

DRAINAGE CONFORMANCE LETTER

FOR

METRONET – AURORA CO HUT

(#1854550)



16620 E. ALAMEDA PKWY
AURORA, CO 80017

INITIAL SUBMITTAL – MARCH 2025

CIVIL ENGINEER:



This Drainage Conformance Letter contains site grading, lot layouts, storm sewer, and inlet layouts, connections to adjacent conveyance systems and ponds, and other elements of drainage design for the site that cannot be evaluated by the City for approval without the detailed engineering analysis that will be submitted at a later time with Civil Plans. Approval of this Drainage Conformance Letter by the City does not imply approval for any aspect of grading or drainage design that may be shown herein or any variances from City drainage criteria.



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Appendices

- Appendix A: Vicinity Map
- Appendix B: 2004 Costin Engineering Plans
- Appendix C: 2005 Costin Pond Certification
- Appendix D: Drainage Map

Overview

This report serves as the Drainage Conformance Letter (DCL) for the proposed Metronet Fiber Hut at 16620 E. Alameda Parkway, Aurora, CO. The fiber hut is proposed on an undeveloped tract on an existing storage facility property.

The project includes the construction of a graveled and fenced fiber hut compound, driveway, and associated fiber hut infrastructure.

Other pertinent property information:

Parcel ID: 1975-17-1-19-002

City: Aurora

County: Arapahoe County

Electronic Drawing Number (EDN): 204090CP

Plat Page / Quarter Section: 09K

Section: 17

Township: 4 South

Subdivision: Alameda Buckley Subdivision Flg No 1;

Annexation Ordinance: 73-091

Zoned: I-1

TRS Number: 46617

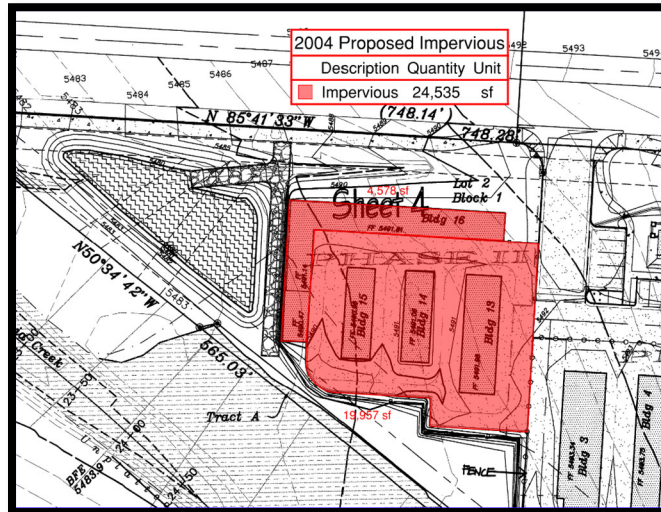
Lot 002, Block 001



The project is pursuing a DCL and acknowledges and accepts the timelines associated with the DCL process, including modified Civil Plan review timelines.

Detention and Water Quality Strategy

The proposed Metronet hut will be located on an undeveloped parcel within the Alameda Buckley Storage Subdivision, which was originally designed in 2004 by Costin Engineering Consultants. The 2004 plans included a future phase of storage facilities, specifically Buildings 13, 14, 15, and 16. However, these buildings were never constructed. Based on scaled measurements from the plans, approximately 24,500 square feet of impervious surface was anticipated in the original design. The detention pond was sized to accommodate this future impervious area. See the image below for the proposed impervious surfaces illustrated in red shade.



The proposed Metronet hut project will introduce less than 6,000 square feet of impervious surface, including gravel. This results in a reduction of approximately 18,500 square feet of impervious area draining into the detention pond compared to the original design. Due to this significant decrease in the impervious area, no modifications to the detention and water quality pond are proposed. See the image below for the proposed impervious surfaces in red and orange shades. The Drainage Map can be found in [Appendix D](#).



Existing Stormwater Network

The gravel and impervious portion of the Metronet site will drain south and into an existing pipe network to replicate the intent of the original design plans. According to the Final Drainage Study by Costin Engineering dated May 12, 2004, the A.3 drainage basin flowing south into the pipe network was sized for 0.63 acres. Based on scaled measurements from the plans, approximately 0.51 acres of impervious surface was anticipated in the original design. The 2025 proposed drainage area to this same pipe system is 0.51 acres with 0.14 acres of impervious surface consisting of shelter, driveway, and gravel. The remaining disturbance will be grassed. Therefore, from a land use and infiltration potential standpoint, the existing pipe network receives less flow than designed.

Surface runoff from the north end portion of the tract will continue to flow north and into the existing grass swale conveying flow to the existing detention basin.

During the Pre-Application Meeting on January 16, 2025, it was determined that maintenance access to the pond, drainage easements around the pond, and an Inspection & Maintenance (I&M) plan would be required. These items, along with other necessary documentation, are included in this report or accompanying plans.

The 2004 Costin Engineering plans and Pond Certification are on file with the city under Electronic Drawing Number (EDN) 204090CP and in Appendices B and C.

Appendix A

Vicinity Map



Vicinity Map

NTS

Appendix B

2004 Costin Engineering Plans

Construction Plans for
Alameda Buckley Storage Subdivision Filing No. 1

General Notes

2.02.5.01 City of Aurora plan review is only for general conformance with City of Aurora Design Criteria and the City Code. The City is not responsible for the accuracy and adequacy of the design, of dimensions, and elevations which shall be confirmed and correlated at the job site. The City of Aurora, through the approval of this document, assumes no responsibility for the completeness and/or accuracy of this document.

2.03.5.02 All roadway construction shall conform to City of Aurora "Roadway Design and Construction Specifications," latest revision.

2.03.5.03 All water distribution, sanitary sewer, and storm drainage construction shall conform to City of Aurora "Public Utility Improvements Rules and Regulations Regarding Standards and Specifications," latest revision.

2.03.5.04 All materials and workmanship shall be subject to inspection by the City. The City reserves the right to accept or reject any materials and workmanship that does not conform to the City standards and specifications.

2.03.5.05 The Contractor shall notify the City Public Improvement Inspections Division, 303-739-7350, 24 hours prior to the beginning of construction.

2.03.5.06 Location of existing utilities shall be verified by the Contractor prior to actual construction. For information, contact Utility Notification Center of Colorado, 1-800-922-1987.

2.03.5.07 The Contractor shall have one signed copy of the plans (approved by the City of Aurora), one copy of the appropriate standards and specifications at the job site at all times, and a copy of any permits and extension agreements needed at the job site at all times.

2.03.5.08 It is the Consultant's responsibility to accurately show existing conditions, both onsite, and off-site, on the construction plans. Any modifications needed due to conflicts, omissions, or changed conditions either on-site or off-site, that arise in the field, will be entirely the Developer's responsibility. The cost to rectify any adverse situation to meet the City standards and specifications and the City Code shall be borne solely by the Developer.

2.03.5.09 The owner/developer must obtain the written permission of the adjacent property owner(s) prior to any off-site grading or construction.

2.03.5.10 Concrete shall not be placed until the forms have been inspected and a pour slip issued. Pour slips will not be issued unless the Contractor has, at the job site, a copy of the approved plans bearing the signature of the City Engineer and with the "Approved for Curb and Gutter Only" block initialed by the City Engineer's representative.

2.03.5.11 Paving shall not start until a soil report and pavement design is approved by the City Engineer and subgrade compaction tests are taken and approved by the City Engineer.

2.03.5.12 Standard City of Aurora curb ramps are to be constructed at all curb returns, at all "T" intersections and at all curbside kiosks or clusters.

2.03.5.13 All stationing is based on centerline of roadways unless otherwise noted.

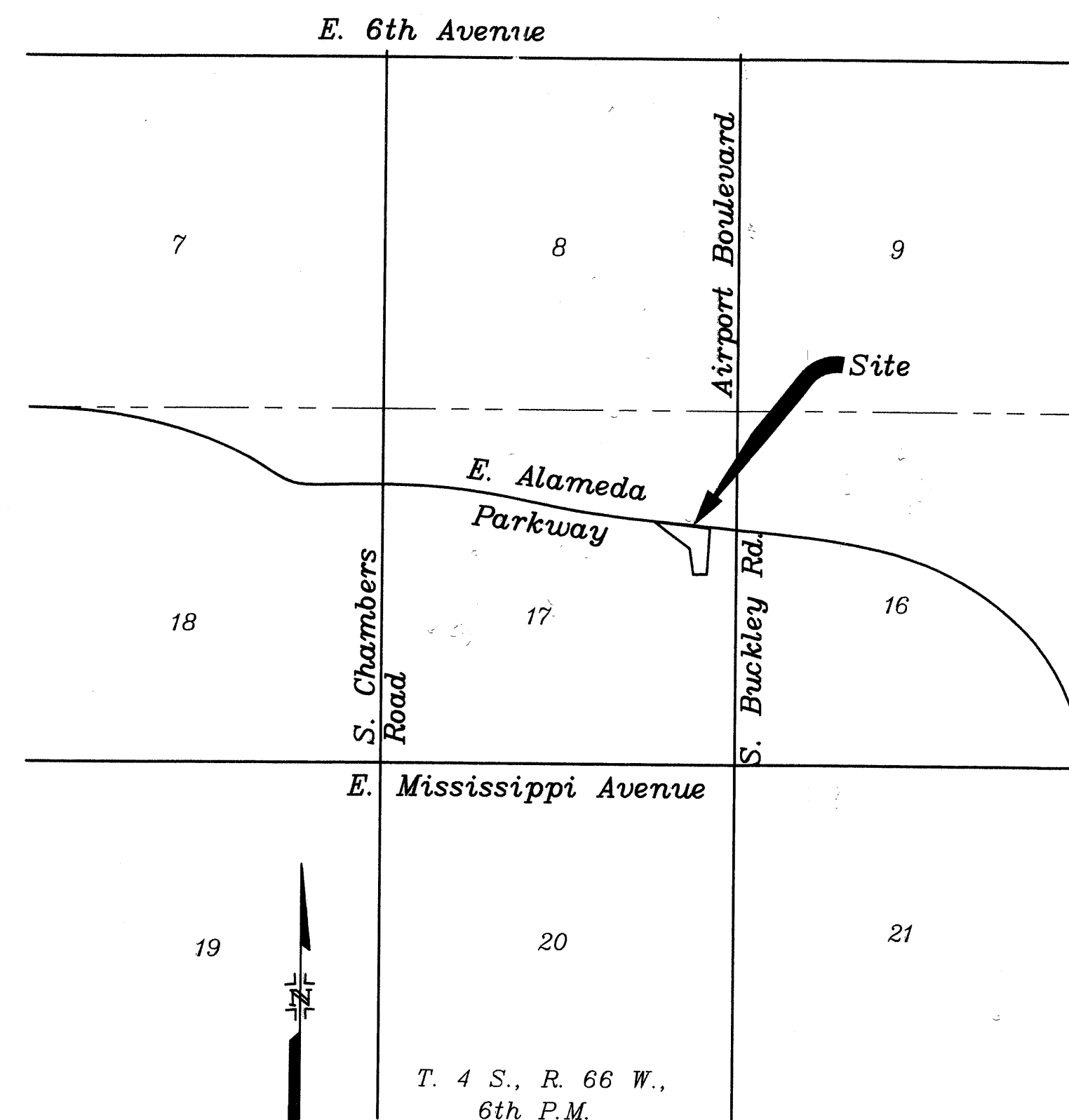
2.03.5.14 All elevations are top of curb unless otherwise noted.

2.03.5.15 The City of Aurora shall not be liable for the maintenance of the Alameda Buckley Subdivision Filing No. 1. These facilities may not meet City standards and are to remain in private maintenance in perpetuity.

2.03.5.16 The contractor/developer is responsible for contacting CDOT to ensure that all work on or adjacent to state highways or CDOT R.O.W. meets CDOT requirements.

Utility Notes

- ALL MATERIALS, WORKMANSHIP, CONSTRUCTION DETAILS, AND TESTING FOR THE WATER LINE CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS FOR WATER DISTRIBUTION LINES AS SET FORTH BY THE CITY OF AURORA, DEPARTMENT OF UTILITIES, LATEST REVISION.
- ALL FIRE HYDRANTS WILL BE LOCATED NOT LESS THAN THREE - SIX INCHES (3'-6") FEET AND NOT MORE THAN EIGHT (8) FEET FROM THE CURB TO THE CENTER OF THE HYDRANT AND BE UNOBSTRUCTED ON THE STREET SIDE. MINIMUM CLEARANCE ON ALL OTHER SIDES WILL BE FIVE (5) FEET.
- ALL FIRE HYDRANTS MUST BE GRADE STAKED IN THE FIELD WHENEVER CURB AND GUTTER HAS NOT BEEN INSTALLED.
- ALL UTILITY EASEMENTS MUST REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE EQUIPMENT.
- WATER MAIN RETRAINTS SHALL BE IN ACCORDANCE WITH THE CITY OF AURORA PUBLIC UTILITY IMPROVEMENTS RULES AND REGULATIONS STANDARDS AND SPECIFICATIONS, LATEST EDITION. MEGALUGS OR UNI-FLANGE MAY BE USED IN PLACE OF RODS AND CLAMPS.
- WATER LINE VALVES ARE NOT ALLOWED IN CROSS PANS.
- ALL WATER METERS, WATER SERVICE LINES AND SANITARY SEWER SERVICE LINES ARE NOT ALLOWED IN OR UNDER DRIVEWAYS. WATER METERS, WATER SERVICE LINE AND SEWER SERVICE LINES UNDER THE DRIVEWAY SHALL BE INSTALLED WITHIN A PVC SLEEVE.
- ALL SANITARY SEWER LINES SHALL BE TEES OFF OF MAINS. WYES SHALL BE USED FOR LOTS AT BACK OF CUL-DE-SACS.
- NO CONNECTIONS ALLOWED TO THE FIRE LINE BETWEEN THE GATE VALVE AT THE MAIN WATER LINE AND THE BACK FLOW PREVENTER (WITHIN THE BUILDING).
- WATER PRESSURE ZONE 3.0 PSI AT ELEVATIONS 5720 STATIC. A PRESSURE REDUCING VALVE (PRV) IS REQUIRED WHEN THE PRESSURE AT THE UNIT IS GREATER THAN 80 PSI.
- ADJUST ALL MANHOLES AND VALVE BOXES TO CITY OF AURORA STANDARDS AND SPECIFICATIONS, LATEST REVISION, AS NECESSARY.
- ALL FIRE LINES AND COMMERCIAL WATER SERVICE LINES WILL REQUIRE REDUCED PRESSURE BACK FLOW PREVENTER OR DOUBLE CHECK VALVES AS REQUIRED BY THE CITY OF AURORA UTILITY DEPARTMENT. CONTACT THE BUILDING DIVISION AT (303) 739-7420 TO SCHEDULE FLOW TESTS FOR PRIVATE FIRE LINES PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- THE CONTRACT SHALL CONTRACT THE C.O.A. WATERWATER CONTROL DIVISION AT (303) 326-8050 FOR INSPECTION OF ANY REQUIRED GREASE TRAPS OR SAND/OIL INTERCEPTORS TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.



1" = 2000'

Sheet Index

SHEET 1	COVER SHEET
SHEETS 2 - 5	DETAILED GRADING PLANS
SHEETS 6 - 8	EROSION CONTROL PLAN, NOTES AND DETAILS
SHEETS 9 - 11	STORM SEWER PLAN AND PROFILES
SHEET 12	OVERALL WATER & UTILITY PLAN
SHEET 13	SIGNAGE & STRIPING PLAN
SHEET 14-15	FINAL DRAINAGE PLAN

I HEREBY AFFIRM THAT THE CONSTRUCTION PLANS FOR ALAMEDA BUCKLEY STORAGE SUBDIVISION FILING NO.1 WERE PREPARED BY ME IN CONFORMANCE WITH THE REQUIREMENTS OF THE PUBLIC UTILITY IMPROVEMENTS RULES AND REGULATIONS REGARDING STANDARDS AND SPECIFICATIONS OF THE CITY OF AURORA.

WILLIAM E. MILLER, P.E. #13889
DATE 4/10/04

Approved for One Year From this Date
5-12-04

City Engineer 5-3-04
Date
Utilities Department 4-29-04
Date
Fire Department 4-26-04
Date
Director of Parks and Open Space 4-26-04
Date

BENCHMARK: AP-048 COA BC IN THE END OF CONC. HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA CREEK CULVER 1000' +- W OF BUCKLEY RD. RE. ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT. ELEVATION - 5480.459

24 HOURS BEFORE YOU DIG
CALL

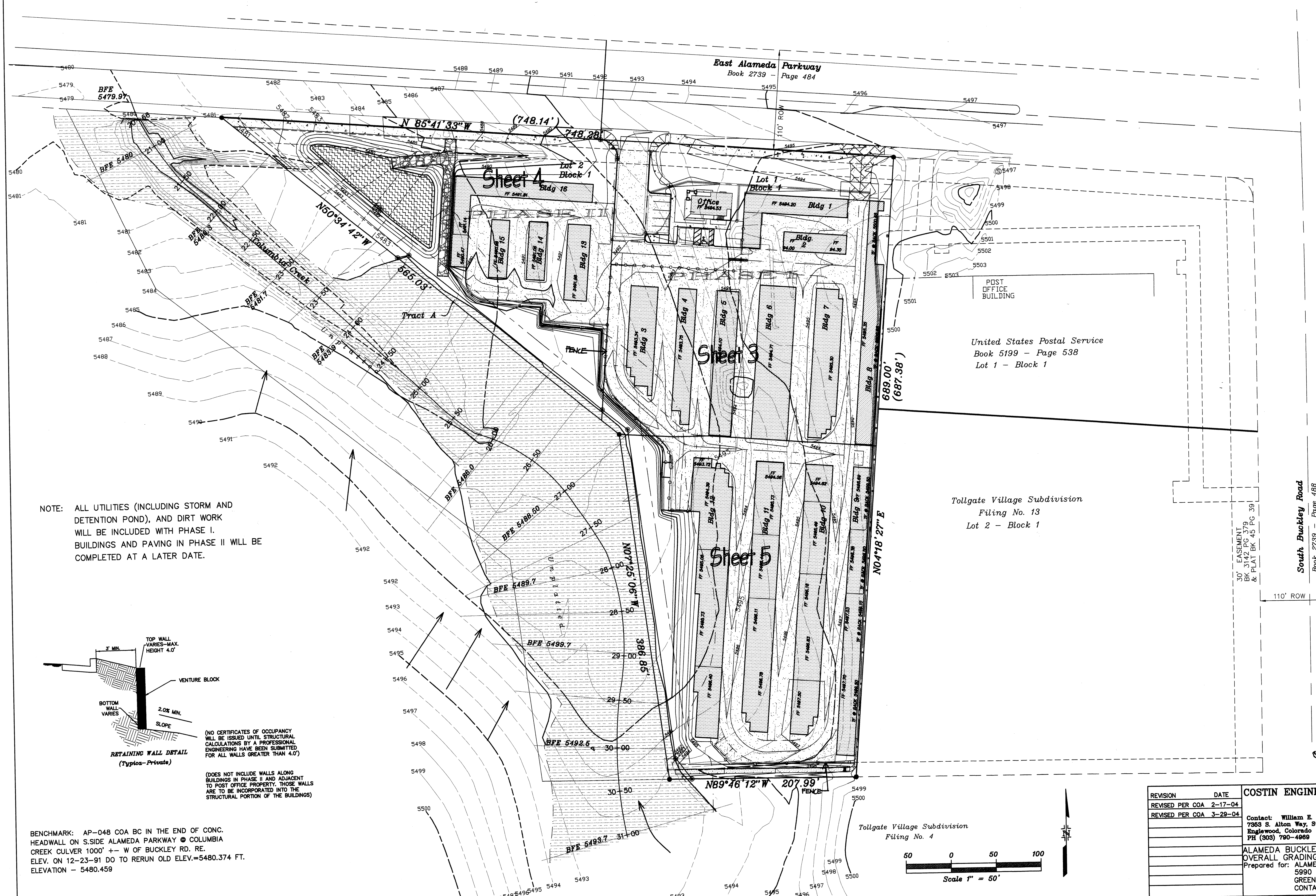
UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE
& CABLE T.V. LOCATIONS

REVISION	DATE	COSTIN ENGINEERING CONSULTANTS, INC.
REVISED PER COA	2-17-04	ENGINEERING LAND SURVEYING CONSTRUCTION MANAGEMENT
		Contact: William E. Miller 7353 S. Alton Way, Suite A115 Englewood, Colorado 80112 PH (303) 790-4989
		ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1 CONSTRUCTION DRAWINGS-COVER SHEET Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C. 5990 GREENWOOD PLAZA BLVD., SUITE 102 GREENWOOD VILLAGE, CO. 80111 CONTACT: THOMAS SATTLER
		DATE 12-12-2003 DES/DT/CHK WEM/MC PROJ. NO. 4190036A SHEET 1 OF 15

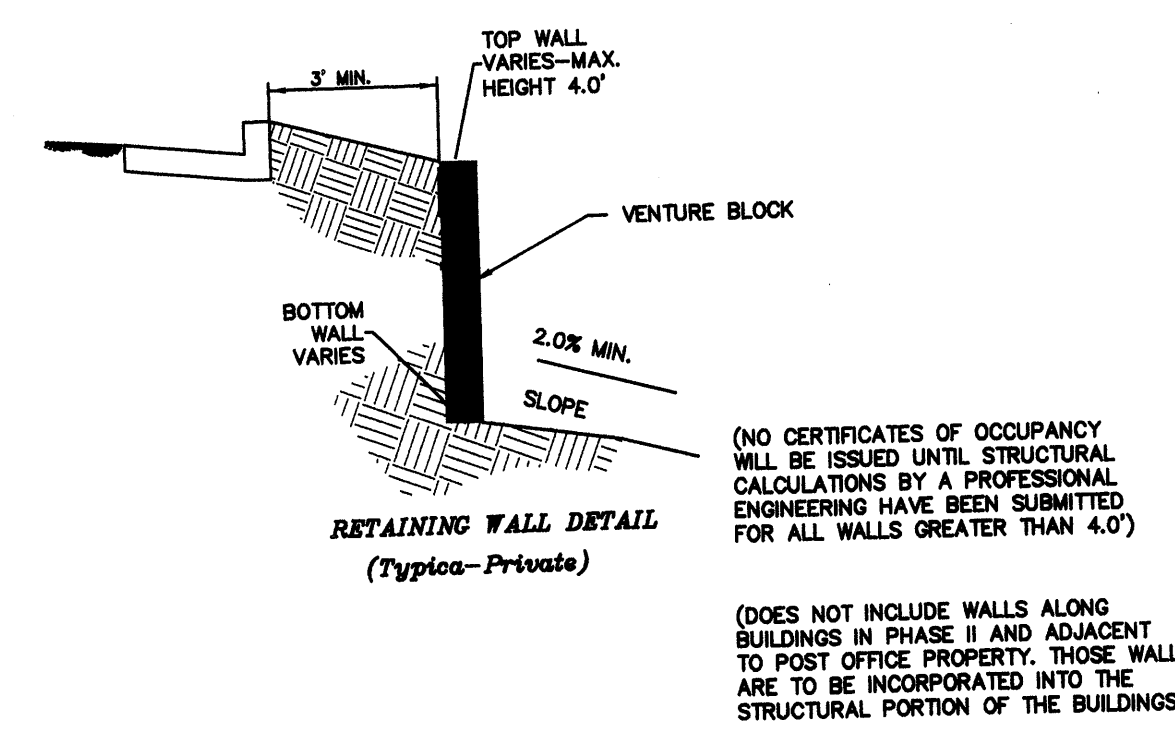
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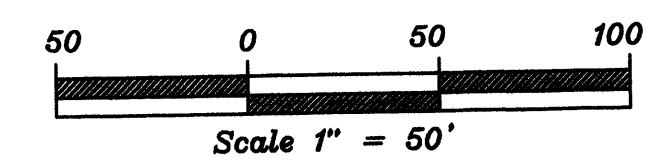
204090 2/15



NOTE: ALL UTILITIES (INCLUDING STORM AND DETENTION POND), AND DIRT WORK WILL BE INCLUDED WITH PHASE I. BUILDINGS AND PAVING IN PHASE II WILL BE COMPLETED AT A LATER DATE.



