

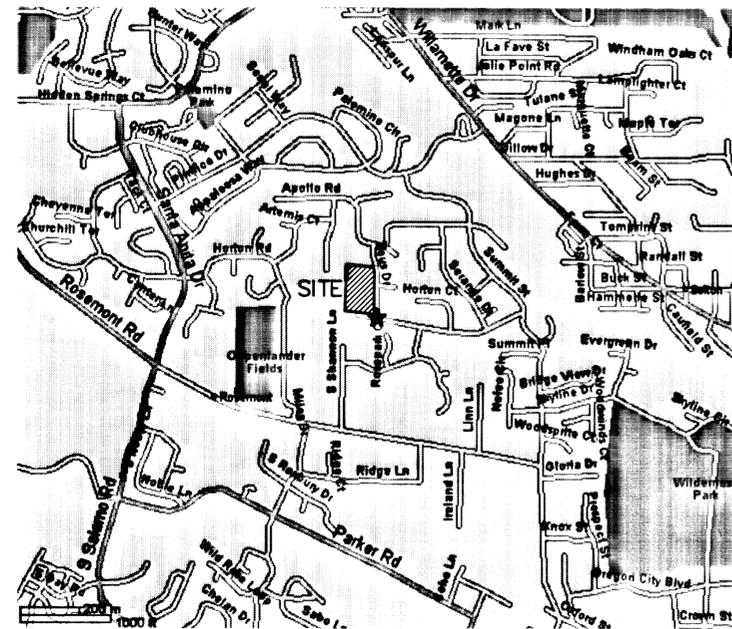
ROSEMONT RIDGE ESTATES

DEVELOPER:

ROSEMONT RIDGE ESTATES, L.L.C.

15455 HALLMARK DRIVE, SUITE 100
 LAKE OSWEGO, OR 97035
 PH: (503) 636-8868
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MARCH 2004



VICINITY MAP
 N.T.S.

UTILITY LOCATE NUMBER:
 "ONE CALL" NUMBER (503) 246-6699

SISUL ENGINEERING

375 PORTLAND AVE.
 GLADSTONE, OR. 97027
 (503) 657-0188

INDEX

SHEET DESCRIPTION

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MOST RECENT REVISION TO
 THIS SET OF PLANS:

AS BUILT



1/25/05



Water Supply

1. Water mains shall be ductile iron pipe conforming to AWWA C151 Class 52. Pipe is to have cement mortar lining and bituminous seal coat conforming to AWWA C104. Joints are to be push-on rubber gasketed joints unless noted otherwise on the plan. Pipe fittings are to be of the same material and class as pipe and of domestic origin.
2. Water mains to have a minimum cover of 36".
3. Thrust blocks are to be provided at all changes in direction and branches. Thrust blocking concrete strength is to be 3000 psi. See details for thrust block sizing. Pour thrust blocks against undisturbed earth.
4. Gate valves shall be resilient seat, non rising stem with "O" ring packing, complying with AWWA Class "C" Specifications. The valves shall be designed to withstand a working pressure of 150 psi. Butterfly valves shall be rubber seat type and bubble-tight at 150 psi, and shall conform to AWWA C504. Valve boxes shall be "Vancouver" pattern.
5. Fire hydrants shall conform with AWWA Specification C-502. Pumper outlet is to face the direction of access. Acceptable models are Mueller Centurion A-423 or Clow Medallion F-2545. Hydrant color shall be yellow.
6. Granular backfill (3/4"-0") is to be compacted to 95% maximum dry density per AASHTO T 180 test method and native material shall be compacted to 95% of in-place dry density of surrounding soil. Excavation, bedding and backfill shall be in accordance with Division 204 of the City of West Linn Standard Construction Specifications. Backfill under new streets shall be Class "B" and backfill in existing streets shall be Class "E".
7. Service laterals shall be Type K copper. Lateral sizes shall be 1". For double services two 1" water services shall be laid side by side. Corporation stops shall be Mueller H 14258 or Ford 1"-KV43-444W-Q. Meter boxes shall be equal to Brooks #37 with a 37"-S lid and cover. Meter boxes are to be installed 3/4" above finish grade and 2 1/2" from the curb in planter strips or flush with sidewalk surface in a sidewalk.
8. All waterlines will be pressure tested and purification tested before connection to the city water system. Pressure test shall be conducted at 180 psi or 1.5 times the normal working pressure, whichever is higher and shall meet the requirements of Division 403.14 of the West Linn Public Works Standard Construction Specifications.
9. Chlorination shall conform with Division 403.14 of the W.L.S.C.S.
10. Do not connect new pipe to existing pipe prior to testing. The City of West Linn requires acceptance of new waterline prior to connection to existing water system.
11. A plumbing permit from the City of West Linn Building Department is required for service lateral installations beyond the water meter.
12. All materials, installation, tests, and chlorination to be in strict accordance with the City of West Linn Public Works Standard Construction Specifications, and the Oregon State Health Division Administrative Rules, Chapter 333.

SITE MAP

Keystone Retaining Wall Specifications:

Retaining walls shall be segmental concrete units (Keystone or approved equal) conforming to ASTM C90, C140, and C145. The units shall have a width to height ratio of 2.25, the face area shall be one square foot, and the bonds nominally located at midpoint of vertically adjacent units, in both straight and curved alignments. All units shall be sound and free of cracks, or other defects that would interfere with the proper laying of the unit or significantly impair the strength or permanence of the construction. The segmental concrete units shall have a minimum compressive strength of 3000 psi. Unit depth shall be greater than or equal to 20 inches and the maximum horizontal gap between erected units less than or equal to 1/2 inch. The vertical setbacks and horizontal curves shall be as noted on the plans. Units shall be installed per manufacturer's recommendations. Base leveling pad shall be compacted crushed rock (3/4"-0) with a minimum thickness of 8 inches. Leveling pad shall be compacted to 95% of the maximum dry density as determined by AASHTO T-99 and placed per construction drawings. One inch minus drain rock shall be placed within or behind the segmental concrete units, one cubic foot per each square foot of wall face. Reinforced backfill shall be native, onsite material placed in 8 inch lifts and compacted to 95% of the maximum density as determined by AASHTO T-99. The owner shall retain services of a Geotechnical Engineer and/or Geotechnical testing lab to provide testing services and to certify that the structural fill meets the compaction requirements stated above. Frequency of testing shall be at minimum intervals of 2 feet vertically and 100 feet horizontally for each separate retaining wall or at intervals recommended by Geotechnical Engineer or testing lab. Geogrid shall be Tensar Geogrid UX15005B or equal conforming to the following specifications. High density polyethylene meeting the specifications of ASTM D 1248 Type III/Class A/Grade 5; reinforcements shall meet the following minimum specifications:
 Creep limits 2,300 lb/ft per GR1, GG3
 Flexural rigidity 4,700,000 mg-cm per ASTM D1388
 Tensile modulus 90,000 lb/ft per GR1, GG1
 Junctions 5,000 lb/ft per GR1, GG2
 The geogrid shall be a regular grid structure formed by uniaxially drawing a continuous sheet of select high density polyethylene material and shall have aperture geometry and rib and junction cross-sections sufficient to permit significant mechanical interlock with the material being reinforced. The geogrid shall have high flexural rigidity and high tensile modulus in relation to the material being reinforced and shall also have high continuity of tensile strength through all ribs and junctions of the grid structure. The geogrid shall have high resistance to deformation under sustained long term design load while in service and shall also be resistant to ultraviolet degradation to damage under normal construction practices and to forms of biological or chemical degradation normally encountered in the material being reinforced.

Structural Fill Notes:

1. Besides the structural fill that will be required for construction of street improvements a structural fill is also to be built on lots where noted on the plans to the specifications noted below.
2. All miscellaneous materials and the organic layer under the fill area shall be stripped or removed. All stumps in the fill area must be removed in their entirety.
3. The contractor shall retain the services of a Geotechnical Engineer and testing lab to inspect and provide testing services and to certify that the structural fill meets the compaction requirements appropriate for home construction and the requirements of the City of West Linn Grading Permit for this project. The contractor must obtain the grading permit and attend a grading pre-construction meeting with the City of West Linn prior to beginning work on the project.
4. Fill material shall be placed in horizontal lifts approximately 8 inches thick (loose) and compacted to at least 95% of the maximum dry density, as determined per 501.03.04 Construction Standards, except as modified by the Geotechnical Engineer. Moisture content of the structural fill shall be controlled to within 2% of the optimum moisture content at the time of compaction, unless modified by the Geotechnical Engineer.
5. Inspections by the Geotechnical Engineer will be required after stripping of topsoil and prior to fill placement, after each lift completed and after all fill is completed.
6. At the completion of fill activities a final report to the City of West Linn by the Geotechnical Engineer is required.

Seeding/Mulching:

1. All areas disturbed during construction to be graded to drain and compacted to a minimum of 90% of AASHTO T-99 immediately after installation of utilities or grading.
2. Recommended Seed Mixture: 80% PR 8820 Dwarf Perennial Ryegrass and 20% Creeping Red Fescue, by weight. Application Rate shall be 100 pounds minimum per acre.
3. Fertilizer shall be 12-16-8 with 50% of the nitrogen derived from UREA FORMALDEHYDE, and applied at a rate of 400 pounds per acre.
4. Seed and mulch at a rate of 2000 lbs/Ac with heavy bonding agent or netting and anchors. Mulch shall be a wood cellulose fiber or other material suitable for hydromulching.
5. Temporary or Permanent Hydroseeding or acceptable seeding and mulching must be provided whenever perennial cover cannot be established on sites which will be exposed for 60 days or more.

Streets:

1. New street sections are to be cleared of all surface vegetation and other miscellaneous structures or materials. Grub improvement areas to remove all buried vegetative matter and debris to a depth of 8" below subgrade. Properly dispose of all waste material.
2. Street subgrade shall conform to Division 501 of the City of West Linn Standard Construction Specifications. Areas to receive fill are to be inspected by City of West Linn personnel prior to placement of the fill. The Contractor shall have fill areas tested for compaction by a certified testing lab in accordance with W.L.S.C.S. Division 501.03.08. Such testing will be at the contractor's expense.
3. Aggregate base rock shall conform to the requirements of W.L.S.C.S. Division 205. Base course shall be 1 1/2"-0 crushed rock and leveling course shall be 3/4"-0. City of West Linn requires a proof roll with a loaded 10 yard dump truck of the subgrade prior placement of the rock and again after placement of the base rock and prior to paving. All underground utilities including laterals, services and power or gas conduits will be in place before subgrade proof roll will take place.
4. Asphalt concrete shall conform to the requirements of W.L.S.C.S. Division 205. 2" base lift shall be Class "B" A.C. and 1 1/2" final lift shall be Class "C" A.C. meeting the specifications of W.L.S.C.S. Division 505. The top lift of asphalt concrete shall not be placed prior to receiving permission from the City of West Linn Engineering Department.
5. Construct curb and gutter using 3300 psi concrete meeting the specifications of W.L.S.C.S. Division 205 (after 28 days) with maximum 1 1/2" aggregate size. Contraction joints at 15' maximum on centers. Three inch weepholes are to be installed on all lots uphill or even with the street. Generally weepholes shall be located at the center and lowest edge of curb for each lot. Handicap ramps shall be constructed at each curb return at intersections by contractor unless otherwise noted on the plans. Contractor shall stamp location of sewer and water crossings with an (S) or a (W). A proof roll of the curbsides is required prior to pouring curbs.
6. Extruded concrete curb shall be constructed with a cement concrete mix that will have a dense, uniform texture which will not sag or displace behind the machine. Concrete shall be 3000 psi concrete with max slump of 1-inch. Air entrainment shall be 6% (±1%). Adhesive used to bond the extruded curb to the pavement shall be Concrete 1064-A Epoxy, as manufactured by Adhesive Engineering Corp., or an approved equal.
7. All materials, installation, tests, and inspections to be in strict accordance with City of West Linn Public Works Standard Construction Specifications.
8. A street construction encroachment permit or similar permit may be required from the City of West Linn. Construction permit fees or other similar fees or bonding required of the contractor will be the contractor's responsibility to obtain.

Sanitary Sewer:

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

Storm Drains:

1. Eight inch to 24-inch storm drain pipe is preferred to be seamless ribbed PVC pipe conforming to ASTM F 794. Where larger pipe is required or lack of cover prevents use of ribbed PVC pipe, pipe shall be Class 3 non-reinforced, concrete pipe conforming to ASTM C14, reinforced concrete pipe conforming to ASTM C-76, Class IV, or ductile iron pipe conforming to AWWA C151 Class 52. Rubber joints are required for all concrete pipe. Six inch and smaller storm drain pipe shall conform to ASTM D 3034 PVC pipe.
2. Gutter inlets shall be poured in-place concrete with a minimum compressive strength of 3300 psi. Frame shall be fabricated of structural steel, ASTM A-7, A-36, A 373.
3. Manhole base may be poured in place concrete with a minimum compressive strength of 3000 psi or precast. Manhole risers and tops shall be precast sections with a minimum compressive strength of 4000 psi. Tops shall be eccentric cones except where insufficient headroom requires flat tops. Interior dimensions noted on the plans are minimums. Some or all of the storm drain manholes required will be oversized manholes, contractor shall check with manhole manufacturer for actual size of manhole needed for type and size of pipe to be used. Inverts shall be constructed so as to provide smooth flow through characteristics. Pipe shall be connected to manhole by means of a flexible connection and shall have a shear joint located 18" outside of the manhole.
4. All manholes located in easement areas require tamper proof lids and lid shall be set 6 inches above proposed grade.
5. Cleanout pipe, fittings, and joints shall be the same specifications as for pipe. Castings are shown on detail and shall conform to ASTM A48 (Grade 30). Cleanout riser shall match downstream pipe diameter.
6. Granular backfill (3/4"-0") is to be compacted to 95% maximum dry density per AASHTO T-180 test method and native material shall be compacted to 95% of in-place dry density of surrounding soil.
7. Storm drain service laterals shall be 4" pipe conforming to the same specifications as the storm drain main lines. Service laterals shall be installed to a point beyond the line or utility easement as shown on the plan. The service lateral shall be plugged with a 4" rubber ring plug, and the location of the laterals end marked with a 2" x 4" stake painted white.
8. Do not connect new pipe to existing pipe prior to testing. The City of West Linn requires acceptance of new waterline prior to connection to existing water system.
9. Private catchbasin shall be trapped and sumped Gibson Steel pre-fabricated catchbasin or approved equal.
10. Storm drains shall be tested for deflection in accordance with Division 601.03.11 and video inspected in accordance with Division 601.03.12 of the West Linn Standard Construction Specifications. All tests shall be witnessed by the Engineer and a representative of the City.
11. A plumbing permit from the City of West Linn Building Department is required for storm drains beyond the first cleanout.
12. All materials, installation, tests, and inspections to be in strict accordance with the City of West Linn Standard Construction Specifications.
13. See detail sheet for StormTech chamber specifications.
14. Detention facilities are subject to a 3-year maintenance agreement between the Developer and the City of West Linn, including semi-annual TV inspections performed by the City, and paid for by the Developer. Access shall be provided in every chamber row for TV camera. Cash deposit shall be placed with the City and under the City control in the amount of \$4,200 for TV inspections. (Estimated amount is \$700.00 per inspection). Construction estimate and Performance bond for detention pond construction shall be placed with the City for a period of 3 years and will be utilized in the case that the StormTech detention system should fail to perform.

