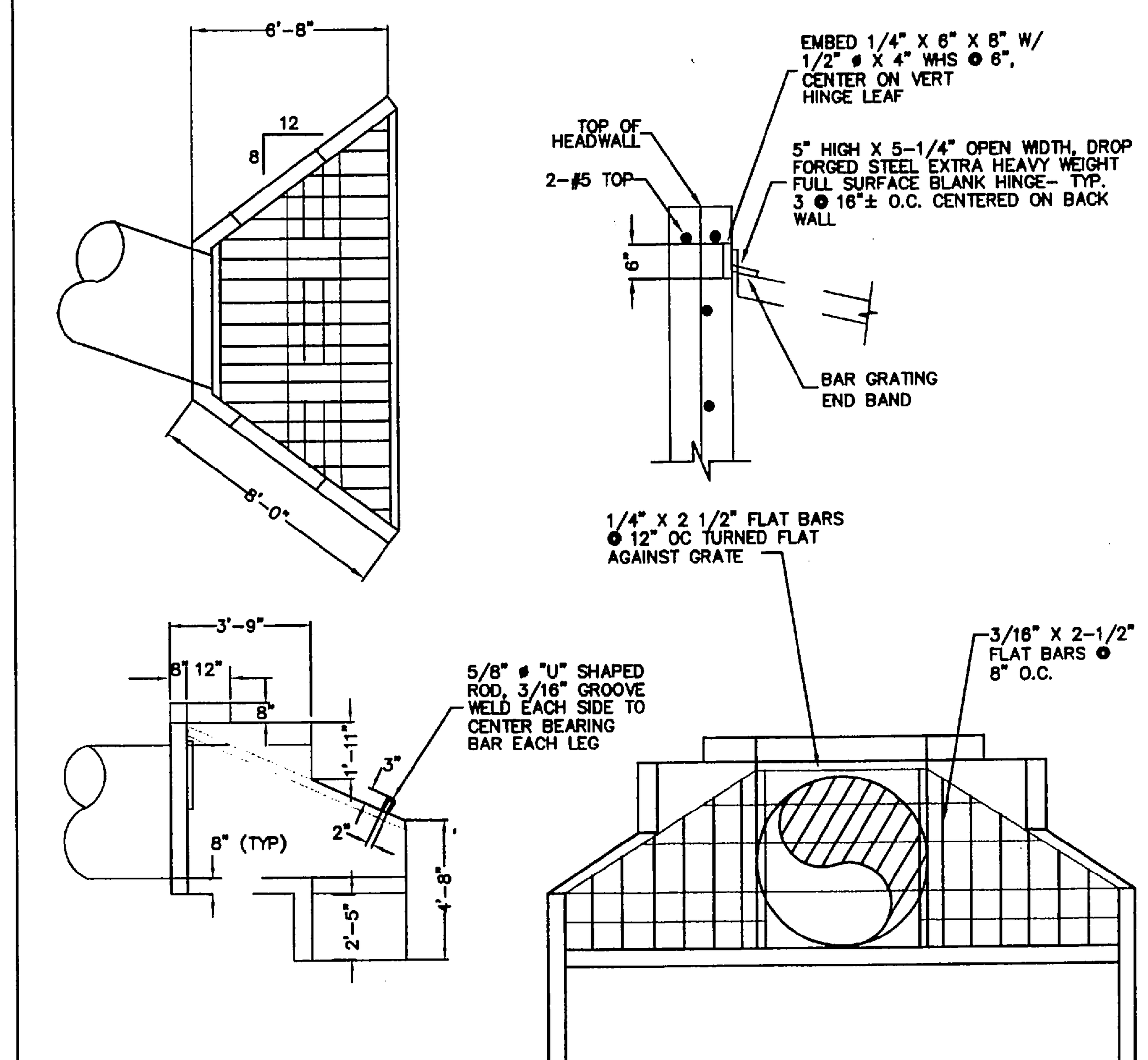
West Linn
DATE: JAN 2000
DRAWING NO. WL-604
FILE NO. 00-604



ITEM	DESCRIPTION
A	25' Gray Fiberglass Pole
B	5' Aluminum Mast Arm
C	Compacted Crushed Rock
D	100 W HPS Roadway Lamp (Will Vary Depending on Lighting Requirement)

Standard Street Light

West Linn
DATE: JAN 2000
DRAWING NO. WL-518
FILE NO. 00-518

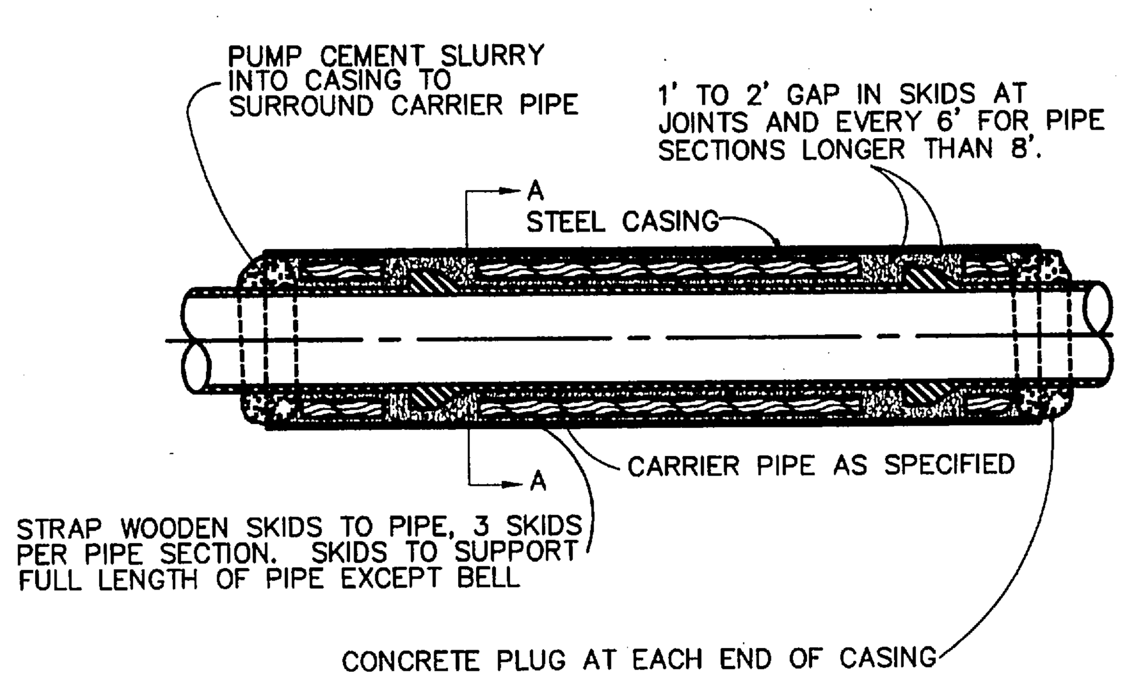


NOTES:
1. FOLLOW ODOT DETAIL 5-7.3 "ALTERNATIVE "A" INLET DETAILS – 2:1 FILL SLOPE". FOR REINFORCEMENT DETAIL USE 5'-0" BARREL HEIGHT. FORM WALL AROUND 54" PIPE.
2. ALL WALL THICKNESS ON THIS PAGE ARE 8" UNLESS OTHERWISE NOTED.

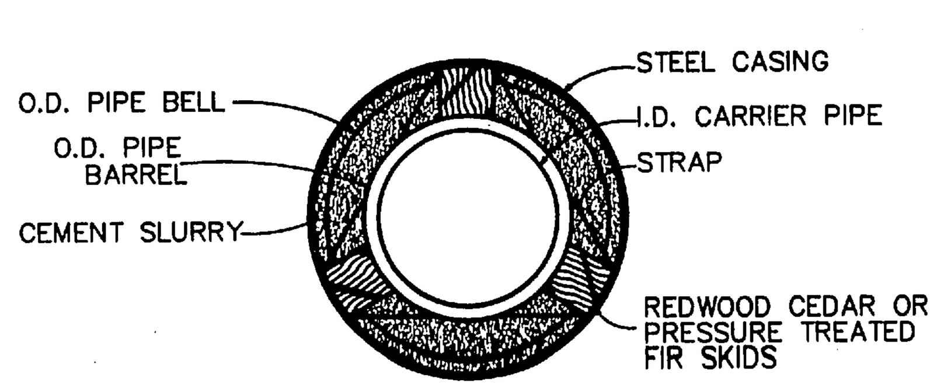
STEEL NOTES:
A. CODES SPECIFICATIONS: STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE 9TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION.
B. MATERIAL: STRUCTURAL SHAPES, BARS, PLATES, AND SHEETS INDICATED ON THE DRAWINGS SHALL BE STEEL MEETING ASTM A36 SPECIFICATIONS. BOLTS SHALL CONFORM TO ASTM A307.
C. WELDING: WELDING SHALL CONFORM TO AWS D1.1 CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. ELECTRODE SHALL BE E70XX LOW HYDROGEN GROUP. WELDERS SHALL BE CONDUCTED BY WELDERS CERTIFIED BY THE AWS. ALL WELDS SHALL BE MIN 3/16" FILLET UNLESS OTHERWISE NOTED.
D. HOT DIP GALVANIZING: UNLESS OTHERWISE NOTED, ALL STEEL FABRICATIONS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

Standard Inlet and Outlet Headwall Structure (For Outlets of 36" Dia. or Greater)

West Linn
DATE: JAN 2000
DRAWING NO. WL-612
FILE NO. 00-612



PLAN

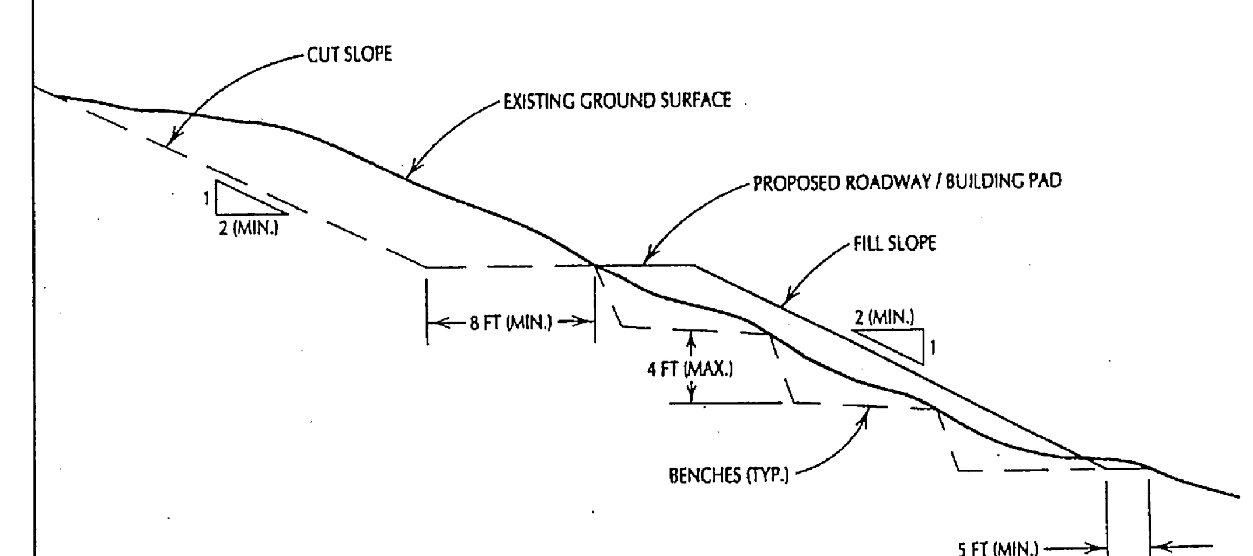


SECTION A-A

NOTE:
PLUG ENDS OF CASING WITH CONCRETE.

Bore Casing Detail

West Linn
DATE: JAN 2000
DRAWING NO. WL-204
FILE NO. 00-204



GRI NORWAY DEVELOPMENT COMPANY
TANNER'S STONEGATE RESIDENTIAL DEVELOPMENT

TYPICAL DETAIL FOR FILLING ON SLOPES

MAR. 2001 JOB NO. 3419 FIG. 4

08/21/2001
Date
AAH/BLW/JAH
Designed
AAH/BLW/JAH
Drawn
Checked By Date

REVISIONS
NO.	DATE	BY	APPD.

REGISTERED PROFESSIONAL ENGINEER 46494PE OREGON DECEMBER 14, 2000 ADNAN ANIS HADDAD
RENEWAL 06/30/2003

NORWAY DEVELOPMENT
P.O.Box 387
Oregon City, Oregon 97045
PHONE: (503) 656-7000
FAX: (503) 656-0686

Tanner's Stonegate

CITY OF WEST LINN, OREGON

DETAIL SHEET

ASBUILTS

otak Incorporated
17355 SW Boones Ferry Road
Lake Oswego, OR 97035-5217
Phone: (503) 635-3618
FAX: (503) 635-5395

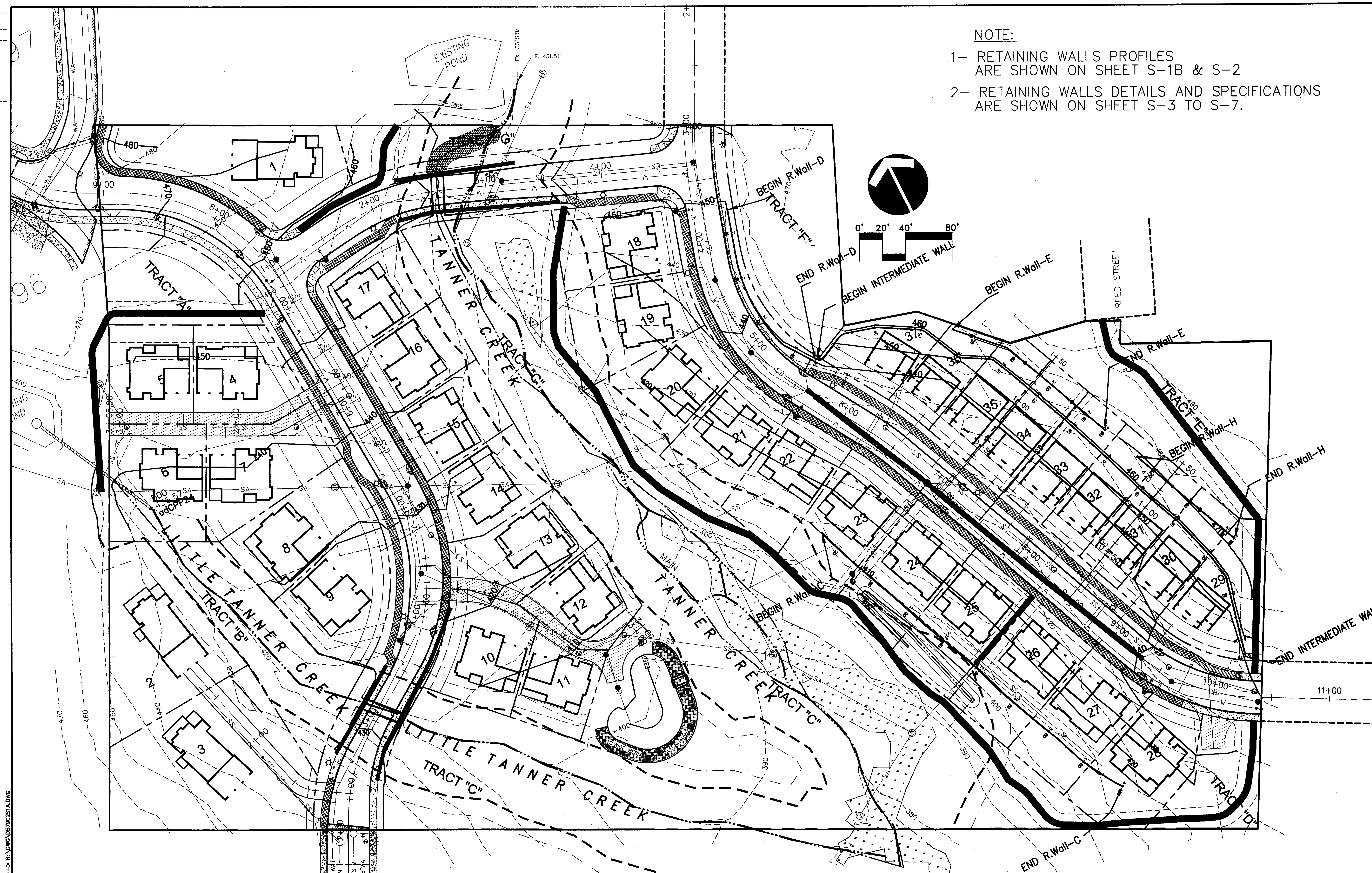
10579
Project No.
D579C5-5
File No.
C5.5
Sheet No.