BENCHMARK: AP-048 COA BC IN THE END OF CONC. HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA CREEK CULVER 1000' +/- W OF BUCKLEY RD. RE. ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT. ELEVATION - 5480.459



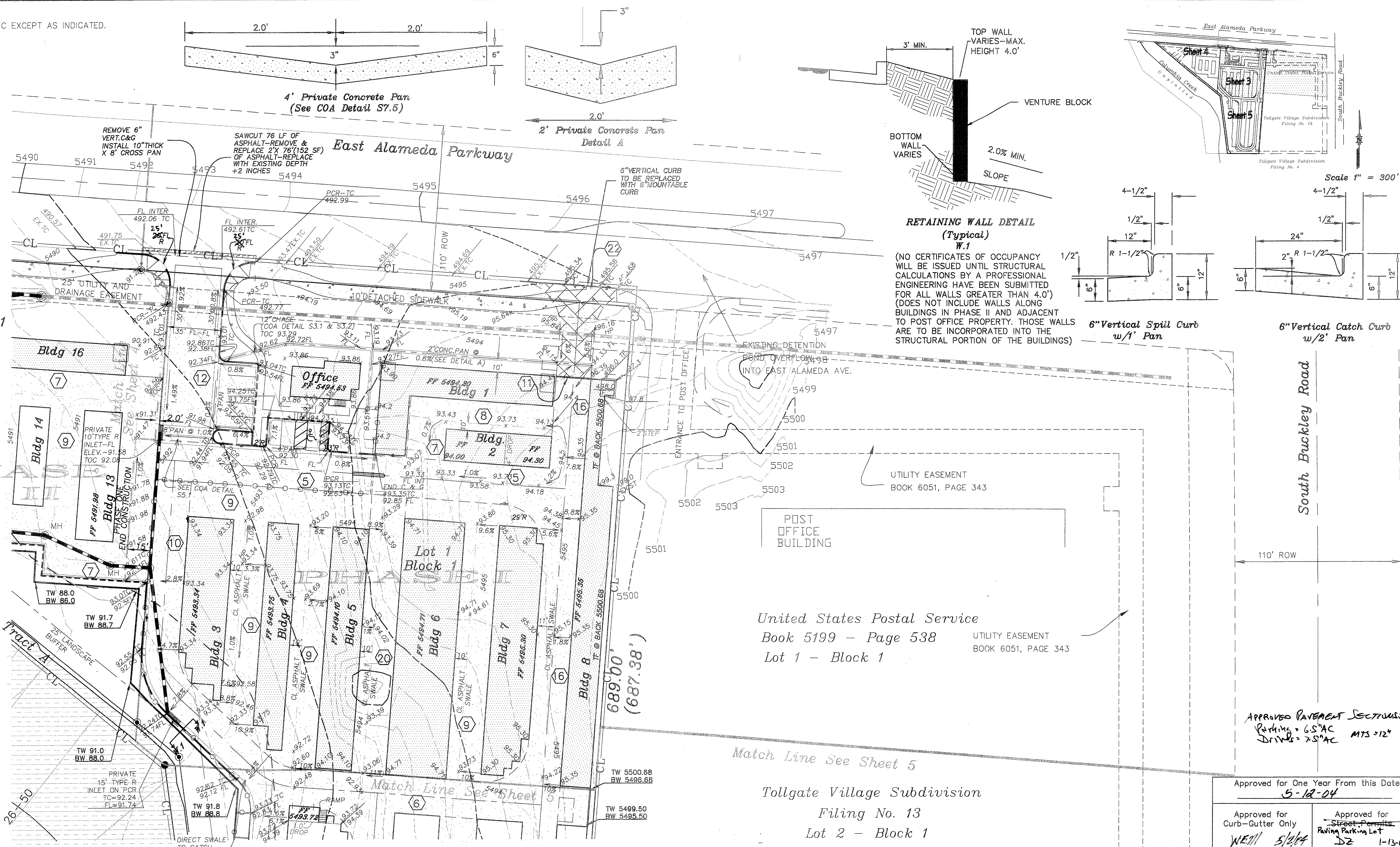
Approved for One Year From this Date
5-12-04
City Engineer

REVISION		DATE
REVISED PER COA		2-17-04
REVISED PER COA		3-29-04
COSTIN ENGINEERING CONSULTANTS, INC. ENGINEERING LAND SURVEYING CONSTRUCTION MANAGEMENT		
Contact: William E. Miller 7863 S. Alton Way, Suite A115 Englewood, Colorado 80112 PH (303) 790-4989		
ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1 OVERALL GRADING - KEY MAP Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C. 5990 GREENWOOD PLAZA BLVD., SUITE 102 GREENWOOD VILLAGE, CO. 80111 CONTACT: THOMAS SATTLER		
DATE		12-12-03
DES/CHK		WEM/MC
PROJ. NO.		4190040
SHEET		2 OF 13

204090 2/15

204090 3/15

Note:
ALL STORM PUBLIC EXCEPT AS INDICATED.



PHASE LINE

CL - CL LIMITS OF CONSTRUCTION

- 5 26' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- 6 25' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- 7 25' PRIVATE ACCESS
- 8 20' PRIVATE ACCESS
- 9 23' PRIVATE ACCESS
- 10 24' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT

- 11 25' EMERGENCY ACCESS WITH KNOX LOCK
- 12 36' PUBLIC ACCESS, EMERGENCY VEHICLE ACCESS, DRAINAGE AND UTILITY EASEMENT
- 16 23' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- 20 23' UTILITY EASEMENT AND PRIVATE ACCESS
- 22 EMERGENCY ACCESS - ASPHALT/CONCRETE AND SIDEWALK WILL SUPPORT FIRE APPARATUS UP TO 65000 LBS.
- TF TOP OF FOUNDATION
- FF FINISHED FLOOR
- TW TOP OF RETAINING WALL
- BW BOTTOM OF RETAINING WALL

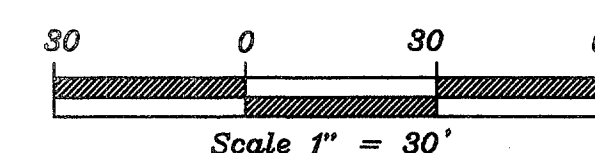
BFE = 100 YR. BASE FLOOD ELEVATION (HECRAS)

- WETLANDS DESIGNATION
- EXISTING 100yr. FLOODPLAIN DESIGNATION
- PROPOSED 100yr. FLOODPLAIN DESIGNATION
- CATCH CURB - 6" VERTICAL W/2' PAN
- SPILL CURB - 6" VERTICAL W/1' PAN

NOTE: ALL UTILITIES (INCLUDING STORM AND DETENTION POND), AND GRT WORK WILL BE CONSTRUCTED WITH PHASE I. BUILDINGS AND PAVING IN PHASE II WILL BE COMPLETED AT A LATER DATE.

BENCHMARK: AP-048 COA BC IN THE END OF CONC. HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA CREEK CULVER 1000' +/- W OF BUCKLEY RD. RE. ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT. ELEVATION = 5480.459

24 HOURS BEFORE YOU DIG
CALL
UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE
& CABLE T.V. LOCATIONS



REVISION	DATE	COSTIN ENGINEERING CONSULTANTS, INC.
REVISED PER COA	2-17-04	ENGINEERING
REVISED PER COA	3-29-04	LAND SURVEYING
		CONSTRUCTION MANAGEMENT
		Contact: William E. Miller 7363 S. Alton Way, Suite A115 Englewood, Colorado 80112 (303) 790-4969
		ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1
		DETAILED GRADING PLAN
		Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C. 5980 GREENWOOD PLAZA BLVD., SUITE 102 GREENWOOD VILLAGE, CO. 80111 CONTACT: THOMAS SATTLER
		DATE 12-12-03 DES/CHK WEM/MC PROJ. NO. 4190035 SHEET 3 OF 13

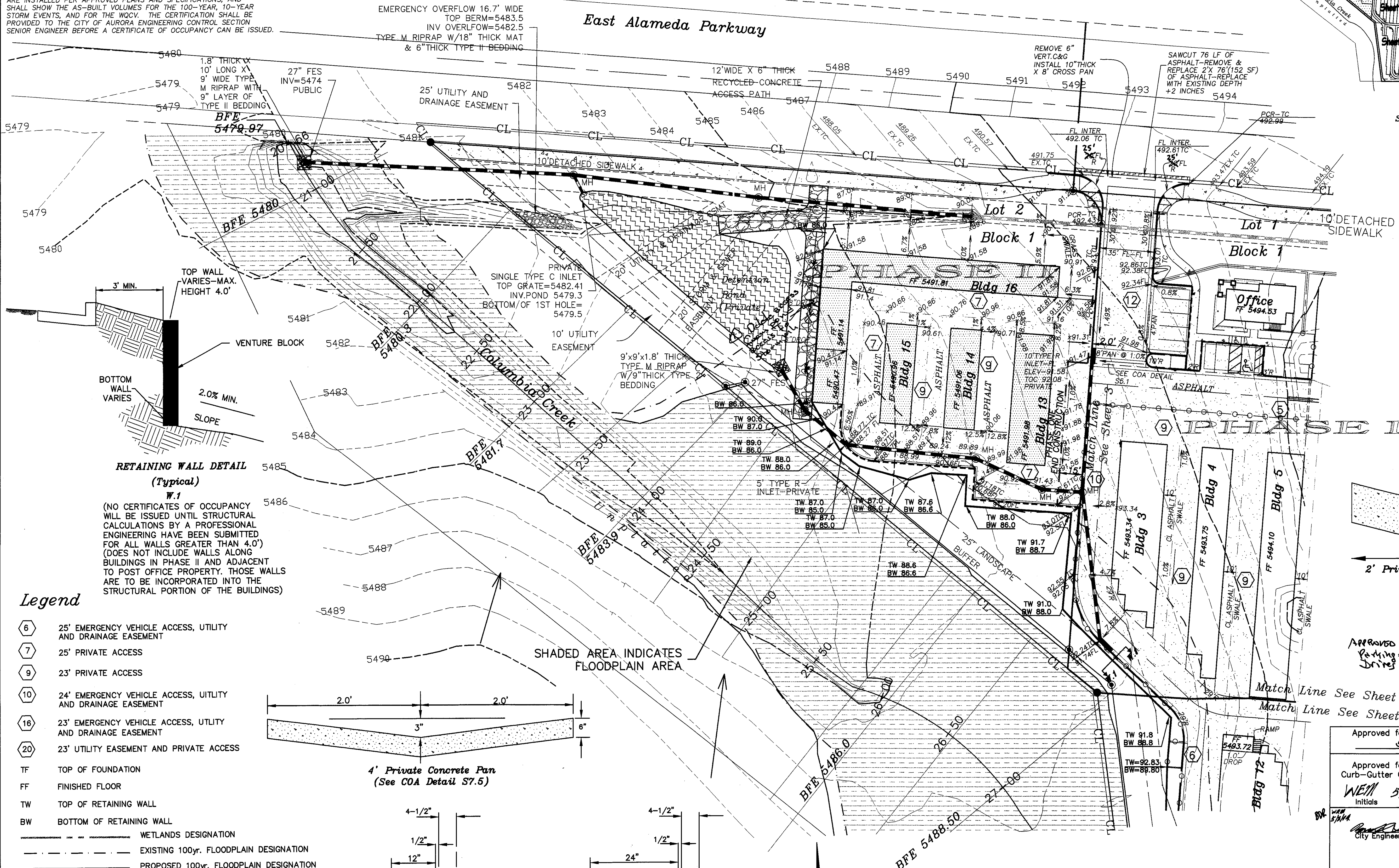
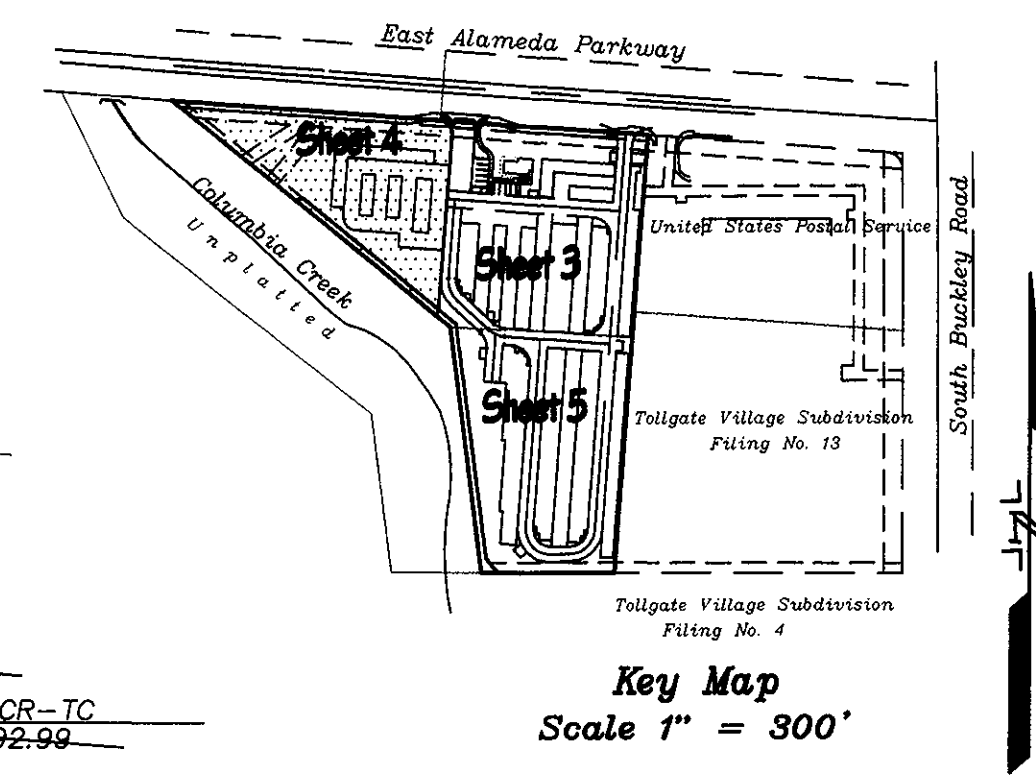
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204090 4/15
Rev.
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THE DEVELOPER SHALL HAVE A REGISTERED LAND SURVEYOR OR REGISTERED PROFESSIONAL ENGINEER CERTIFY THAT THE DETENTION POND IS BUILT ACCORDING TO THE APPROVED PLANS AND SPECIFICATIONS, AND THAT THE REQUIRED DETENTION VOLUME, INCLUDING THE WQCV WHEN USED, IS MET. THE CERTIFICATION SHALL ALSO VERIFY THAT ALL REQUIRED OUTLET ORIFICE PLATES FOR DETENTION AND WQCV AND OTHER PERMANENT BMP'S REQUIREMENTS ARE INSTALLED PER APPROVED PLANS AND SPECIFICATIONS, AND SHALL SHOW THE AS-BUILT VOLUMES FOR THE 100-YEAR, 10-YEAR STORM EVENTS, AND FOR THE WQCV. THE CERTIFICATION SHALL BE PROVIDED TO THE CITY OF AURORA ENGINEERING CONTROL SECTION SENIOR ENGINEER BEFORE A CERTIFICATE OF OCCUPANCY CAN BE ISSUED.

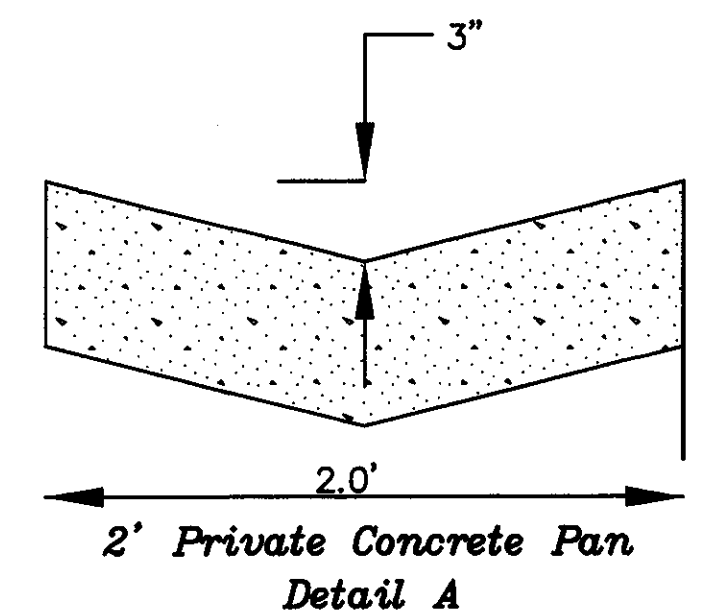
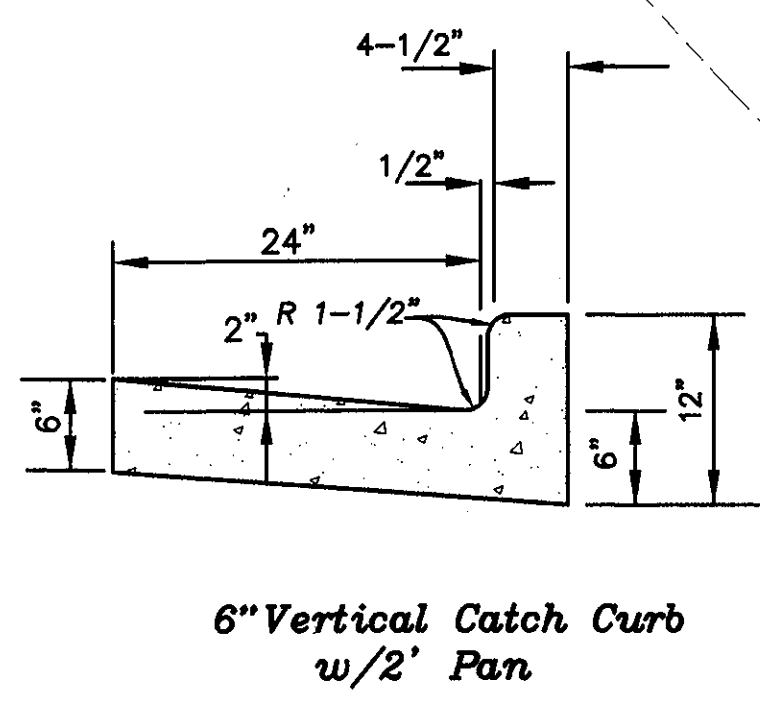
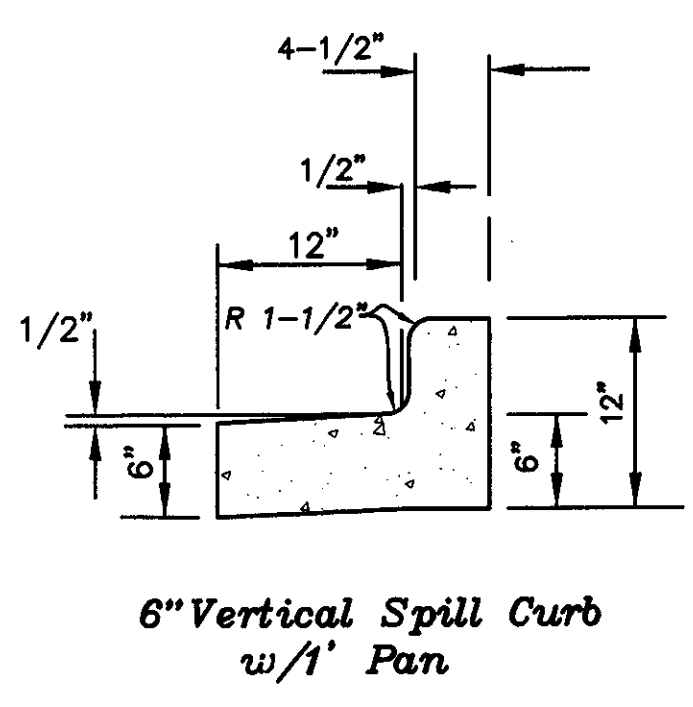
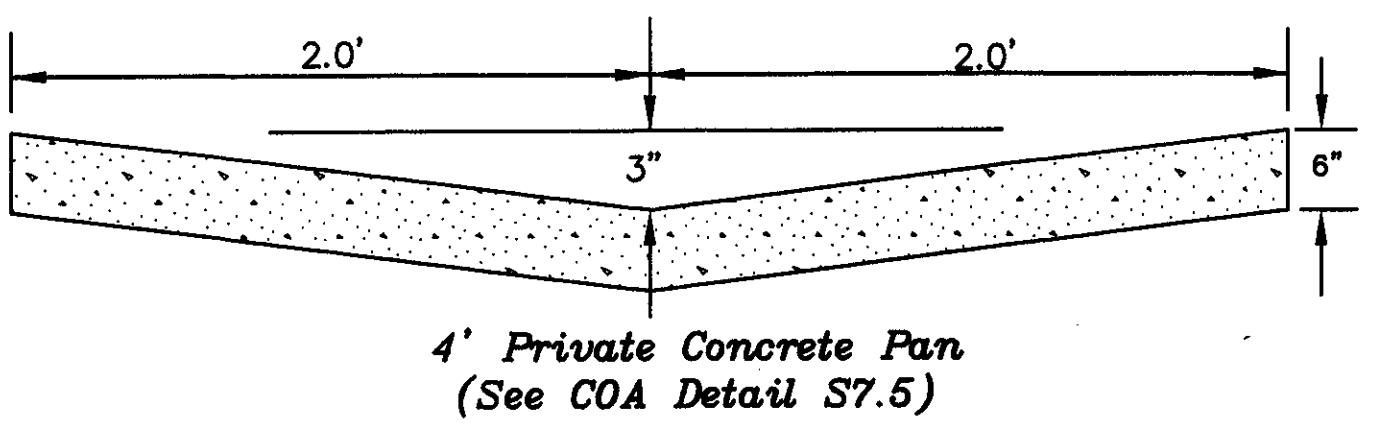
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Note:
ALL STORM IS PUBLIC EXCEPT AS INDICATED.