General Notes:

1. The Design Engineer will be responsible for inspection of the proposed improvements with oversight from the City's Public Works and Engineering staff.
2. A work schedule will be required from the contractor so that the Engineer can have an inspector onsite at the appropriate times. If the work schedule is revised the contractor is to notify the Engineer of the changes. Additionally, the contractor is to give the Engineer and/or City staff of any testing requiring the presence of the Engineer and/or City staff of any proposed changes to the plans or standard requirements.
3. The contractor is to receive the approval of the Engineer and the City of any proposed changes to the plans or standard requirements.
4. A Building Department Plumbing Permit is required for utilities beyond the first cleanout or meter on private property.
5. A Public Improvement Guarantee Agreement or a Public Works Permit, a pre-construction meeting with the City of West Linn, and installation of erosion control measures are required prior to beginning construction.
6. Prior to site clearing, 6" tall chain-link fencing shall be placed at tree easement boundaries prior to site grading. The City Arborist shall inspect & approve all onsite tree protection measures prior to the start of site work. It is the contractor's responsibility to contact the City Arborist and arrange for this approval to take place. No permits will be issued from Engineering, Planning, or Building Departments without tree protection approval from the City Arborist. All tree protection measures shall remain in place and fully functional for the entire time that site work and construction is taking place.
7. A City representative must be present at all testing and the City shall be furnished a copy of all test results.
8. All fees for street trees shall be paid to the City of West Linn Parks and Recreation Department.
9. No building permits will be given until the improvements have been accepted by the City as substantially complete.

Construction Staking Notes:

- The Developer has contracted with Gaylord Land Surveying (654-1492) to provide construction staking as outlined below. The contractor is to give the Surveyor at least a week notice of when the first construction staking will be needed. After the initial staking on the project, requests for staking should be given at least 3 working days (72 hours) in advance of when staking is desired. When called to the site for staking the Surveyor will stake each phase of the project in a manner that is most efficient for the Surveyor. Additional staking requested by the contractor or restaking required due to the contractor's carelessness will be charged to the contractor. In addition, if survey control monuments (which will be plainly identified) are destroyed by the contractor, the contractor will be charged for the re-establishment of the monuments. Staking to be provided is as follows:
1. Sanitary sewer cut stakes at the following stations, 10', 25', 50', 100', and every 100' thereafter, following each manhole.
 2. Storm drain cut stakes at the following stations, 10', 25', 50', 100', and every 100' thereafter, following each manhole or catch basin.
 3. Rough grade stakes for street coring set on centerline at 50 foot stations. Extra stakes will be provided in cul-de-sacs and street knuckles.
 4. Set temporary front corners at water service locations and stake waterline angle points and fire hydrant locations (after street coring).
 5. Set curb stakes at 50 foot stations on the tangent and 25 foot stations in the curves.
 6. Mark property line locations on curbs for private utilities.

Erosion and Sediment Control Requirements:

1. The intent of the requirement is to prevent siltation from reaching storm drain systems and drainage ways. The erosion and sediment control (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.
2. The following controls and practices are required:
 - a) Each site shall have graveled or paved entrances, exits and parking areas, prior to beginning any other work, to reduce the tracking of sediment onto public or private roads.
 - b) All unpaved roads located on-site shall be graveled. Other effective erosion and sediment control measures either on the road or down gradient may be used in place of graveled.
 - c) When trucking saturated soils from the site, either water-tight trucks shall be used or loads shall be drained on-site until dripping has been reduced to minimize spillage on roads.
 - d) Concrete trucks being washed out onsite shall be parked in a location that will prevent all wash water from entering the storm drain system without proper filtration. Concrete remnants and residue shall be properly disposed of.
3. Additional controls and practices shall be developed that are appropriate for the site. At a minimum the following shall be considered:
 - a) Whenever practicable, clearing and grading shall be done in a phased manner to prevent exposed inactive areas from becoming a source of erosion.
 - b) In developing vegetative erosion control practices, at a minimum the following shall be considered; temporary seeding, permanent seeding, mulching, sod stabilization, vegetative buffer strips, and protection of trees with protective construction fences.
 - c) The following shall be considered for the protection of exposed areas and the prevention of soil from being eroded by storm water; mulching with straw or other vegetation, use of erosion control blankets, and application of soil tackifiers.
 - d) The following shall be considered for the diversion of flows from exposed soil, store flows to allow for sedimentation, filter flows, or otherwise reduce soil laden runoff; use of silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drains, pipe slope drains, rock outlet protection, sediment traps, and temporary or permanent sedimentation basins. All temporary sediment control practices shall not be removed until permanent vegetation or other cover of exposed areas is established.
 - e) The following shall be considered to prevent the stockpiles from becoming a source of erosion; diversion of uncontaminated flows around stockpiles, use of cover over stockpiles, and installation of silt fences around stockpiles.
4. The following maintenance activities shall be implemented:
 - a) Significant amounts of sediment that leave the site shall be cleaned up within 24 hours and placed back on the site or properly disposed. Any in-stream clean up of sediment shall be performed according to Oregon Division of State Lands' required timeframe.
 - b) Under no conditions shall sediment intentionally be washed into storm sewer or drainage way.
 - c) For a filter fence, the trapped sediment shall be removed when it reaches one third of the above ground fence height.
 - d) For a sediment basin, removal of trapped sediments shall occur when design capacity has been reduced by fifty percent.
 - e) For a sediment basin, removal of trapped sediments shall occur when design capacity has been reduced by fifty percent.
 - f) All erosion and sediment controls not in the direct path of work shall be installed before any land disturbance.
 - g) If fertilizers are used to establish vegetation, the application rates shall follow manufacturer's guidelines and the application shall be done in such a way to minimize nutrient-laden runoff to receiving waters.
 - h) All construction activities cease for thirty (30) days or more, the entire site must be stabilized, using vegetation of a heavy mulch layer, temporary seeding, or another method that does not require germination to control erosion.
 - i) Any use of toxic or other hazardous materials shall include proper storage, application, and disposal.
 - j) The permittee shall manage abandoned hazardous wastes, used oils, contaminated soils or other toxic substances discovered during construction activities in a manner approved by the Department of Environmental Quality.

Erosion and Sediment Control Inspection Requirements:

1. All sites 1 acre and greater shall have a person with knowledge and experience in construction storm water controls and management practices conduct all inspections. The inspector shall keep a written record of each inspection.
2. Active Sites: Frequency of inspections shall be daily during storm water runoff or snowmelt runoff and at least once every seven (7) calendar days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24-hour period.
3. Inactive Sites: During inactive periods of greater than seven (7) consecutive calendar days, inspections shall only be required once every two (2) weeks. Prior to discontinuing activities at the site, any exposed area shall be stabilized to prevent erosion. Stabilization may occur by applying appropriate cover (mulch, erosion control blanket, soil tackifier, etc.) or establishing adequate vegetative cover.

Utilities:

1. If not noted on the plans utility information and crossing locations will have to be obtained from the utilities.
2. Utility contacts are as follows: PGE - Cindy Manselle, 850 1411 or Joyce Shuler, 650-1483; Comcast Cable - Jamie Stencil, 605-6000, U.S. West Communications - Lori Dorney 242-4596, Northwest Natural Gas - Scott Palmer 721-2447

Sediment Fences:

1. 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 8 inch overlap, and both ends securely fastened to the post.
2. The filter fabric fence shall be installed to follow the contours, where feasible. Then fence posts shall be spaced a maximum of six feet apart and draped securely into the ground a minimum of 18 inches.
3. A trench shall be excavated, roughly 6 inches wide by 6 inches deep, upslope and adjacent to the wood post to allow the filter fabric to be buried. Bury the bottom of the fabric 6" vertically below finished grade. All areas of filter fabric trench shall be compacted.
4. The filter fabric shall be installed with stitched loops over fence posts. The fence post shall be constructed of 2" x 2" fir, pine, or steel. The fence post must be a minimum of 48" long. The filter fabric shall not be stapled or attached to existing trees.
5. Sediment fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
6. 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.

AS BUILT

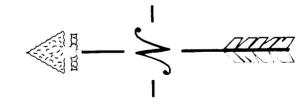
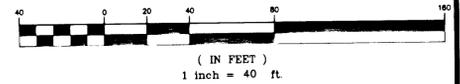


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| REVISED PER CITY COMMENTS (7/9/04) | JM |
| AS-BUILT 01/05/05 | LD |

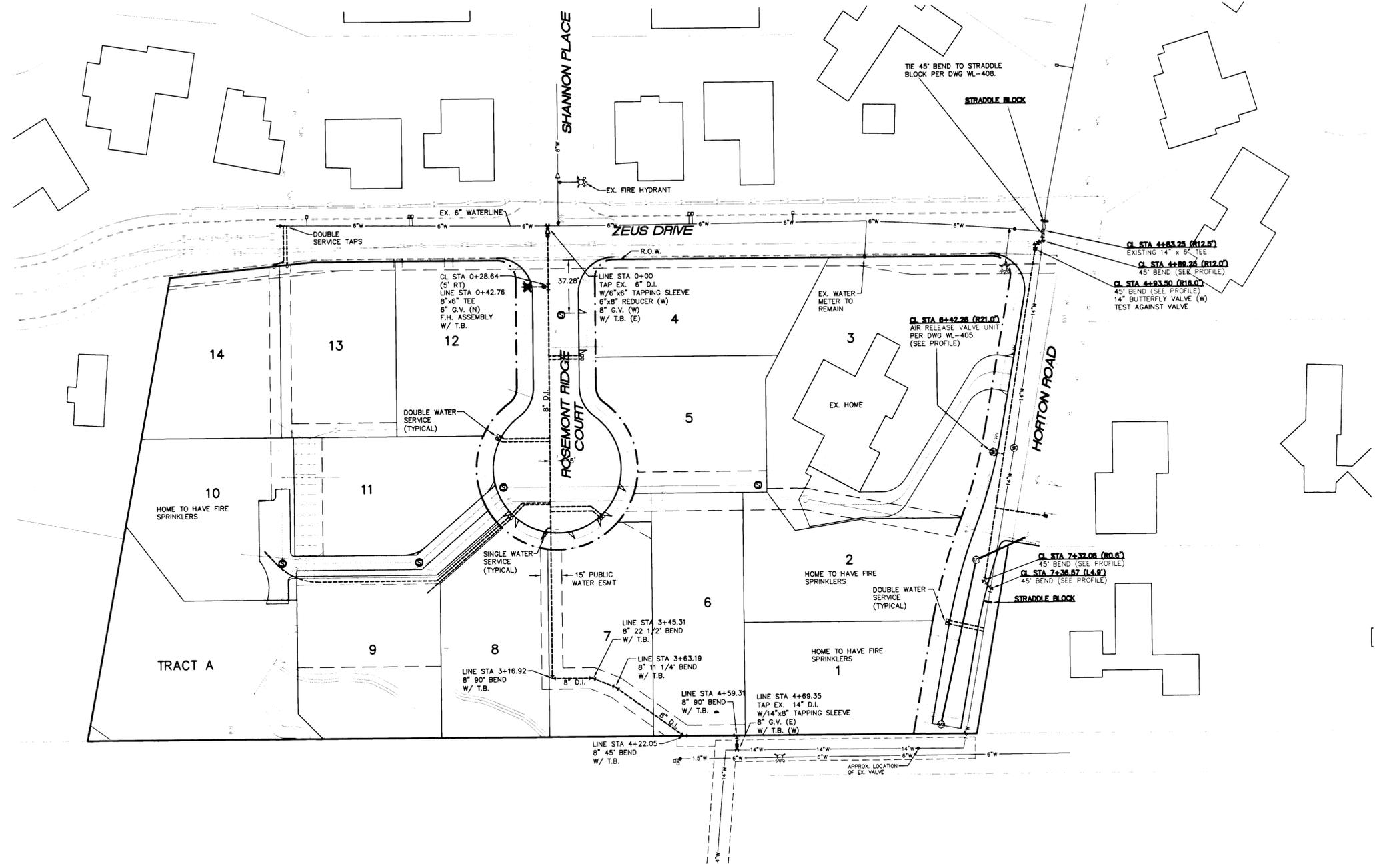
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| Rosemont Ridge Estates | |
| ROSEMONT RIDGE ESTATES, LLC | |

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| SITE MAP AND NOTES | |
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| SISUL ENGINEERING | |
| 375 PORTLAND AVENUE CLATSOP, OREGON 97027 (503) 867-0188 | |
| DATE: MAR 2004 | |
| SCALE: NOTED | |
| DRAWN: JH/JM | |
| JOB: SGL 03-048 | |
| SHEET: 1 | |
| OF 11 SHEETS | |



A8 BUILT



| REVISIONS | BY |
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| REVISED PER CITY REGULATIONS (6/22/04) | MM |
| REVISED PER CITY COMMENTS (7/9/04) | MM |
| REVISED PER CITY COMMENTS (7/12/04) | MM |
| AS-BUILT 01-07-2005 | LD |

Rosemont Ridge Estates
ROSEMONT RIDGE ESTATES, LLC

Waterline Plan



SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0186

| | |
|--------------|------------|
| DATE | MAR 2004 |
| SCALE | 1"=40' |
| DRAWN | JH/MM |
| JOB | SGL 03-048 |
| SHEET | 2 |
| OF 11 SHEETS | |

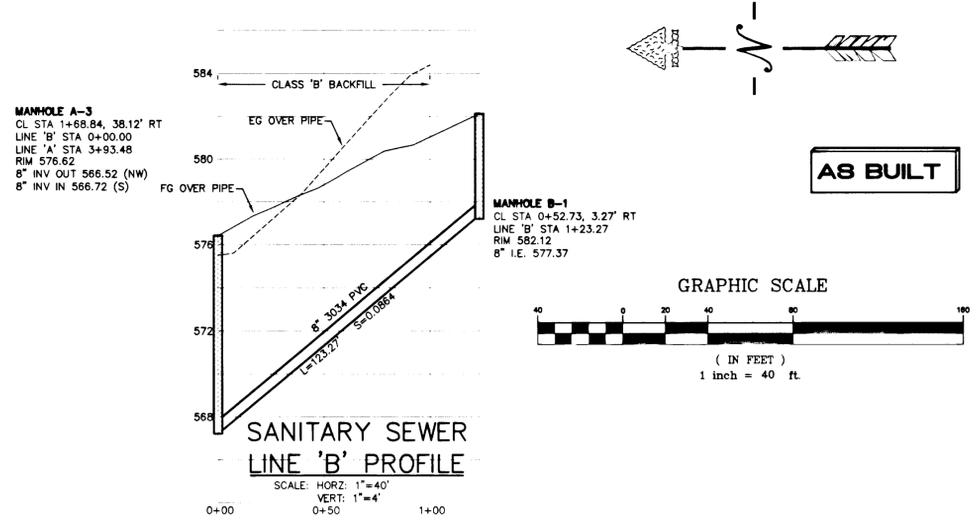
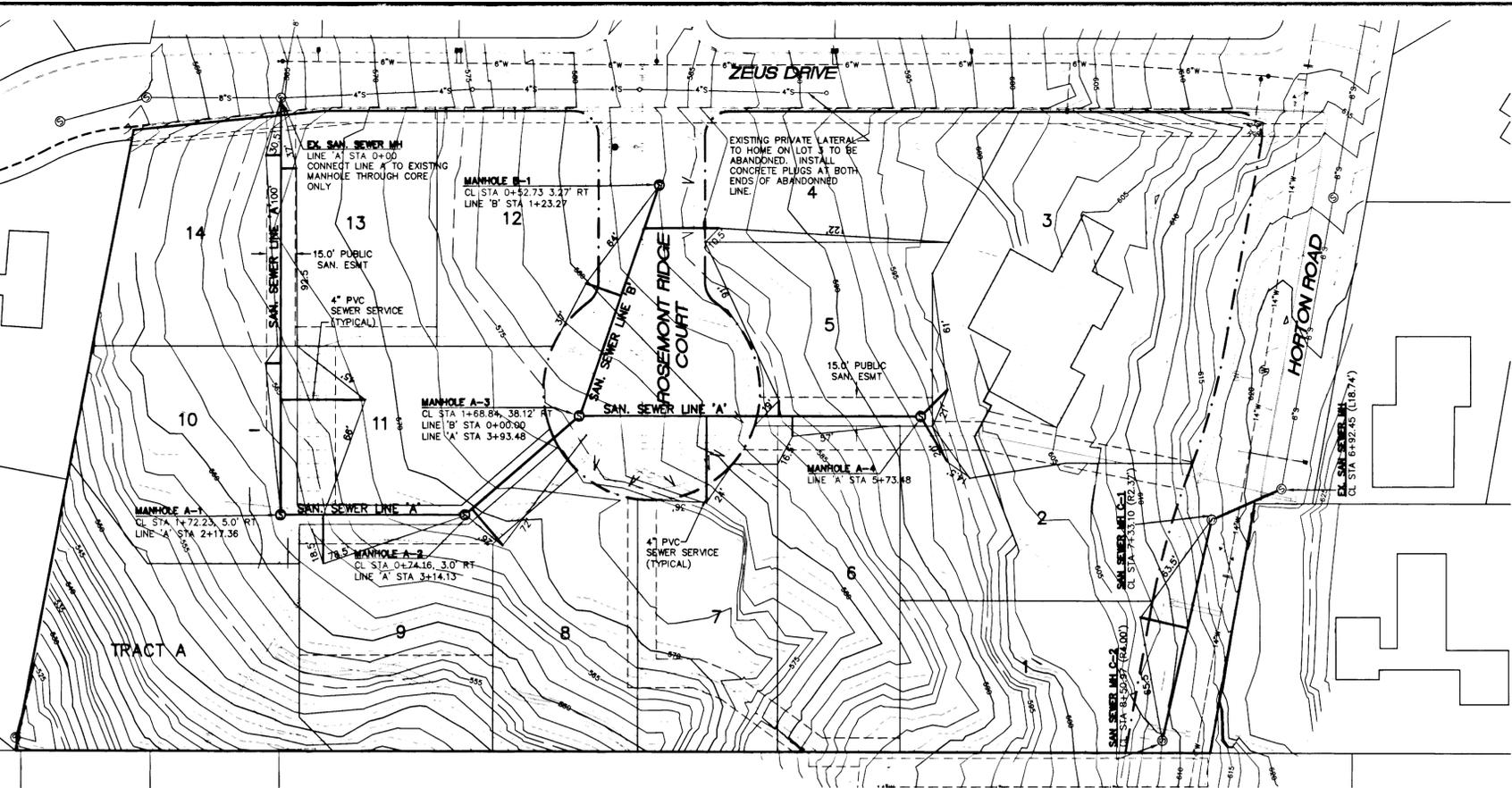
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| AS-BUILT 01-07-2005 | LD |