XREF LIST
Ltscale: 1
Resolved
D579X190
D579X230
D579X400
D579x430
D579X600
D579x902
TRAILS

NOTE:

1- RETAINING WALLS PROFILES ARE SHOWN ON SHEET S-1B & S-2

2- RETAINING WALLS DETAILS AND SPECIFICATIONS ARE SHOWN ON SHEET S-3 TO S-7.



AS BUILTS

REVISIONS	NO. / DATE / BY / APPD.

7/21/01
Date
DAVID HALL
Designed
DAVID HALL
Drawn
Checked By Date

DAH/SE
DAVID A. HALL/STRUCTURAL ENGINEERING
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PORTLAND, OR 97282-0228
503.231.9727

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Oregon City, Oregon 97045
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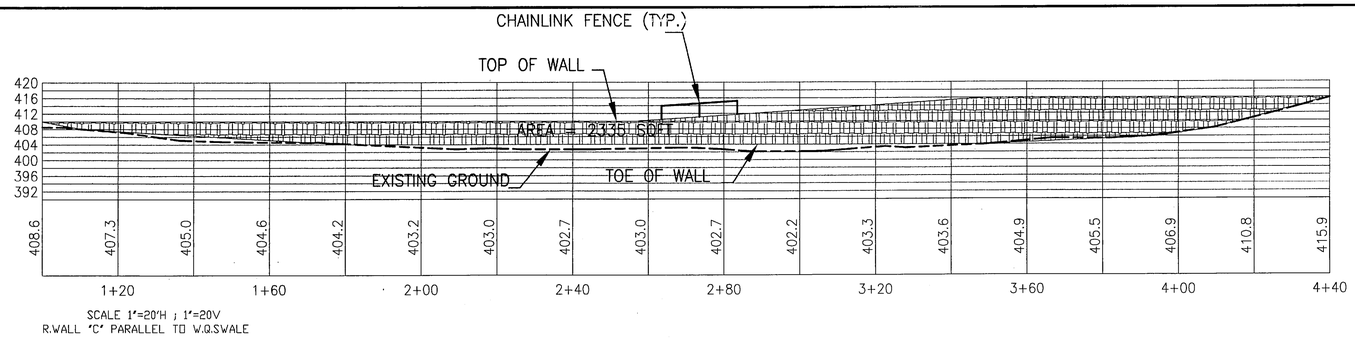
Tanner's Stonegate

CITY OF WEST LINN, OREGON

RETAINING WALLS PLAN

10579
Project No.
D579C2S1A
File No.
S-1A
Sheet No.

L: ADNANH 11/11/02 8:16am --> R:\DWG\D579C2S1A.DWG

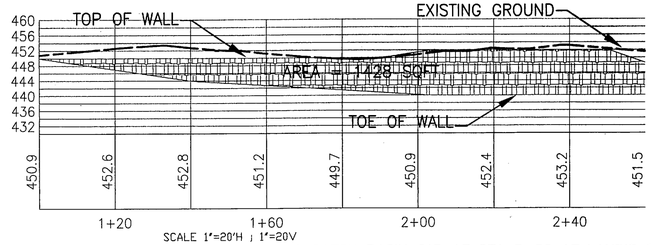


SCALE 1"=20'H ; 1"=20V
R.WALL 'C' PARALLEL TO W.Q.SWALE

WALL C DRAIN SYSTEM TO BE CONNECTED TO DITCH INLET E2 (AT END OF SWALE) BEHIND LOT 26.
WALL C DRAIN SYSTEM TO BE CONNECTED TO DITCH INLET E2 (AT END OF SWALE) BEHIND LOT 26.

ROCK WALL
RETAINING WALL "C" PROFILE — 2 / S-1

SCALE: HORIZONTAL 1"= 20'
VERTICAL 1"= 20'

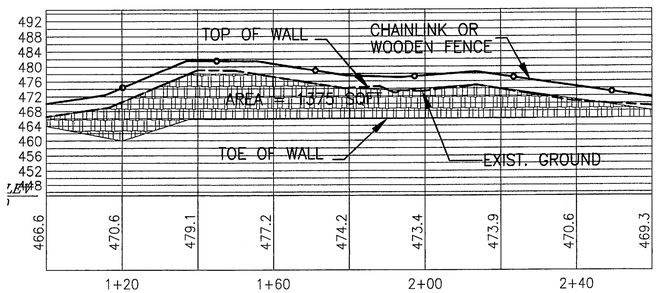


SCALE 1"=20'H ; 1"=20V

WALL D DRAIN SYSTEM TO BE CONNECTED TO CATCH BASIN C1B AT STA 5+50 AT LANDIS STREET.

ROCK WALL
RETAINING WALL "D" PROFILE — 3 / S-1

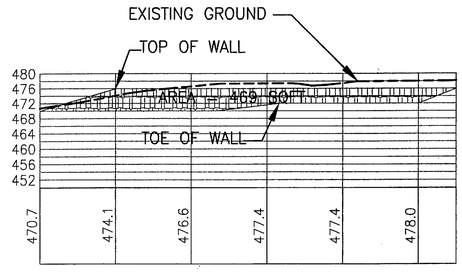
SCALE: HORIZONTAL 1"= 20'
VERTICAL 1"= 20'



WALL "E" DRAIN SYSTEM TO BE CONNECTED TO CATCH BASIN B3B AT STA 7+20 AT LANDIS STREET.

ROCK WALL
RETAINING WALL "E" PROFILE — 5 / S-1

SCALE: HORIZONTAL 1"= 20'
VERTICAL 1"= 20'



WALL "H" DRAIN SYSTEM TO BE EXTENDED AND CONNECTED TO RETAINING WALL "F" DRAIN SYSTEM.

ROCKER WALL
RETAINING WALL "H" PROFILE — 7 / S-1

SCALE: HORIZONTAL 1"= 20'
VERTICAL 1"= 20'

NOTE:

1– RETAINING WALLS DETAILS AND SPECIFICATIONS ARE SHOWN ON SHEET S3–S7.

2–ALL ROCK WALLS NOT TO EXCEED 8 FEET IN HEIGHT.

3–ALL CHAINLINK OR WOODEN FENCES SHALL BE 42" HIGH.

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DAVID A. DAHL/STRUCTURAL ENGINEERING
P.O. BOX 82228
PORTLAND, OR 97282-0228
503.231.7572

REVISIONS | NO. | DATE | BY | APPD.

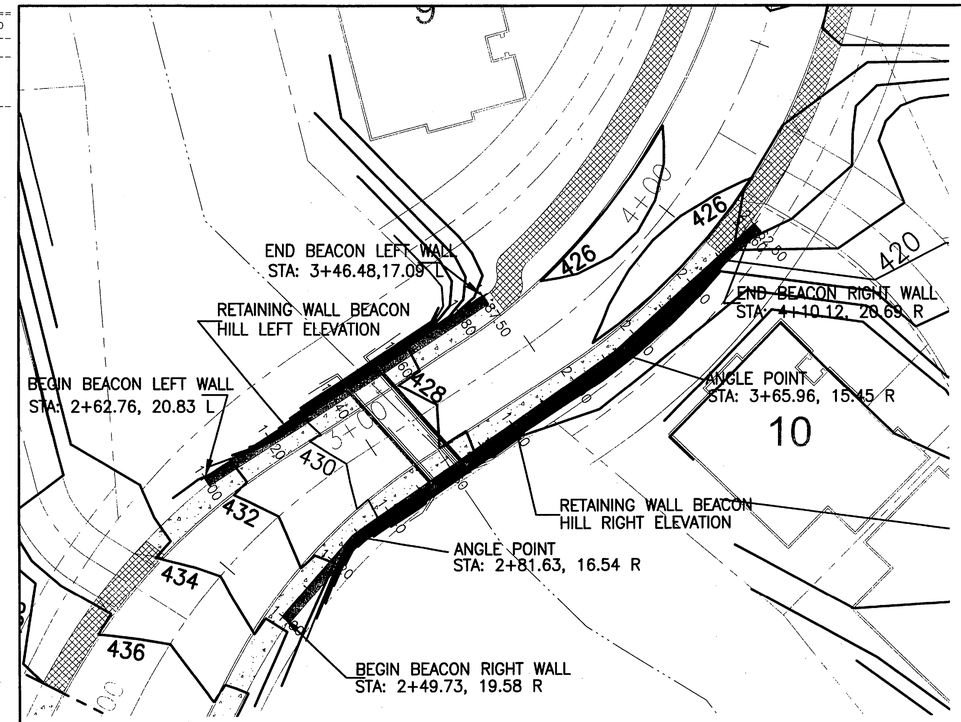
7/21/01
Date
DAVID HALL
Designed
DAVID HALL
Drawn
Checked By Date

Tanner's Stonegate
CITY OF WEST LINN, OREGON
RETAINING WALLS PROFILES

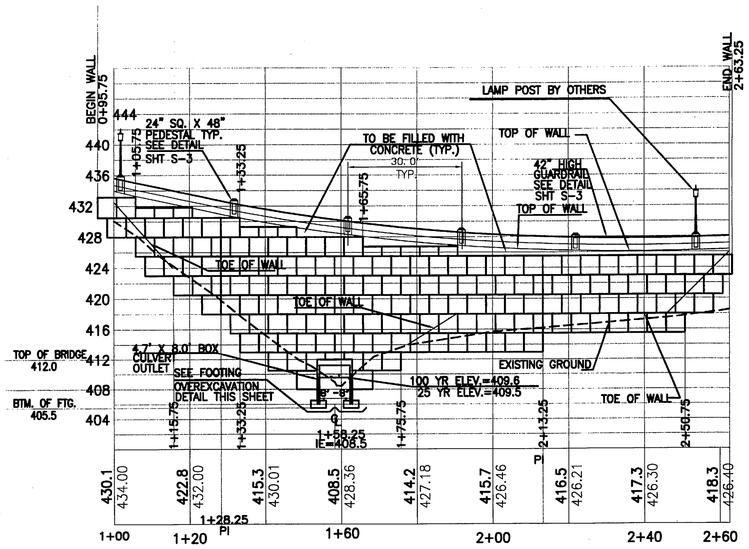
AS BUILTS

10579
Project No.
D579C2S1B
File No.
S–1B
Sheet No.

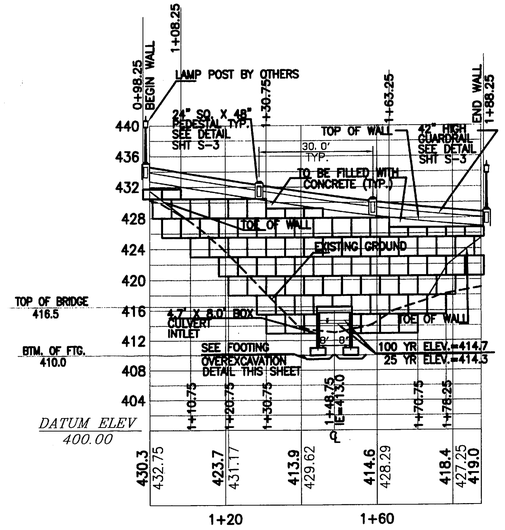
XREF LIST
Ltscale: 20
Resolved
D579x400
D579x430
D579x600



1/2 PLAN @ BEACON HILL CULVERT
SCALE: 1" = 20'-0"

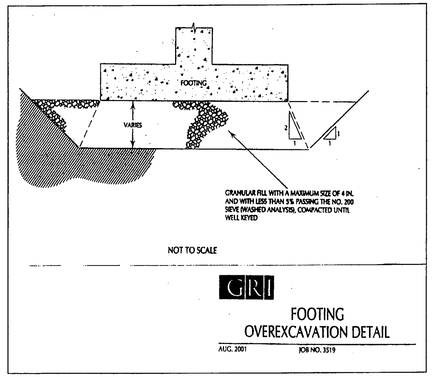


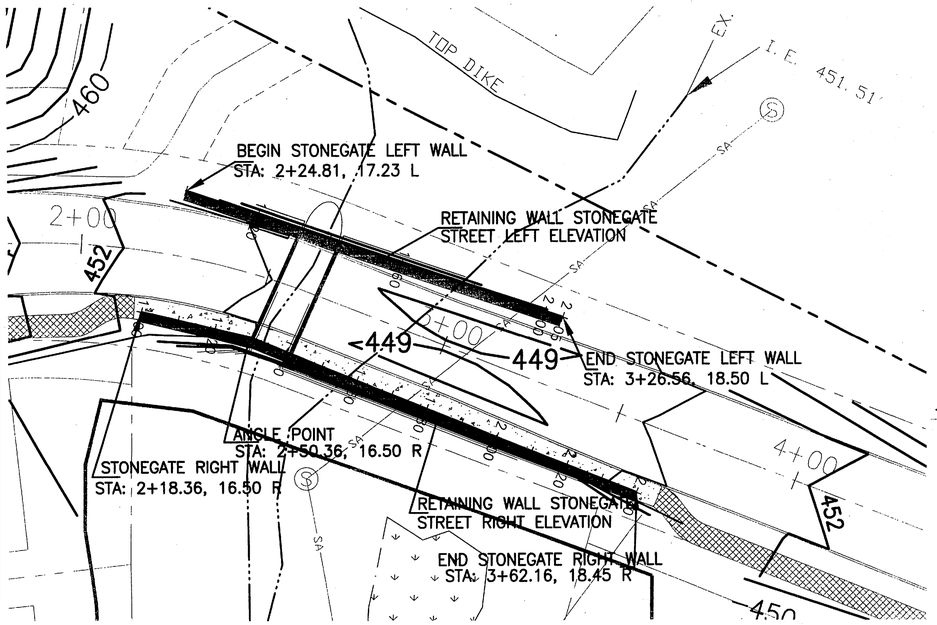
2/2 BEACON HILL RIGHT ELEVATION
SCALE: 1" = 20'-0" H, 1" = 10'-0" V