- Legend**
- 6 25' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
 - 7 25' PRIVATE ACCESS
 - 9 23' PRIVATE ACCESS
 - 10 24' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
 - 16 23' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
 - 20 23' UTILITY EASEMENT AND PRIVATE ACCESS
 - TF TOP OF FOUNDATION
 - FF FINISHED FLOOR
 - TW TOP OF RETAINING WALL
 - BW BOTTOM OF RETAINING WALL
 - WETLANDS DESIGNATION
 - EXISTING 100yr. FLOODPLAIN DESIGNATION
 - PROPOSED 100yr. FLOODPLAIN DESIGNATION
 - CL CL LIMITS OF CONSTRUCTION
 - PHASE LINE
 - BFE = 100 YR. BASE FLOOD ELEVATION (HECRAS)
 - CATCH CURB
 - SPILL CURB

RETAINING WALL DETAIL (Typical)
W.1
(NO CERTIFICATES OF OCCUPANCY WILL BE ISSUED UNTIL STRUCTURAL CALCULATIONS BY A PROFESSIONAL ENGINEERING HAVE BEEN SUBMITTED FOR ALL WALLS GREATER THAN 4.0') (DOES NOT INCLUDE WALLS ALONG BUILDINGS IN PHASE II AND ADJACENT TO POST OFFICE PROPERTY. THOSE WALLS ARE TO BE INCORPORATED INTO THE STRUCTURAL PORTION OF THE BUILDINGS)



APPROVED PAVEMENT SECTIONS:
Parking = 6.5' AC
Drives = 7.5' AC MTS-12'

BENCHMARK: AP-048 COA BC IN THE END OF CONC. HEADWALL ON S. SIDE ALAMEDA PARKWAY @ COLUMBIA CREEK CULVER 1000' +/- W OF BUCKLEY RD. RE. ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT. ELEVATION = 5480.459
24 HOURS BEFORE YOU DIG CALL
UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE & CABLE T.V. LOCATIONS

REVISION	DATE	COSTIN ENGINEERING CONSULTANTS, INC.
REVISED PER COA	2-17-04	ENGINEERING
REVISED PER COA	3-29-04	LAND SURVEYING
Access revision	7/26/05	CONSTRUCTION MANAGEMENT
Contact: William E. Miller 7963 S. Alton Way, Suite A115 Englewood, Colorado 80112 PH (303) 790-4969		
ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1 DETAILED GRADING PLAN Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C. 5990 GREENWOOD PLAZA BLVD., SUITE 102 GREENWOOD VILLAGE, CO. 80111 CONTACT: THOMAS SATTLER		
DATE 12-12-03 DES/CHK WEM/MC PROJ. NO. 4190035 SHEET 4 OF 1015		

204090 4/15

204090 5/15

Note:
ALL STORM IS PUBLIC EXCEPT AS INDICATED.

United States Postal Service
Book 5199 - Page 538
Lot 1 - Block 1

UTILITY EASEMENT
BOOK 6051, PAGE 343

TOP WALL
VARIES-MAX.
HEIGHT 4.0'

BOTTOM
WALL
VARIES

VENTURE BLOCK

2.0% MIN.
SLOPE

Scale 1" = 300'

Tollgate Village Subdivision
Filing No. 13

Lot 2 - Block 1

RETAINING WALL DETAIL

(Typical)
W.1

(NO CERTIFICATES OF OCCUPANCY
WILL BE ISSUED UNTIL STRUCTURAL
CALCULATIONS BY A PROFESSIONAL
ENGINEERING HAVE BEEN SUBMITTED
FOR ALL WALLS GREATER THAN 4.0')
(DOES NOT INCLUDE WALLS ALONG
BUILDINGS IN PHASE II AND ADJACENT
TO POST OFFICE PROPERTY. THOSE WALLS
ARE TO BE INCORPORATED INTO THE
STRUCTURAL PORTION OF THE BUILDINGS)

Legend

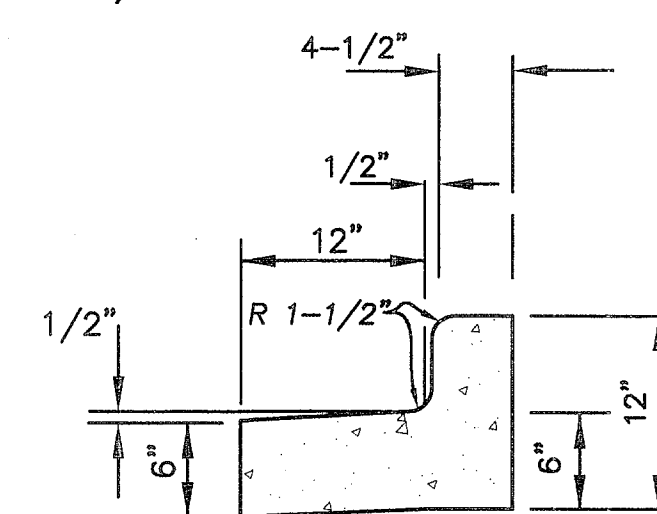
- ⑥ 25' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- ⑦ 25' PRIVATE ACCESS
- ⑨ 23' PRIVATE ACCESS
- ⑩ 24' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- ⑩ 23' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- ⑩ 23' UTILITY EASEMENT AND PRIVATE ACCESS
- TF TOP OF FOUNDATION
- FF FINISHED FLOOR
- TW TOP OF RETAINING WALL
- BW BOTTOM OF RETAINING WALL

CL CL LIMITS OF CONSTRUCTION
WETLANDS DESIGNATION
EXISTING 100yr. FLOODPLAIN DESIGNATION
PROPOSED 100yr. FLOODPLAIN DESIGNATION

BFE = 100 YR. BASE FLOOD ELEVATION (HECRAS)

CATCH CURB-6" VERTICAL W/2' PAN
SPILL CURB-6" VERTICAL W/1' PAN

6" Vertical Catch Curb
w/2' Pan



6" Vertical Spill Curb
w/1' Pan



APPROVED PAVEMENT SECTIONS:
Parking - 6.5' AC
Drives - 7.5' AC

Approved For Paving
Parking Lot
JZ 1-13-05
Initials Date

Approved for One Year From this Date
5-12-04

City Engineer
In for Jack Cooper 4-26-04
Director of Parks and Open Space Dept

Scale 1" = 30'

REVISION	DATE	COSTIN ENGINEERING CONSULTANTS, INC.
REVISED PER COA	2-17-04	ENGINEERING
REVISED PER COA	3-29-04	LAND SURVEYING
		CONSTRUCTION MANAGEMENT
		Contact: William E. Miller
		7353 S. Alton Way, Suite A115
		Englewood, Colorado 80112
		PH (303) 790-4889
		ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1
		DETAILED GRADING PLAN
		Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C.
		5990 GREENWOOD PLAZA BLVD., SUITE 102
		GREENWOOD VILLAGE, CO. 80111
		CONTACT: THOMAS SATTler
		DATE 12-12-03
		DES/CHK WEM/MC
		PROJ. NO. 4190035
		SHEET 5 OF 15

204090 5/15

Erosion and Sediment Control Notes

"Pursuant to Sections 138-440 and 138-442 of the Aurora Municipal Code, the Contractor shall locate, install, and maintain all erosion control and water quality BMPs as indicated in the approved Erosion and Sediment Control Plan. The following notes are a requirement and shall be included on the construction drawings and plans developed for this project submitted for approval by the City."

The following are the required notes:

- 1) This Erosion and Sediment Control Plan has been placed in the City's file for this project and appears to fulfill the City of Aurora erosion control criteria and requirements. I understand that additional erosion control measures may be required of the owner due to unforeseen erosion problems or if the submitted plan does not function as intended. If unforeseen erosion problems occur or if this plan does not function as intended, the City Erosion Control Inspector may require modifications, additions, or repairs at the time of inspection.
- 2) These requirements shall be the obligation of the Owner, Site Developer, Contractor, and/or their authorized agents, until such time as the plan is certified as properly completed, or until such time as otherwise allowed by the City to be voided, modified, or replaced.
- 3) This plan shall be kept on site at all times.
- 4) Any discrepancy between this plan and an approved Stormwater Management Plan for this site shall require compliance with the more restrictive plan.
- 5) The Owner, Site Developer, Contractor and/or their authorized agents shall remove all sediment, mud, and construction debris that may accumulate in the flow lines, private property, and public rights of way of the City as a result of this construction project. Removal shall be conducted within 48 hours.
- 6) The Owner, Site Developer, Contractor, and/or their authorized agents shall prevent sediment, debris, and all other pollutants from entering the adjacent waterways, wetlands, Erosion and Sediment Control Associated 45-15 1/02
- 7) Rough-cut streets shall be surface roughened and mulched or rough-cut street control implemented within seven days completion of overlot grading. If paving is to occur within 14 days after final grading rough cut street control shall be waived.
- 8) The Owner, Site Developer, Contractor, and/or their authorized agents shall prevent loss of cut and fill material being transported to and from the site by taking appropriate measures. All mud and sediment tracked onto public streets shall be cleaned.
- 9) Approved erosion and sediment control "Best Management Practices" shall be maintained and fully functional for the entire duration of this project.
- 10) Inspection and maintenance of erosion and sediment control measures are the continuous obligations of the Owner, Site Developer, Contractor, and/or their authorized agents. BMPs shall be inspected weekly and after every precipitation event. All necessary maintenance and repair shall be completed within 48 hours unless otherwise agreed. The inspection reports shall be made available to the City upon request.
- 11) If stockpiles are located within 100 feet of a drainage way, additional sediment controls such as temporary diversion dikes or silt fence shall be required.
- 12) All downstream erosion/sediment control facilities must be in place prior to commencement of grading operations or any other site disturbances.
- 13) All water quality ponds must be overexcavated around the permanent outlet structures. This overexcavation will allow for retention of sediment and prevent large unprotected flows from exiting the structure.
- 14) Vehicle Traffic Control (VTC) shall consist of angular rock material (2-4 inches in diameter) at a depth of not less than 6 inches at all ingress and egress points.
- 15) For all porous landscape detention facilities, in order to prevent clogging of filter medium, installation of the filtration system must be delayed until after the site is fully landscaped. Erosion and Sediment Control Associated 45-16 1/02
- 16) All material imported to or exported from the site shall be properly covered to prevent the loss of material during transport. Haul route must be pre-approved by the City. No material shall be transported to another site in the city without first obtaining a permit from the City.
- 17) Fugitive dust emissions resulting from grading activities and/or wind shall be controlled using reasonably available control technology as defined by the Colorado Department of Public Health and Environment.
- 18) Final or temporary soil stabilization measures shall be applied: (1) to disturbed areas and stockpiles within 14 days after final grade is reached, (2) within 14 days to disturbed areas which may not be at final grade but will remain dormant for longer than 30 days, and (3) within 14 days of stockpile construction on any stockpile which will remain dormant for longer than 30 days.
- 19) Final soil stabilization shall be the final ground cover defined by the site plan or associated documents. Temporary soil stabilization shall include grasses from seed and mulching as described below:
The seedbed shall be well settled and firm, but friable enough that seed can be placed at the seeding depth specified. The seedbed shall be reasonably free of weeds. Soils that have been over-compacted by traffic or equipment, especially when wet, shall be tilled to breakup rooting restrictive layers and then harrowed, rolled or packed to prepare the required firm seedbed. Mulch shall be applied at a rate of 2 1/2 tons per acre and shall be attached by an approved method suitable for the type of mulch used. Mulch shall be spread uniformly, in a continuous blanket, after seeding is complete. Mulch shall be clean, weed and seed free, long stemmed grass or hay, or long stemmed straw of oats, wheat or rye. At least 50% of mulch, by weight, shall be ten inches or longer. Mulch shall be spread by hand or blower-type mulch spreader. Mulching shall be started on the windward side of relatively flat areas or on the upper part of a steep slope and continued uniformly until the area is covered. The mulch shall not be bunched. Immediately following spreading, the mulch shall be anchored to the soil by a v-type wheel land packer or a scalloped-disk land packer designed to force mulch into the soil surface a minimum of 3 inches. All seeded areas shall be mulched after seeding on the same day as the seeding.
Erosion and Sediment Control Associated 45-17 1/02

Minimum Drill Seeding Rates for Annual Grasses

Species (Common Name)	Growth Season	Pounds of Pure Live Seed (PLS)/acre	Planting Depth (inches)
1. Oats	Cool	35-50	1-2
2. Spring Wheat	Cool	25-35	1-2
3. Spring Barley	Cool	25-35	1-2
4. Annual ryegrass	Cool	10-15	1/2
5. Millet	Warm	3-15	1/2-3/4
6. Sudangrass	Warm	5-10	1/2-3/4
7. Sorghum	Warm	5-10	1/2-3/4
8. Winter Wheat	Cool	20-35	1-2
9. Winter Barley	Cool	20-35	1-2
10. Winter Rye	Cool	20-35	1-2
11. Triticale Cool	Cool	25-40	1-2

Minimum Drill Seeding Rates for Perennial Grasses Alkali Soil Seed Mix

Common Name	Botanical Name	Growth Season	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Alkali sacaton	Sporobolus airoides	Cool	Bunch	1,750,000	.25
Basin wildrye	Elymus cinereus	Cool	Bunch	165,000	2.5
Sodar streambank wheatgrass	Agropyron repens	Cool	Sod	170,000	2.5
Jose tall wheatgrass	Agropyron elongatum	Cool	Bunch	79,000	7.0
Arriba western wheatgrass	Agropyron smithii	Cool	Sod	110,000	5.5
Total					17.75

Fertile Loamy Soil Seed Mix

Ephriam crested wheatgrass	Agropyron cristatum	Cool	Sod	175,000	2.0
Dural hard fescue	Festuca ovina "duriuscula"	Cool	Bunch	565,000	1.0
Lincoln smooth brome	Bromus inermis leys "Lincoln"	Cool	Sod	130,000	3.0
Sodar Streambank Wheatgrass	Agropyron repens	Cool	Sod	170,000	2.5
Arriba western wheatgrass	Agropyron smithii "Arriba"	Cool	Sod	110,000	7.0
Total					15.5

High Water Table Seed Mix

Meadow foxtail	Alopecurus pratensis	Cool	Sod	900,000	.05
Redtop	Agrostis alba	Warm	Open sod	5,000,000	.25
Reed canary grass	Phalaris arundinacea	Cool	Sod	68,000	.5
Lincoln smooth brome	Bromus inermis leys "Lincoln"	Cool	Sod	130,000	3.0
Pathfinder switchgrass	Panicum virgatum "Pathfinder"	Warm	Sod	389,000	1.0
Alkar tall wheatgrass	Agropyron elongatum "Alkar"	Cool	Bunch	79,000	5.5
Total					10.75

Sandy Soil Seed Mix

Blue grama	Bouteloua gracilis	Warm	Sod-forming bunchgrass	825,000	.5
Camper little bluestem	Schizachyrium scoparium	Warm	Bunch	240,000	1.0
Prairie sandy	Calamovilfa longifolia	Warm	Open sod	274,000	1.0
Sand dropseed	Sporobolus cryptandrus	Cool	Bunch	5,298,000	.25
Vaughn sideoats gramma	Bouteloua curtipendula	Warm	Sod	191,000	2.0
Arriba western Wheatgrass	Agropyron smithii "Arriba"	Cool	Sod	100,000	5.5
Total					10.25

Heavy Clay, Rocky Foothill Seed Mix

Ephriam crested wheatgrass	Agropyron cristatum "Ephriam"	Cool	Sod	175,000	1.5
Oahe Intermediate wheatgrass	Agropyron intermedium "Oahe"	Cool	Sod	115,000	5.5
Vaughn sideoats grammae	Bouteloua curtipendula	Warm	Sod	191,000	2.0
Lincoln smooth brome	Bromus inermis leys "Lincoln"	Cool	Sod	130,000	3.0
Arriba western wheatgrass	Agropyron smithii "Arriba"	Cool	Sod	110,000	5.5
Total					17.5

Seeding Dates for Annual & Perennial Grasses

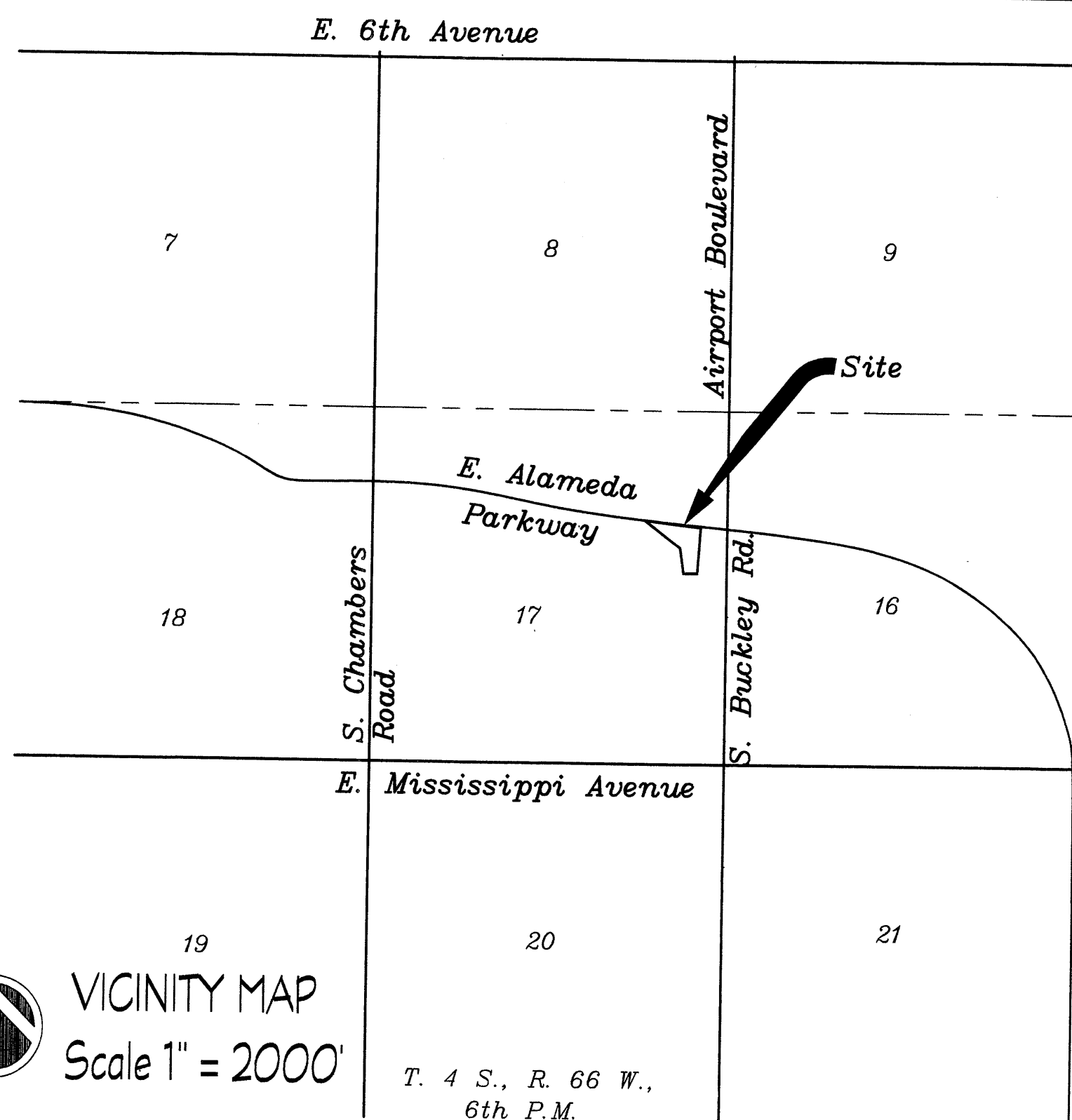
Seeding Dates	Annual Grasses	Perennial Grasses
January 1-March 15	Warm Cool	Warm Cool
March 16-April 30		
May 1-May 15	4 1, 2, 3	
May 16-June 30	4	
July 1-July 15	4, 5, 6, 7	
July 16-August 31	5, 6, 7	
September 1-September 30		
October 1-December 31	8, 9, 10, 11	

Number codes for annual species refer to specific seeding periods for: (1) oats; (2) Spring wheat; (3) spring barley; (4) annual ryegrass; (5) millet; (6) sudangrass; (7) sorghum; (8) winter wheat; (9) winter barley; (10) winter rye; and (11) triticale.
Erosion and Sediment Control Associated 45-21 1/02
with Construction Activities

To provide temporary erosion control between the seeding dates specified, utilize surface roughening (on the contour or perpendicular to prevailing winds) and apply a mulch. The seeding dates for perennial species are generally in the spring from March through early May, and in the fall after mid-October until snow cover precludes planting. Fall seeding is referred to as "dormant seeding" because the seeds will lie dormant through the winter and germinate in the spring.
Perennial grasses can be seeded using a drill seeder in areas previously planted with temporary grass cover. In this case, the annual grass may need to be moved for the drill to operate. Broadcast seeding or hydro seeding of permanent grasses should not be done with a live crop of annual grasses without first reworking and preparing the topsoil.