Rosemont Ridge Estates
 ROSEMONT RIDGE ESTATES, LLC

SANITARY SEWER PLAN AND PROFILES

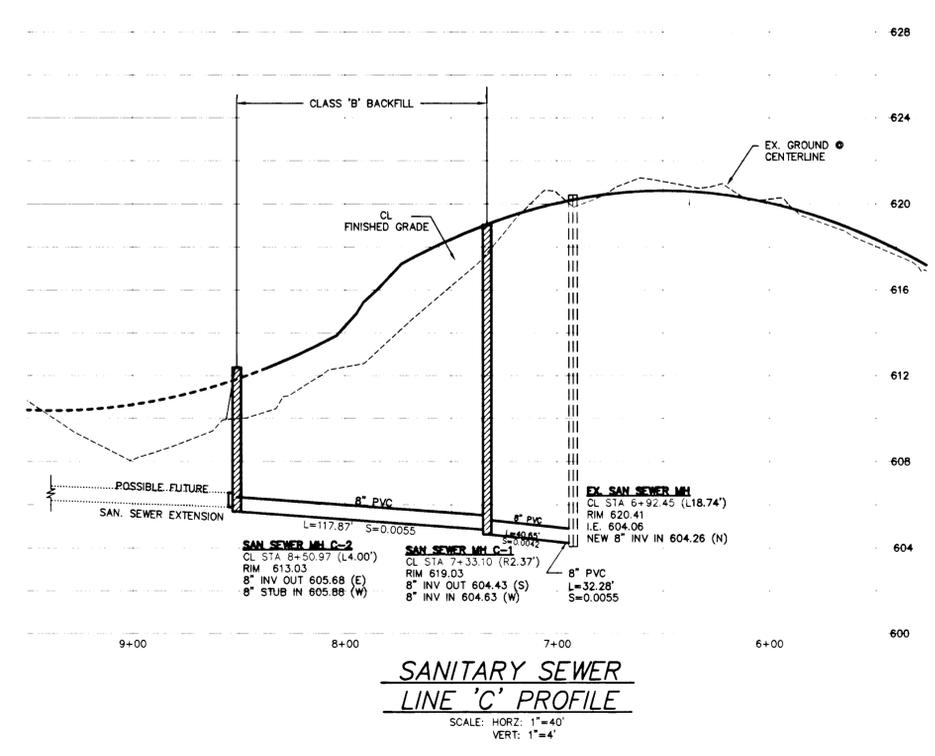
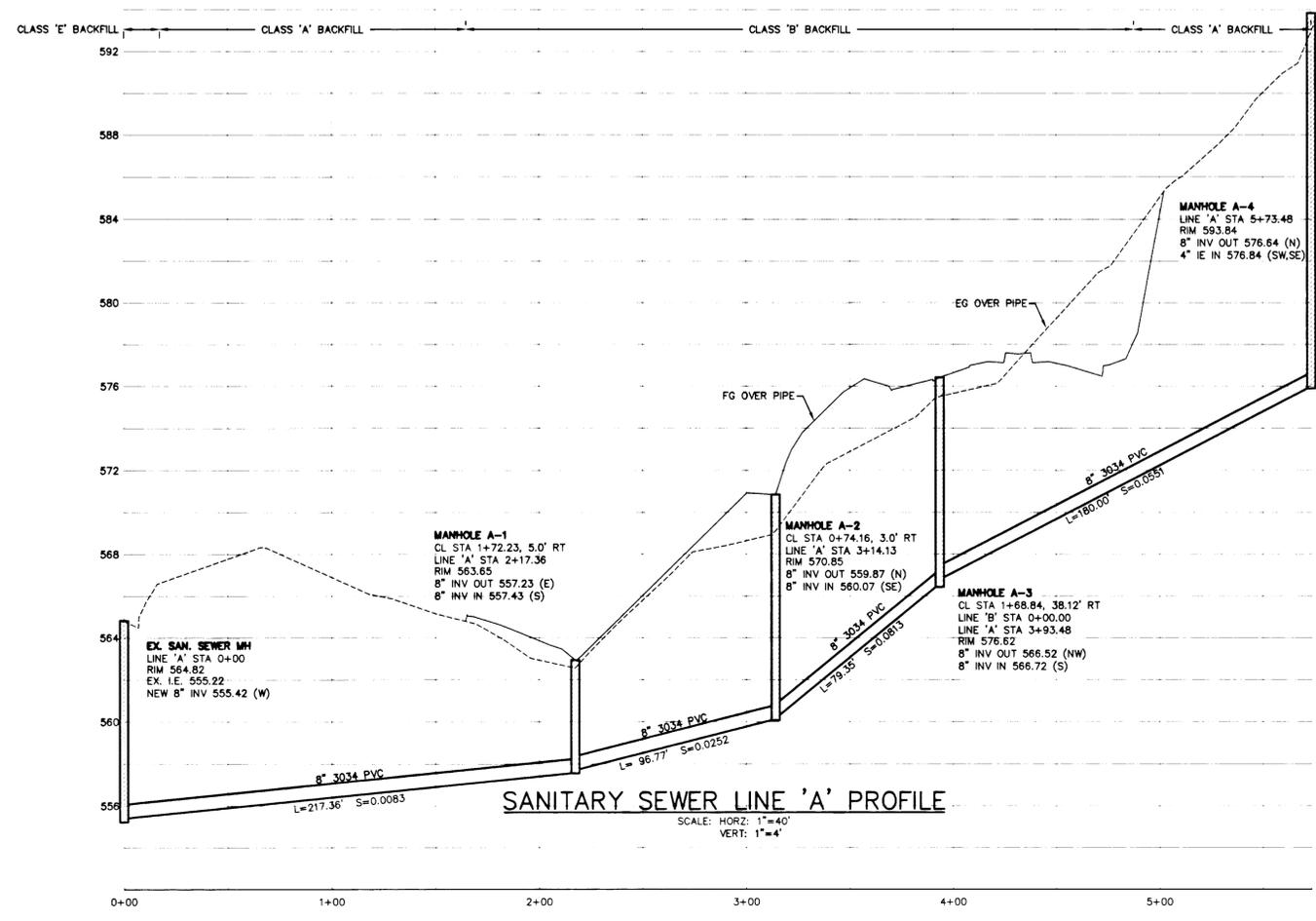
SISUL ENGINEERING
 375 PORTLAND AVENUE
 GLADSTONE, OREGON 97027
 (503) 657-0188

DATE MAR 2004
 SCALE 1"=40'
 DRAWN JH/MM
 JOB SQL 03-048
 SHEET **3**
 OF 11 SHEETS



SANITARY SERVICE TABLE (4" PVC)

| LOT # | LINE STA | LENGTH | SLOPE | IE @ END |
|-------|----------|--------|-------|----------|
| 1 | 7+90.69 | 32.0' | 0.02 | 605.9 |
| 2 | 5+73.48 | 27.0' | 0.55 | 592.0 |
| 3 | 5+73.48 | 20.0' | 0.75 | 592.0 |
| 4 | 0+96 | 30.0' | 0.06 | 576.7 |
| 5 | 4+99 | 8.0' | 0.60 | 577.0 |
| 6 | 5+06 | 10.0' | 0.02 | 577.0 |
| 7 | 4+61 | 45.0' | 0.02 | 571.2 |
| 8 | 3+19 | 25.0' | 0.02 | 561.0 |
| 9 | 2+40 | 25.0' | 0.02 | 558.8 |
| 10 | 1+38 | 8.0' | 0.02 | 558.4 |
| 11 | 1+57 | 20.0' | 0.02 | 557.0 |
| 12 | 0+62 | 20.0' | 0.02 | 557.3 |
| 13 | 0+37 | 8.0' | 0.54 | 560.1 |
| 14 | 0+30 | 8.0' | 0.02 | 555.9 |



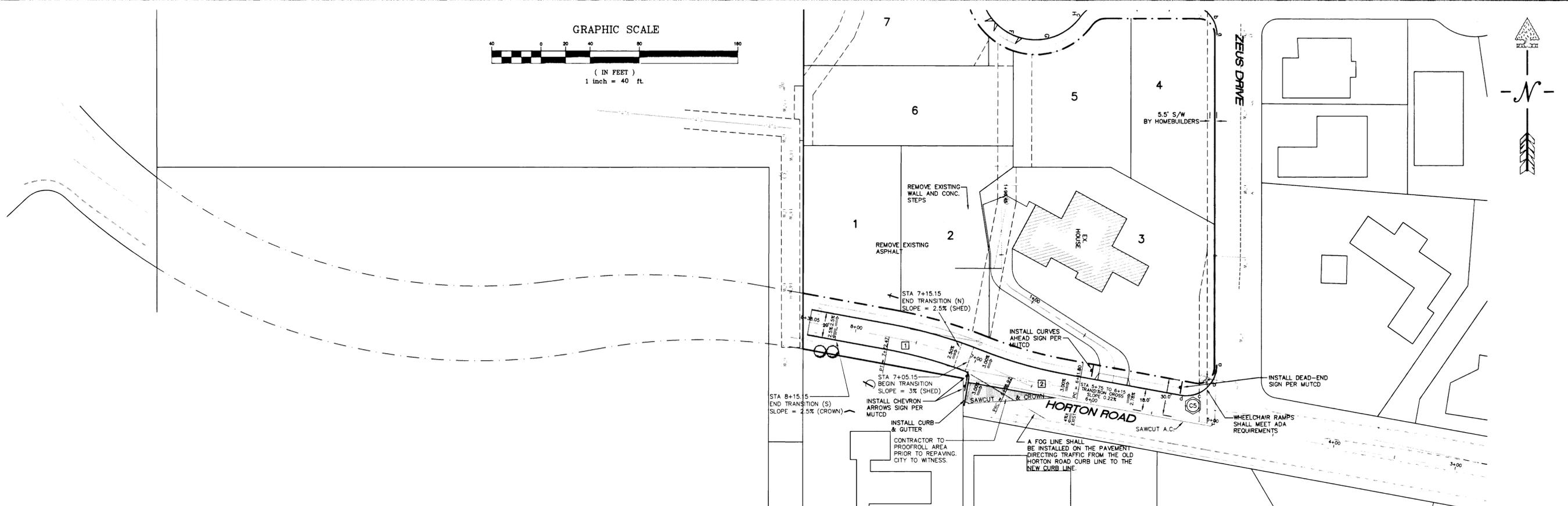
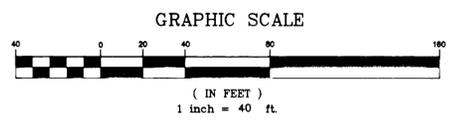
| REVISIONS | BY |
|---------------------------------------|----|
| REVISED PER CITY REGULINES (6/22/04) | MM |
| REVISED PER CITY COMMENTS (7/9/04) | MM |
| REVISE CROSS SLOPES & CROWN (11-4-04) | PS |
| AS-BUILT (5-1-06-2005) | LD |

Rosemont Ridge Estates
ROSEMONT RIDGE ESTATES, LLC

HORTON ROAD IMPROVEMENTS

SISUL ENGINEERING
375 PORTLAND AVENUE
CLATSOP, OREGON 97027
(503) 857-0188

DATE: MAR 2004
SCALE: 1"=40'
DRAWN: JH/MM
JOB: SGL 03-048
SHEET: 4
OF 1 SHEETS

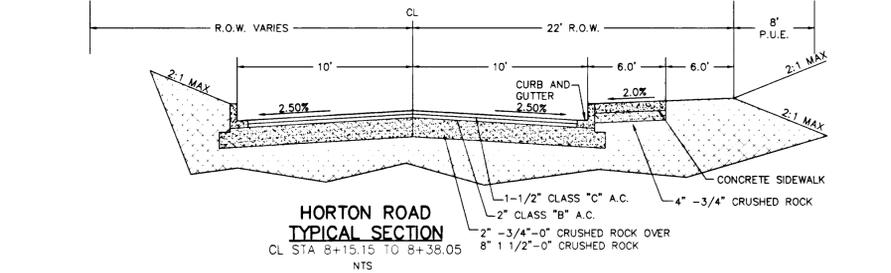
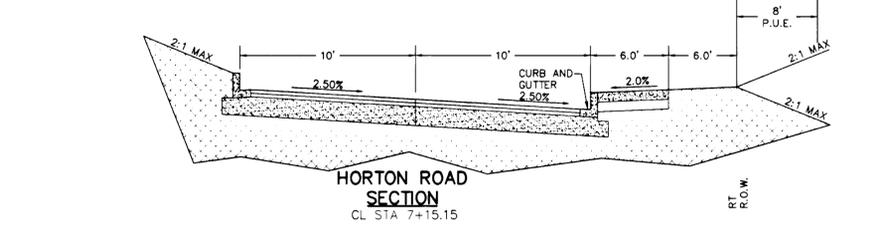
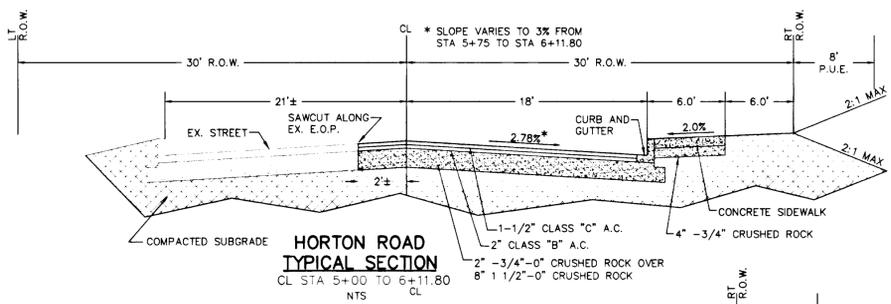