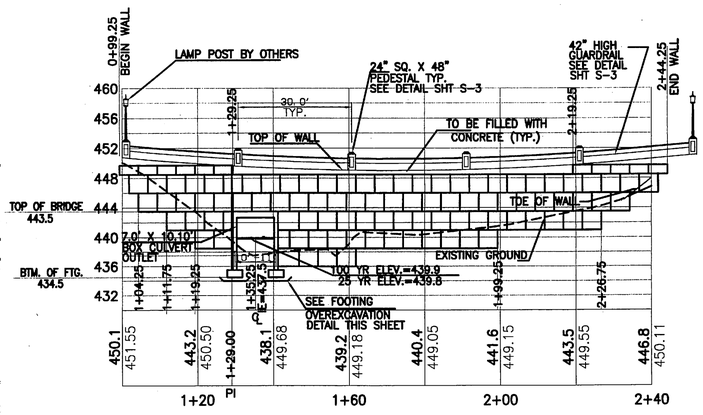
3/2 BEACON HILL LEFT ELEVATION
SCALE: 1" = 20'-0" H, 1" = 10'-0" V

NOTE:
- FOR LAMP POST STATION AND LOCATION SEE STREET LIGHTING ON COMPOSITE UTILITY SHEET C1.3
- Q100 ULTIMATE=54 CFS. AT LITTLE TANNER CREEK
- Q25 ULTIMATE=38 CFS. AT LITTLE TANNER CREEK
- Q100 ULTIMATE=300 CFS. AT TANNER CREEK
- Q25 ULTIMATE=240 CFS. AT TANNER CREEK

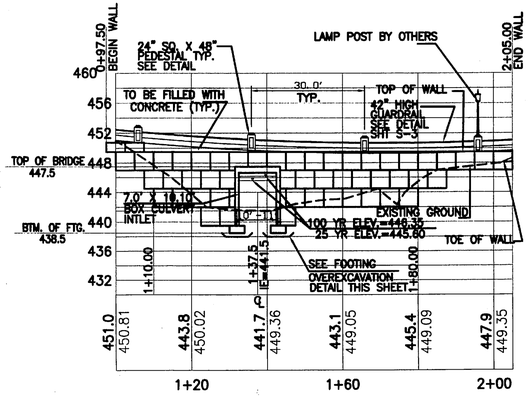




4/2 PLAN @ STONEGATE LANE CULVERT
SCALE: 1" = 20'-0"



5/2 STONEGATE LANE RIGHT ELEVATION
SCALE: 1" = 20'-0" H, 1" = 10'-0" V



6/2 STONEGATE LANE LEFT ELEVATION
SCALE: 1" = 20'-0" H, 1" = 10'-0" V

7/21/01
Date
DAVID HALL
Designed
DAVID HALL
Drawn
Checked By Date

REVISIONS

NO.	DATE	BY	APPD.

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Tanner's Stonegate
CITY OF WEST LINN, OREGON
BEACON HILL DRIVE AND STONEGATE LANE'S RETAINING WALL PLAN AND PROFILES

AS BUILTS

10579
Project No.
D579C2S2
File No.
S-2
Sheet No.

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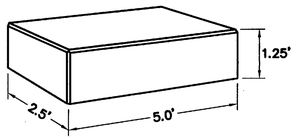
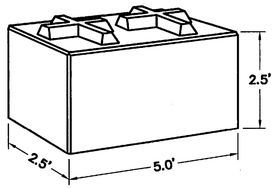
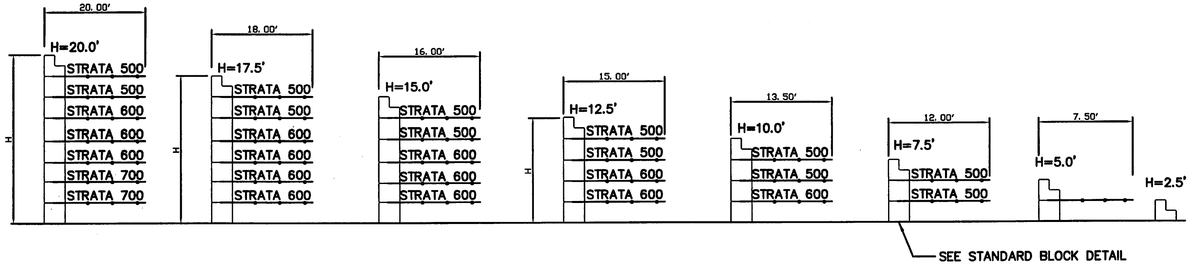


CAP BLOCK DETAIL
NOT TO SCALE

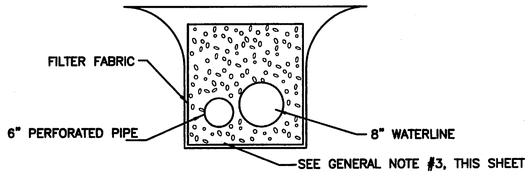


STANDARD BLOCK DETAIL
NOT TO SCALE



ULTRABLOCK WALL ASSEMBLY DETAIL
NOT TO SCALE

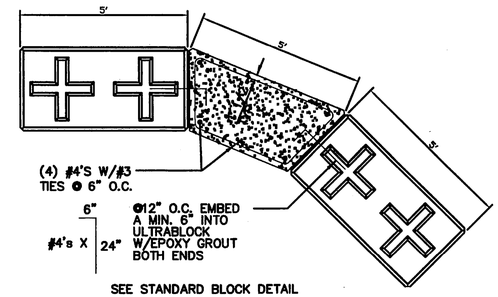
NOTE: THE TOP LAYER OF GEOGRID MAY BE SHORTENED TO ACCOMODATE UTILITY. THIS SHOULD BE COORDINATED WITH THE STRUCTURAL ENGINEER DURING CONSTRUCTION AND APPROVED BY THE WALL MANUFACTURER.



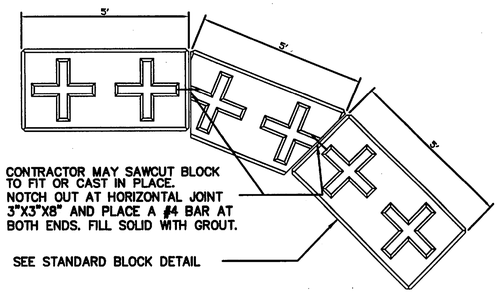
WATERLINE TRENCH AT BRIDGE
NOT TO SCALE

GENERAL NOTES:

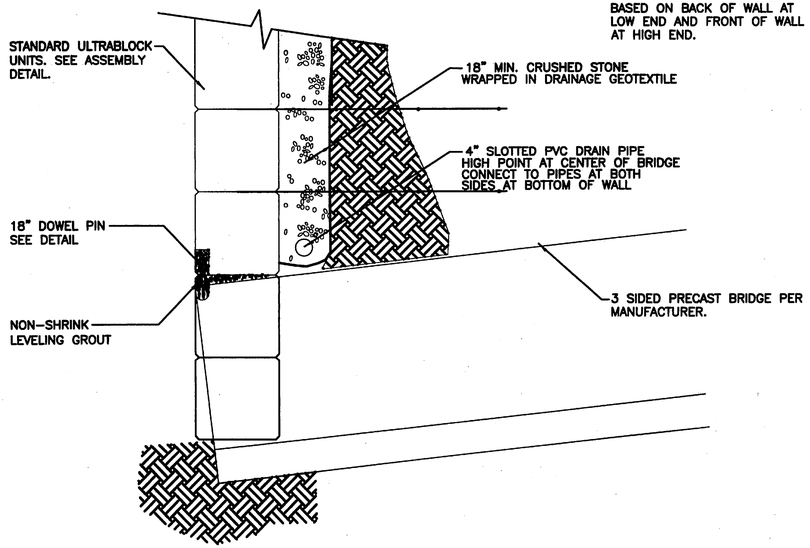
1. PLACE 6" OF CRUSHED ROCK LAYER UNDER ULTRABLOCK WALLS FOR ALL HEIGHTS.
2. A REPRESENTATIVE OF GEOTECHNICAL RESOURCES, INC. (GRI) SHALL REVIEW THE SITE TO VERIFY IT IS GLOBALLY STABLE AFTER IT HAS BEEN CLEARED.
3. DO NOT PLACE UTILITIES WITHIN THE AREA THAT IS REINFORCED WITH GEOGRID. IT IS RECOMMENDED THAT A DRAIN PIPE BE PLACED ADJACENT TO THE UTILITIES AND DAYLIGHTED BETWEEN THE GEOGRID WALLS IN A BED OF GRAVEL WRAPPED W/ FILTER FABRIC.
4. NO MODIFICATIONS OR SUBSTITUTIONS ARE TO BE MADE WITHOUT THE APPROVAL IN WRITING BY DAH/SE.
5. DESIGN COMPLIANCE WAS MADE PER THE RECOMMENDATION IN REPORT #3419 PREPARED BY GRI DATED MARCH 30, 2001. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND ADHERING TO ALL OF THE RECOMMENDATIONS MADE WITHIN.
6. GRI SHALL REVIEW THESE PLANS TO MAKE SURE THAT THEY ADHERE TO ALL OF THEIR RECOMMENDATIONS MADE IN THE ABOVE REFERENCE REPORT.
7. A SPECIAL INSPECTION IS REQUIRED TO REVIEW THE CONSTRUCTION OF THESE WALLS.
8. THE BUILDER SHOULD BE AWARE THAT SETTLEMENT AND MOVEMENT MAY OCCUR IMMEDIATELY AFTER THIS WALL IS CONSTRUCTED. IT IS RECOMMENDED THAT THE SIDEWALL, TURNED DOWN EDGE NOT BE INSTALLED FOR A MONTH AFTER THIS WALL HAS BEEN CONSTRUCTED.



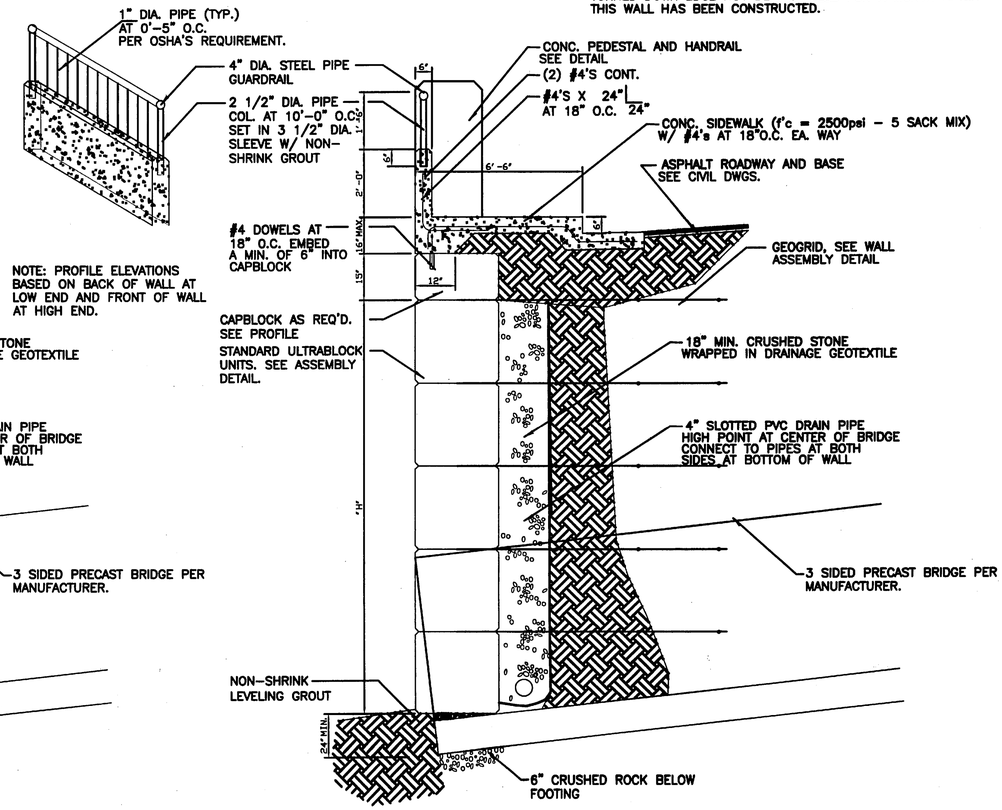
CAST-IN-PLACE WALL JOINT DETAIL
NOT TO SCALE



WALL JOINT DETAIL
NOT TO SCALE



TYPICAL ULTRABLOCK WALL SECTION
NOT TO SCALE



TYPICAL ULTRABLOCK WALL SECTION
NOT TO SCALE

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REVISIONS

NO.	DATE	BY	APPD.

8/21/01
Date
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Checked By Date

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Tanner's Stonegate
CITY OF WEST LINN, OREGON
STRUCTURAL DETAILS AND SPECIFICATIONS

AS BUILTS

10579
Project No.
D579C2S3
File No.
S-3
Sheet No.

ULTRABLOCK, INC.
7000 NE 40th Ave, D-3, Vancouver, WA
1-800-377-3877

FIELD CONSTRUCTION MANUAL

EXCAVATION

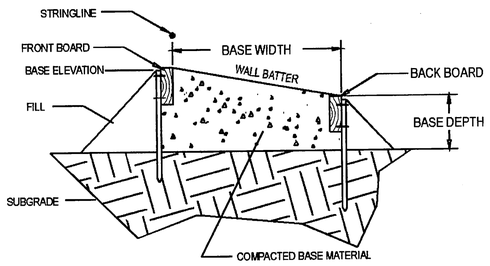
Confirm location and elevation of walls. Width of excavation should allow for width of wall base and drainpipe. Note; all excavation should follow OSHA guidelines. If the wall steps up one block in height, the base blocks should be installed at the lowest level in order to establish grade and face location of the second level.

BASE PREPARATION

Consult engineer's wall design for base material specification including type, width, depth and compaction. It is recommended to start at lowest wall level. Locate the front face of the wall and run a string line one (1) inch in front of the face-- two (2) inches above the base.

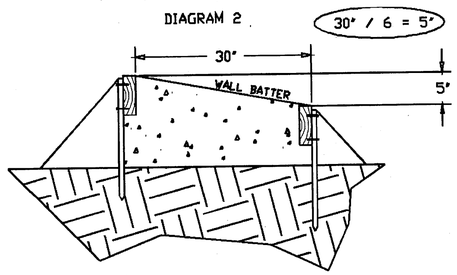
Use 2x6 or 2x8 pieces of wood, with 18" steel stakes nailed to each end, for forming up the base (See DIAGRAM 1).