20) Accumulated sediment and debris shall be removed from a BMP when the sediment level reaches one-half the height of the BMP or at anytime that sediment or debris adversely impacts the functioning of the BMP.
21) The discharge of water containing waste cement to adjacent waterways, wetlands, other properties, etc., is prohibited. The cleaning of cement truck delivery chutes, except in designated concrete washout areas, is prohibited at the job site.
22) The discharge of any water contaminated by waste products from cutting operations to adjacent waterways, wetlands, other properties, etc., is prohibited. The Owner, Site Developer, Contractor, and/or their authorized agents shall protect all adjacent waterways, wetlands, other properties, etc., adjacent to any location where pavement cutting operations involving wheel cutting, saw cutting or abrasive water jet cutting are to take place. The Owner, Site Developer, Contractor, and/or their authorized agents shall remove and properly dispose of all waste products generated by said cutting operations on a daily basis.
23) It shall be the responsibility of the Owner, Site Developer, Contractor, and/or their authorized agents to resolve construction problems due to changed conditions or design errors encountered by the Contractor during the progress of any portion of the work. If, in the opinion of the City's Erosion Control Inspector, the proposed modifications to the approved plans involve significant changes to the character of the work or to future contiguous public or private improvements, the Developer shall be responsible to revise plans and submit them to the City of Aurora for approval prior to any further construction related to that portion of Erosion and Sediment Control Associated 45-22 1/02

with Construction Activities
the work. Any improvements not constructed in accordance with the approved plans, or the approved revised plans, shall be removed and the improvements shall be reconstructed.
24) The Contractor shall notify the City Erosion Control Inspector upon installation of sediment and erosion control measures and 24 hours prior to starting grading or excavation work. The City Erosion Control Inspector may be reached at (303) 739-7498.
25) Erosion and sediment control measures shall be in place and inspected by the City prior to grading or excavation activities. Additional erosion and sediment control measures may be required during and after construction and shall be installed within five days of notification by the City. The Owner, Site Developer, Contractor, and/or their authorized agents shall plan, install, and maintain all erosion control measures as indicated on this plan and as necessary to prevent sediment deposition off-site.
26) The owner/contractor must obtain N.P.D.E.S. Storm Water Discharge Permit from Colorado Department of Health if required.
27) Absolutely no grading or construction activity in Wetlands areas except in designated Mitigated areas as identified in the 404 permit.



VICINITY MAP
Scale 1" = 2000'

T. 4 S., R. 66 W.,
6th P.M.

Project Owner / Developer Signature Block

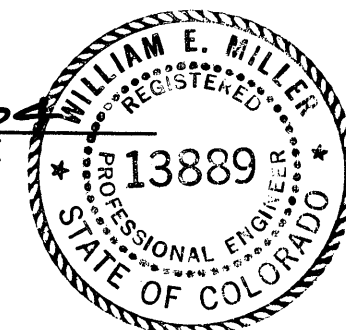
I HAVE REVIEWED THE INFORMATION CONTAINED WITHIN THE EROSION AND SEDIMENT CONTROL PLAN AND ACCEPT RESPONSIBILITY FOR THE REQUIREMENTS SET FORTH.

Thomas Sattler 4-27-04
PROJECT OWNER/DEVELOPER DATE

Plan Preparer Signature Block

I ACKNOWLEDGE MY RESPONSIBILITY FOR THE PREPARATION OF THE EROSION AND SEDIMENT CONTROL PLAN.

William E. Miller 4/27/04
PROFESSIONAL ENGINEER DATE



48 HOURS BEFORE YOU DIG
CALL

UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE
& CABLE T.V. LOCATIONS

Approved for One Year From this Date
5-12-04

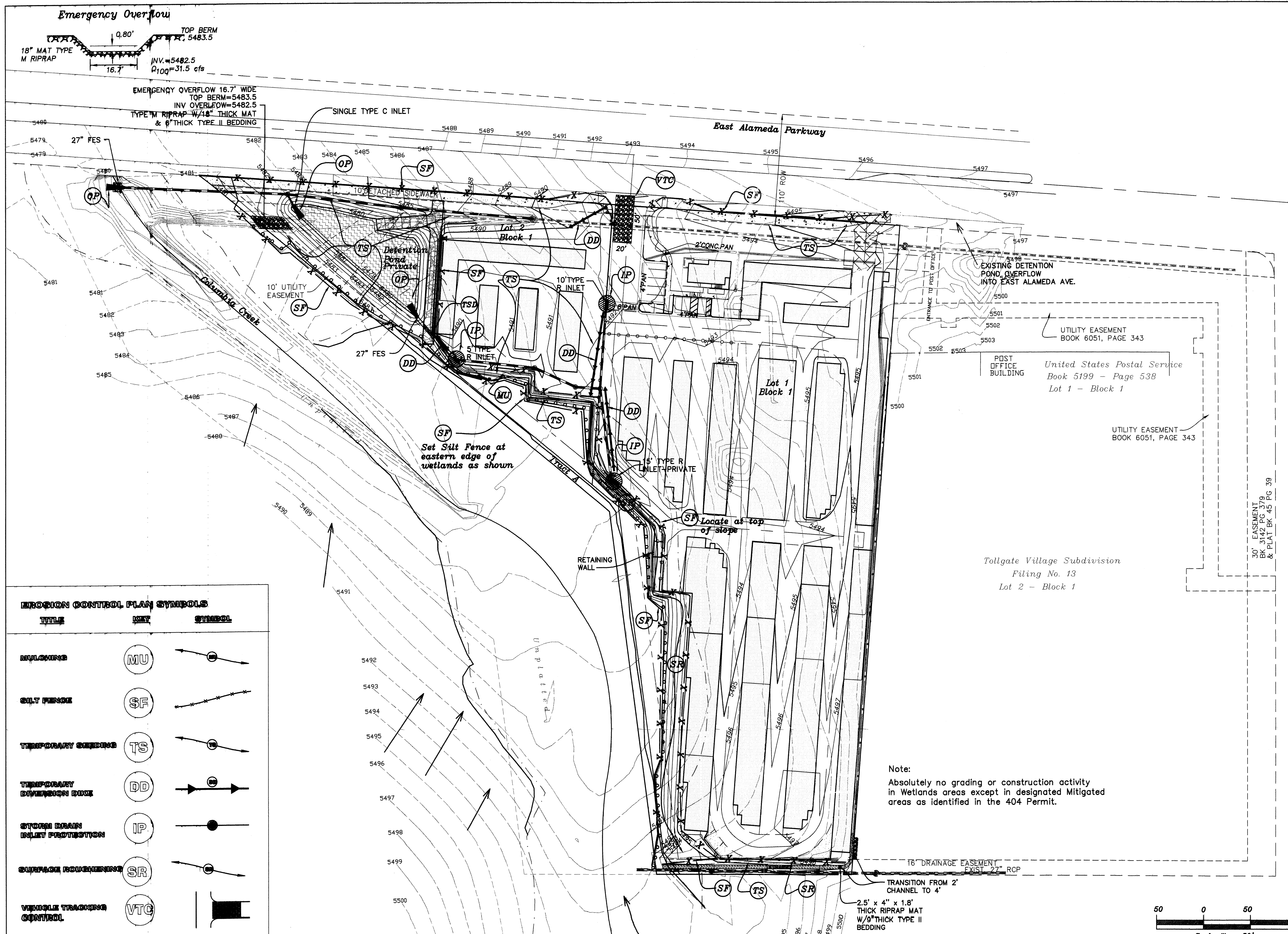
Thomas Sattler 5-3-04
City Engineer Date
Thomas Sattler 4-29-04
Utilities Department Date

REVISION	DATE	COSTIN ENGINEERING CONSULTANTS, INC. ENGINEERING LAND SURVEYING CONSTRUCTION MANAGEMENT Contact: William E. Miller 7953 S. Alton Way, Suite A115 Englewood, Colorado 80112 PH (303) 790-4959 ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1 EROSION CONTROL PLAN - NOTES Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C. 5990 GREENWOOD PLAZA BLVD., SUITE 102 GREENWOOD VILLAGE, CO. 80111 CONTACT: THOMAS SATTLER
REVISED PER COA	2-17-04	
BENCHMARK: AP-048 COA BC IN THE END OF CONC. HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA CREEK CULVER 1000' +/- W OF BUCKLEY RD. RE. ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT. ELEVATION - 5480.459		DATE 12-12-03 DES/DT/CHK WEM/MC PROJ. NO. 4190049 SHEET 6 OF 15

204090 4/15

C:\MIDLEVEL\419\CONSTRUCTION\2-03\419EROSION-SIT.dwg Thu Feb 19 12:19:52 2004

204090 7/15



EROSION CONTROL PLAN SYMBOLS

TITLE	KEY	SYMBOL
WETLANDS	MU	
SILT FENCE	SF	
TEMPORARY SEEDING	TS	
TEMPORARY DIVERSION DITCH	DD	
STORM DRAIN INLET PROTECTION	IP	
SURFACE ROUGHENING	SR	
VEHICLE TRACKING CONTROL	VTC	
OUTLET PROTECTION	OP	
TEMPORARY SLOPE DRAIN	TSD	

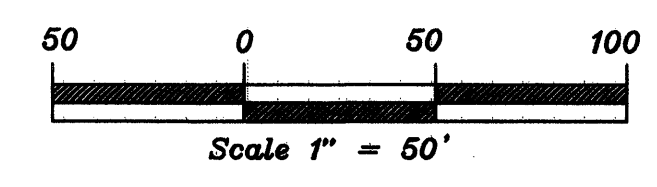
Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: ECSymbols.dwg

Figure C-1
Erosion Control Plan Symbols

Legend

- WETLANDS DESIGNATION
- EXISTING 100yr. FLOODPLAIN DESIGNATION
- PROPOSED 100yr. FLOODPLAIN DESIGNATION
- WETLANDS AREA TO BE MITIGATED
- ORANGE CONSTRUCTION FENCING

Note:
Absolutely no grading or construction activity in Wetlands areas except in designated Mitigated areas as identified in the 404 Permit.



Approved for One Year From this Date
5-12-04
City Engineer
Utility Department
Date 4-29-04

BENCHMARK: AP-048 COA BC IN THE END OF CONC. HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA CREEK CULVER 1000' +/- W OF BUCKLEY RD. RE. ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT. ELEVATION - 5480.459

24 HOURS BEFORE YOU DIG CALL
UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE & CABLE T.V. LOCATIONS

REVISION	DATE
REVISED PER COA	2-17-04

COSTIN ENGINEERING CONSULTANTS, INC.
ENGINEERING
LAND SURVEYING
CONSTRUCTION MANAGEMENT

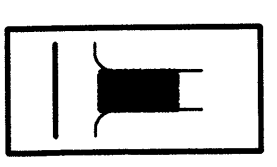
Contact: William E. Miller
7363 S. Alton Way, Suite A115
Englewood, Colorado 80112
PH (303) 790-4989

ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1
EROSION CONTROL PLAN
Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C.
5990 GREENWOOD PLAZA BLVD., SUITE 102
GREENWOOD VILLAGE, CO. 80111
CONTACT: THOMAS SATTLER

DATE 12-23-03
DES/DT/CHK WEM/MC
PROJ. NO. 4190049
SHEET 7 OF 15

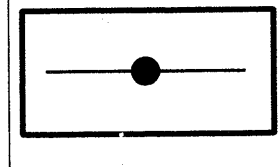
204090 7/15

8/15 204090



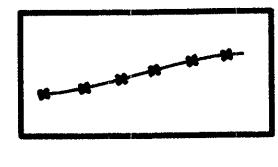
VEHICLE TRACKING CONTROL

Figure C-8
Temporary Vehicle Tracking Control




CURB INLET GRAVEL FILTER

Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: IP.dwg



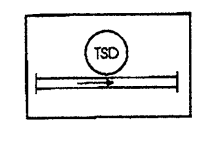
SILT FENCE EROSION BARRIER

Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: SF.dwg



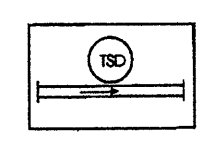
OUTLET PROTECTION

From: Urban Drainage and Flood Control District, 1969



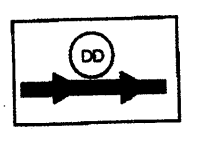
TEMPORARY SLOPE DRAIN

From: Virginia Soil and Water Conservation Commission, 1985



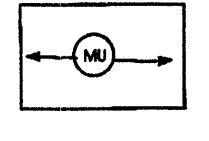
TEMPORARY SLOPE DRAINS

From: Colorado Department of Highways, 1978



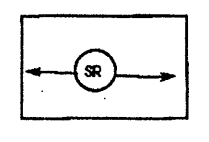
TEMPORARY DIVERSION DIKE

From: Virginia Soil and Water Conservation Commission, 1985



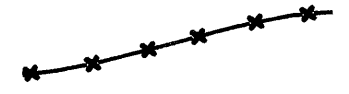
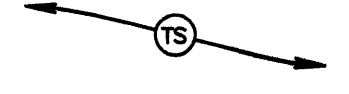




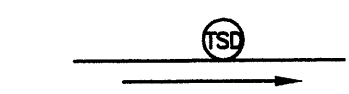
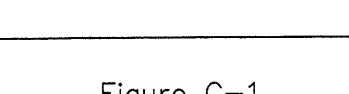
MULCHING

From: Environmental Protection Agency, 1976



SURFACE ROUGHENING

From: Environmental Protection Agency, 1976

EROSION CONTROL PLAN SYMBOLS		
TITLE	KEY	SYMBOL
SILT FENCE	SF	
TEMPORARY SEEDING	TS	
TEMPORARY DIVERSION DIKE	DD	
STORM DRAIN INLET PROTECTION	IP	
SURFACE ROUGHENING	SR	
VEHICLE TRACKING CONTROL	VTC	
OUTLET PROTECTION	OP	
TEMPORARY SLOPE DRAIN	TSD	

Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: ECSymbols.dwg

Figure C-1
Erosion Control Plan Symbols

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CALL
UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE
& CABLE T.V. LOCATIONS

Approved for One Year From this Date
5-12-04

[Signature] 5-3-04
City Engineer Date

[Signature] 4-22-04
Utilities Department Date

REVISION	DATE

COSTIN ENGINEERING CONSULTANTS, INC.
ENGINEERING
LAND SURVEYING
CONSTRUCTION MANAGEMENT

Contact: William E. Miller
7353 S. Alton Way, Suite A115
Englewood, Colorado 80112
PH (303) 790-4969

ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1
EROSION CONTROL PLAN - DETAILS
Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C.
5990 GREENWOOD PLAZA BLVD., SUITE 102
GREENWOOD VILLAGE, CO. 80111
CONTACT: THOMAS SATTLER

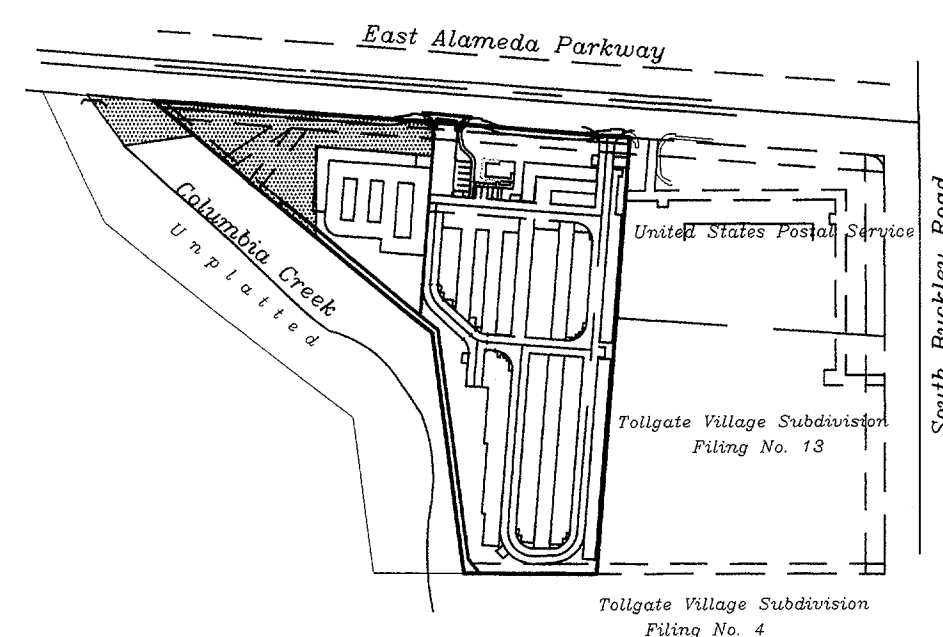
DATE 12-12-03
DES/DF1/CHK WEM/MC
PROJ. NO. 4190049
SHEET 2 OF 15

204090 8/15

1. ALL STORM PUBLIC EXCEPT AS INDICATED.
2. ALL RCP IS CLASS III UNLESS OTHERWISE NOTED.

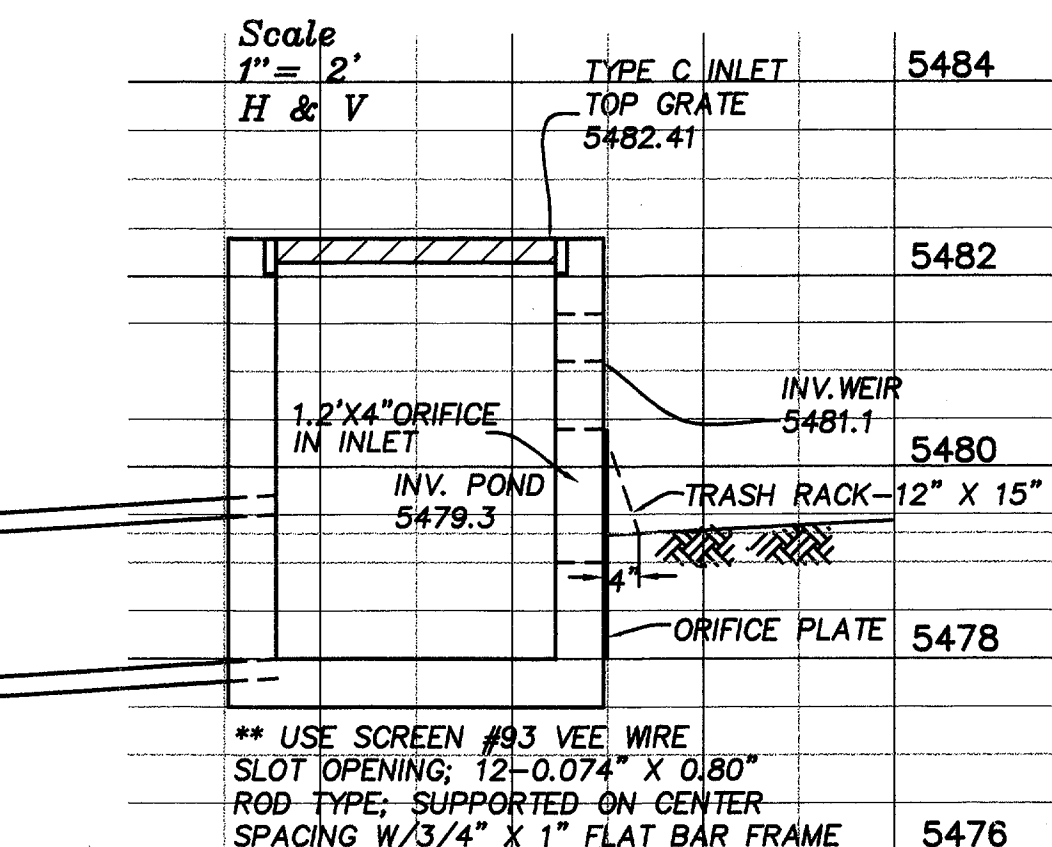
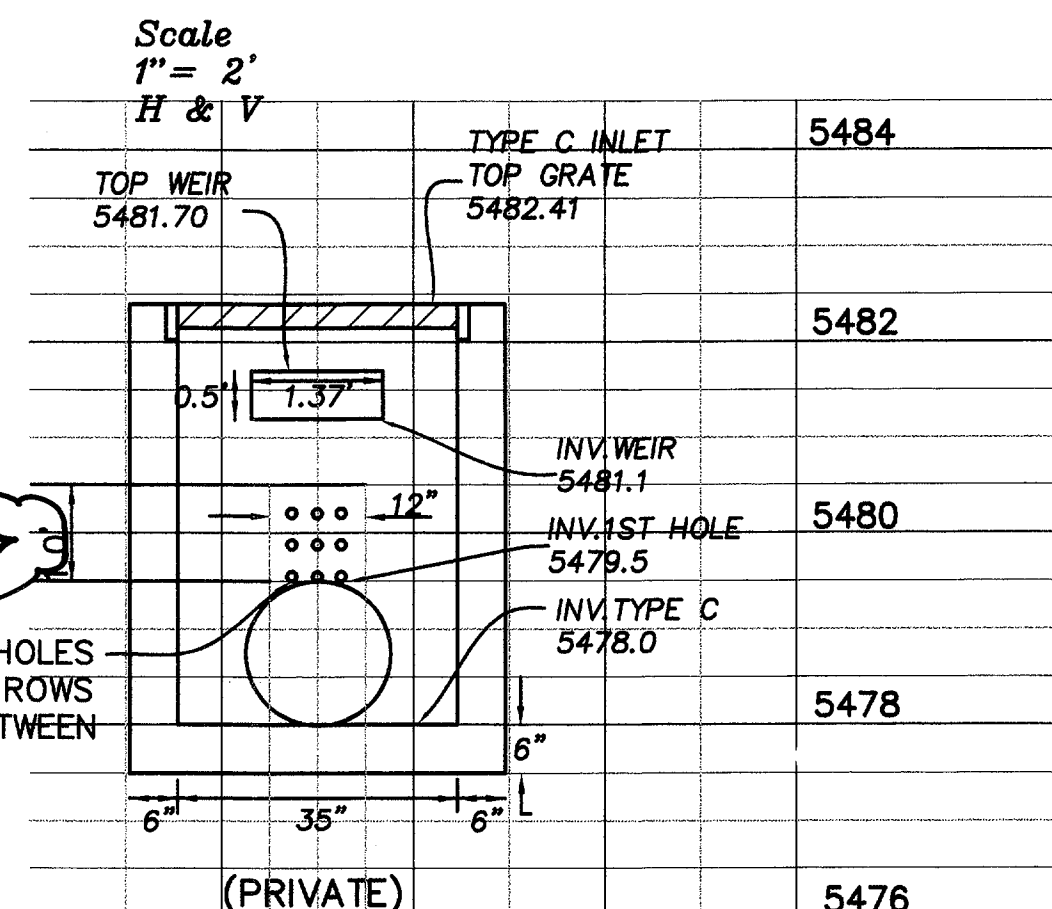
BENCHMARK: AP-048 COA BC IN THE END OF CONC.
HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA
CREEK CULVER 1000' +- W OF BUCKLEY RD. RE.
ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT.
ELEVATION = 5480.459

24 HOURS BEFORE YOU DIG
CALL
IDENTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE
& CABLE T.V. LOCATIONS



Scale 1" = 50'

NOTE: ALL UTILITIES (INCLUDING STORM AND
DETENTION POND), AND DIRT WORK
WILL BE CONSTRUCTED WITH PHASE I.
BUILDINGS AND PAVING IN PHASE II WILL BE
COMPLETED AT A LATER DATE.