CENTERLINE CURVE DATA

| CURVE | CURVE DATA |
|-------|--|
| 1 | Δ 15-47-24 R= 383.00' L= 105.95' |
| 2 | Δ 15-47-35 R= 200.00' L= 55.12' |

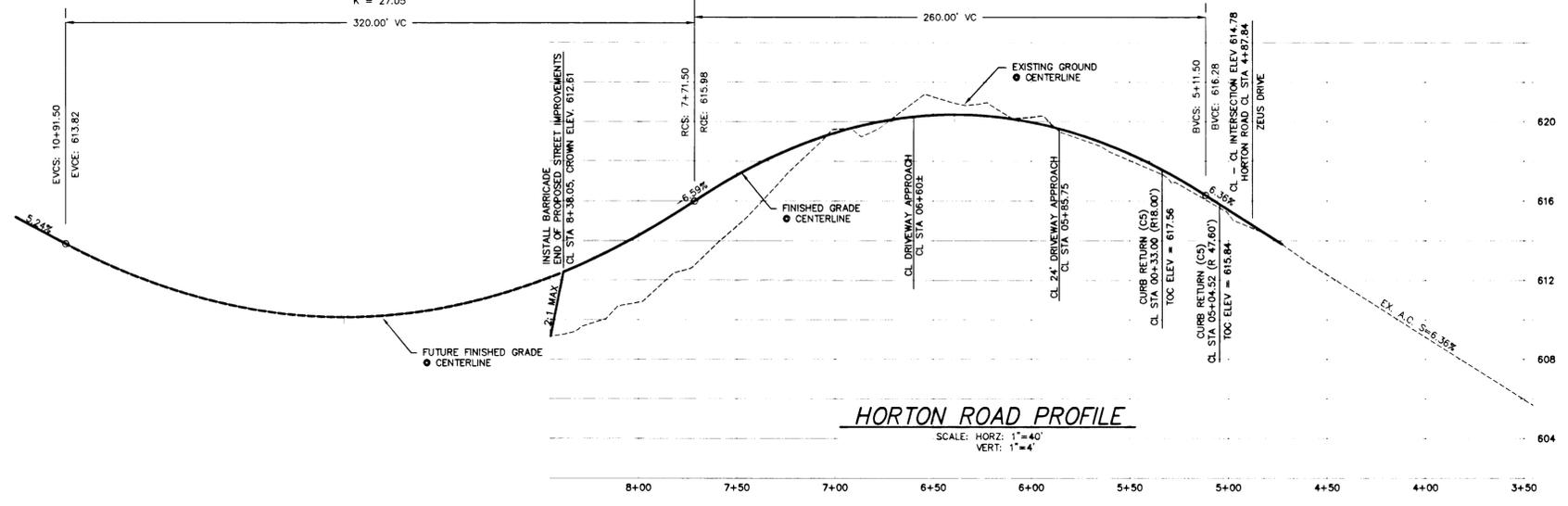
CURB RETURN DATA

| CURVE | CURVE DATA | POINTS - (TOP OF CURB ELEVATIONS) | | | |
|-------|--------------------------------------|--------------------------------------|-----------|-----------|--------------------------------------|
| | | a (PC) | b (1/3 Δ) | c (2/3 Δ) | d (PT) |
| (CS) | Δ 00-10-30 R= 25.28' L= 43.72' | 612.63 CL STA 09+04.52 R47.60' | 614.21 | 615.79 | 617.26 CL STA 09+33.00 R18.00' |



LOW POINT ELEV = 610.11
LOW POINT STA = 9+49.76
PVI STA = 9+31.50
PVI ELEV = 605.44
A.D. = 11.83
K = 27.05

HIGH POINT ELEV = 620.34
HIGH POINT STA = 6+39.19
PVI STA = 6+41.50
PVI ELEV = 624.55
A.D. = -12.95
K = 20.08



HORTON ROAD PROFILE
SCALE: HORIZ: 1"=40'
VERT: 1"=4'

AS BUILT



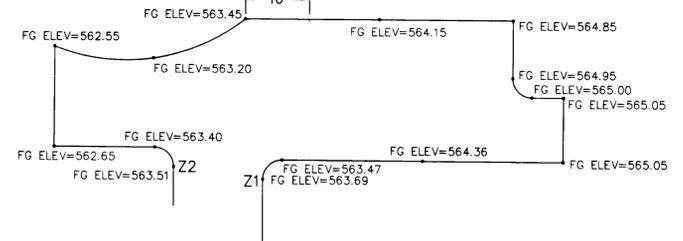
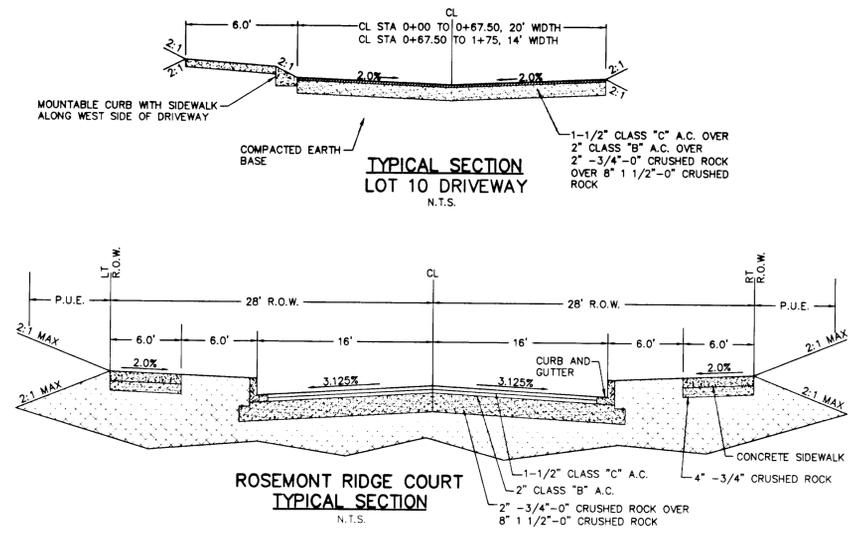
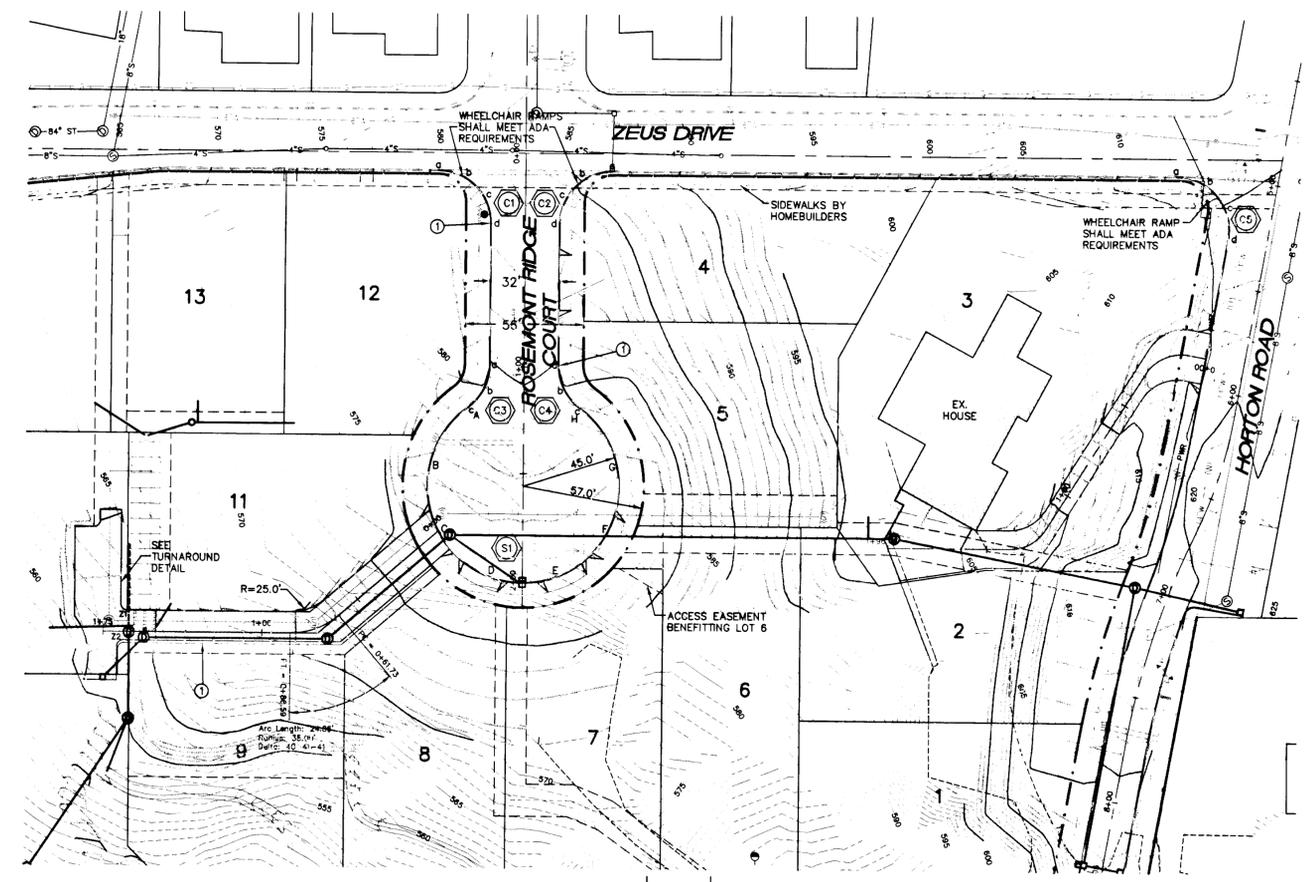
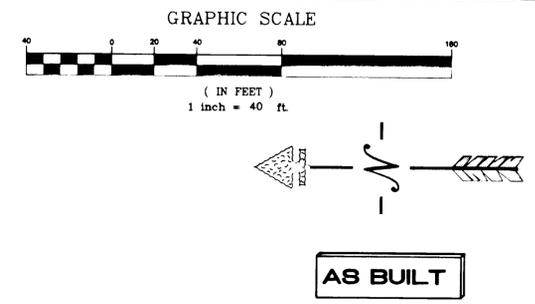
| REVISIONS | BY |
|---|----|
| REVISED PER CITY REQUIREMENTS (6/22/04) | MM |
| REVISED PER CITY COMMENTS (7/9/04) | MM |
| REVISED LOT 10 DRIVEWAY (8/18/04) | MM |
| AS-BUILT 1-8-05 | LD |

Rosemont Ridge Estates
 ROSEMONT RIDGE ESTATES, LLC

ROSEMONT RIDGE COURT IMPROVEMENTS

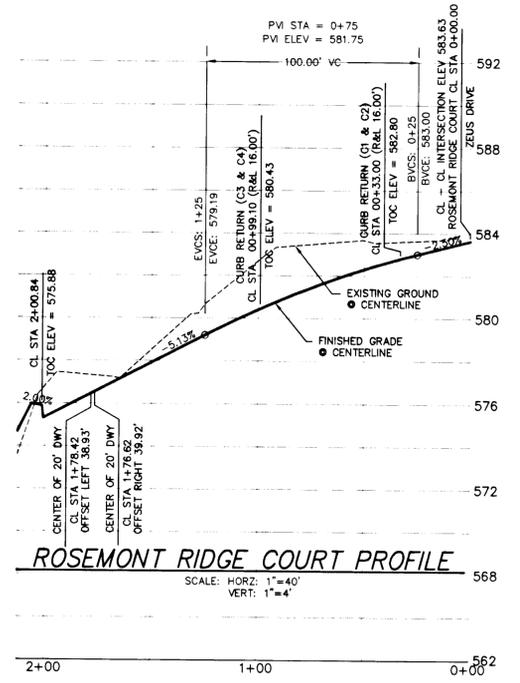
SISUL ENGINEERING
 375 PORTLAND AVENUE
 CLATSOP COUNTY, OREGON 97027
 (503) 657-0188

DATE: MAR 2004
 SCALE: 1"=40'
 DRAWN: JH/MM
 JOB: SGL 03-048
 SHEET: **5**
 OF 11 SHEETS



① CURB ALONG ROSEMONT RIDGE FROM POINT 'A', CURVE C1 TO POINT 'E', CURVE C4 TO BE PAINTED RED WITH WHITE LETTERING "NO PARKING FIRE LANE" AND SIGNS SHALL BE POSTED.
 CURB ALONG DRIVEWAY TO BE PAINTED RED WITH WHITE LETTERING "NO PARKING FIRE LANE" AND SIGNS SHALL BE POSTED.

LOT 10 DRIVEWAY TURN AROUND
NTS



CURB RETURN DATA

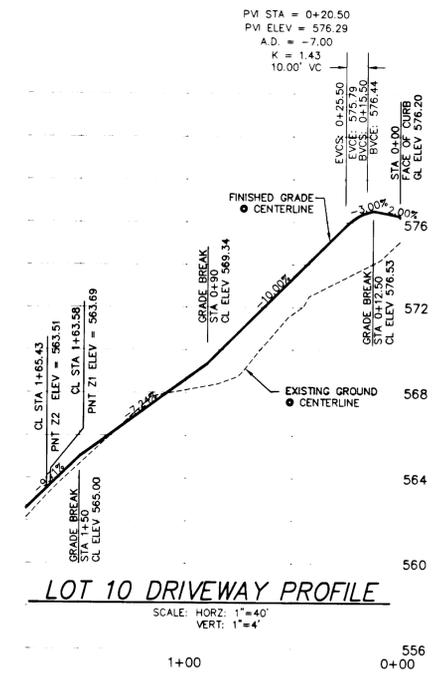
| CURVE | CURVE DATA | POINTS - (TOP OF CURB ELEVATIONS) | | | |
|-------|--------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| | | a (PC) | b (1/3 Δ) | c (2/3 Δ) | d (PT) |
| C1 | Δ 90-00-00 R= 25.00' L= 39.27' | 580.38 CL STA 0+08.00 R16.0' | 581.58 CL STA 0+16.00 R16.0' | 582.64 CL STA 0+24.00 R16.0' | 582.80 CL STA 0+33.00 R16.0' |
| C2 | Δ 90-00-00 R= 25.00' L= 39.27' | 587.31 CL STA 0+07.97 L40.8' | 585.91 CL STA 0+15.94 L40.8' | 583.78 CL STA 0+23.88 L40.8' | 582.80 CL STA 0+33.00 L16.0' |