DIAGRAM 1



Set front board in line with string and at base elevation of wall. Locate the back board at the base width (of wall) distance from the front board. Set elevation of back board to give the proper wall batter. For example, if the wall has a 6:1 batter, and the base of the wall is 30 inches wide (2.5 ft) then the back board should be five (5) inches lower than the front board (See DIAGRAM 2).

DIAGRAM 2



Make sure the base material is well compacted. Test if necessary. Be careful not to push out boards during compaction. After compacting, screed off base material, fill in low spots, and screed again. Repeat procedure as necessary to achieve firm, compacted base.

Without moving the string line, start leap-frogging the base boards further on down the wall line and continue preparing the base. Do not disturb stringline. It is best to prepare the entire base before setting the blocks.

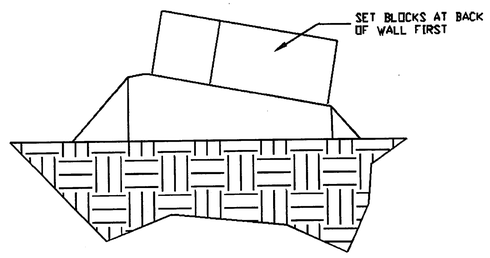
CURVED WALLS BASE PREPARATION

Curved walls require many more location points to define the curve (the tighter the curve, the more location points). Use bender boards fot the base boards. Set the front boards to the elevation and curve of the walls. Set the back boards to the back width and batter the wall. Fill, compact and acreed base material as required.

SETTING BLOCKS

Before placing blocks, make sure the top and bottom surfaces of the respective blocks are clean. At one end of the wall, or at one end ofthe lowest base elevation, start the wall. At the start of the wall, mark a line perpendicular to the face of the wall. This line will help place the first block square to the wall face. Place the first block one inch from the string line. Set the next block beside the fiest block, taking care to align the face. If the base width of the wall requires 2 or more blocks, place the blocks at the back of the wall first (It may help to run a temporary string line). Always place the best face of the blocks on the outside of the wall. (See DIAGRAM 3).

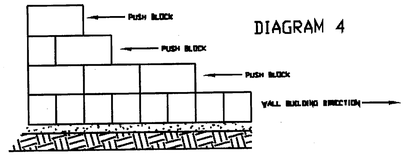
DIAGRAM 3



Do not set any more than 25 to 30 feet of blocks along the length of base before starting on the second or third row. The block keyways have a limited amount of play which could lead to binding if installed incorrectly.

If binding does occur between the first and second row of blocks, leave a 1/4" gap when placing the next base block. Another suggestion to reduce the binding is as follows: When building the base going left to right, after placing each second row block, push the second row block right to left until it no longer slides along base block. Make sure the upper row blocks do not slide up on the keys of lower row blocks (See DIAGRAM 4).

DIAGRAM 4



If building walls with geogrid, make sure geogrid is extended through to the front face of the block. Geogrid reinforced walls require that the backfill and geogrid be compacted and stretched as the wall goes up. Make sure drainpipe, filter fabric, and drain mats (if required) are installed before backfilling. Bacfill material and compaction must meet engineer's requirements. Test as necessary. Continue placing blocks being careful to align the face.

EQUIPMENT FOR PLACING BLOCKS

A track mounted excavator is the ideal piece of equipment for setting blocks. A wire rigging with swivel hooks, OSHA approved and rated for the weight of the blocks, can be attached to the excavator and used for lifting and moving the blocks.

SAFETY FACTORS

1. Never stand underneath a block.
2. Never accept or install blocks with a cold joint (LEAVE ON DELIVERY TRUCK)
3. Avoid getting any part of the body between pinch points while installing blocks (either between two blocks or between a block and the open excavation).
4. Always inspect rigging for lifting the block. Replace all worn out or broken parts. DO NOT USE INFERIOR, INADEQUATE OR UNAPPROVED EQUIPMENT.

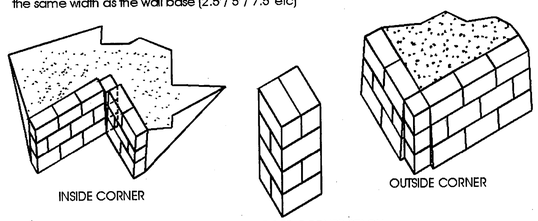
USEFUL TOOLS

1. Transit- to lay out a level base.
2. Shovels and rakes- for use by the base prep person.
3. A lifting jig- to hold the blocks at the correct batter.
4. A broom- to clean the keyways before placing the next layer.
5. One or more 5 foot pry bars-e for jostling the blocks into position.

CORNERS

1. Vertical walls can be locked at 90 degree corners.
2. Battered walls at 90 degree corners are constructed as follows:
   Stack a vertical column to fill the corner. Adjust toe of battered wall to meet with corners of vertical stack (ie: kick toe out for outside corner, meet toe at edge for inside corner). For walls higher than 7.5' , you may use a stack of full-size, interlocked blocks to make a 5x5' vertical stack, rather than 2 2.5x2.5' stack with single half blocks (See below).

   Use geogrid between the vertical blocks, extending back into the fill. Make the corner stack the same width as the wall base (2.5' / 5' / 7.5' etc)



EXCAVATION

If the radius of the wall is less than the allowable radius then contact the manufacturer and see if arrangements can be made for special block.

WALL WIDTH	MINIMUM RADIUS OF CURVE
2.5'	100'
5'	200'
7.5'	300'
10'	400'

FINAL LEVELLING OF THE WALL

Imperfect or disturbed bases can cause a wall to not run straight or level. It is recommended to shim (asphalt shingle) wall if necessary or place a 4x6 on top of the wall at the high points and pound down with the excavator bucket.

ULTRABLOCK, INC.
7000 NE 40th Ave, D-3, Vancouver, WA
360-694-0141 Fax 360-694-0281
1-800-377-3877

REVISIONS

NO.	DATE	BY	APPD.

2/23/01
Date
DAVID HALL
Designed
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Checked By Date

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Tanner's Stonegate
CITY OF WEST LINN, OREGON

AS BUILTS

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Project No.
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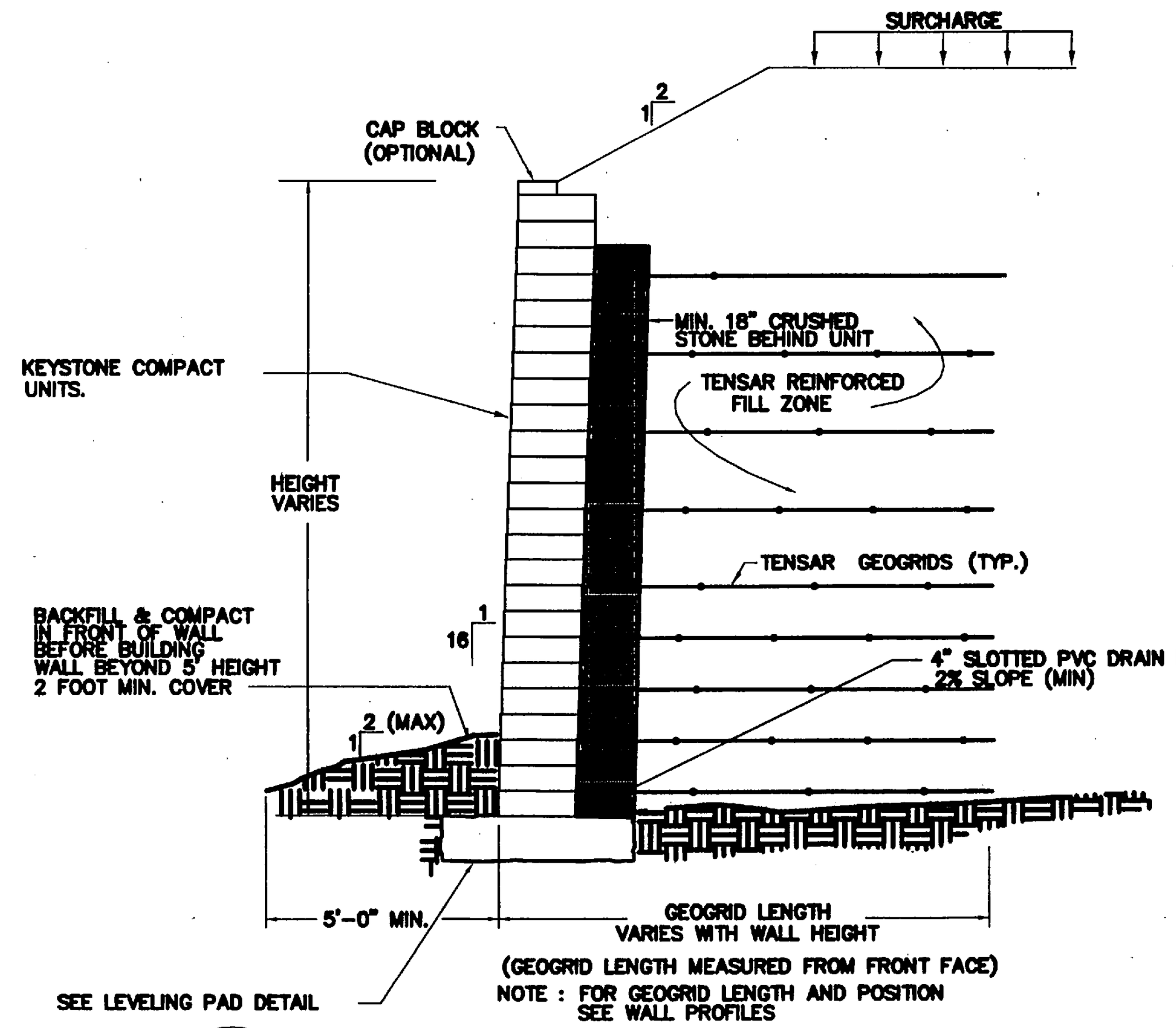
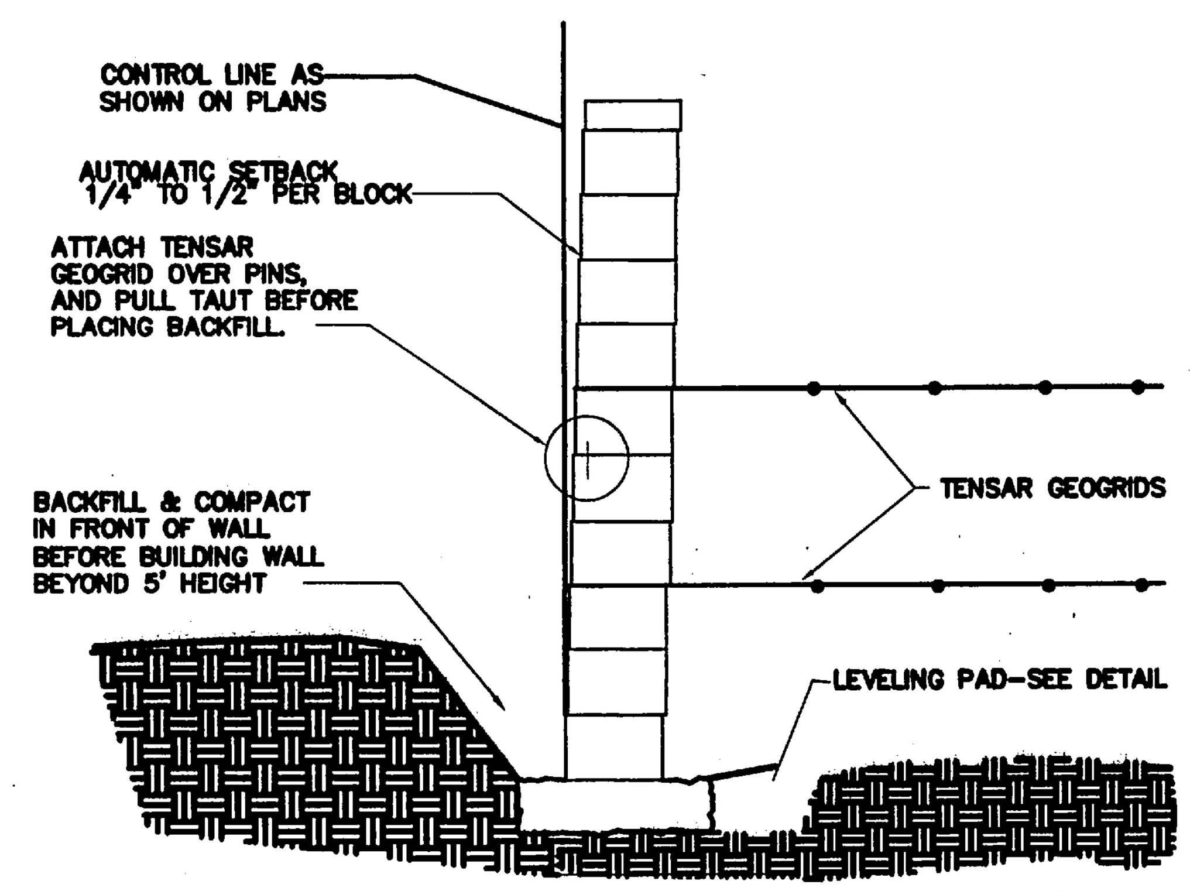
Sheet No.



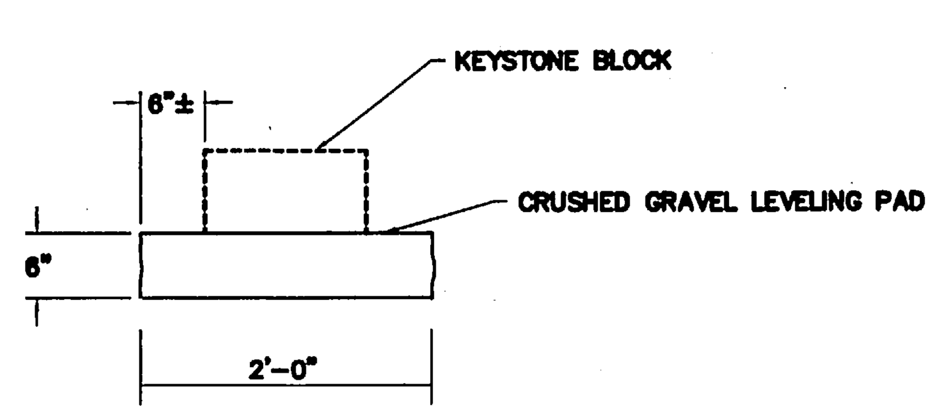
1 / WL5 TYPICAL CROSS SECTION

NOT TO SCALE



2 / WL5 GEOGRID ATTACHMENT DETAIL

NOT TO SCALE



4 / WL5 LEVELING PAD DETAIL

NOT TO SCALE

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GEOGRID TABLE

2:1 BACKSLOPE – 2:1 FRONT SLOPE – MIN. EMBEDMENT AT TOE OF 2'-8". WALL HEIGHTS ARE FROM TOP OF GRADE TO BOTTOM OF GRADE AND DO NOT INCLUDE EMBEDMENT. HEIGHT OF WALLS INCLUDING EMBEDMENT IN PARENTHESES.