Approved for One Year From this Date
5-14-04

Boh *with date*

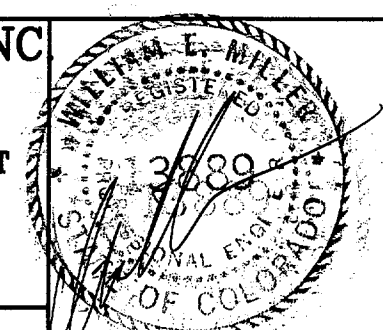
Mark B. Depew 5-3-04
 City Engineer Date

Joseph J. Wray 4-29-04
 Utilities Department Date

REVISION	DATE
REVISED PER COA	2-17-04
REVISED PER COA	3-29-04
11	2-17-05

COSTIN ENGINEERING CONSULTANTS, INC.
ENGINEERING
LAND SURVEYING
CONSTRUCTION MANAGEMENT
 Contact: William E. Miller

ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1
STORM SEWER PLAN & PROFILE-DETENTION POND
Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C.
5990 GREENWOOD PLAZA BLVD., SUITE 102
GREENWOOD VILLAGE, CO. 80111
CONTACT: THOMAS SATTTLER



02	DATE 12-12-03
	DES/DFT/CHK WEM/MC
	PROJ. NO. 4190040
	SHEET 9 OF 16

204090 9/15

204090 10/15

12' WIDE X 6" THICK
RECYCLED CONCRETE
ACCESS PATH

Detention
Pond

EXIST. 8" VCP
25' UTILITY AND
DRAINAGE EASEMENT

Lot 2
Block 1

Bldg 16

Bldg 15

Bldg 14

MH AB.3
RIM 5490.10
5' DIA.

INLET AB.5.1
10' TYPE R INLET
FL ELEV 5491.58

27" FES

9'x9'x1.8' THICK
TYPE M RIPRAP
W/9"THICK TYPE 2
BEDDING (SEE DETAIL)

30.0'~27"
RCP @ 3.16%
(INCLUDES FES)

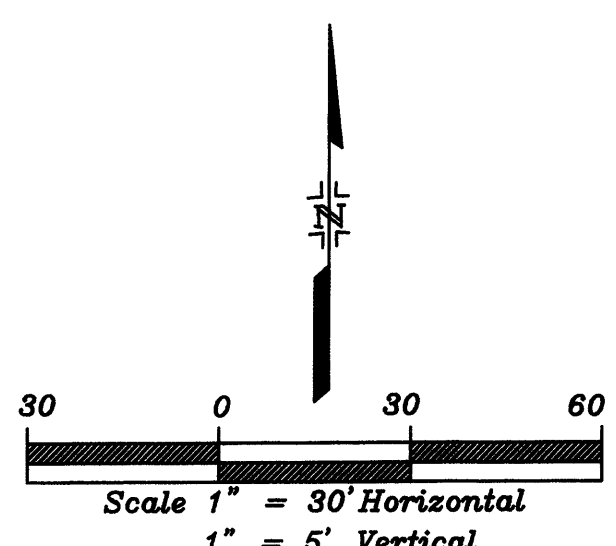
MH AB.1
RIM 5486.0
5' DIA.

36.0'~27"
RCP @ 5.0%

INLET AB.2
5' TYPE R
FL ELEV.5488.27

MH AB.4
RIM 5491.6
5' DIA.

INLET AB.6
15' TYPE R INLET
FL GRATE 5497.4



Notes:

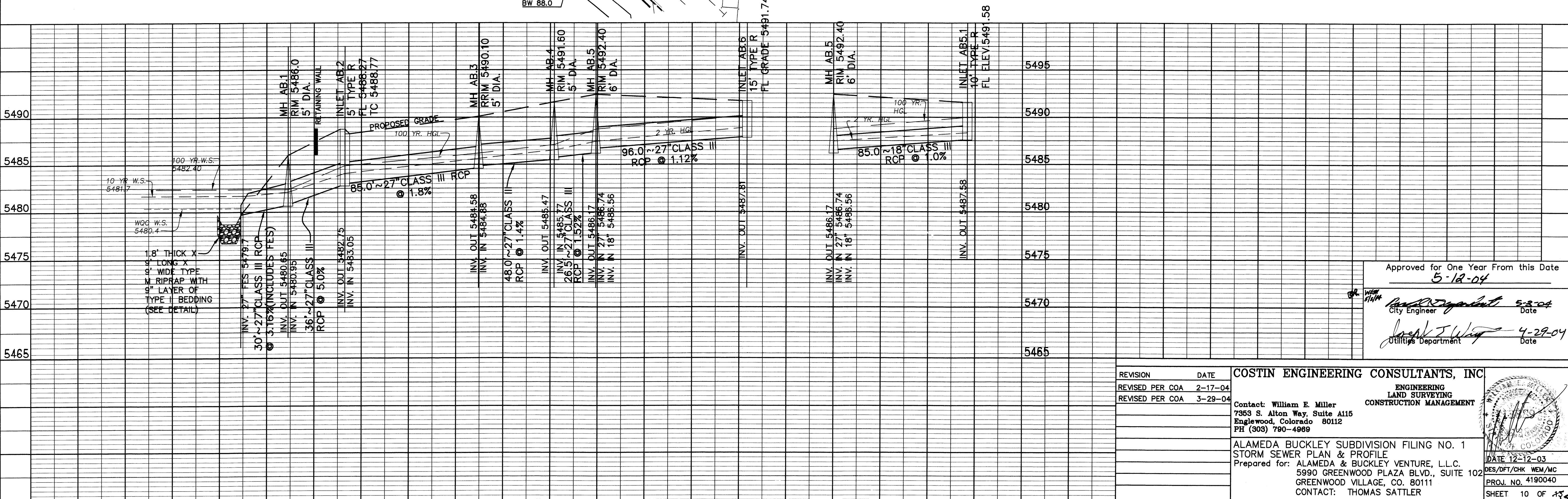
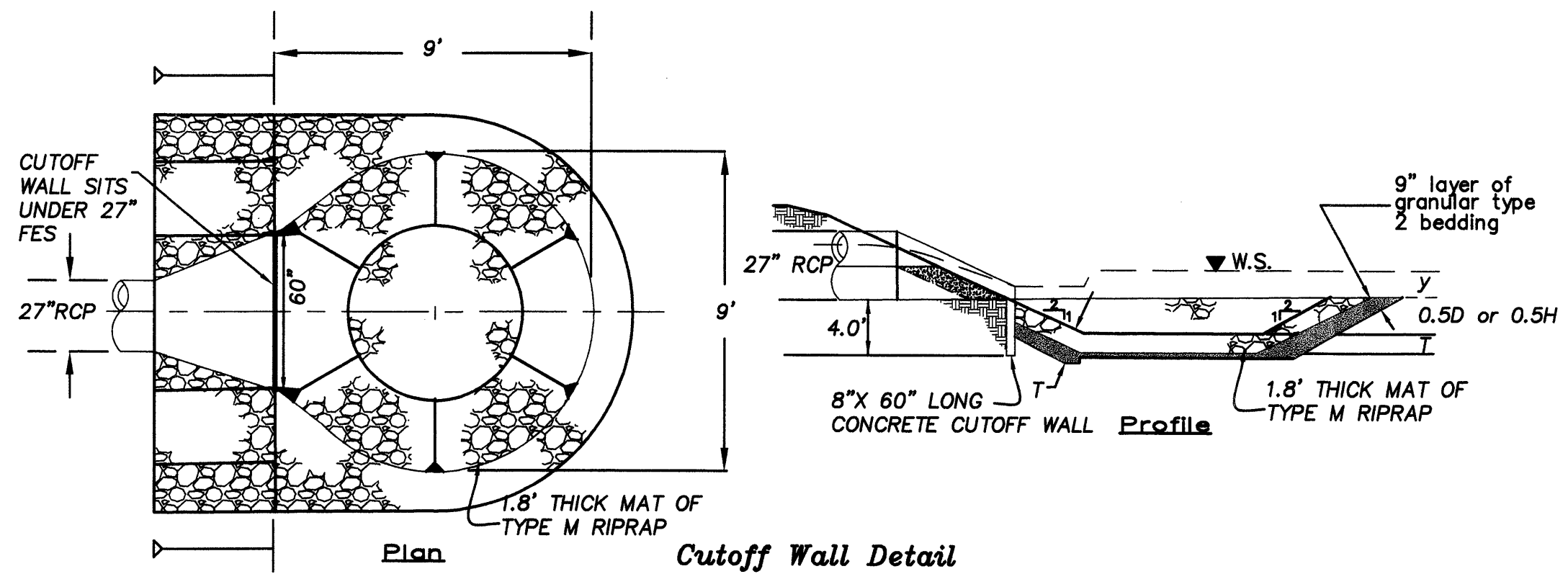
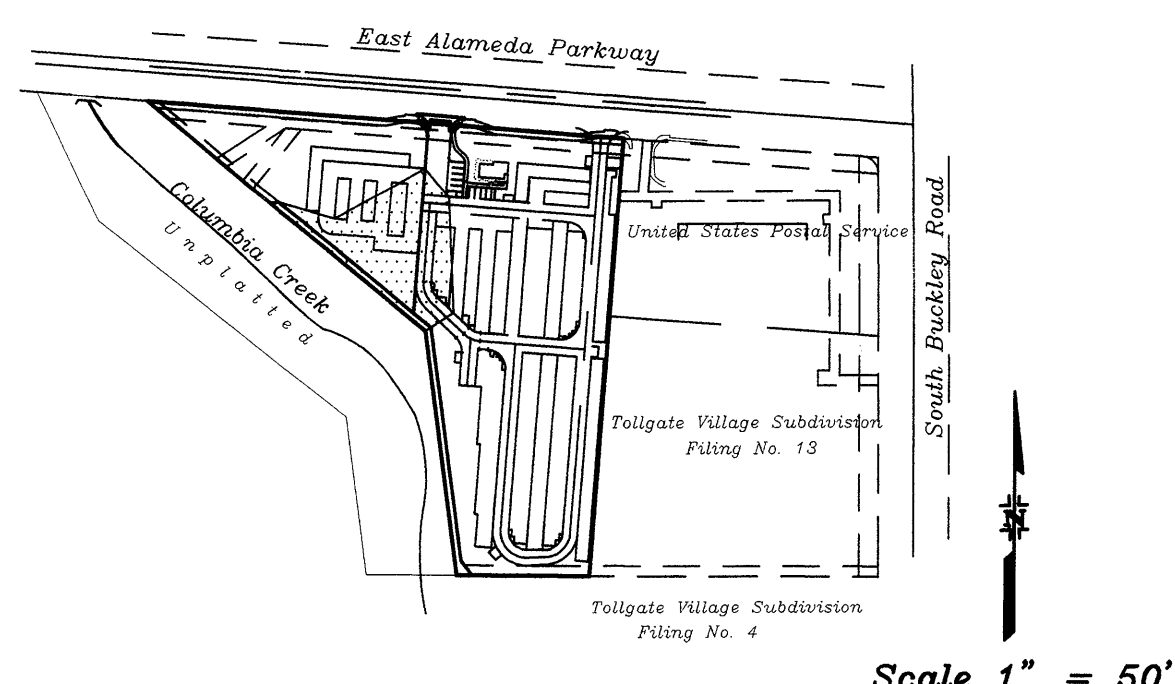
1. ALL STORM SEWER PIPING, DETENTION POND AND OUTLET STRUCTURES ON THIS SHEET ARE PRIVATE.
2. ALL RCP IS CLASS III UNLESS OTHERWISE NOTED.

BENCHMARK: AP-048 COA BC IN THE END OF CONC.
HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA
CREEK CULVER 1000' +/- W OF BUCKLEY RD. RE.
ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT.
ELEVATION = 5480.459

24 HOURS BEFORE YOU DIG
CALL

UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE
& CABLE T.V. LOCATIONS

NOTE: ALL UTILITIES (INCLUDING STORM AND
DETENTION POND), AND DIRT WORK
WILL BE CONSTRUCTED WITH PHASE I.
BUILDINGS AND PAVING IN PHASE II WILL BE
COMPLETED AT A LATER DATE.



Approved for One Year From this Date
5-12-04

City Engineer
Date
Utilities Department
Date

REVISION	DATE
REVISED PER COA	2-17-04
REVISED PER COA	3-29-04

COSTIN ENGINEERING CONSULTANTS, INC.
ENGINEERING
LAND SURVEYING
CONSTRUCTION MANAGEMENT

Contact: William E. Miller
7353 S. Alton Way, Suite A115
Englewood, Colorado 80112
PH (303) 790-4969

ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1
STORM SEWER PLAN & PROFILE
Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C.
5990 GREENWOOD PLAZA BLVD., SUITE 102
GREENWOOD VILLAGE, CO. 80111
CONTACT: THOMAS SATTLER

DATE 12-12-03
DES/DFT/CHK WEM/MC
PROJ. NO. 4190040
SHEET 10 OF 13

204090 10/15

C:\MICHELE\419\construction\204090\204090-03\419storm-03-11.dwg FRI Feb 20 09 21:03 2004

REV 204090 11/15

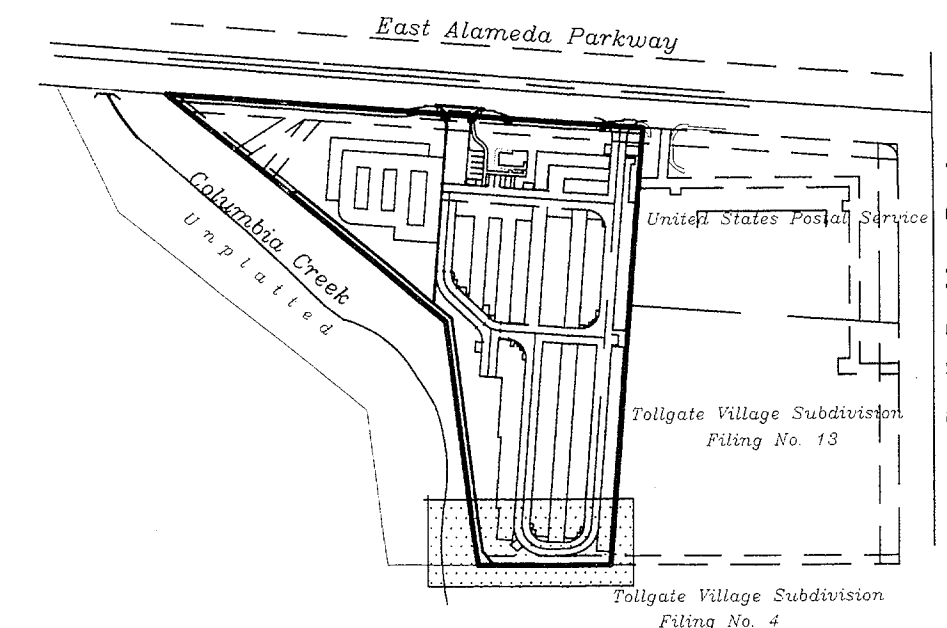
Notes:

1. ALL STORM SHOWN ON THIS SHEET IS PRIVATE, INCLUDING SECTIONS OC-OC, 1-1, 2-2, 3-3 AND 4-4.

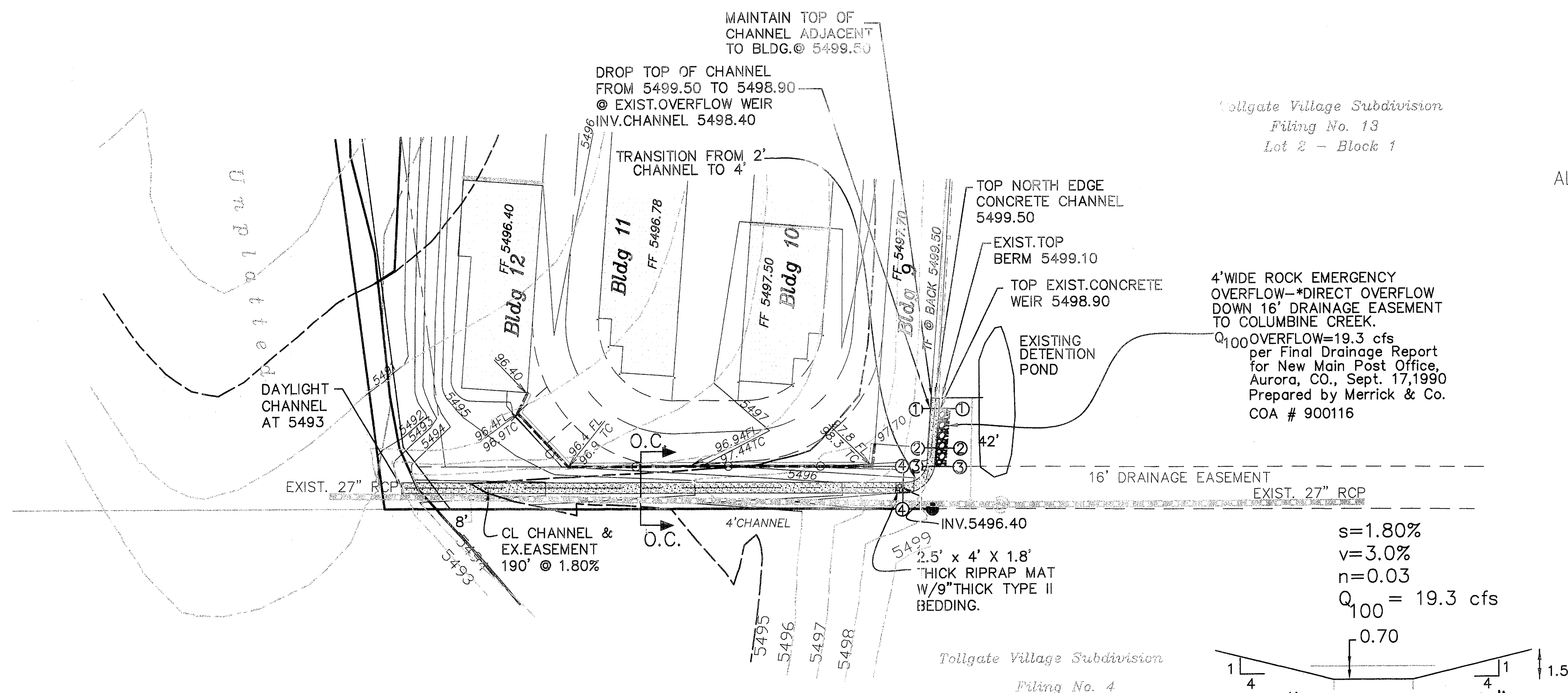
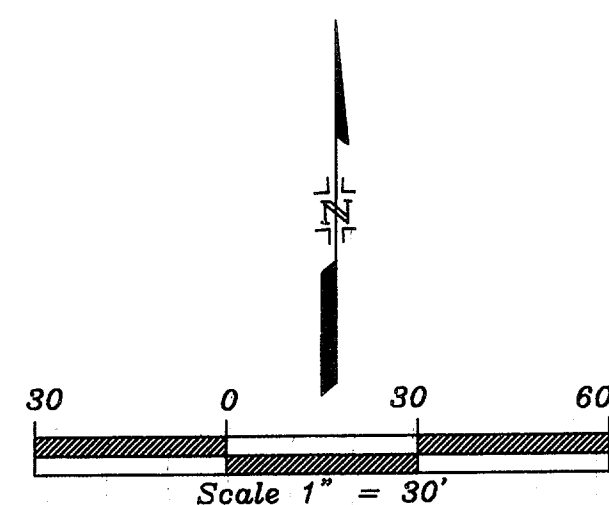
BENCHMARK: AP-048 COA BC IN THE END OF CONC. HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA CREEK CULVER 1000' +- W OF BUCKLEY RD. RE. ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT. ELEVATION - 5480.459

24 HOURS BEFORE YOU DIG
CALL

UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE
& CABLE T.V. LOCATIONS



Scale 1" = 50'



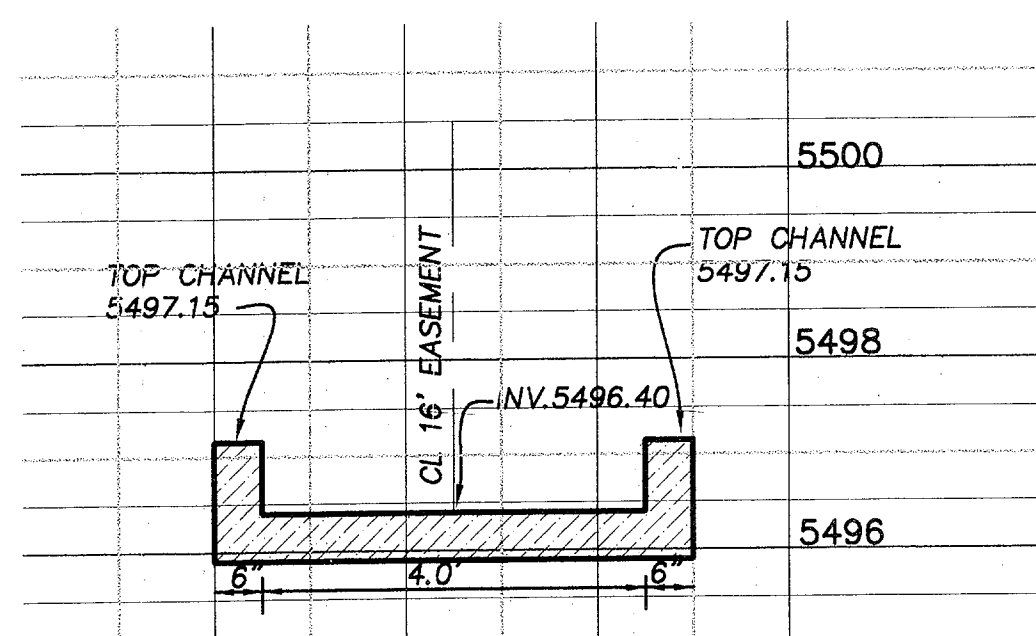
4' WIDE ROCK EMERGENCY
OVERFLOW - *DIRECT OVERFLOW
DOWN 16' DRAINAGE EASEMENT
TO COLUMBINE CREEK.