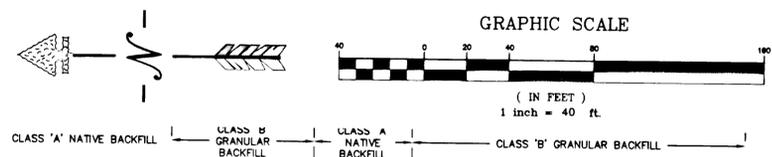
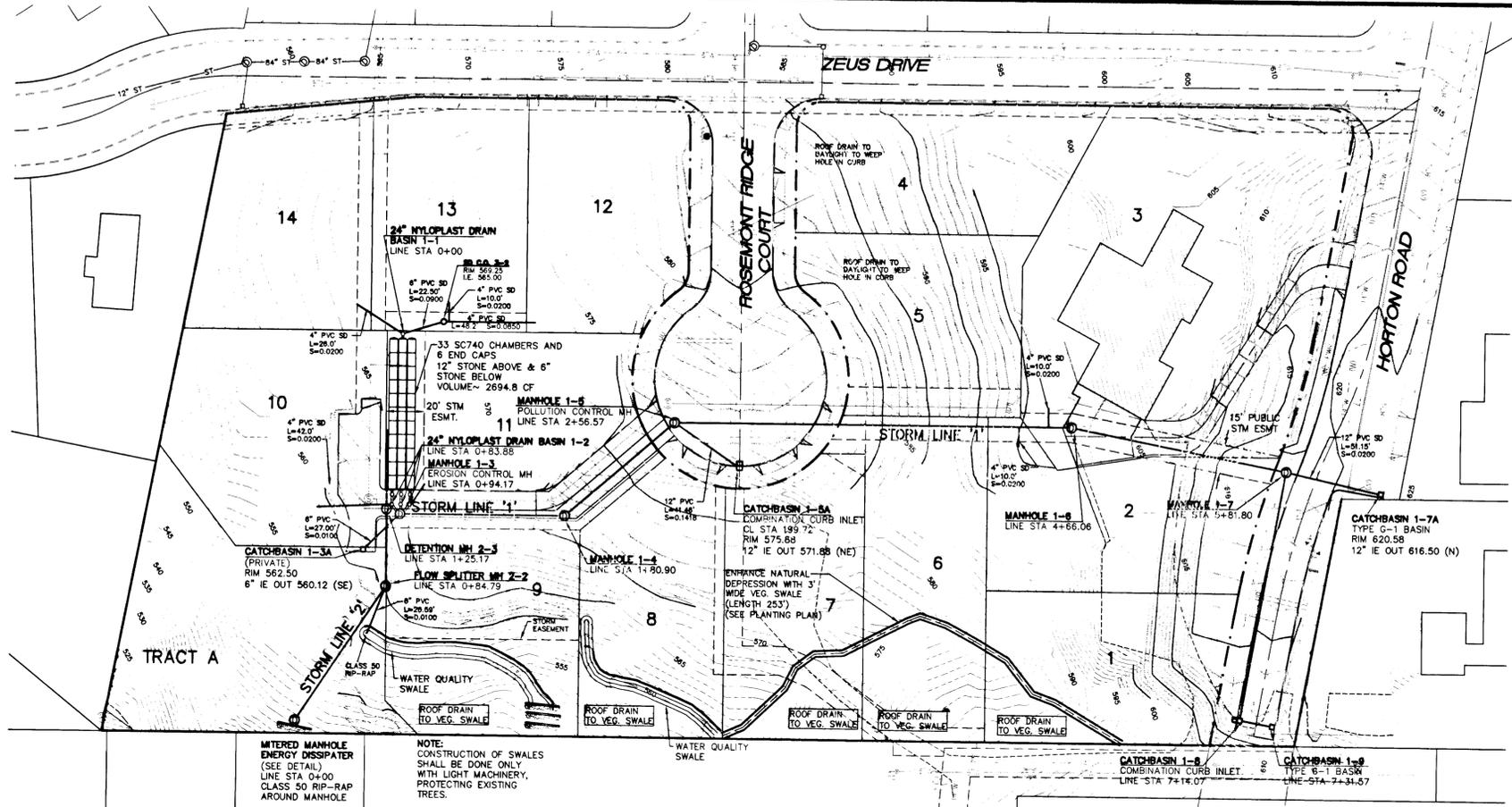
CUL-DE-SAC NO. S1

R= 45.00' L= 226.42'
DELTA= 288-17-35 RAD. PT= CL STA 1+55.84 OFFSET 0.00'

| CURVE | CURVE DATA | POINTS - (TOP OF CURB ELEVATIONS) | | |
|-------|--------------------------------------|------------------------------------|------------------------------------|---------------------------------|
| | | a (PC) | b (1/2 Δ) | c (PT) |
| C3 | Δ 54-08-48 R= 25.00' L= 23.63' | 580.43 CL STA 0+09.10 R16.0' | 579.70 CL STA 0+18.20 R16.0' | 579.22 PNT 'A' ON CURVE 'S1' |
| C4 | Δ 54-08-48 R= 25.00' L= 23.63' | 580.43 CL STA 0+09.10 R16.0' | 579.70 CL STA 0+18.20 R16.0' | 579.22 PNT 'B' ON CURVE 'S1' |

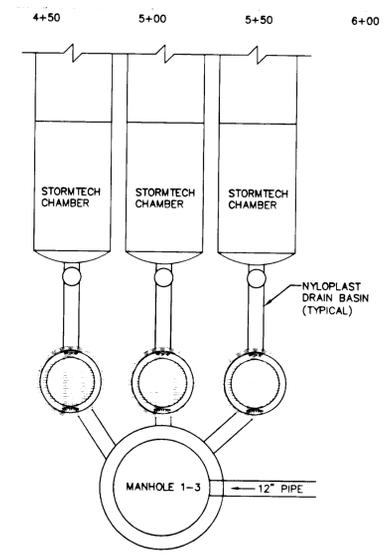
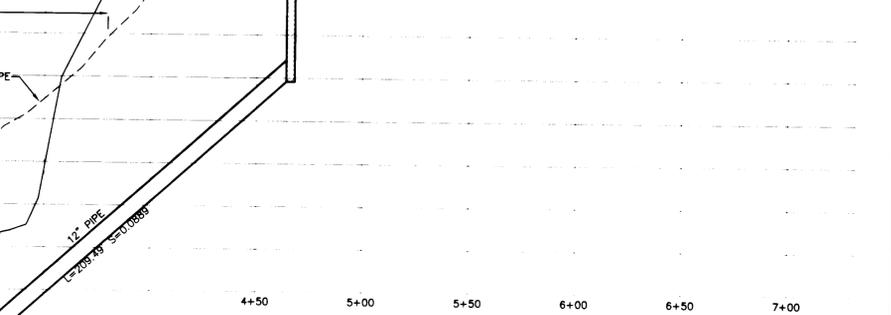
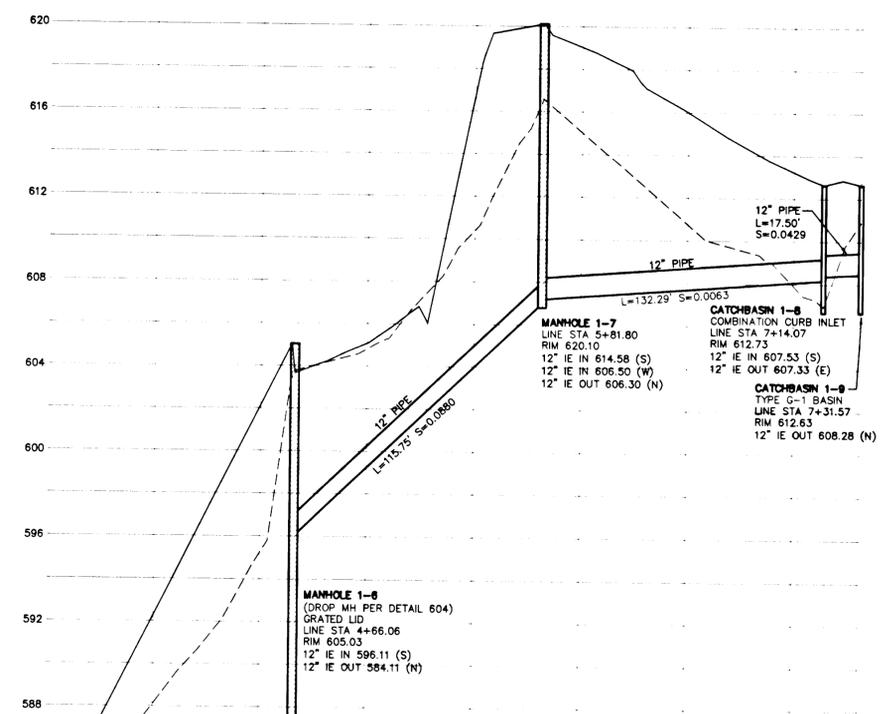
| POINT | DELTA | TOC EL | LENGH | NOTE: |
|-------|-----------|--------|---------|--|
| A | 00-00-00 | 579.22 | 00.00' | PNT 'c' ON CURVE 'C3' |
| B | 41-11-05 | 577.76 | 32.35' | |
| C | 82-22-10 | 576.70 | 64.69' | CL 20' DRIVEWAY |
| D | 123-33-15 | 576.04 | 97.04' | LOW PNT BETWEEN PNTS 'D' AND 'E' (ELEV = 575.88) |
| E | 164-44-20 | 576.04 | 129.38' | CL 20' DRIVEWAY @ 204-02-10 |
| F | 205-55-25 | 576.70 | 161.73' | |
| G | 247-06-30 | 577.76 | 194.07' | |
| H | 288-17-35 | 579.22 | 226.42' | PNT 'c' ON CURVE 'C4' |



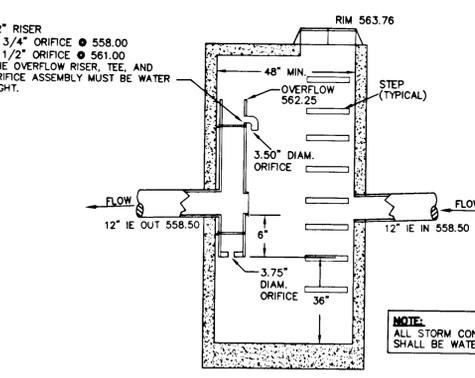
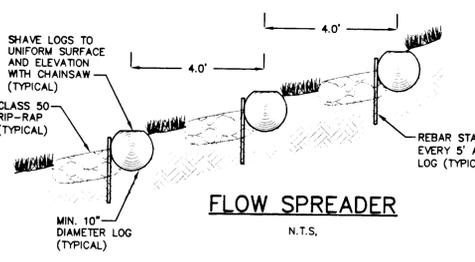
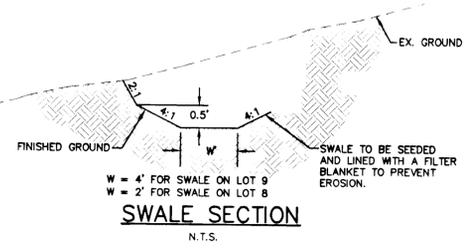


| REVISIONS | BY |
|-------------------------------------|----|
| REVISED PER CITY REDLINES (6/23/04) | MM |
| REVISED PER CITY COMMENTS (7/9/04) | MM |
| REVISED PER CITY COMMENTS (7/12/04) | MM |
| REVISED PER CITY COMMENTS (7/16/04) | MM |
| AS-BUILT 01/06/2005 | LD |

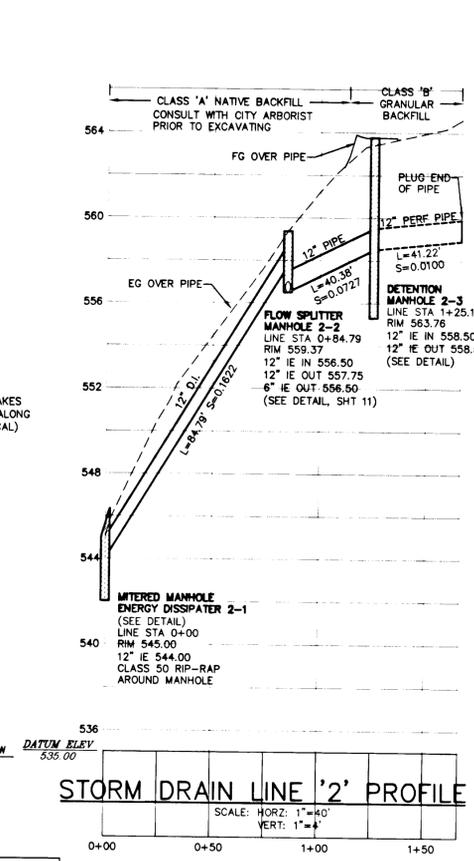
Rosemont Ridge Estates
 Rosemont Ridge Estates, LLC



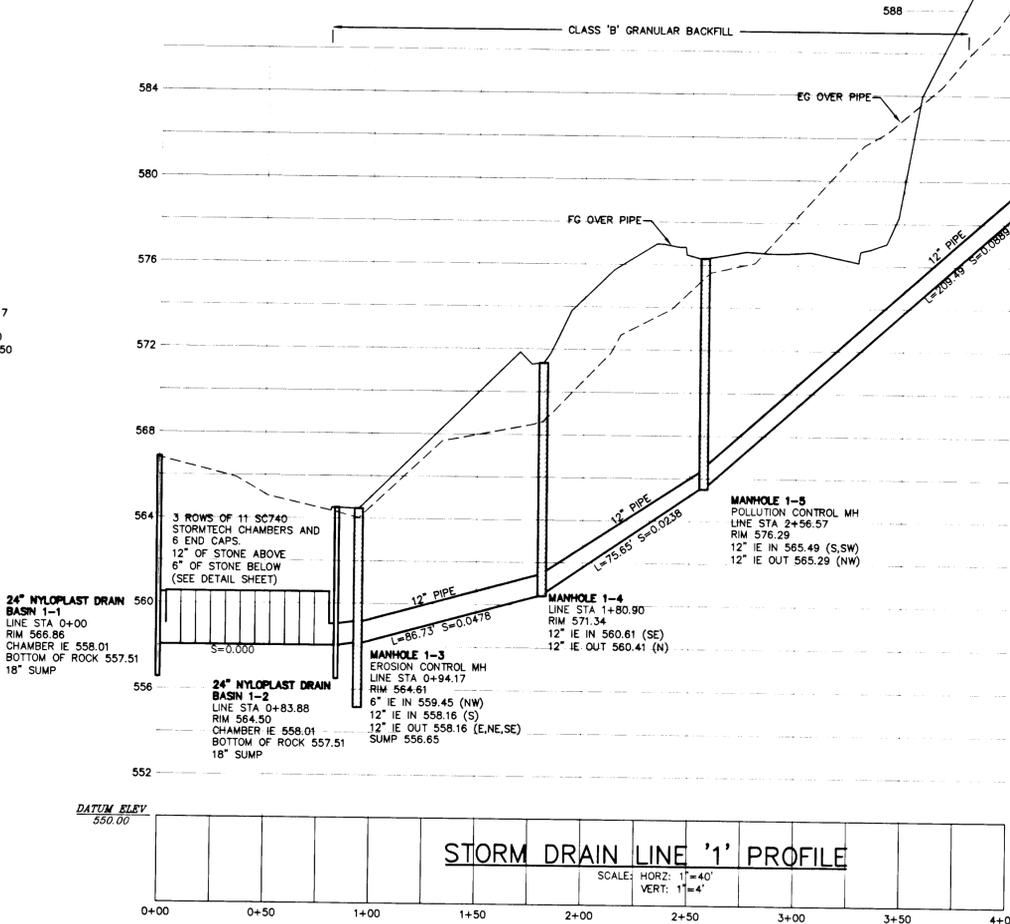
CONNECTION DETAIL @ MH 1-3
N.T.S.



DETECTION MANHOLE
N.T.S.