MAX. HEIGHT OF WALL "H"	GEOGRID TYPE	LENGTH OF GEOGRIDS "L"	POSITION OF GEOGRIDS FROM BOTTOM OF THE WALL								
			1	2	3	4	5	6	7	8	9
15'-0" (17'-4")	S8500 S6200	16'-0" 16'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	12'-8"	14'-8"	16'-8"
13'-0" (15'-4")	S8500 S6200	14'-0" 14'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	12'-8"	14'-8"	—
11'-0" (13'-4")	S8500 S6200	14'-0" 14'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	12'-8"	–	–
9'-0" (11'-4")	S6200	12'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	–	–	–
7'-0" (9'-4")	S6200	10'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	–	–	–	–
5'-0" (7'-4")	S6200	8'-0"	0'-8"	2'-8"	4'-8"	6'-8"	–	–	–	–	–

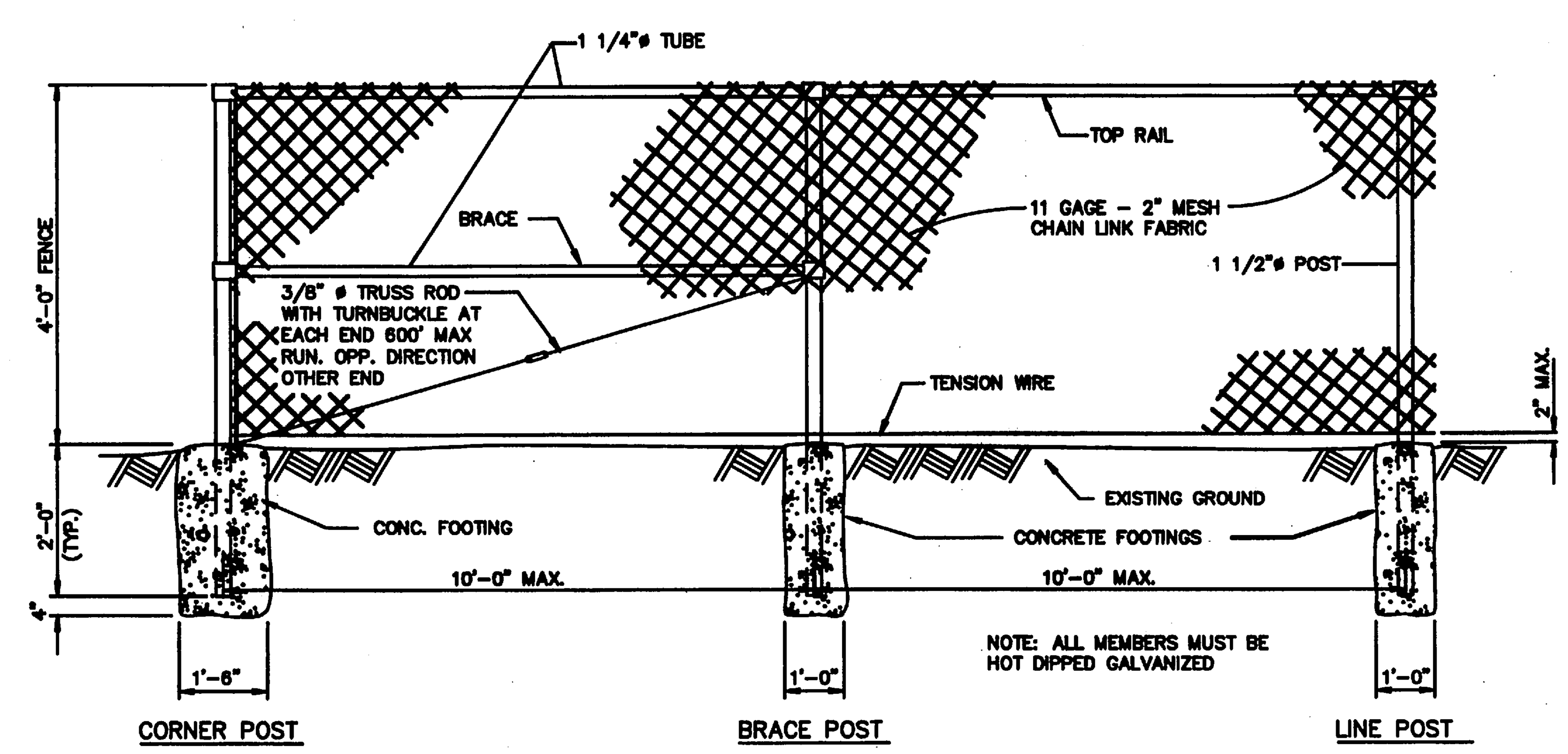
*USE COMPACT BLOCKS FOR THE UPPER 10'-0" OF WALL. USE STANDARD BLOCKS BELOW 10'-0" IN HEIGHT.

GEOGRID TABLE

2:1 BACKSLOPE – HORIZONTAL SLOPE AT BASE. WALL HEIGHTS ARE FROM TOP OF GRADE TO BOTTOM OF GRADE AND DO NOT INCLUDE EMBEDMENT. HEIGHT OF WALLS INCLUDING EMBEDMENT IN PARENTHESES.

MAX. HEIGHT OF WALL "H"	GEOGRID TYPE	LENGTH OF GEOGRIDS "L"	POSITION OF GEOGRIDS FROM BOTTOM OF THE WALL							
			1	2	3	4	5	6	7	8
15'-0" (16'-0")	S8500 S6200	14'-0" 14'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	12'-8"	14'-8"
13'-0" (14'-0")	S8500 S6200	12'-0" 12'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	12'-8"	–
11'-0" (12'-0")	S6200	12'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	–	–
9'-0" (10'-0")	S6200	9'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	–	–	–
7'-0" (8'-0")	S6200	8'-0"	0'-8"	2'-8"	4'-8"	6'-8"	–	–	–	–
5'-0" (6'-0")	S6200	6'-0"	0'-8"	2'-8"	4'-8"	–	–	–	–	–

*USE COMPACT BLOCKS FOR THE UPPER 10'-0" OF WALL. USE STANDARD BLOCKS BELOW 10'-0" IN HEIGHT.



5 / WL5 CHAIN LINK FENCE DETAIL

NOT TO SCALE

GEOGRID TABLE

HORIZONTAL BACKSLOPE – HORIZONTAL SLOPE AT BASE. WALL HEIGHTS ARE FROM TOP OF GRADE TO BOTTOM OF GRADE AND DO NOT INCLUDE EMBEDMENT. HEIGHT OF WALLS INCLUDING EMBEDMENT IN PARENTHESES.

MAX. HEIGHT OF WALL "H"	GEOGRID TYPE	LENGTH OF GEOGRIDS "L"	POSITION OF GEOGRIDS FROM BOTTOM OF THE WALL							
			1	2	3	4	5	6	7	8
15'-0" (16'-0")	S8500 S6200	14'-0" 14'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	12'-8"	14'-8"
13'-0" (14'-0")	S6200	12'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	12'-8"	–
11'-0" (12'-0")	S6200	10'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	10'-8"	–	–
9'-0" (10'-0")	S6200	8'-0"	0'-8"	2'-8"	4'-8"	6'-8"	8'-8"	–	–	–
7'-0" (8'-0")	S6200	6'-0"	0'-8"	2'-8"	4'-8"	6'-8"	–	–	–	–
5'-0" (6'-0")	S6200	6'-0"	0'-8"	2'-8"	4'-8"	–	–	–	–	–

*USE COMPACT BLOCKS FOR THE UPPER 12'-0" OF WALL. USE STANDARD BLOCKS BELOW 12'-0" IN HEIGHT.

KEYSTONE\TENSAR REINFORCED EARTH RETAINING WALLS

GENERAL REQUIREMENTS:

1. THE DESIGN COMPLIANCE OF THIS WALL IS MADE WITH THE ASSUMPTION IT WILL NOT BE CONSTRUCTED ON EXPANSIVE OR FILL TYPE SOILS. A GEOTECHNICAL ENGINEER SHALL BE RETAINED TO VERIFY ALL DESIGN ASSUMPTIONS. ALL MODIFICATIONS SHALL BE MADE THROUGH DAVID A. HALL / STRUCTURAL ENGINEERING.
2. RETAINING WALL DESIGN ASSUMPTIONS USED:

ALLOWABLE BEARING PRESSURE	3000 PSF
DRY DENSITY OF SOIL	120 PCF
ANGLE OF FRICTION	(PHI) 30 DEGREES

3. ALL CONSTRUCTION SHALL BE PERIODICALLY REVIEWED BY A REGISTERED PROFESSIONAL ENGINEER FAMILIAR WITH THE DESIGN AND CONSTRUCTION OF REINFORCED EARTH RETAINING WALLS.

REINFORCED EARTH RETAINING WALL CONSTRUCTION NOTES:

1. ALL SOIL USED IN THE REINFORCED EARTH FILL SHALL BE FREE OF BRUSH, SOD, ROOTS, OR ANY OTHER DELETERIOUS MATERIAL. ALL FILL SOIL SHALL BE FREE OF SNOW OR ICE AND SHALL NOT BE FROZEN PRIOR TO PLACEMENT.
2. ONSITE SOIL MAY BE USED IN THE REINFORCED EARTH FILL IF APPROVED BY A REGISTERED GEOTECHNICAL ENGINEER. THE ONSITE SOIL MUST MEET ALL DESIGN PARAMETERS MENTIONED ABOVE.
3. ALL FILL SOIL MATERIALS PASSING THE NO. 200 SIEVE SHALL NOT HAVE A LIQUID LIMIT GREATER THAN 30 OR A PLASTICITY LIMIT GREATER THAN 20.
4. SOIL DENSITY TESTS SHALL BE CONDUCTED BY OWNERS GEOTECHNICAL ENGINEER AT 2 FOOT VERTICAL INTERVALS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER OF RECORD.
5. ALL FILL SOIL SHALL BE PLACED IN HORIZONTAL LIFTS NOT EXCEEDING 10" IN UNCOMPACTED THICKNESS WHEN USING HEAVY COMPACTION EQUIPMENT. ALL FILL SOIL SHALL BE PLACED IN LIFTS NOT EXCEEDING 6" IN UNCOMPACTED WHEN USING HAND OPERATED COMPACTION EQUIPMENT.
6. ALL FILL SHALL BE COMPACTED TO A MINIMUM 95% OF THE MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-698 (STANDARD PROCTOR DENSITY).
7. WHEN USING LARGE ROCKS, STONE, OR APPROVED MATERIALS, CARE SHOULD BE TAKEN TO DISTRIBUTE THEM OVER THE ENTIRE AREA IN ORDER TO AVOID AIR POCKETS. ALL VOIDS SHALL BE FILLED WITH SMALL STONES OR OTHER APPROVED ACCEPTABLE MATERIALS. DO NOT PLACE ANY LARGE AGGREGATE DIRECTLY AGAINST THE KEYSTONE BLOCK WALLS.
8. THE LEVELING PADS UNDER THE KEYSTONE BLOCK WALL SHALL BE PLACED ON FIRM UNDISTURBED NATIVE SOIL OR WELL COMPACTED FILL AS APPROVED BY OWNERS GEOTECHNICAL ENGINEER.
9. ALL FACING UNITS SHALL BE KEYSTONE UNITS WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. NO SUBSTITUTIONS MAY BE MADE WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
10. ALL GEOGRID REINFORCING SHALL BE TENSAR UNIAXIAL GEOGRIDS AS SPECIFIED ON THE PLANS AS MANUFACTURED BY THE TENSAR CORPORATION, MORROW, GEORGIA. NO SUBSTITUTIONS MAY BE USED WITHOUT THE APPROVED WRITTEN PERMISSION OF THE ENGINEER OF RECORD.
11. THE LENGTHS OF EACH GEOGRID IS AS INDICATED ON THE PLANS. THE REINFORCED FILL ZONE IS MEASURED FROM THE FRONT FACE OF THE KEYSTONE BLOCK UNIT. FOR EASE OF CONSTRUCTION, THE CONTRACTOR MAY USE LONGER GEOGRID LENGTHS THAN THAT INDICATED ON THE PLANS.
12. THE TENSAR GEOGRIDS SHALL BE ATTACHED FIRMLY BETWEEN THE BLOCKS OVER THE PINS AS ILLUSTRATED ON THE PLANS. THE GEOGRIDS SHALL BE PULLED TIGHT AWAY FROM THE FRONT FACE TO REDUCE ANY SLACK PRIOR TO PLACING ANY FILL.
13. FILL MATERIALS SHALL BE PLACED FROM THE BACK FACE OF THE KEYSTONE BLOCKS BACK TOWARDS THE FILL TO ENSURE FURTHER TENSIONING OF THE GEOGRID MATERIALS.
14. THE CONTRACTOR SHALL GRADE THE LANDSCAPE SUCH THAT THERE IS POSITIVE DRAINAGE AWAY FROM THE WALL. DRAINAGE SHALL BE ROUTED TO AN APPROVED LOCATION FOR PERMANENT DISPOSAL.
15. THE CONTRACTOR SHALL TAKE GREAT CARE TO PROTECT THE REINFORCED SOIL MASS FROM RAINSTORMS AND PONDING OF WATER DURING THE CONSTRUCTION PROCESS.

REVISIONS | NO. | DATE | BY | APPD.