Q₁₀₀ OVERFLOW = 19.3 cfs
per Final Drainage Report
for New Main Post Office,
Aurora, CO., Sept. 17, 1990
Prepared by Merrick & Co.
COA # 900116

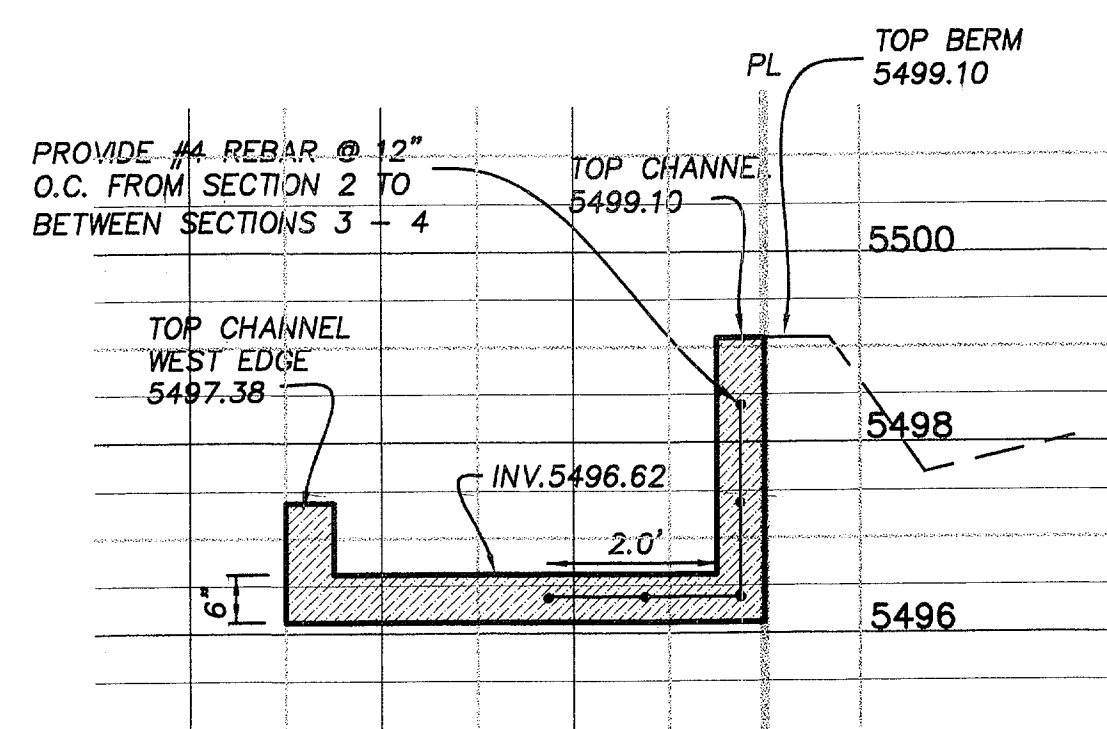
s = 1.80%
v = 3.0%
n = 0.03
Q₁₀₀ = 19.3 cfs
0.70



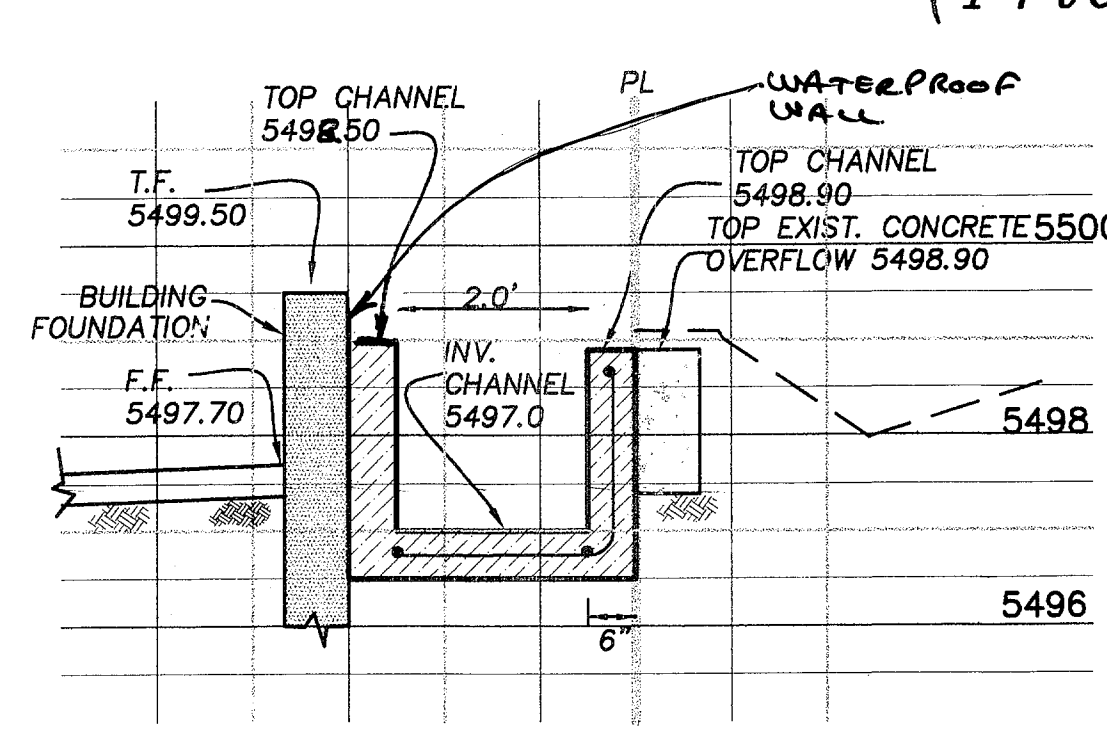
Section O.C. - O.C.
(Private)



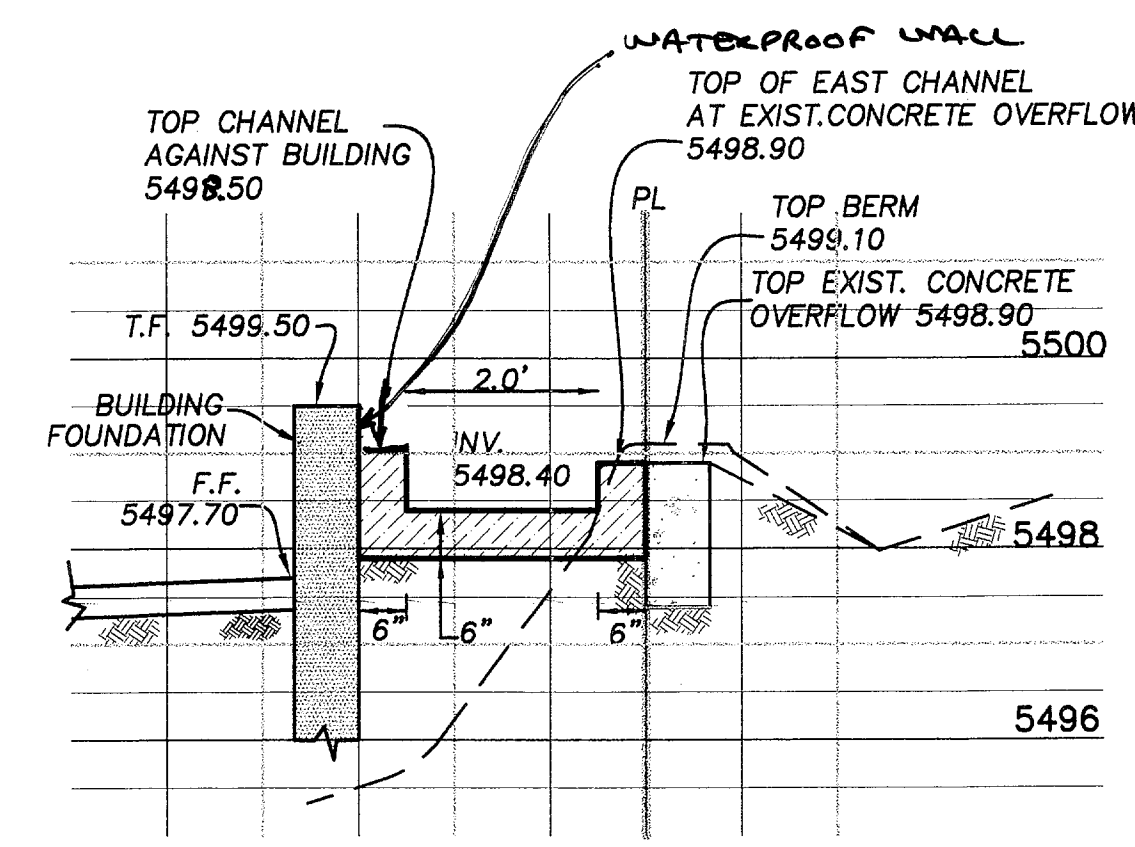
SECTION 4 - 4
SCALE
1" = 2' H & V



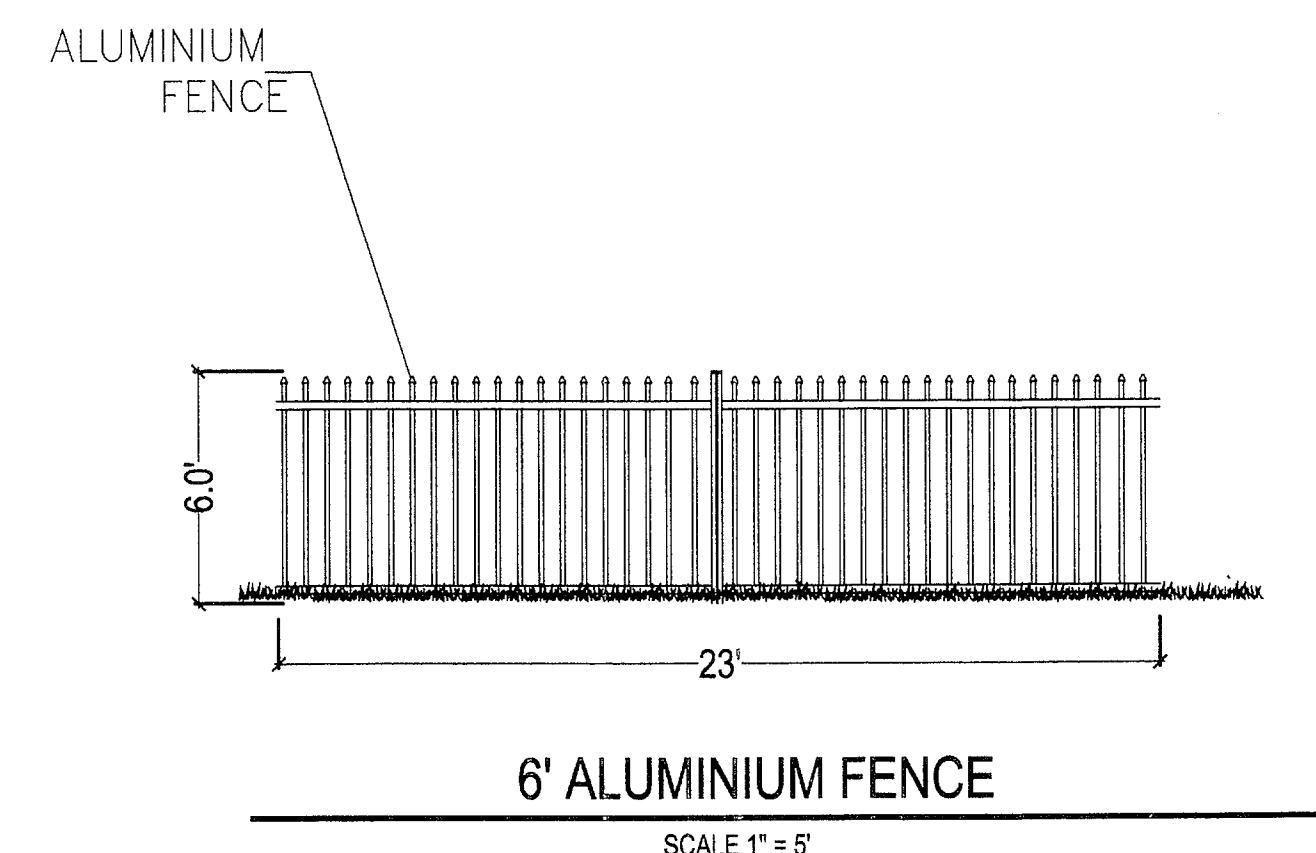
SECTION 3 - 3
SCALE
1" = 2' H & V
SECTION 3 - 3 LOCATED AT SOUTH
EDGE OF EXISTING WEIR



SECTION 2 - 2
SCALE
1" = 2' H & V



SECTION 1 - 1
SCALE
1" = 2' H & V
SECTION 1 - 1 LOCATED AT NORTH
EDGE OF EXISTING WEIR



Approved for One Year From this Date
5-12-04

City Engineer
Date
Utilities Department
Date
Director of Parks and Open Space
Date

REVISION	DATE	COSTIN ENGINEERING CONSULTANTS, INC.
REVISED PER COA	2-17-04	ENGINEERING LAND SURVEYING CONSTRUCTION MANAGEMENT
11	10-12-05	Contact: William E. Miller 7353 S. Alton Way, Suite A115 Englewood, Colorado 80112 PH (303) 790-4989
		ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1 STORM SEWER PLAN & PROFILE-CONCRETE CHANNEL Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C. 5990 GREENWOOD PLAZA BLVD., SUITE 102 GREENWOOD VILLAGE, CO. 80111 CONTACT: THOMAS SATTLER
		DATE 12-12-03 DES/DFT/CHK WEM/MC PROJ. NO. 4190040 SHEET 11 OF 15

204090 11/15

REV. 204090 12/15

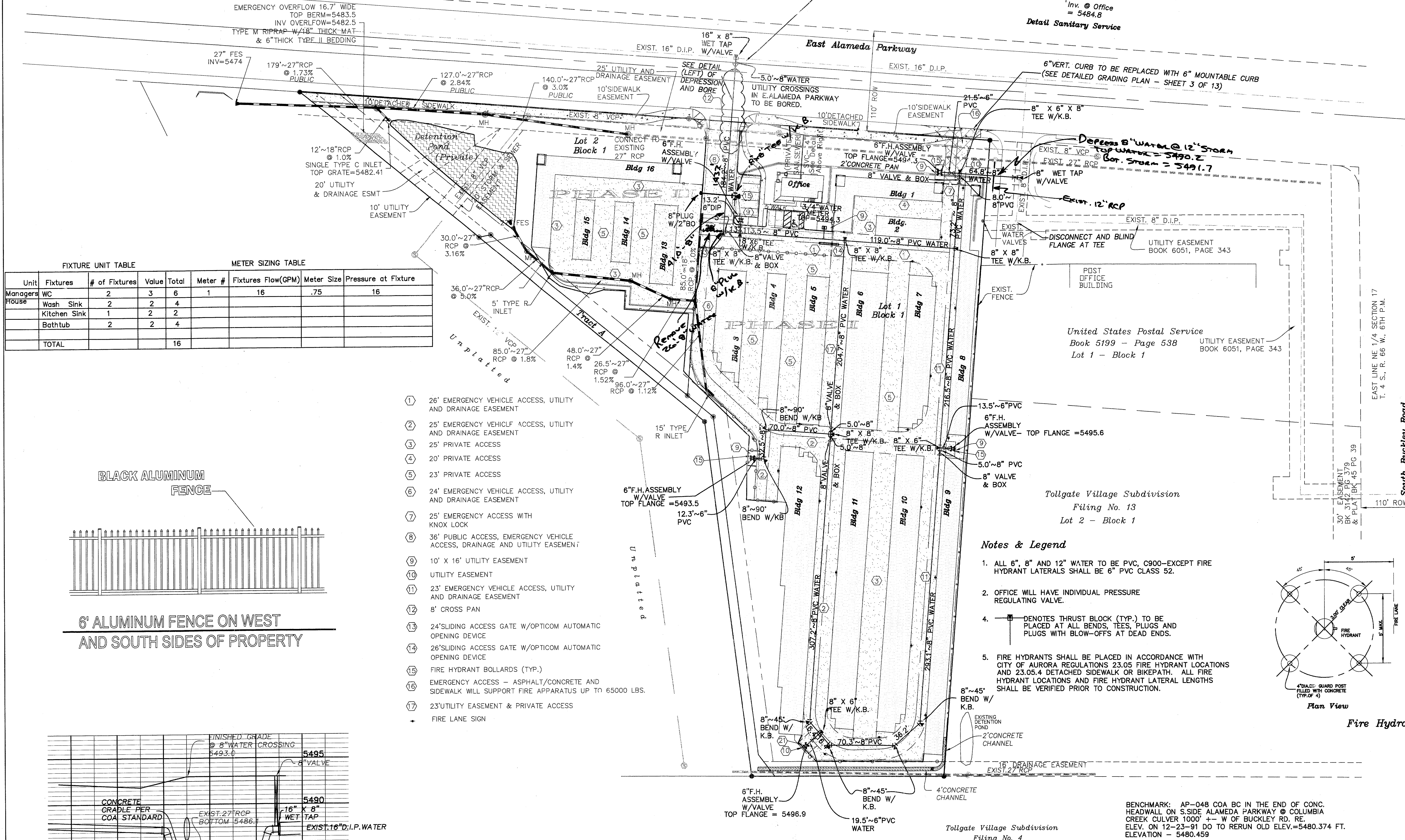
C:\MICHELE\419\CONSTRUCTION\204090\204090.dwg Plot Date: 2014-05-05 2:00:04

Note:
ALL STORM SEWER PIPING, DETENTION POND
AND OUTLET STRUCTURES ON THIS SHEET IS
PRIVATE, UNLESS OTHERWISE NOTED.