STORM DRAIN LINE '2' PROFILE
SCALE: HORZ: 1"=40'
VERT: 1"=4'



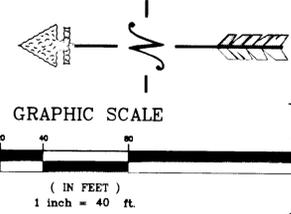
STORM DRAIN LINE '1' PROFILE
SCALE: HORZ: 1"=40'
VERT: 1"=4'

AS BUILT

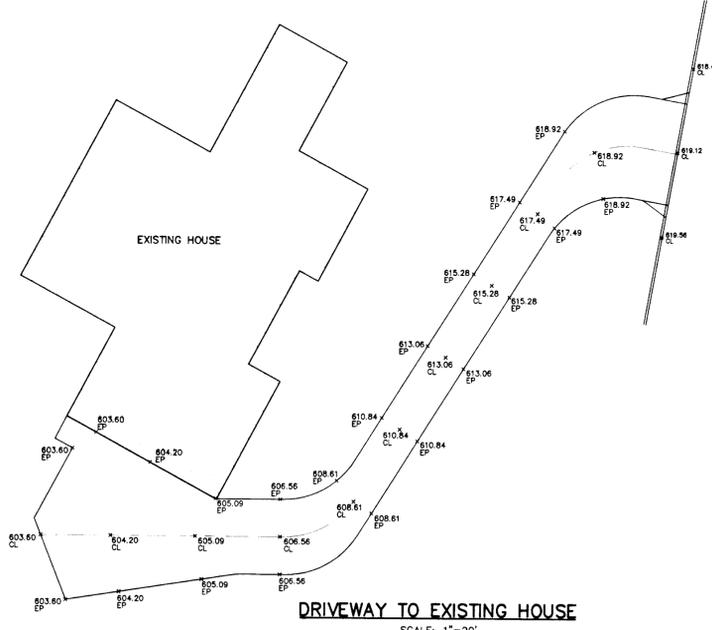
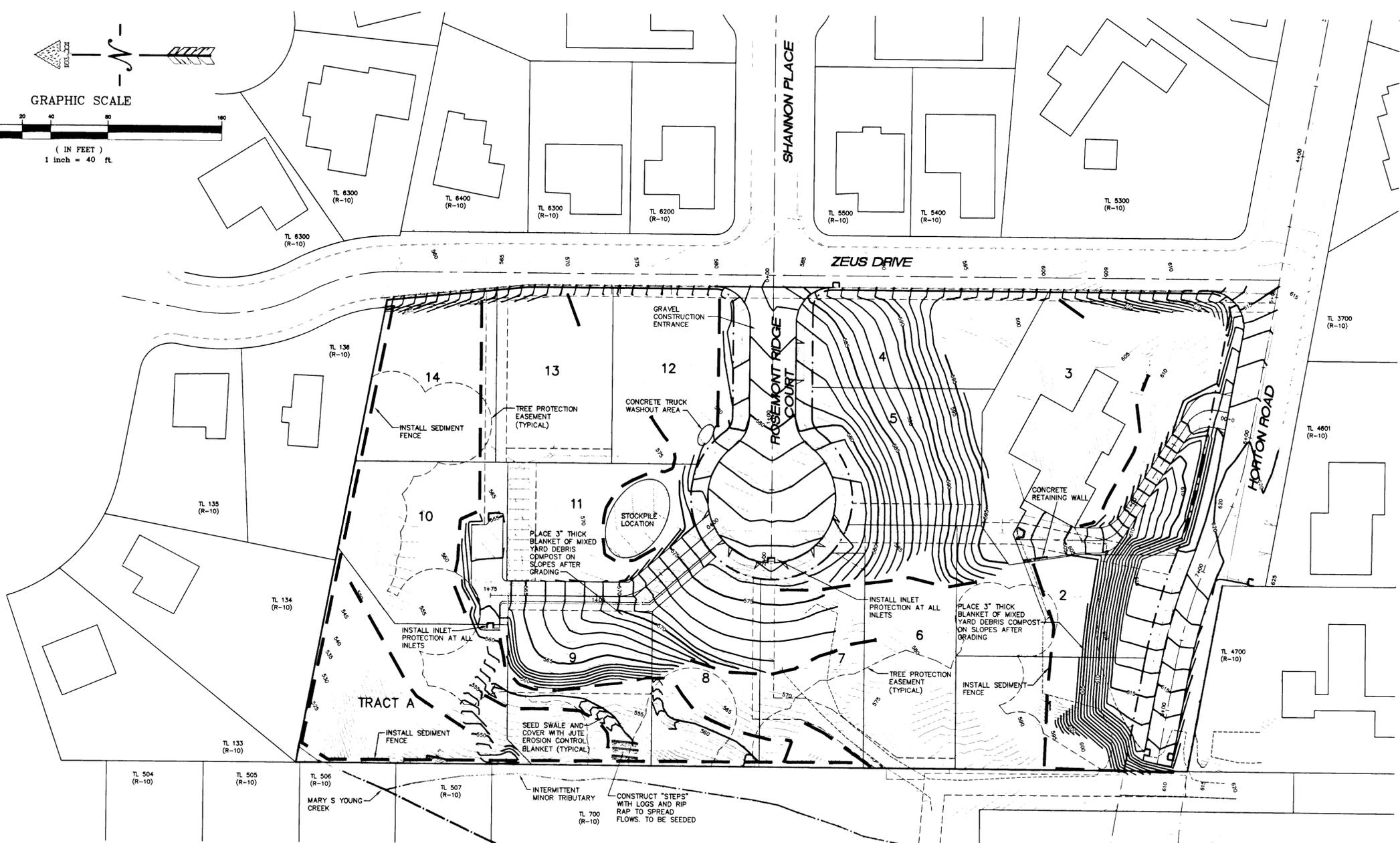


Siful Engineering
 375 PORTLAND AVENUE
 GLADSTONE, OREGON 97027
 (503) 657-0188

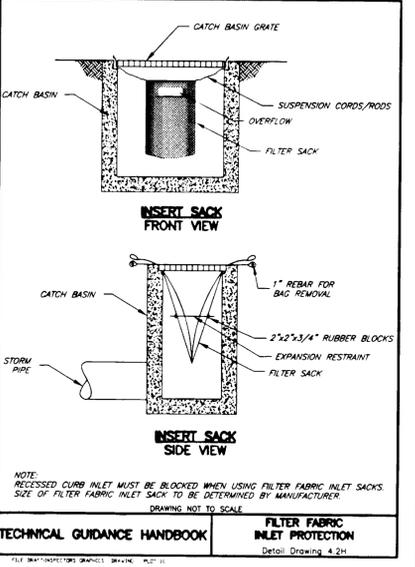
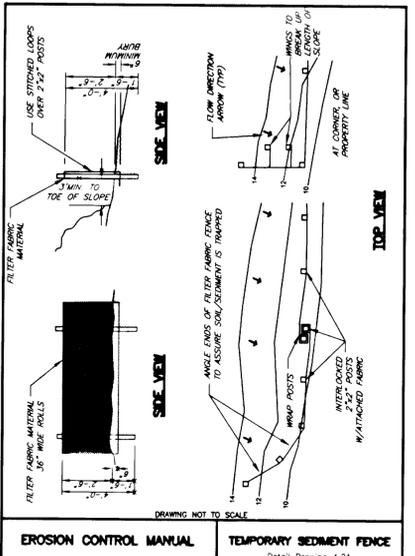
STORM DRAIN PLAN AND PROFILES
 SHEET 6 OF 11



AS BUILT



NOTE:
CONCRETE TRUCKS BEING WASHED OUT ON SITE SHALL BE PARKED IN A LOCATION THAT WILL PREVENT ALL WASH WATER FROM ENTERING THE STORM DRAIN SYSTEM WITHOUT PROPER FILTRATION. CONCRETE REMNANTS AND RESIDUE SHALL BE PROPERLY DISPOSED OF. WASHOUT SUMP SHALL BE MINIMUM OF 2 CU. YDS. CARE SHOULD BE TAKEN NOT TO OVER FILL. COVER WHEN SITE IS COMPLETE OR SUMP IS NO LONGER NEEDED.



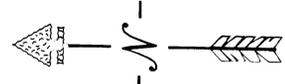
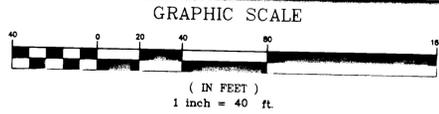
| REVISIONS | BY |
|--------------------------------------|----|
| ADDED STOCKPILE & COMPOST (4/13/04) | MM |
| REVISED PER CITY REVISIONS (6/23/04) | MM |
| ADDED TREE EASEMENT LINES (7/07/04) | MM |
| REVISED PER CITY COMMENTS (7/9/04) | MM |
| REVISED GRADING (8/18/04) | MM |
| AS-BUILT 1-5-05 | LD |

Rosemont Ridge Estates
ROSEMONT RIDGE ESTATES, LLC

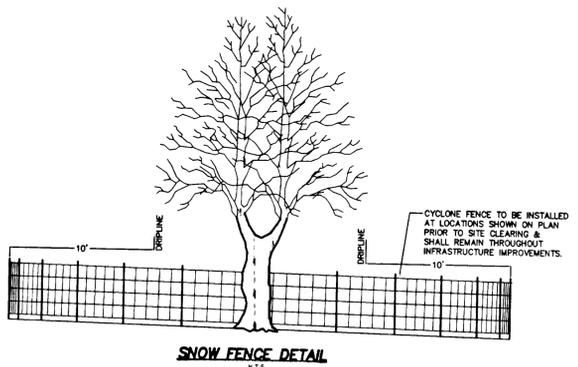
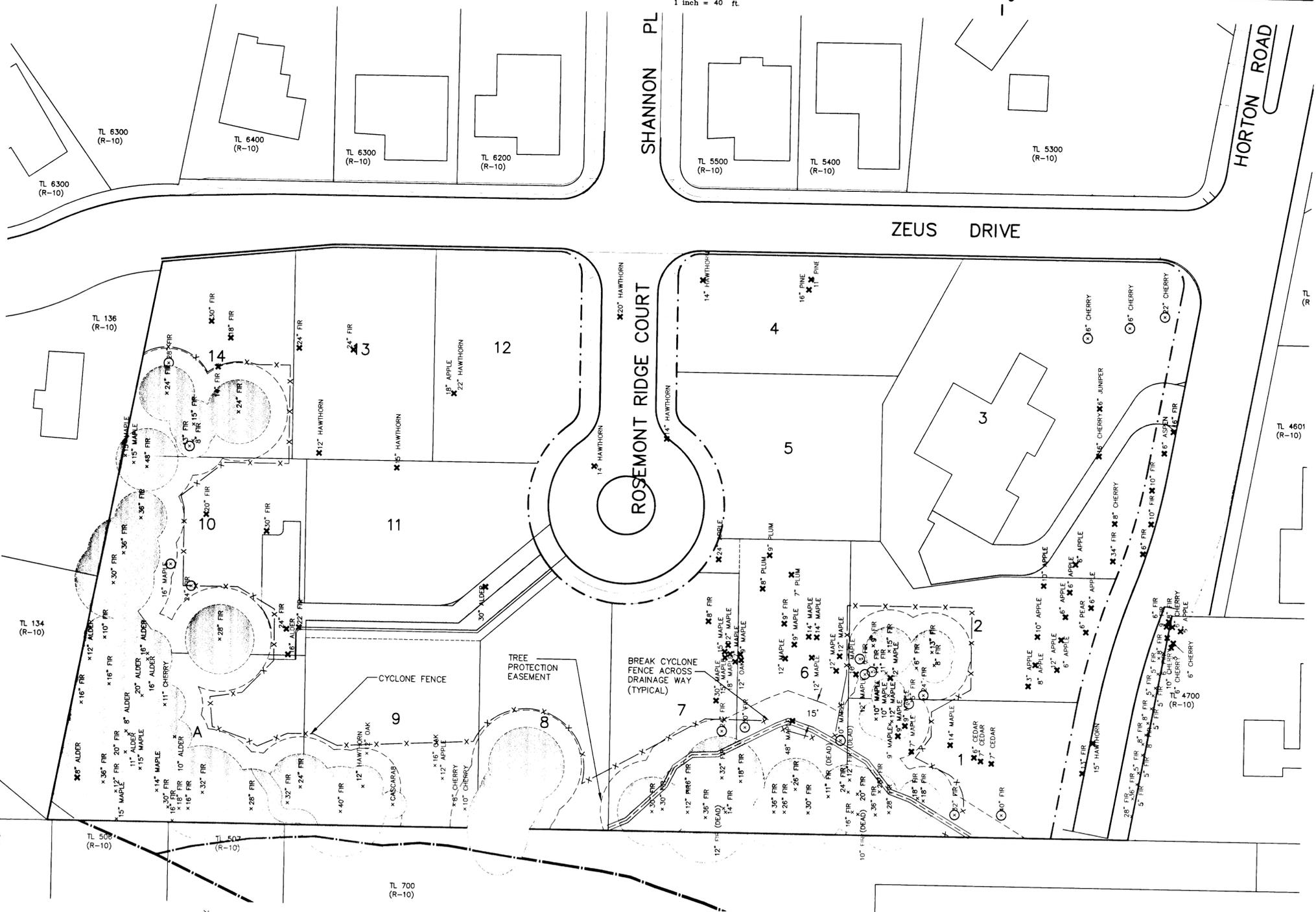
GRADING AND EROSION CONTROL PLAN

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE MAR 2004
SCALE 1" = 40'
DRAWN JH/MM
JOB SGL 03-048
SHEET 7 OF 11 SHEETS



AS BUILT



TREE LEGEND

- ✕ TREE TO BE REMOVED
- TREE TO REMAIN & MEASURED IN EASEMENT
- TREE TO REMAIN & NOT MEASURED IN EASEMENT
- TREE PROTECTION EASEMENT
- x-x- CYCLONE FENCE

NOTES:

1. Tree easements shall be recorded on the plat as shown in the applicant's submittal.
2. Six-foot tall chain link fencing shall be placed at tree easement boundaries prior to grading the site.
3. The City Arborist shall inspect and approve all on-site tree protection measures prior to the start of site work. It is the applicant's responsibility to contact the City Arborist and arrange for this approval to take place. No permits from Engineering, Planning or Building Departments shall be issued without approval from the City Arborist regarding tree protection measures.
4. All tree protection measures shall remain in place and fully functional for the entire time that work and construction is taking place.

PERCENTAGE OF TREE PROTECTION AREA ON SITE

| | |
|--|------------|
| TOTAL SITE AREA | 208,788 SF |
| TOTAL TREE PROTECTION AREA | 45,452 SF |
| = 21.8% OF SITE AREA IS DEDICATED TO TREE PROTECTION | |



| | | |
|---|------------|----|
| REVISIONS | | BY |
| | | |
| REVISED PER CITY | | MM |
| REVISIONS 16/22/04 | | |
| AS-BUILT | | LD |
| 01/05/05 | | |
| <h2 style="margin: 0;">Rosemont Ridge Estates</h2> <p style="margin: 0;">ROSEMONT RIDGE ESTATES, LLC</p> | | |
| <h3 style="margin: 0;">TREE PROTECTION PLAN</h3> | | |
| <p style="margin: 0;">SISUL ENGINEERING</p> <p style="margin: 0; font-size: small;">375 PORTLAND AVENUE GLADSTONE, OREGON 97027 (503) 867-0188</p> | | |
| DATE | MAR 2004 | |
| SCALE | 1" = 40' | |
| DRAWN | JH/MM | |
| JOB | SGL 03-048 | |
| SHEET | 8 | |
| OF 11 SHEETS | | |

Street T-Cut

NOTES:
1. ALL EXISTING AC OR PCC PAVEMENT SHALL BE SAWCUT TO NEAT, STRAIGHT LINES PRIOR TO REPAIRING.
2. CONCRETE PAVEMENT SHALL BE REPLACED WITH CONCRETE TO A MINIMUM THICKNESS OF REMOVED PAVEMENT, WHICHEVER IS GREATER.
3. IF EXISTING BASE MATERIAL IS CTD OR ATB, THEN REPLACEMENT BASE MATERIAL SHALL MATCH EXISTING.
4. ALL UTILITIES SHALL HAVE A MINIMUM COVER OF 36".
5. ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T-99 OR AS SPECIFIED IN THE CONTRACT DOCUMENTS.
6. ALL TRENCH BACKFILL AND PATTERNS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF WEST LIME.
7. BACKFILL SHALL BE PLACED AND COMPACTED IN A MAXIMUM OF 8" LIFTS.