7/21/01
Date
DAVID HALL
Designed
DAVID HALL
Drawn
Checked By Date

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Tanner's Stonegate

CITY OF WEST LINN, OREGON

RETAINING WALL'S TABLES AND SPECIFICATIONS

AS BUILTS

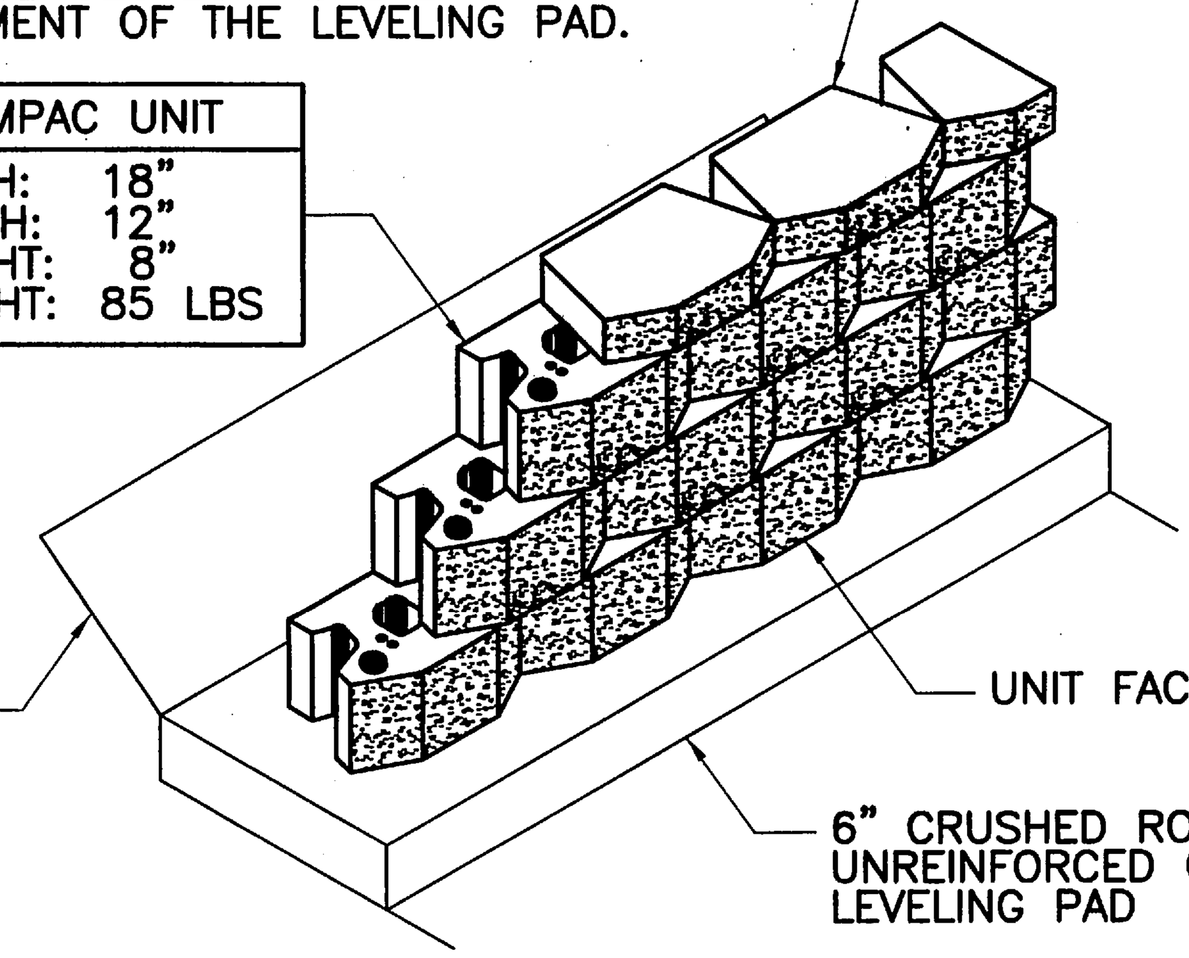
10579
Project No.
D579C2S5
File No.
S–5
Sheet No.

BASE LEVELING PAD NOTES:

1. THE LEVELING PAD IS TO BE CONSTRUCTED OF CRUSHED STONE OR 2,000 PSI± UNREINFORCED CONCRETE.
2. THE BASE FOUNDATION IS TO BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE LEVELING PAD.

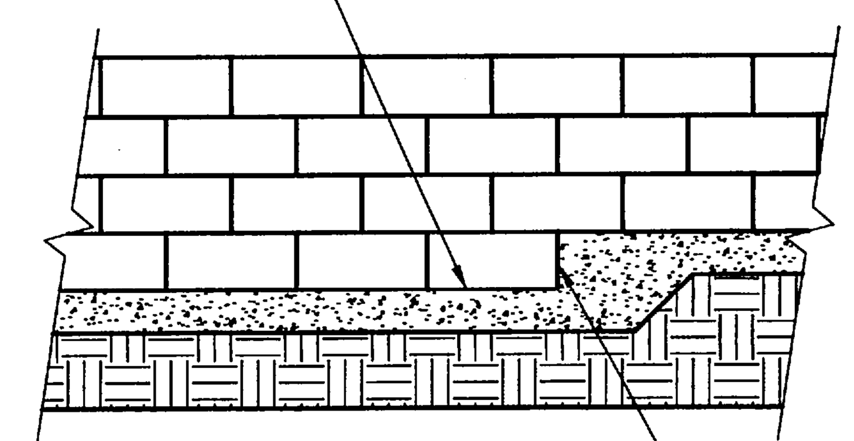
MINI CAP UNIT	
WIDTH:	18"
*DEPTH:	10"
HEIGHT:	4"
*WEIGHT:	45 LBS

COMPAC UNIT	
WIDTH:	18"
*DEPTH:	12"
HEIGHT:	8"
*WEIGHT:	85 LBS

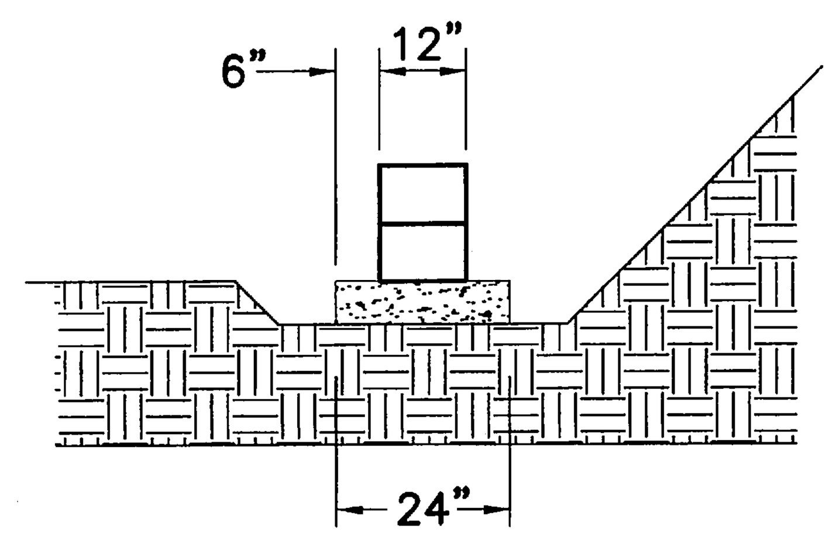


COMPAC UNIT/BASE PAD ISOMETRIC VIEW
SCALE: N.T.S.

*DIMENSIONS & WEIGHT MAY VARY BY REGION

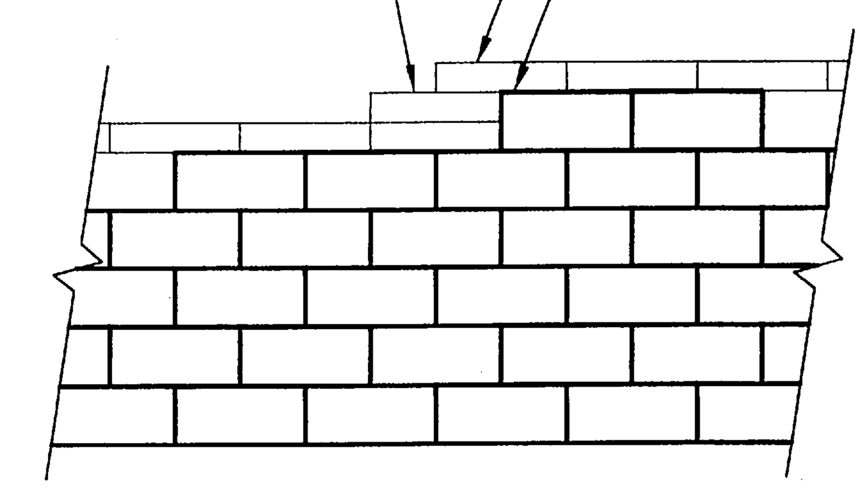


ELEVATION

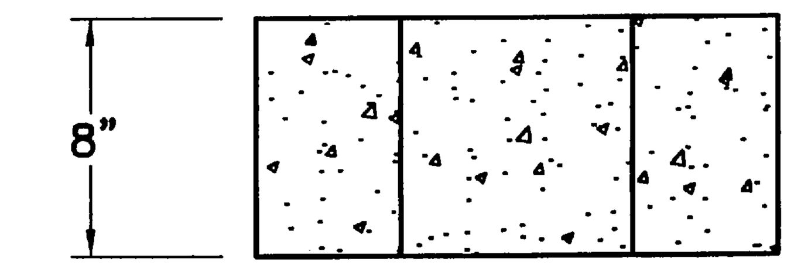


SECTION

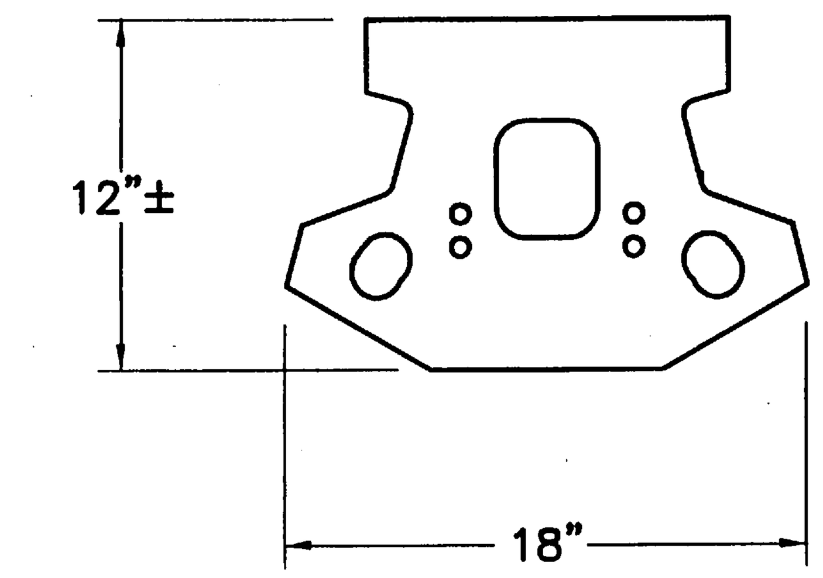
LEVELING PAD DETAIL
SCALE: N.T.S.



TOP OF WALL STEPS
SCALE: N.T.S.



COMPAC ELEVATION

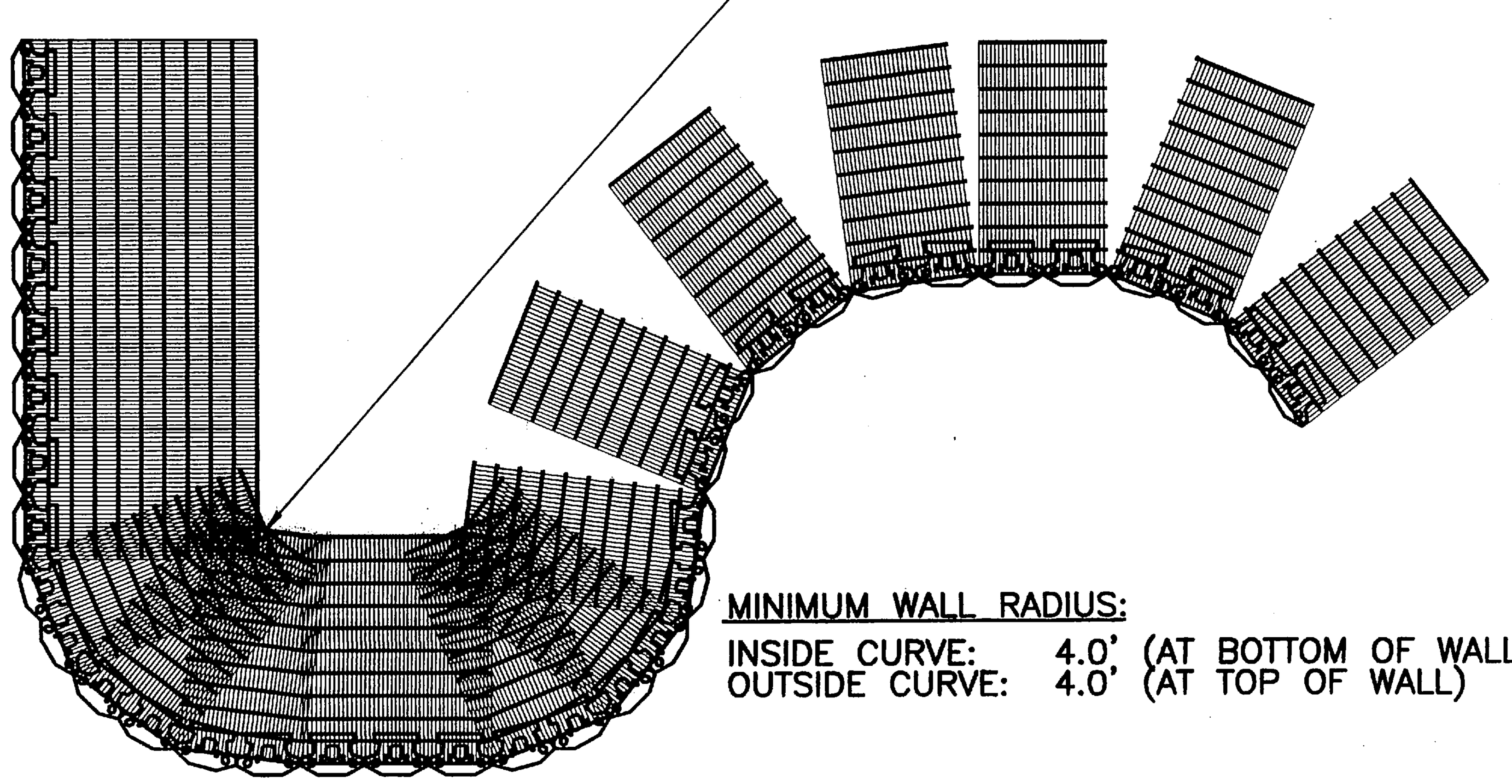


COMPAC PLAN

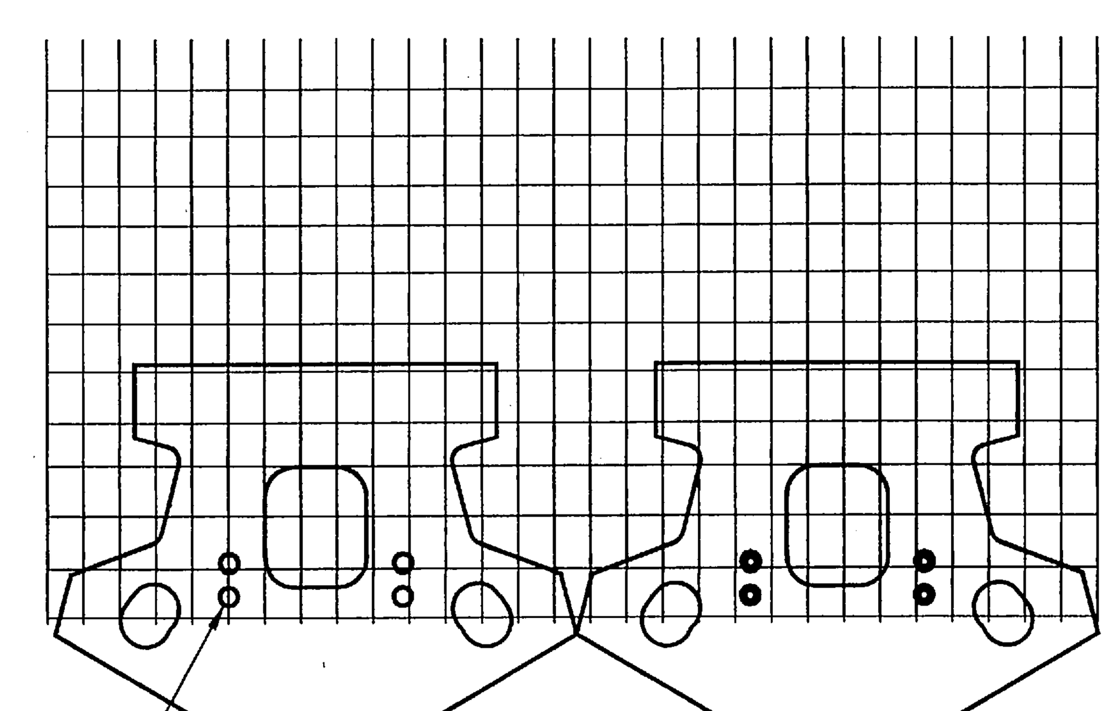
COMPAC UNIT
SCALE: N.T.S.