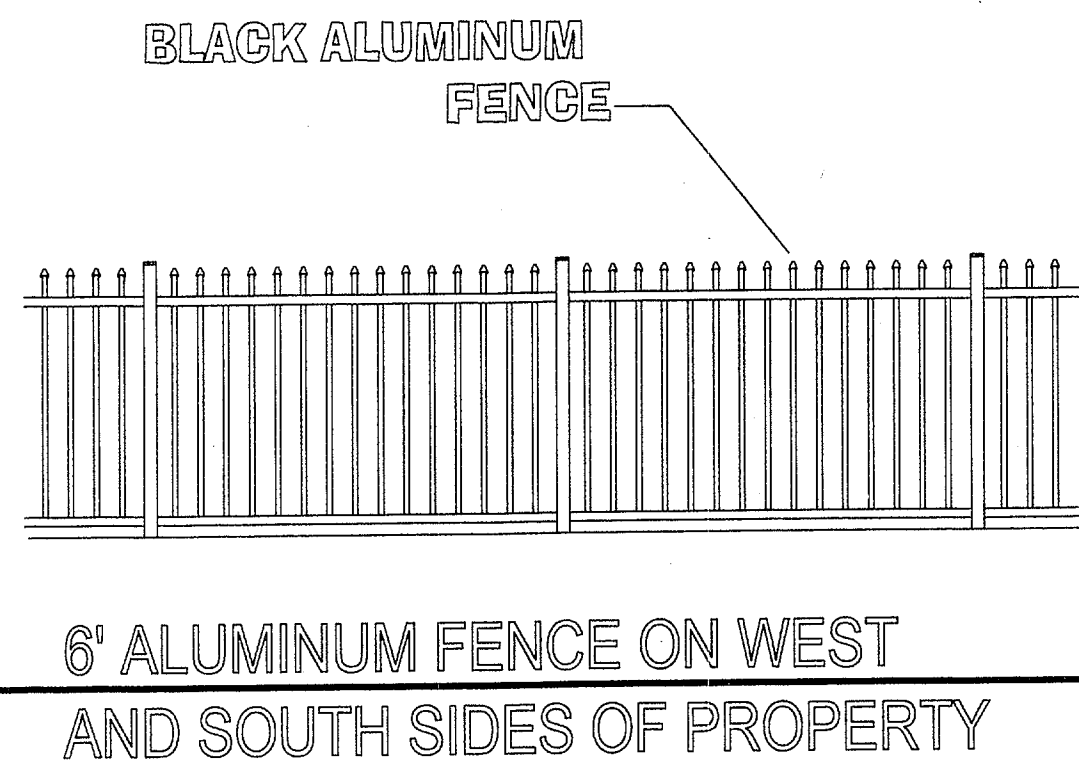
NOTE: Contractor to verify location of all utilities
within East Alameda Avenue at bore location

Inv. 4" Service
=5483.8 @ Main
Inv. @ Office
= 5484.8
Detail Sanitary Service

EXIST. 8" VCP

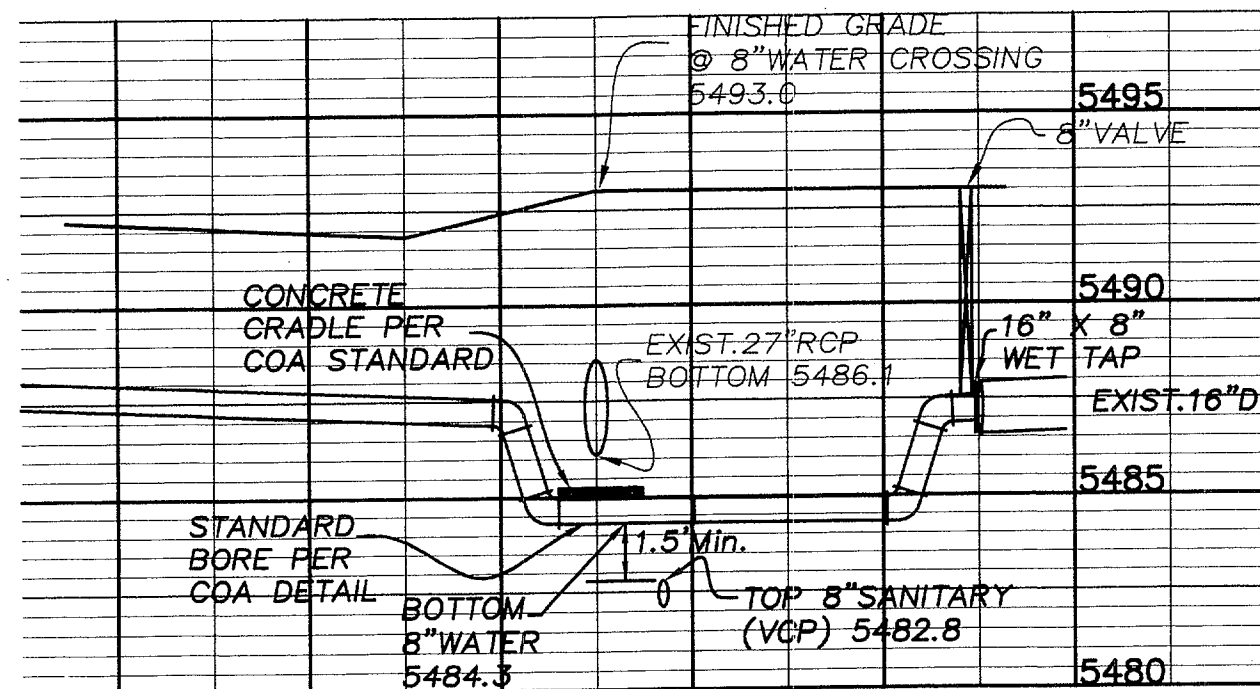
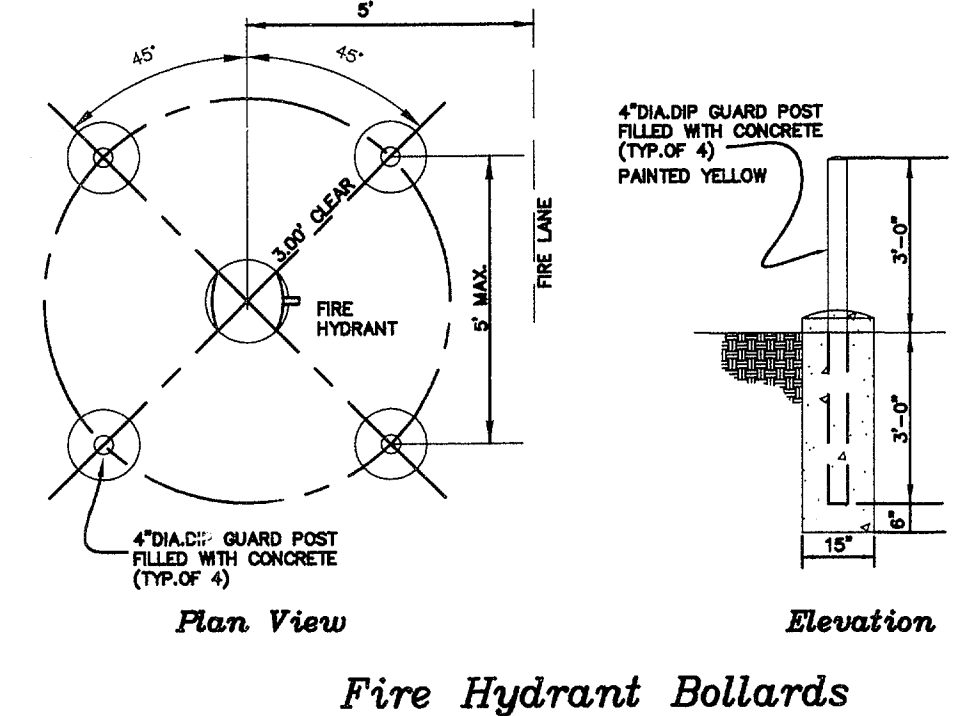


FIXTURE UNIT TABLE				METER SIZING TABLE			
Unit	Fixtures	# of Fixtures	Value	Total	Meter #	Fixtures Flow(GPM)	Meter Size
Managers House	WC	2	3	6	1	16	.75
	Wash Sink	2	2	4			
	Kitchen Sink	1	2	2			
	Bathtub	2	2	4			
	TOTAL			16			



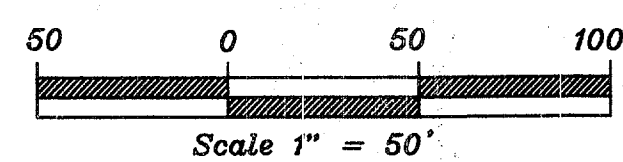
- 1 26' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- 2 25' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- 3 25' PRIVATE ACCESS
- 4 20' PRIVATE ACCESS
- 5 23' PRIVATE ACCESS
- 6 24' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- 7 25' EMERGENCY ACCESS WITH KNOX LOCK
- 8 36' PUBLIC ACCESS, EMERGENCY VEHICLE ACCESS, DRAINAGE AND UTILITY EASEMENT
- 9 10' X 16' UTILITY EASEMENT
- 10 UTILITY EASEMENT
- 11 23' EMERGENCY VEHICLE ACCESS, UTILITY AND DRAINAGE EASEMENT
- 12 8' CROSS PAN
- 13 24' SLIDING ACCESS GATE W/OPTICOM AUTOMATIC OPENING DEVICE
- 14 26' SLIDING ACCESS GATE W/OPTICOM AUTOMATIC OPENING DEVICE
- 15 FIRE HYDRANT BOLLARDS (TYP.)
- 16 EMERGENCY ACCESS - ASPHALT/CONCRETE AND SIDEWALK WILL SUPPORT FIRE APPARATUS UP TO 65000 LBS.
- 17 23' UTILITY EASEMENT & PRIVATE ACCESS
- + FIRE LANE SIGN

- Notes & Legend
- 1. ALL 6", 8" AND 12" WATER TO BE PVC, C900-EXCEPT FIRE HYDRANT LATERALS SHALL BE 6" PVC CLASS 52.
 - 2. OFFICE WILL HAVE INDIVIDUAL PRESSURE REGULATING VALVE.
 - 4. DENOTES THRUST BLOCK (TYP.) TO BE PLACED AT ALL BENDS, TEES, PLUGS AND PLUGS WITH BLOW-OFFS AT DEAD ENDS.
 - 5. FIRE HYDRANTS SHALL BE PLACED IN ACCORDANCE WITH CITY OF AURORA REGULATIONS 23.05 FIRE HYDRANT LOCATIONS AND 23.05.4 DETACHED SIDEWALK OR BIKEPATH. ALL FIRE HYDRANT LOCATIONS AND FIRE HYDRANT LATERAL LENGTHS SHALL BE VERIFIED PRIOR TO CONSTRUCTION.



48 HOURS BEFORE YOU DIG
CALL
UTILITY NOTIFICATION CENTER - 1-800-922-1987
GAS, ELECTRIC, TELEPHONE
& CABLE T.V. LOCATIONS

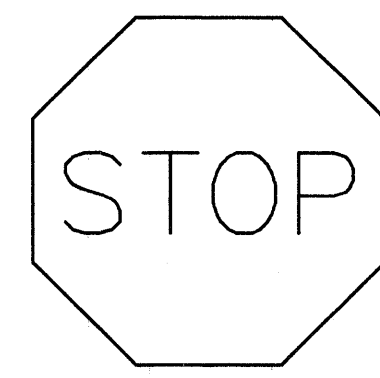
NOTE: ALL UTILITIES (INCLUDING STORM AND
DETENTION POND), AND DIRT WORK
WILL BE CONSTRUCTED WITH PHASE I.
BUILDINGS AND PAVING IN PHASE II WILL BE
COMPLETED AT A LATER DATE.



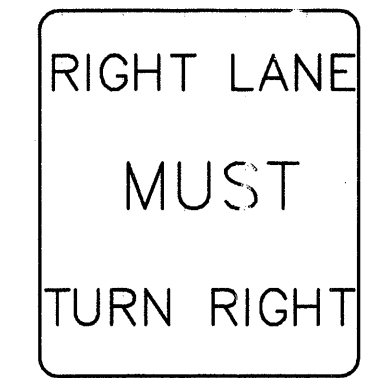
Approved for One Year From this Date 5-12-04		REVISION DATE		COSTIN ENGINEERING CONSULTANTS, INC. ENGINEERING LAND SURVEYING CONSTRUCTION MANAGEMENT Contact: William E. Miller 7883 S. Alton Way, Suite 1115 Englewood, Colorado 80112 PH (303) 790-4989 ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1 OVERALL WATER & UTILITY PLANS Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C. 5990 GREENWOOD PLAZA BLVD., SUITE 102 GREENWOOD VILLAGE, CO. 80111 CONTACT: THOMAS SATTLER
Revised	2/9/04	Revised	3/29/04	
Revised	4/4/04	Revised	4/4/05	
Revised	4/29/07	Revised	4/24/04	
Revised	4/24/04	Revised		
City Engineer Date		DATE 12-08-03 DES/CHK WEM/MC PROJ. NO. 4190040 SHEET 12 OF 13		

REV. 204090 12/15

204090 13/15



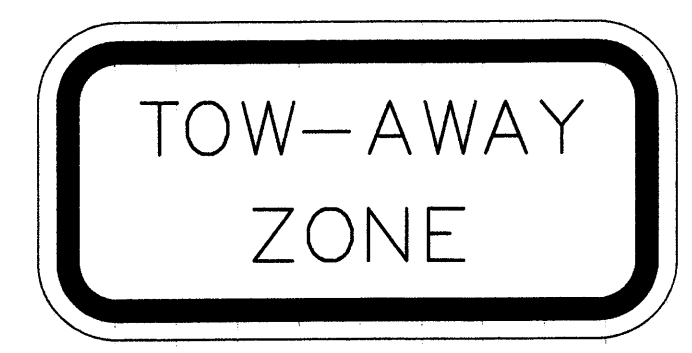
R1-1
30" x 30"



R3-7R
30" x 30"