West Lime
JAN 2000
REVISED BY: WL-203
DATE: 00-203

Trench Backfill, Bedding and Pipe Zone

NOTES:
1. ALL FITTINGS IN CONTACT WITH CONCRETE SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
2. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
3. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
4. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
5. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
6. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
7. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.

West Lime
JAN 2000
REVISED BY: WL-200
DATE: 00-200

Anchor Wall

NOTES:
1. ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
A. SOIL BEARING CAPACITY = 100 PSF X 2 (RIGHT FACTOR) 1500 PSF SOIL BEARING CAPACITY.
B. NORMAL DISTRIBUTION DESIGN VELOCITY NOT TO EXCEED 5.75/2.
C. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
D. ALL CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
E. ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
F. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
G. VERTICAL THRUST BLOCKS SHALL BE 12" X 12" X 12" MIN. (SEE DWG. WL-407).
H. STRAIGHT BLOCK DETAILS-SEE DWG. WL-406.

West Lime
JAN 2000
REVISED BY: WL-205
DATE: 00-205

Standard Clean Out

NOTES:
1. COVER TO HAVE EMBOSSED "S".
2. FRAME & COVER SHALL BE #4233 & 4234 OR EQUAL.
3. CAST IRON CLEAN-OUT RING AND COVER SHALL BE 1/2" X 6" X 36" HEX HD. RING & 36" X 36" X 1/2" GROUT SEAL.
4. 1/2" X 6" X 36" HEX HD. RING & 36" X 36" X 1/2" GROUT SEAL.
5. 1/2" X 6" X 36" HEX HD. RING & 36" X 36" X 1/2" GROUT SEAL.
6. 1/2" X 6" X 36" HEX HD. RING & 36" X 36" X 1/2" GROUT SEAL.

West Lime
JAN 2000
REVISED BY: WL-206
DATE: 00-206

Standard Manhole for less than 36" Pipe

NOTE: MANHOLE LID TO BE 6" ABOVE FINISH GRADE IN EASEMENTS.

NOTE: GRADE RINGS-VARIABLE, MAX. 3 LAYERS MAX. SLOPE OF PRECAST CONCRETE CONE SHALL FACE DOWN GRADE. PRECAST SETTINGS AND POURING CONCRETE BASES SHALL CONFORM TO CITY STANDARD SPECIFICATIONS.

NOTE: ALL JOINTS SHALL BE SEALED WITH WITH PREFOAMED PLASTIC OR RUBBER RING TO FORM A WATER TIGHT SEAL. LOCATE STEPS ON UPSTREAM SIDE OF MANHOLE.

NOTE: MANHOLES SHALL HAVE A 12" MIN. 24" MAX. BOTTOM RISER TO BE BEDDED IN THE CONCRETE AS THE BASE TAKES ITS INITIAL SET.

NOTE: CHANNELS MUST BE ABLE TO PASS A 7" O.D. CYLINDER INTO PIPE. CHANNEL SHALL NOT BE BELOW THE SPRING LINE OF THE PIPE.

West Lime
JAN 2000
REVISED BY: WL-207
DATE: 00-207

Suburban Manhole Frame and Cover 3" Depth

NOTES:
1. COVER AND FRAME TO BE MANHOLES FOR TRUE BEARING.
2. MATERIAL SHALL BE #4233 & 4234 OR EQUAL.
3. TWO HOLES TO BE PROVIDED FOR SANITARY SEWER.
4. 1/2" HOLES TO BE PROVIDED FOR STORM SEWER.

West Lime
JAN 2000
REVISED BY: WL-300
DATE: 00-300

Standard Valve Box Detail

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 WELLS OR COUPLERS.
4. ON VALVES 2" AND LARGER, PVC SHALL BE NOTCHED OVER VALVE PACKING BOLTS SO PVC FITS ON BONNET.

West Lime
JAN 2000
REVISED BY: WL-411
DATE: 00-411

Standard Fire Hydrant Assembly

NOTES:
1. HYDRANT TO BE WELDED TO WATER MAIN.
2. HYDRANT TO BE WELDED TO WATER MAIN.
3. HYDRANT TO BE WELDED TO WATER MAIN.
4. HYDRANT TO BE WELDED TO WATER MAIN.
5. HYDRANT TO BE WELDED TO WATER MAIN.
6. HYDRANT TO BE WELDED TO WATER MAIN.
7. HYDRANT TO BE WELDED TO WATER MAIN.
8. HYDRANT TO BE WELDED TO WATER MAIN.
9. HYDRANT TO BE WELDED TO WATER MAIN.
10. HYDRANT TO BE WELDED TO WATER MAIN.
11. HYDRANT TO BE WELDED TO WATER MAIN.
12. HYDRANT TO BE WELDED TO WATER MAIN.

West Lime
JAN 2000
REVISED BY: WL-401
DATE: 00-401

Standard 1" Water Service

NOTES:
1. ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
A. SOIL BEARING CAPACITY = 100 PSF X 2 (RIGHT FACTOR) 1500 PSF SOIL BEARING CAPACITY.
B. NORMAL DISTRIBUTION DESIGN VELOCITY NOT TO EXCEED 5.75/2.
C. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
D. ALL CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
E. ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
F. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
G. VERTICAL THRUST BLOCKS SHALL BE 12" X 12" X 12" MIN. (SEE DWG. WL-407).
H. STRAIGHT BLOCK DETAILS-SEE DWG. WL-406.

West Lime
JAN 2000
REVISED BY: WL-402
DATE: 00-402

Horizontal Thrust Blocking

NOTES:
1. ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
A. SOIL BEARING CAPACITY = 100 PSF X 2 (RIGHT FACTOR) 1500 PSF SOIL BEARING CAPACITY.
B. NORMAL DISTRIBUTION DESIGN VELOCITY NOT TO EXCEED 5.75/2.
C. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
D. ALL CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
E. ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
F. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
G. VERTICAL THRUST BLOCKS SHALL BE 12" X 12" X 12" MIN. (SEE DWG. WL-407).
H. STRAIGHT BLOCK DETAILS-SEE DWG. WL-406.

West Lime
JAN 2000
REVISED BY: WL-406
DATE: 00-406

Vertical Thrust Blocking

NOTES:
1. GRAVITY VERTICAL THRUST BLOCKS SHALL BE DESIGNED BY THE ENGINEER.
2. KEEP CONCRETE CLEAR OF JOINT ACCESSORIES. FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
3. CONCRETE THRUST BLOCKING SHALL BE AGAINST UNDISTURBED EARTH.
4. CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
5. THRUST BLOCK VOLUMES FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS SHALL BE 1.5 TIMES THAT OF BENDS HAVING DOWNWARD RESULTANT THRUSTS.
6. VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CUBIC YARDS REQUIRE SPECIAL BLOCKING DETAILS. SEE PLANS FOR VOLUMES SHOWN UNDER HEAVY LINE IN TABLE.
7. PAYMENT SHALL BE THE SAME AS FOR HORIZONTAL THRUST BLOCKS.
8. ALL REBAR SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-36 (MIN. 3.4 MIL). REBAR SHALL BE BENT BEFORE GALVANIZATION AND LAST 4" OF BAR SHALL BE BENT 90 DEGREES WITH A 1/2" RADIUS BEND. REBAR SHALL BE TIGHTLY FIT TO RESTRAINED FITTING.
9. FOR HORIZONTAL THRUST BLOCK DETAILS SEE DWG. WL-406.

| FITTING | SIZE | BEND ANGLE | MIN. VOLUME (CUBIC YARDS) |
|---------|--------|------------|---------------------------|
| 1" | 1/2" | 90 | 0.4 |
| 2" | 3/4" | 90 | 0.7 |
| 3" | 1" | 90 | 1.0 |
| 4" | 1 1/4" | 90 | 1.4 |
| 6" | 2" | 90 | 2.3 |
| 8" | 3" | 90 | 3.5 |
| 10" | 4" | 90 | 5.0 |
| 12" | 5" | 90 | 7.0 |
| 14" | 6" | 90 | 9.5 |
| 16" | 8" | 90 | 13.0 |
| 18" | 10" | 90 | 17.5 |
| 20" | 12" | 90 | 23.0 |
| 24" | 15" | 90 | 35.0 |
| 30" | 18" | 90 | 52.5 |
| 36" | 24" | 90 | 76.5 |

West Lime
JAN 2000
REVISED BY: WL-407
DATE: 00-407

Standard Sanitary Sewer Crossing

NOTES:
1. WATER MAIN SHALL BE CLEANED BEFORE TAPPING.
2. SLEEVE AND VALVE SHALL BE PRESSURE TESTED BEFORE MAKING TAP.
3. PRESSURE TEST AND TAP SHALL BE IN THE PRESENCE OF AN AUTHORIZED QUALIFIED PERSONNEL.
4. PROPER TAPPING MACHINE SHALL BE USED TO MAKE TAP.
5. THRUST BLOCKING REQUIREMENTS SHALL BE DETERMINED BY THE ENGINEER OR PER DWG. WL-406.
6. TAP SHALL BE MADE NO CLOSER THAN 18 INCHES FROM THE NEAREST JOINT.
7. SLEEVE AND VALVE SHALL BE WRAPPED WITH 8 MIL PLASTIC.
8. SLEEVES TO BE USED ARE JAW OR MUELLER STAINLESS STEEL TAPPING SLEEVES. ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.
9. SLEEVE SHALL BE AS LEVEL AS POSSIBLE.
10. ALL BOLTS SHALL HAVE NEVER SIZE ON THREADS.

West Lime
JAN 2000
REVISED BY: WL-409
DATE: 00-409

Standard Wet Tap

NOTES:
1. WATER MAIN SHALL BE CLEANED BEFORE TAPPING.
2. SLEEVE AND VALVE SHALL BE PRESSURE TESTED BEFORE MAKING TAP.
3. PRESSURE TEST AND TAP SHALL BE IN THE PRESENCE OF AN AUTHORIZED QUALIFIED PERSONNEL.
4. PROPER TAPPING MACHINE SHALL BE USED TO MAKE TAP.
5. THRUST BLOCKING REQUIREMENTS SHALL BE DETERMINED BY THE ENGINEER OR PER DWG. WL-406.
6. TAP SHALL BE MADE NO CLOSER THAN 18 INCHES FROM THE NEAREST JOINT.
7. SLEEVE AND VALVE SHALL BE WRAPPED WITH 8 MIL PLASTIC.
8. SLEEVES TO BE USED ARE JAW OR MUELLER STAINLESS STEEL TAPPING SLEEVES. ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.
9. SLEEVE SHALL BE AS LEVEL AS POSSIBLE.
10. ALL BOLTS SHALL HAVE NEVER SIZE ON THREADS.

West Lime
JAN 2000
REVISED BY: WL-410
DATE: 00-410

Typical Curbs

NOTES:
1. CONCRETE SHALL HAVE A BREAKING STRENGTH OF 3000 PSI AFTER 28 DAYS.
2. CONTRACTION JOINTS - AT EACH POINT OF TANGENCY - AT BOTH SIDES OF AN APPROACH - AT EACH SIDE OF INLET STRUCTURES - AT BOTH SIDES OF AN APPROACH - SPACING TO BE NOT MORE THAN 15 FEET - THE DEPTH OF THE JOINT SHALL BE AT LEAST 1/3 OF THE THICKNESS OF CONCRETE - EXPANSION JOINTS SHALL NOT BE USED.
3. BASE ROCK - 1 1/2" TO 2" DIA. PLASTIC PIPE ROCK SHALL BE TO SUBGRADE OF THE STREET SECTION OR 4" IN DEPTH, WHICHEVER IS GREATER.
4. DRAINAGE BLOCK - 3" DIA. PLASTIC PIPE DRAINAGE ACCESS THROUGH EXISTING CURBS SHALL BE DONE BY: - CORE DRILLING - VERTICAL SLOTTING OF CURB 18" EACH SIDE OF DRAIN AND RE-REQUIRED TO FULL DEPTH OF CURB.
5. STAMP TOP OF CURB WITH "W" AT WATER SERVICE CROSSING AND "S" AT SANITARY LATERAL CROSSING.

West Lime
JAN 2000
REVISED BY: WL-501
DATE: 00-501

Storm Sewer Outfall

NOTES:
1. CONCRETE STRENGTH SHALL BE 3000 PSI.
2. PRECAST BASE WALLS SHALL BE A MINIMUM OF 8" THICK.
3. ALL CONCRETE SHALL BE 3000 PSI.
4. ALL CONCRETE SHALL BE 3000 PSI.
5. ALL CONCRETE SHALL BE 3000 PSI.
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10. ALL CONCRETE SHALL BE 3000 PSI.

West Lime
JAN 2000
REVISED BY: WL-614
DATE: 00-614

Standard Cul-De-Sac

NOTES:
1. CONCRETE STRENGTH SHALL BE 3000 PSI.
2. PRECAST BASE WALLS SHALL BE A MINIMUM OF 8" THICK.
3. ALL CONCRETE SHALL BE 3000 PSI.
4. ALL CONCRETE SHALL BE 3000 PSI.
5. ALL CONCRETE SHALL BE 3000 PSI.
6. ALL CONCRETE SHALL BE 3000 PSI.
7. ALL CONCRETE SHALL BE 3000 PSI.
8. ALL CONCRETE SHALL BE 3000 PSI.
9. ALL CONCRETE SHALL BE 3000 PSI.
10. ALL CONCRETE SHALL BE 3000 PSI.

West Lime
JAN 2000
REVISED BY: WL-512
DATE: 00-512

Type G-1 Catch Basin with Sump

NOTES:
1. ALL FABRICATED METAL PARTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. CONCRETE SHALL BE CLASS 30.
3. CURB INLET BASE MAY BE PRECAST OR CAST-IN-PLACE.
4. FOR SLOPES OF 5% OR GREATER, USE DWG. WL-601.

West Lime
JAN 2000
REVISED BY: WL-600
DATE: 00-600

Gutter Inlet 2 1/2 A

NOTES:
1. ALL FABRICATED METAL PARTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. CONCRETE SHALL BE CLASS 30.
3. CURB INLET BASE MAY BE PRECAST OR CAST-IN-PLACE.
4. FOR SLOPES OF 5% OR GREATER, USE DWG. WL-601.

West Lime
JAN 2000
REVISED BY: WL-601
DATE: 00-601

Combination Curb Inlet

NOTES:
1. ALL FABRICATED METAL PARTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. CONCRETE SHALL BE CLASS 30.
3. CURB INLET BASE MAY BE PRECAST OR CAST-IN-PLACE.
4. FOR SLOPES OF 5% OR GREATER, USE DWG. WL-601.

West Lime
JAN 2000
REVISED BY: WL-601
DATE: 00-601

Frame & Grate for Gutter & Curb Inlets

NOTES:
1. ALL FABRICATED METAL PARTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. CONCRETE SHALL BE CLASS 30.
3. CURB INLET BASE MAY BE PRECAST OR CAST-IN-PLACE.
4. FOR SLOPES OF 5% OR GREATER, USE DWG. WL-601.