NOTE:

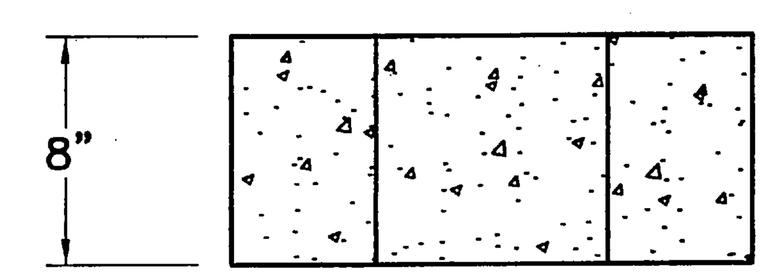
1. CHECK WITH MANUFACTURER SPECIFICATIONS ON CORRECT DIRECTION OF ORIENTATION FOR GEOGRID TO OBTAIN PROPER STRENGTH.



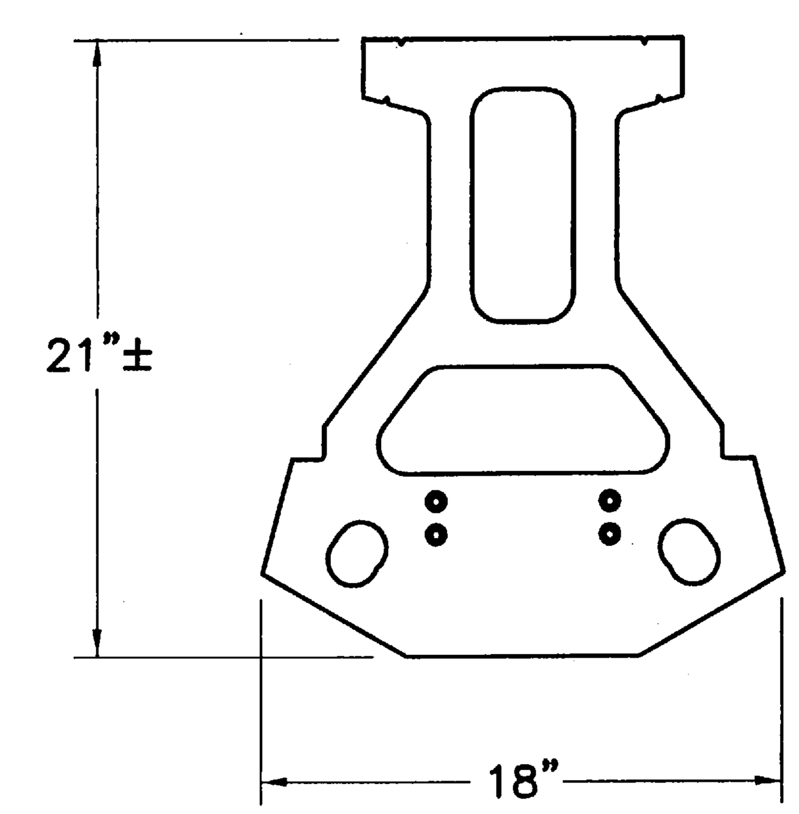
GEOGRID INSTALLATION ON CURVES
SCALE: N.T.S.



GRID & PIN CONNECTION
SCALE: N.T.S.



STANDARD ELEVATION

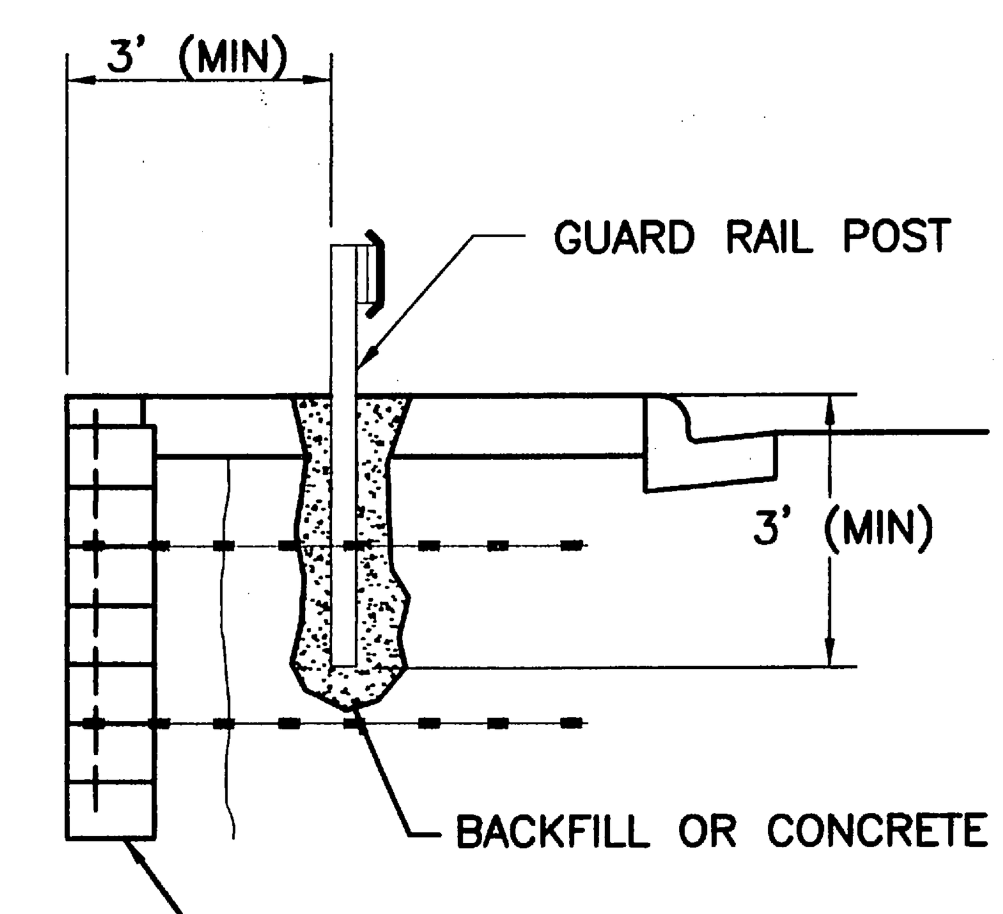


STANDARD PLAN

STANDARD UNIT
SCALE: N.T.S.

NOTE:

1. AUGER THROUGH GEOGRID LAYERS.
2. BACKFILL OR CONCRETE GUARD RAIL POST IN PLACE



TYPICAL GUARD RAIL DETAIL
SCALE: N.T.S.

REVISIONS

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Tanner's Stonegate

CITY OF WEST LINN, OREGON
STRUCTURAL DETAILS AND SPECIFICATIONS

AS BUILTS

10579
Project No.
D579C2S6
File No.
S–6
Sheet No.

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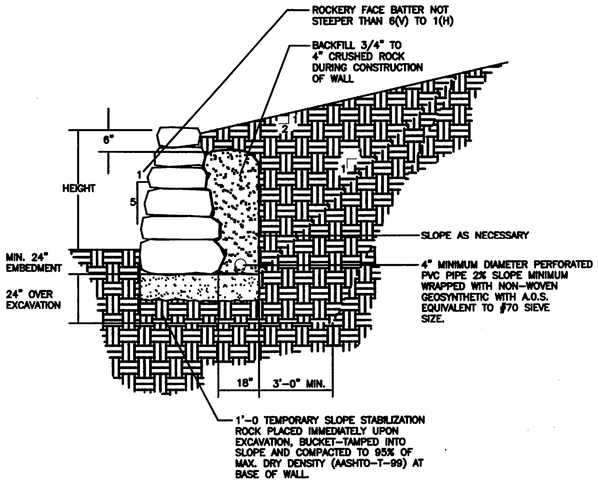


TYP. ROCKERY DETAIL

NOT TO SCALE

GENERAL REQUIREMENTS

1. DESIGN COMPLIANCE OF THIS WALL WAS MADE PER THE RECOMMENDATIONS IN REPORT #3419 PREPARED BY GEOTECHNICAL RESOURCES, INC. DATED MARCH 30, 2001. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THIS REPORT AND ADHERING TO ALL RECOMMENDATIONS MADE WITHIN. ALL MODIFICATIONS SHALL BE MADE THROUGH DAVID A. HALL/STRUCTURAL ENGINEERING (DAH/SE).
2. THE CONTRACTOR CONSTRUCTING THE ROCKERY RETAINING WALL SHALL BE SKILLED AND EXPERIENCED IN BUILDING THIS TYPE OF RETAINING WALL SYSTEM. THE CONTRACTOR BUILDING THIS WALL SHALL BE APPROVED BY BOTH THE OWNER AND DAH/SE.
3. THE OWNER SHALL BE AWARE THAT ROCKERYS TYPICALLY EXPERIENCE A "SETTLING IN" DURING AND FOR SOME TIME AFTER CONSTRUCTION. THE OWNER SHALL ALSO BE AWARE THAT A ROCKERY WALL IS CONSIDERED A MAINTENANCE ITEM AND WILL REQUIRE PERIODIC INSPECTION AND REPAIR.
4. THE LONG DIMENSION OF THE ROCKS SHALL EXTEND BACK TOWARDS THE RETAINED PORTION OF THE SOIL IN ORDER TO PROVIDE MAXIMUM STABILITY. THE ROCKS SHOULD NOT BE STACKED LIKE SHOE BOXES. THE ROCKS SHALL BE PLACED TO AVOID CONTINUOUS JOINT PLANES IN BOTH THE VERTICAL AND HORIZONTAL DIRECTIONS SO THERE IS NO SIGN OF INSTABILITY SUCH AS "ROCKING" OR "TIPPING" OF INDIVIDUAL BOULDERS. THE ROCKS SHOULD FIT SO NO OPEN SPACES OR VOIDS LARGER THAN 6 INCHES EXIST. ROCKS SHOULD BE PLACED SO THAT THERE IS SOME BEARING BETWEEN FLAT ROCK FACES, RATHER THAN ON POINTS. HORIZONTAL OR NEARLY HORIZONTAL JOINTS SHOULD SLOPE DOWNWARD INTO THE MATERIAL PROTECTED (AWAY FROM THE ROCKERY FACE). EACH ROCK SHALL BEAR ON TWO OR MORE ROCKS BELOW IT WITH GOOD FLAT TO FLAT CONTACT.
5. THE CONTRACTOR SHALL USE SUFFICIENT SPACE SO THAT HE CAN SELECT AMONG A NUMBER OF ROCKS FOR EACH SPACE IN THE ROCKERY TO BE FILLED. ROCKS WHICH HAVE SPACES WHICH DO NOT MATCH THE SPACES OFFERED BY THE PREVIOUS COURSE OF ROCK SHOULD BE REJECTED. ROCK MUST BE ANGULAR, TABULAR, OR SEMI-RECTANGULAR SHAPED; ANY ROCKS OF BASICALLY ROUNDED FORM SHALL NOT BE USED.
6. THE FIRST COURSE OF ROCKS MUST BE PLACED ON FIRM, UNYIELDING SOIL. THERE MUST BE FULL CONTACT BETWEEN THE ROCK AND SOIL WHICH MAY REQUIRE SHAPING OF THE GROUND SURFACE OR SLAMMING OR DROPPING THE ROCKS INTO PLACE SO THAT THE SOIL FOUNDATION CONFORMS TO THE ROCK FACE BEARING ON IT. AS AN ALTERNATIVE, IT IS SATISFACTORY TO USE LEAN CONCRETE IN WHICH TO SET THE FIRST COURSE OF ROCKS OR TO USE 3/4-INCH MINUS CRUSHED ROCK INTO WHICH THE FOUNDATION ROCKS ARE SEALED. THE BOTTOM OF THE FIRST COURSE OF ROCK SHOULD BE A MINIMUM OF 1 FOOT BELOW THE LOWEST ADJACENT GRADE.
7. THE ROCKERY FACE SHALL SLOPE TOWARD THE BANK BEING PROTECTED OF NOT STEEPER THAN 1 (HORIZONTAL) TO 5 (VERTICAL), BUT NOT FLATTER THAN 1H TO 3V.
8. SPOILS SHOULD BE USED BEHIND THE ROCKERY ROCKS TO BLOCK SPACES AND WHERE NECESSARY, TO WEDGE BETWEEN ROCKS AND TO LOCK THEM TOGETHER. THIS SHOULD ALSO SERVE TO PREVENT WASHING OF BACKFILL MATERIAL THROUGH THE ROCKERY.
10. BACKFILL BETWEEN THE ROCKERY AND THE ADJACENT SOIL FACE SHOULD BE A MINIMUM OF 1 FOOT WIDE AND CONSIST OF WASHED AND SCREENED CRUSHED ROCK RANGING FROM 3/4-INCH MINIMUM TO 4-INCH MAXIMUM GRADATION WITH THE MAJORITY ABOUT 1 INCHES IN PARTICLE SIZE. THE BACKFILL ZONE MUST BE FILLED AND THOROUGHLY TAMPED AS EACH COURSE OF BOULDERS IS PLACED.
11. IF THERE IS SEEPAGE OR A POTENTIAL FOR INFILTRATION OF SURFACE WATER INTO THE BACKFILL ZONE, SPECIAL DRAINAGE MEASURES OR SEDIMENT FILTRATION MAY BE REQUIRED. THE GEOTECHNICAL ENGINEER SHOULD BE CONTACTED FOR FURTHER ADVICE.
12. SURFACE DRAINAGE ABOVE THE ROCKERY SHOULD BE DIVERTED OR COLLECTED AND CARRIED IN CLOSED CONDUITS TO A POINT BELOW THE ROCKERY.

HEIGHT

UNLESS SPECIFICALLY DESIGNED FOR GIVEN SITUATIONS, THE MAXIMUM ROCKERY HEIGHTS SHOULD BE AS FOLLOWS:

1. NO MORE THAN 6 FEET WHEN RETAINING COMPACTED FILL WITH A 2 TO 1 (HORIZONTAL TO VERTICAL) SLOPE ABOVE THE ROCKERY.
2. NO MORE THAN 8 FEET WHEN RETAINING COMPACTED FILL WITH LEVEL GROUND ABOVE THE ROCKERY.
3. NO MORE THAN 8 FEET WHEN USED AS A FACING FOR STABLE CUTS IN UNDISTURBED NATIVE SOIL OR REINFORCED EARTH FILL WITH A 2 TO 1 SLOPE ABOVE THE ROCKERY.
4. NO MORE THAN 8 FEET WHEN USED AS A FACING FOR STABLE CUTS IN UNDISTURBED NATIVE SOIL OR REINFORCED EARTH FILL WITH LEVEL GROUND ABOVE THE ROCKERY.
5. WHERE SURCHARGE LOADS ACT ON THE ROCKERY, THE MAXIMUM HEIGHT WILL BE REDUCED AND DETERMINED BY THE GEOTECHNICAL ENGINEER.
6. THE MINIMUM HORIZONTAL BENCH WIDTH FOR STEPPED ROCKERY'S, MEASURED FROM THE BACK OF THE ROCKERY, SHOULD BE 0.9H FOR FILL SLOPES AND 0.6H FOR CUT SLOPES, WHERE H EQUALS THE ROCKERY HEIGHT.