West Lime
JAN 2000
REVISED BY: WL-602A
DATE: 00-602A

Standard Ditch Inlet

NOTES:
1. CONCRETE STRENGTH SHALL BE 3000 PSI.
2. CATCH BASIN, FRAME AND GRATE SHALL BE 18" HIGH.
3. PRECAST FRAME DIMENSIONS: 2'-3.5" X 2'-3.5" X 18" H.

West Lime
JAN 2000
REVISED BY: WL-603
DATE: 00-603

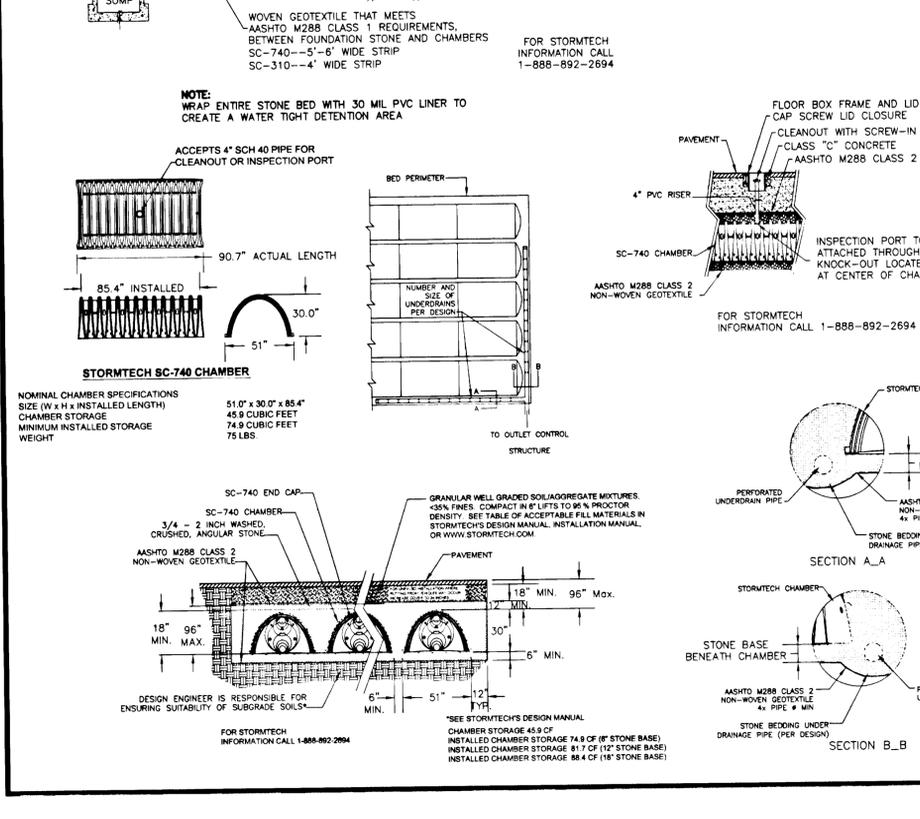
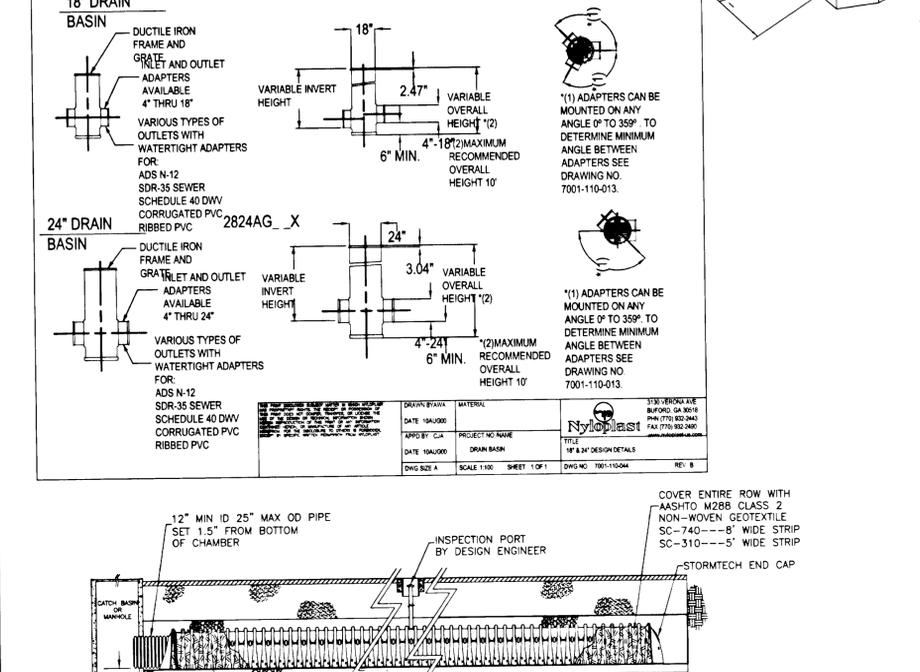
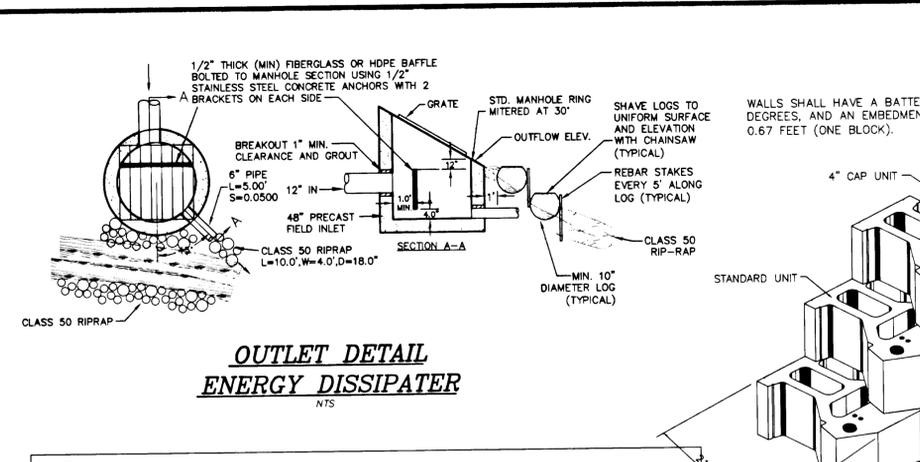
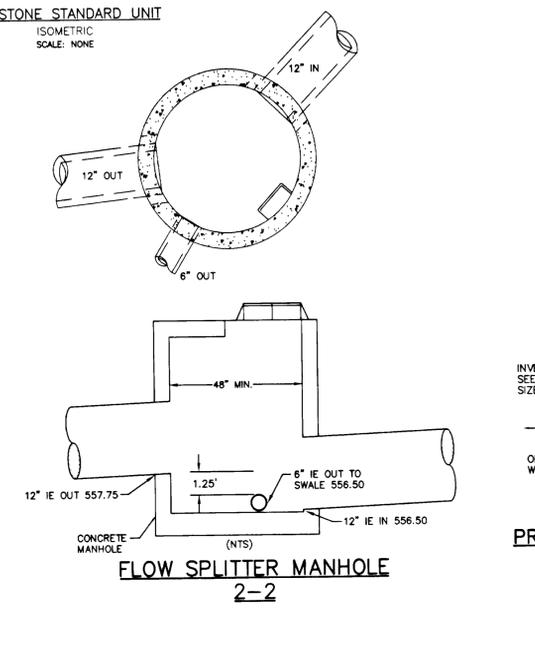
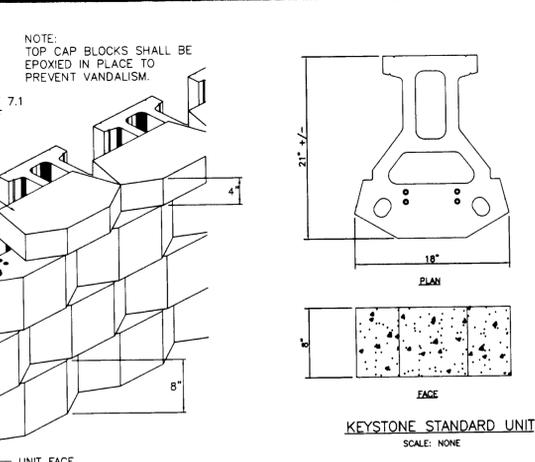
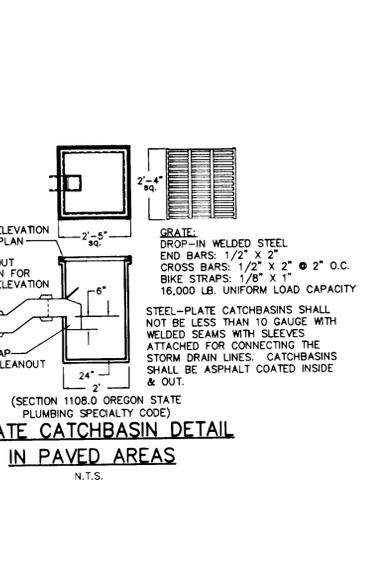
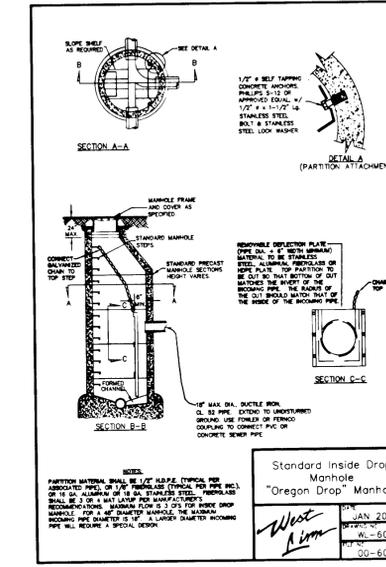
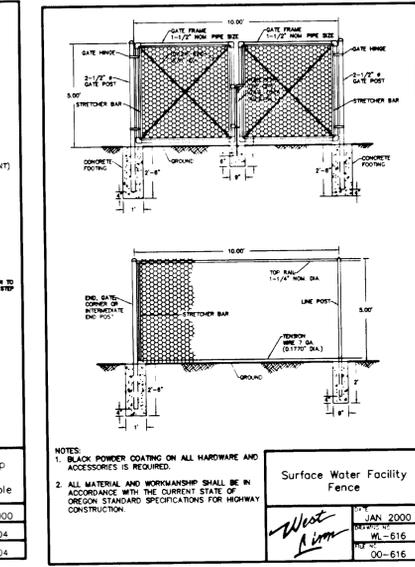
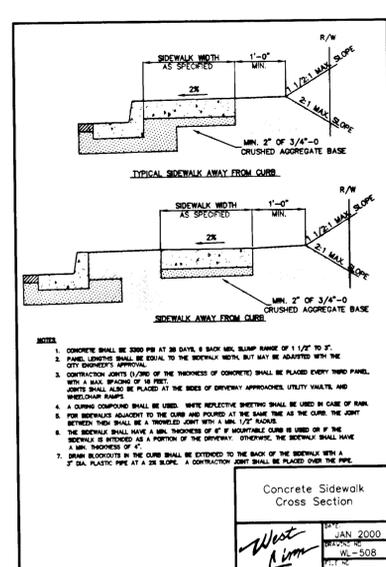
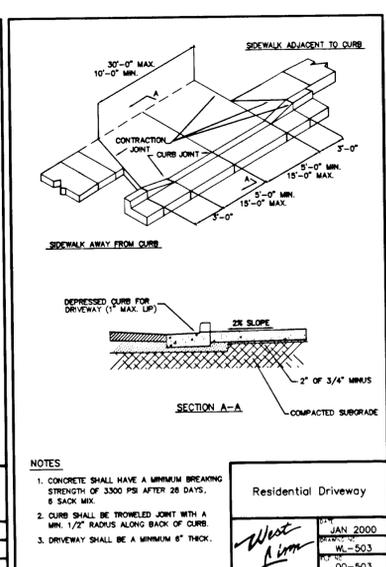
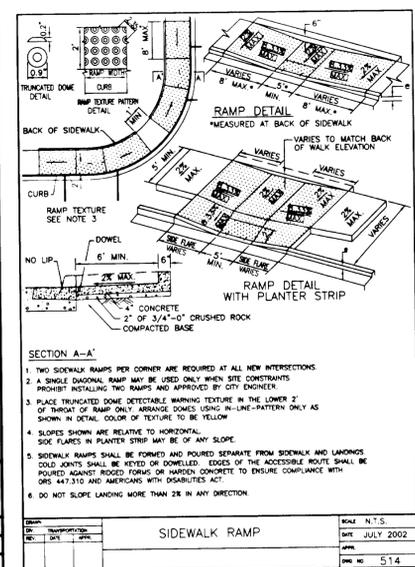
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| REVISED PER CITY REDLINES (6/23/04) | MM |
| REVISED PER CITY COMMENTS (7/9/04) | MM |
| REVISED PER CITY COMMENTS (7/13/04) | MM |
| REVISED PER CITY COMMENTS (7/16/04) | MM |
| AS-BUILT 01/05/05 | LD |

Rosemont Ridge Estates
 ROSEMONT RIDGE ESTATES, LLC

DETAILS

SISUL ENGINEERING
 375 PORTLAND AVENUE #7027
 CLATSOP, OREGON
 (503) 867-0188

| | |
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| DATE | MAR 2004 |
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STORMTECH PRODUCT SPECIFICATIONS

- GENERAL**
- STORMTECH CHAMBERS ARE DESIGNED TO CONTROL STORMWATER RUNOFF. AS A SUBSURFACE RETENTION SYSTEM, STORMTECH CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL, AS A SUBSURFACE DETENTION SYSTEM. STORMTECH CHAMBERS DETAIN AND ALLOW FOR THE METEDED FLOW OF WATER TO AN OUTFALL.
- CHAMBER PARAMETERS**
- THE CHAMBER SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESC), AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.
- THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-740 SHALL BE 30.0 INCHES TALL, 51.0 INCHES WIDE AND 90.7 INCHES LONG. THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-310 SHALL BE 16.0 INCHES TALL, 34.0 INCHES WIDE AND 90.7 INCHES LONG. THE INSTALLED LENGTH OF A JOINED CHAMBER SHALL BE 85.4 INCHES.
- THE CHAMBER SHALL HAVE A CONTINUOUSLY CURVED SECTION PROFILE.
- THE CHAMBER SHALL BE OPEN-BOTTOMED.
- THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CORRUGATION JOINT SYSTEM TO ALLOW CHAMBER ROWS OF ALMOST ANY LENGTH TO BE CREATED. THE OVERLAPPING CORRUGATION JOINT SYSTEM SHALL BE EFFECTIVE WHILE ALLOWING A CHAMBER TO BE TRIMMED TO SHORTEN ITS OVERALL LENGTH.
- THE NOMINAL STORAGE VOLUME OF A JOINED STORMTECH SC-740 CHAMBER SHALL BE 74.9 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH'S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 2.2 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED. THE NOMINAL STORAGE VOLUME OF AN INSTALLED STORMTECH SC-310 CHAMBER SHALL BE 31.0 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH'S TYPICAL DETAILS (INCLUDES THE VOLUME OF CRUSHED ANGULAR STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 1.3 CUBIC FEET OF STORAGE/SQUARE FOOT OF BED.
- THE CHAMBER SHALL HAVE FORTY-EIGHT ORIFICES PENETRATING THE SIDEWALLS TO ALLOW FOR LATERAL CONVEYANCE OF WATER.

STORMTECH GENERAL NOTES

- STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND BEFORE THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 1-888-892-2694 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
- STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 18 INCHES INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES. MAXIMUM COVER IS 96 INCHES.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- ASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT 1-888-892-2694 OR VISIT WWW.STORMTECH.COM

AS BUILT

REGISTERED PROFESSIONAL ENGINEER
 Patrick A. Sisul
 May 18, 1993
 1/25/05