ROCK QUALITY

ALL ROCK SHALL BE SOUND, UNWEATHERED, WEATHERING RESISTANT, ANGULAR LEDGE ROCK. THE LONGEST DIMENSION OF ANY INDIVIDUAL ROCK SHOULD NOT EXCEED THREE TIMES ITS SHORTEST DIMENSION. ACCEPTABILITY OF ROCK TO BE DETERMINED BY LABORATORY TESTS PROVIDED BY THE CONTRACTOR FROM A REPRESENTATIVE SAMPLE OF THE MATERIAL EVERY 100 FEET OF WALL OR AS DETERMINED BY THE GEOTECHNICAL ENGINEER.

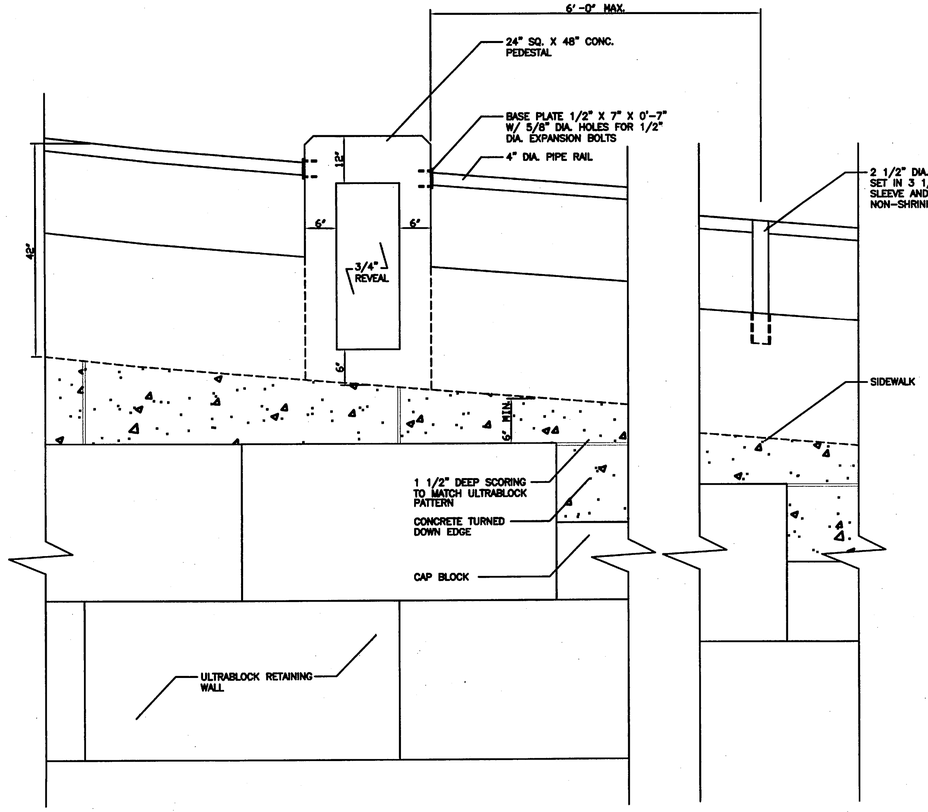
A.	ABSORPTION (CORPS OF ENGINEERS CRD-C-107)	NOT MORE THAN 3.0%
B.	ACCELERATED EXPANSION (15 DAYS) (CRD-C-148)	NOT MORE THAN 15% BREAKDOWN
C.	SOUNDNESS (MGSO4 AT 5 CYCLES) (CRD-C-137)	NOT GREATER THAN 5% LOSS
D.	UNCONFINED COMPRESSIVE STRENGTH ASTM D 2166-66 (REAPPROVED 1979)	INTACT STRENGTH OF 14,500 PSI OR GREATER

THE MOST IMPORTANT DIMENSION IS THE HORIZONTAL BASEWIDTH OF THE ROCK MEASURED PERPENDICULAR TO THE RETAINED SOIL. THE MINIMUM THICKNESS VARIES WITH THE HEIGHT OF THE ROCKERY AND LATERAL LOADS TO BE CARRIED BY THE ROCKERY. THE ROCKERY CAN BE TAPERED IN THICKNESS PROVIDING THAT THE THICKNESS EQUALS OR EXCEEDS THE FOLLOWING:

MINIMUM WALL BASEWIDTH	ROCKERY HEIGHT (INCLUDING EMBEDMENT)
60 INCHES + TEMPORARY SLOPE ROCK	8 FEET
42 INCHES + TEMPORARY SLOPE ROCK	7 FEET
36 INCHES + TEMPORARY SLOPE ROCK	6 FEET
22 INCHES + TEMPORARY SLOPE ROCK	4 FEET

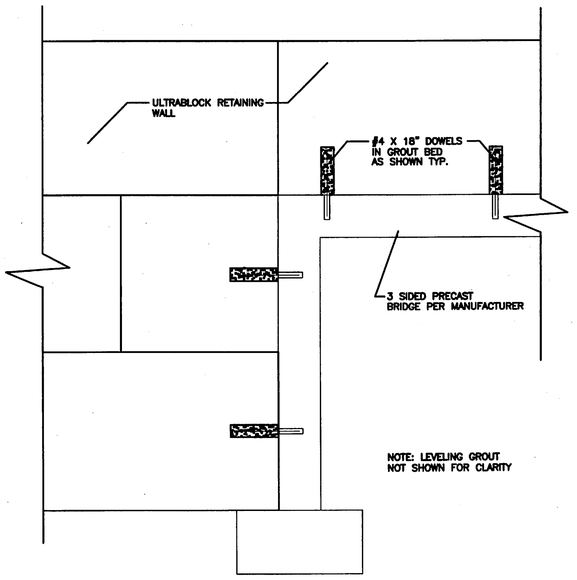
SIZE	APPROXIMATE WEIGHT	APPROXIMATE DIAMETER
1 MAN	50 TO 200 LBS	12 TO 18 INCHES
2 MAN	200 TO 700 LBS	18 TO 28 INCHES
3 MAN	700 TO 2000 LBS	28 TO 36 INCHES
4 MAN	2000 TO 4000 LBS	36 TO 48 INCHES
5 MAN	4000 TO 6000 LBS	48 TO 54 INCHES
6 MAN	6000 TO 8000 LBS	54 TO 60 INCHES

THE OWNER SHALL BE AWARE THAT ROCKERY CONSTRUCTION IS AN ART AND DEPENDS LARGELY ON THE SKILL OF THE BUILDER. ALTHOUGH ROCKERIES CAN OFFER SIGNIFICANT LATERAL RESTRAINT, THEY ARE PARTIALLY INDETERMINATE AND THEY PRESENT UNUSUAL RISK RELATIVE TO THE RETAINING STRUCTURES. EVEN WHEN THE FOUNDATION AND RETAINED MATERIALS ARE SATISFACTORY AND THE ROCKERY MATERIALS AND CONSTRUCTION APPEAR SATISFACTORY, THERE IS SOME RISK OF MOVEMENT AND FAILURE.



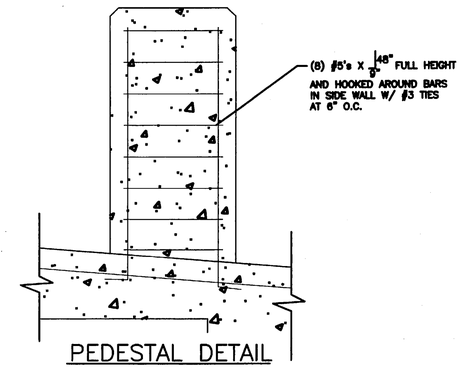
GUARDRAIL DETAIL

NOT TO SCALE



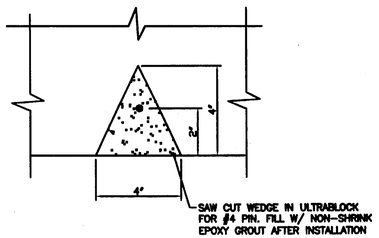
ULTRABLOCK PIN DETAIL

NOT TO SCALE



PEDESTAL DETAIL

NOT TO SCALE



ULTRABLOCK PIN INSTALLATION

NOT TO SCALE

L: ADMANH 11/11/02 1:48pm --> R:\DWG\D579C2S7.DWG

REVISIONS

NO.	DATE	BY	APPD.

8/21/01
Date
DAVID HALL
Designed
DAVID HALL
Drawn
Checked By Date

NORWAY DEVELOPMENT
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Oregon City, Oregon 97045
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DAH/SE
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Tanner's Stonegate

CITY OF WEST LINN, OREGON
STRUCTURAL DETAILS AND SPECIFICATIONS

AS BUILTS

10579
Project No.
D579C2S7
File No.
S-7
Sheet No.

XREF LIST
Ltscale: 1
Resolved
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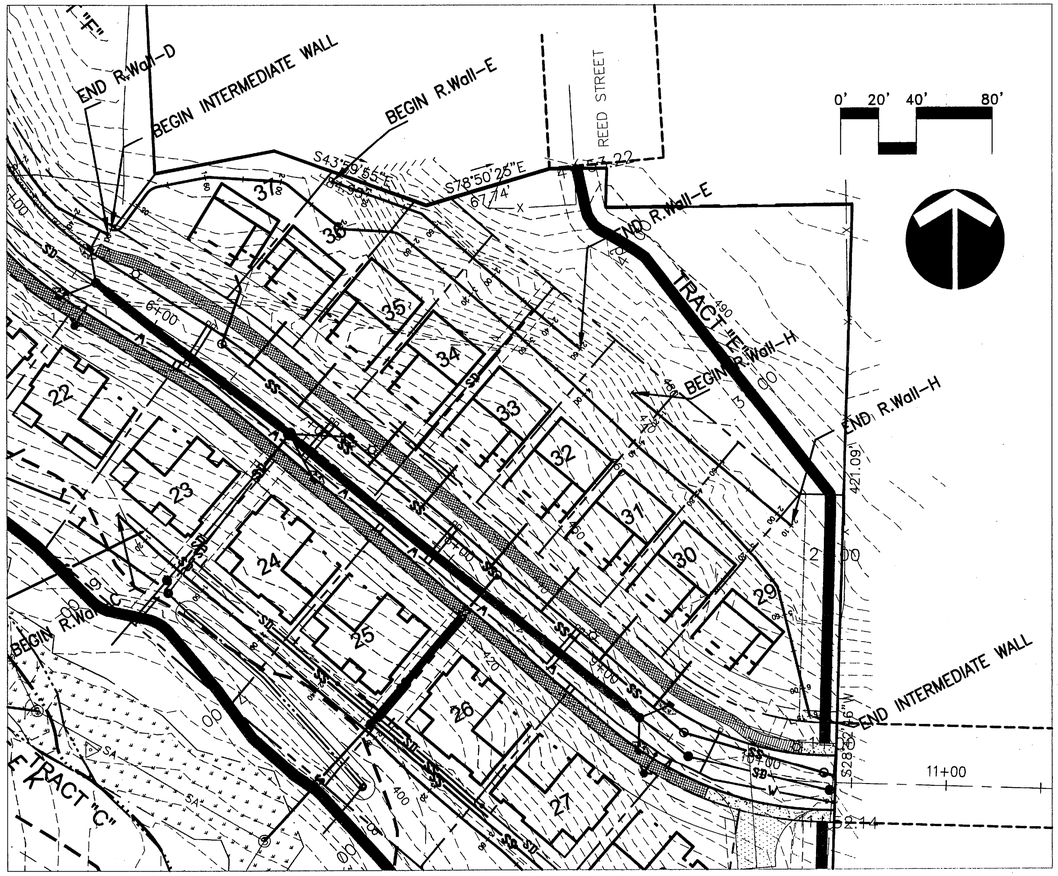
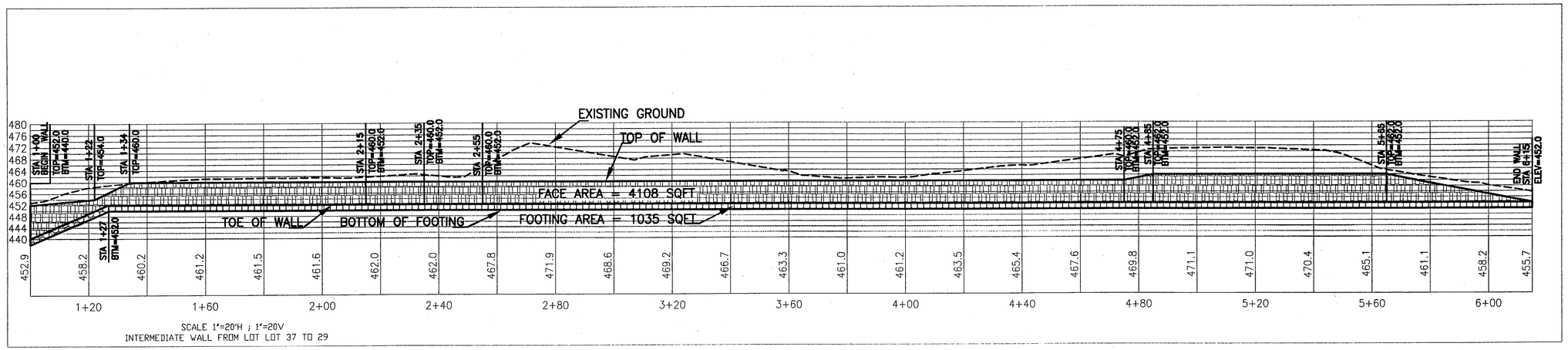
D579X230
D579x400
D579x600
D579x902
D579x903
TRAILS
Unresolved
D579x431



NOTE:

1- RETAINING WALLS DETAILS AND SPECIFICATIONS ARE SHOWN ON SHEET S-3 TO S-7.



SCALE 1"=20'H ; 1"=20V
INTERMEDIATE WALL FROM LOT LOT 37 TO 29

ASBUILT

9/27/01
Date
DAVID HALL
Designed
DAVID HALL
Drawn
Checked By Date

NO.	DATE	BY	APPD.
REVISIONS			

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Tanner's Stonegate
CITY OF WEST LINN, OREGON
INTERMEDIATE RETAINING WALL

10579
Project No.
D579NWLL
File No.
N-WALL
Sheet No.

L: ADNANH 11/11/02 9:18am --> R:\DWG\D579NWLL.DWG.DWG