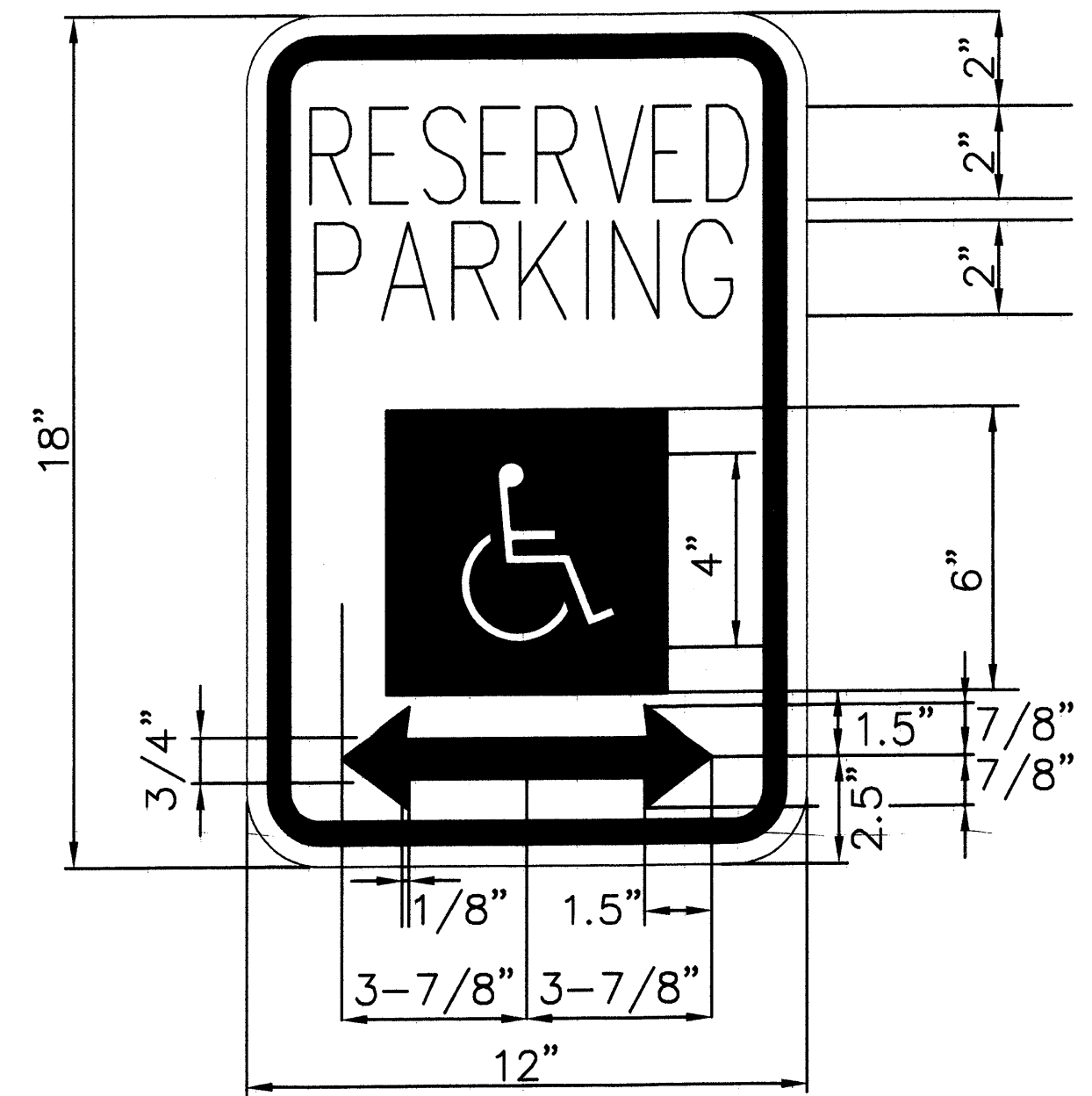


R7-8a

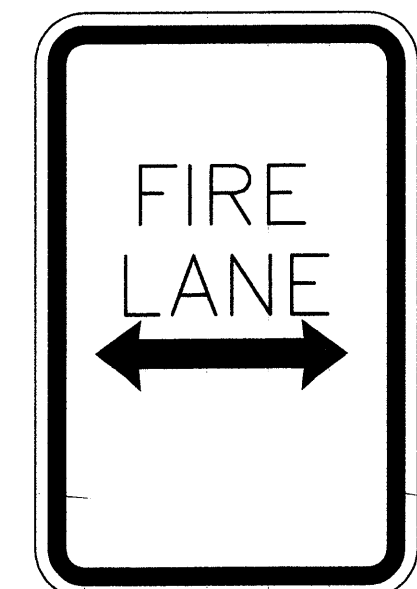


R7-201

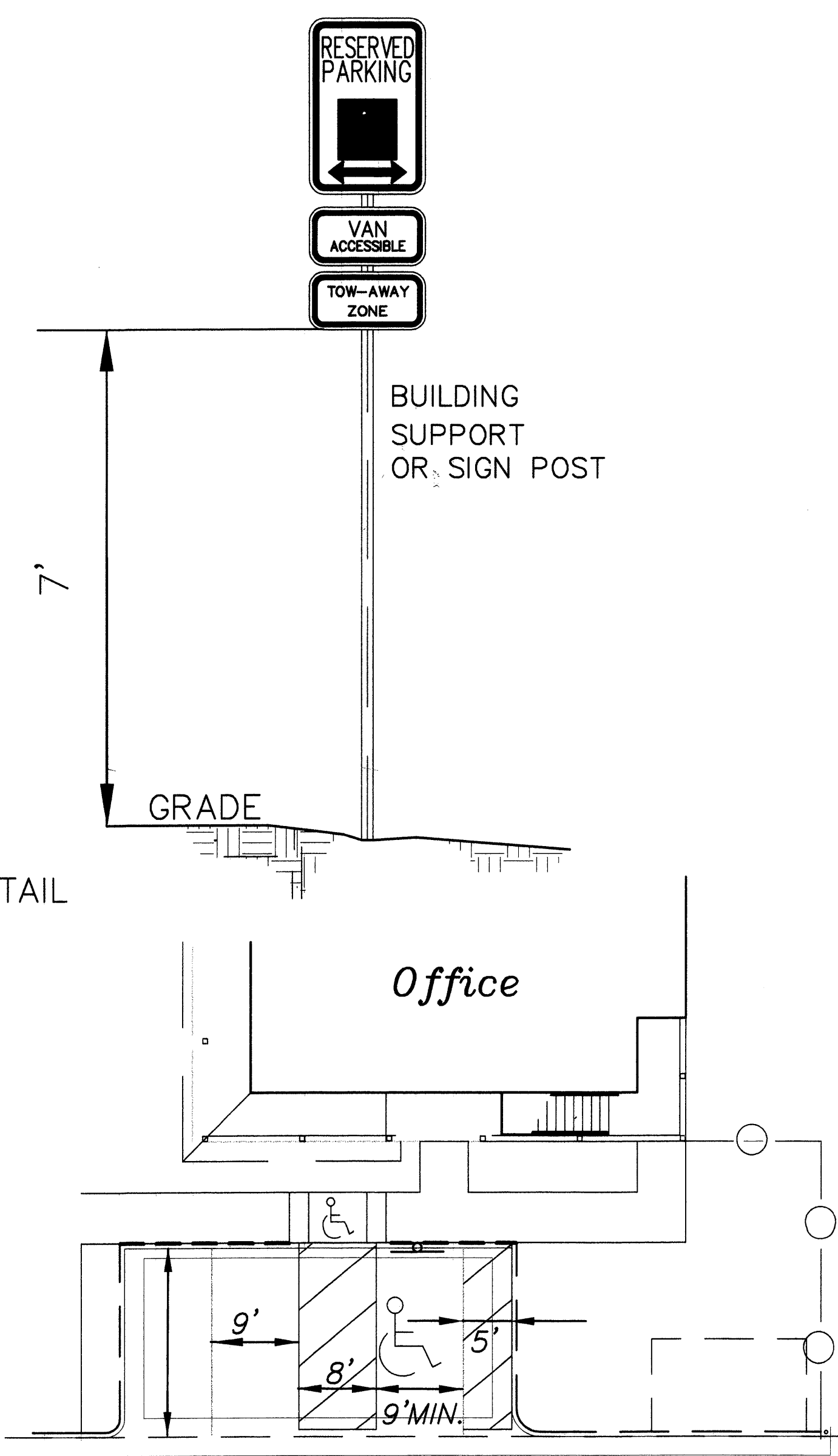
SEE MUTCD MANUAL FOR DETAILS OF SIGNS



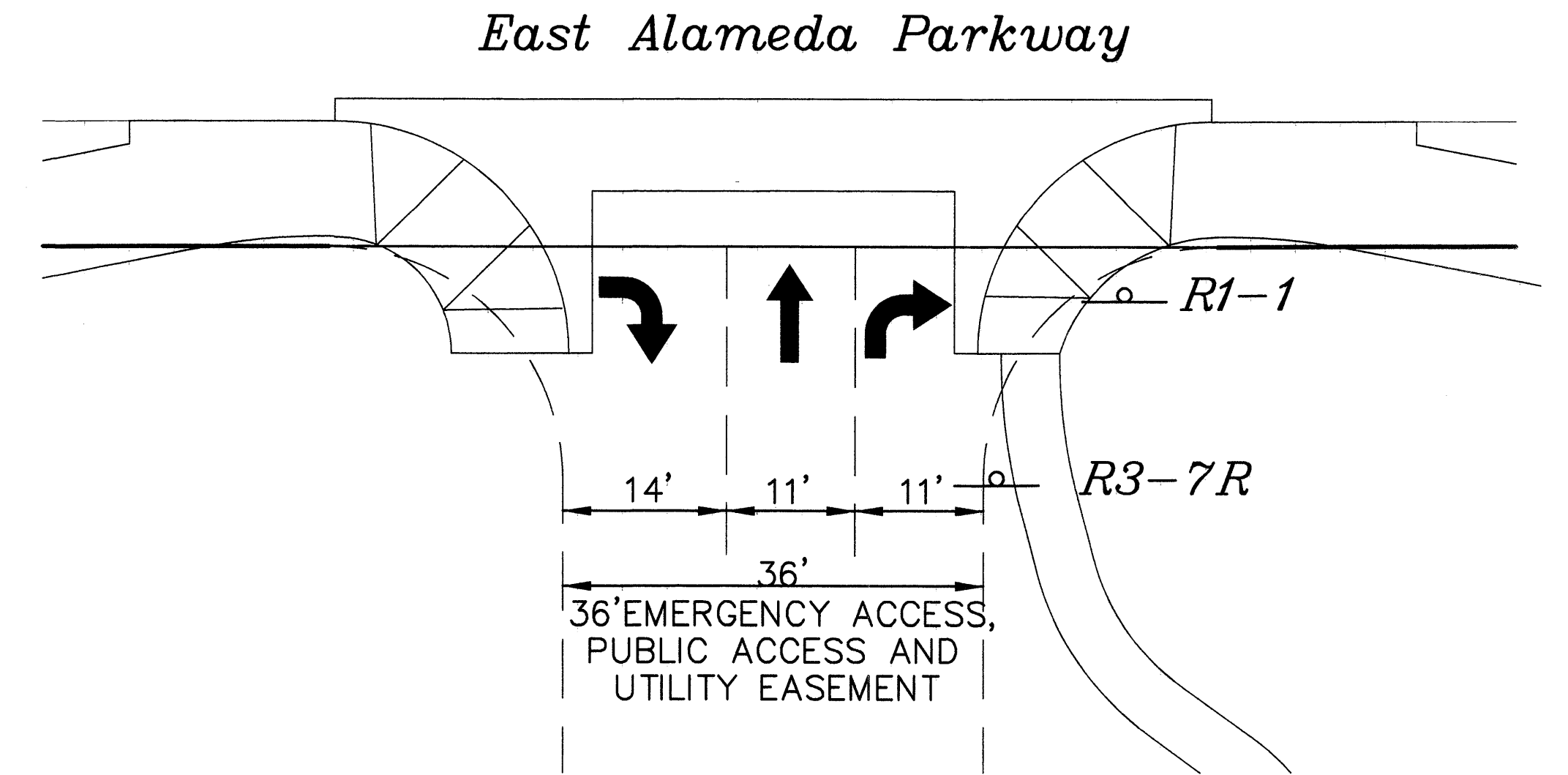
3/8" MARGIN
3/8" BORDER
1-1/2" CORNER RADIUS
.080" ALUMINUM



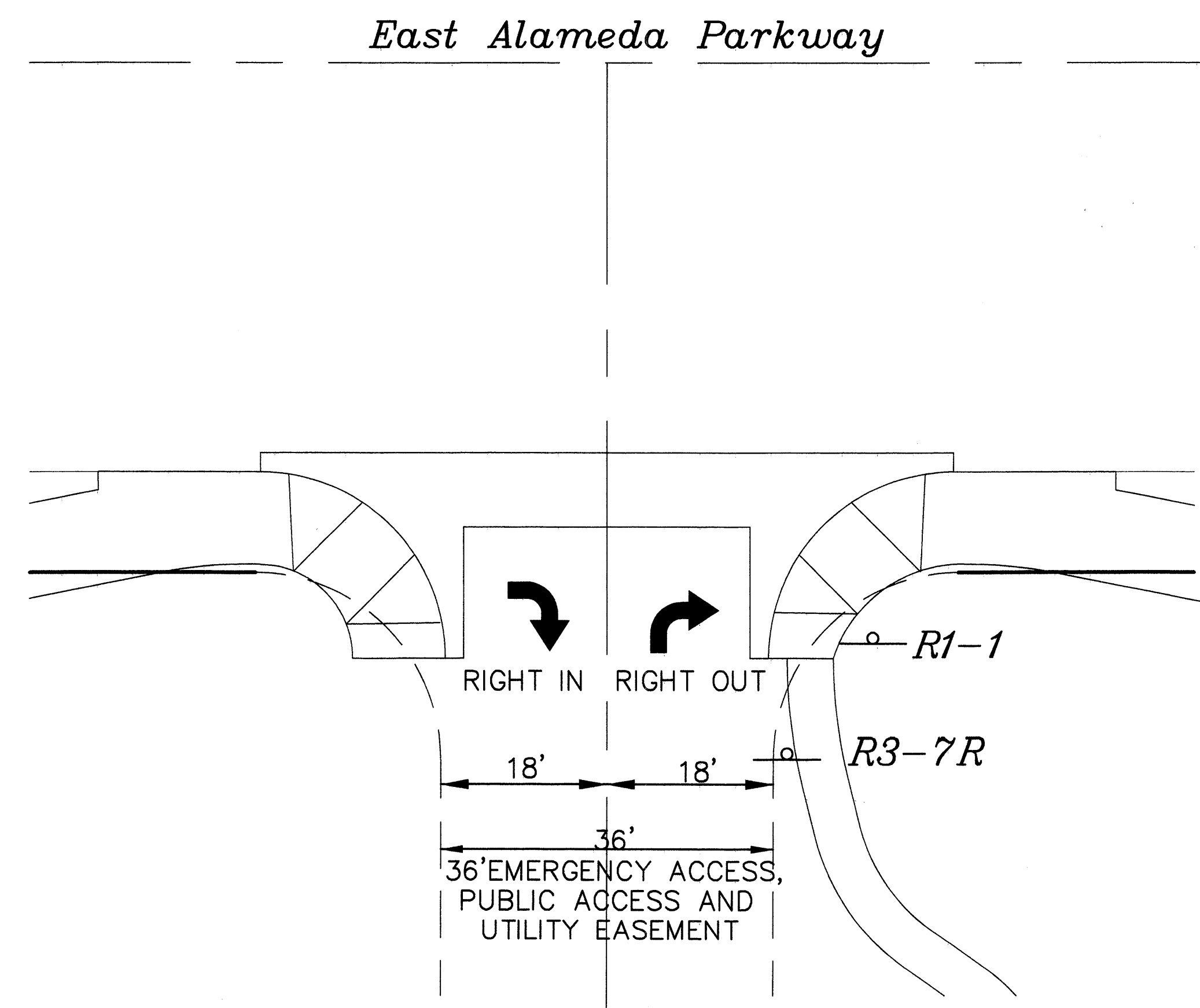
SEE MUTCD MANUAL FOR DETAIL



VAN ACCESSIBLE
PARKING SPACE
Handicap Parking Stall Detail



36' Emergency Access, Public Access
and Utility Easement Detail
(Future)



36' Emergency Access, Public Access
and Utility Easement Detail

Signage for Accessible Parking

SIGNS FOR ACCESSIBLE PARKING SHALL"

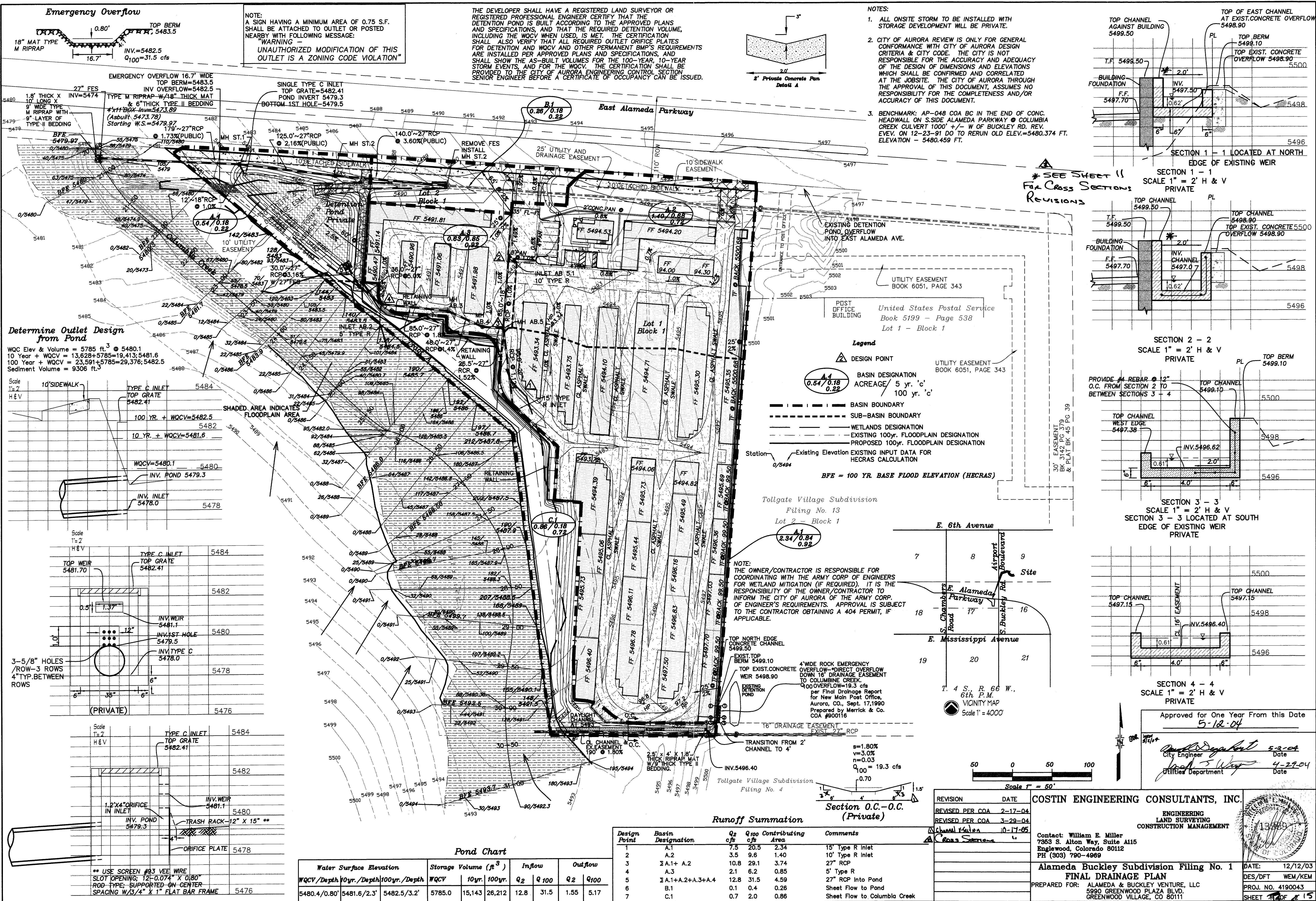
1. BE AT LEAST 12 INCHES WIDE AND 18 INCHES HIGH
2. HAVE WHITE LETTER ON BLUE BACKGROUND
3. STATE "RESERVED PARKING" AND "TOW AWAY ZONE"
4. SHOW A HANDICAPPED SYMBOL
5. BE PERMANENTLY MOUNTED WITHIN 10 FEET OF EACH ACCESSIBLE PARKING SPACE
6. BE LOCATED AT THE CENTER OF THE FRONT OF EACH ACCESSIBLE PARKING SPACE, FACING THE REAR OF THE SPACE
7. BE SEVEN FEET MEASURED FROM GRADE TO BOTTOM OF LOWEST SIGN POSTED
8. THERE SHALL ONE VAN ACCESSIBLE PARKING SPACE ON THIS SITE.

FOR INFORMATION ONLY

Approved for One Year From this Date 5-12-04		REVISION DATE REVISED 02-17-04		COSTIN ENGINEERING CONSULTANTS, INC. ENGINEERING LAND SURVEYING CONSTRUCTION MANAGEMENT Contact: William E. Miller 7363 S. Alton Way, Suite A115 Englewood, Colorado 80112 PH (303) 790-4989	
				ALAMEDA BUCKLEY SUBDIVISION FILING NO. 1 SIGNAGE & STRIPING PLAN W/DETAILS Prepared for: ALAMEDA & BUCKLEY VENTURE, L.L.C. 5950 GREENWOOD PLAZA BLVD., SUITE 102 GREENWOOD VILLAGE, CO. 80111 CONTACT: THOMAS SATTLER	
				DATE 12-12-03 DES/CHK WEM/MC PROJ. NO. 4190036 SHEET 13 OF 15	

204090 13/15

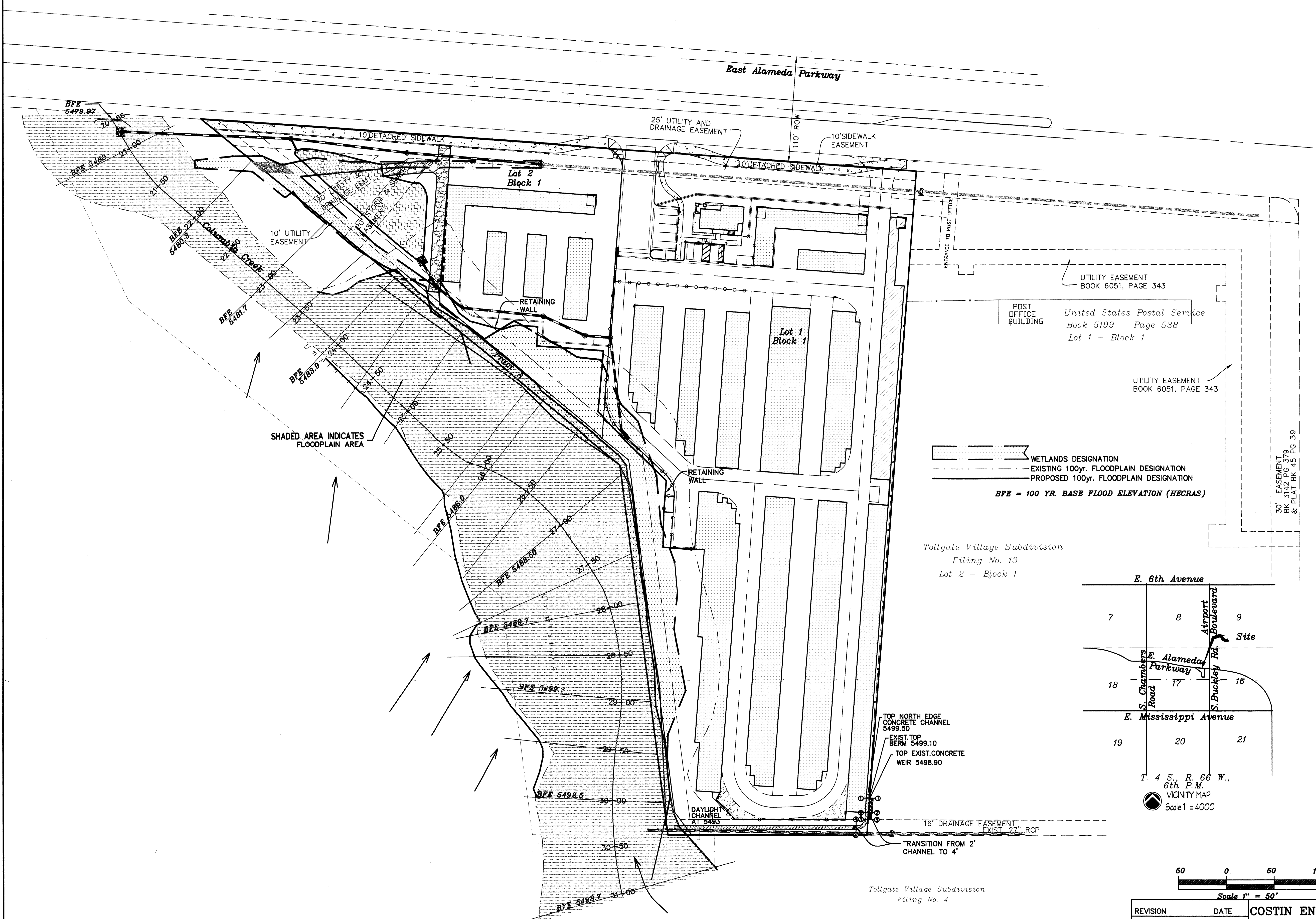
REV. 204090 11/15



204090 11/15

204090 15/15

BENCHMARK: AP-048 COA BC IN THE END OF CONC. HEADWALL ON S.SIDE ALAMEDA PARKWAY @ COLUMBIA CREEK CULVERT 1000' +/- W OF BUCKLEY RD. REV. ELEV. ON 12-23-91 DO TO RERUN OLD ELEV.=5480.374 FT. ELEVATION = 5480.459 FT.



UTILITY EASEMENT
BOOK 6051, PAGE 343

POST
OFFICE
BUILDING

United States Postal Service
Book 5199 - Page 538
Lot 1 - Block 1

UTILITY EASEMENT
BOOK 6051, PAGE 343

WETLANDS DESIGNATION
— EXISTING 100yr. FLOODPLAIN DESIGNATION
— PROPOSED 100yr. FLOODPLAIN DESIGNATION

BFE = 100 YR. BASE FLOOD ELEVATION (HECRAS)

Tollgate Village Subdivision
Filing No. 13
Lot 2 - Block 1

TOP NORTH EDGE
CONCRETE CHANNEL
5499.50

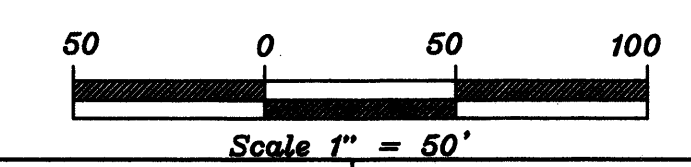
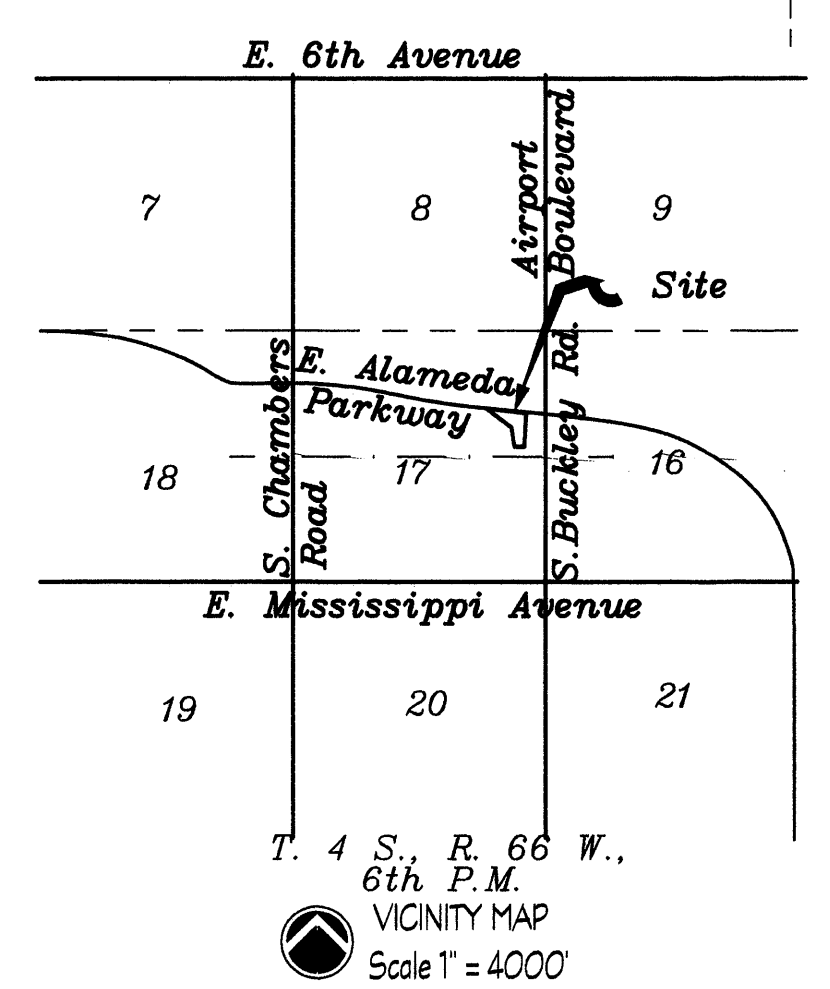
EXIST TOP
BERM 5499.10

TOP EXIST. CONCRETE
WEIR 5498.90

16" DRAINAGE EASEMENT
EXIST 27" RCP

TRANSITION FROM 2'
CHANNEL TO 4'

Tollgate Village Subdivision
Filing No. 4



FOR INFORMATION ONLY

REVISION		DATE	COSTIN ENGINEERING CONSULTANTS, INC.	
REVISED PER COA		2-17-04		
			ENGINEERING LAND SURVEYING CONSTRUCTION MANAGEMENT	
			Contact: William E. Miller 7353 S. Alton Way, Suite A115 Englewood, Colorado 80112 PH (303) 790-4969	
			Alameda Buckley Subdivision Filing No. 1	
			FINAL DRAINAGE PLAN	DATE: 12/12/03
			PREPARED FOR: ALAMEDA & BUCKLEY VENTURE, LLC 5990 GREENWOOD PLAZA BLVD. GREENWOOD VILLAGE, CO 80111	DES/DFT WEM/KEM
				PROJ. NO. 4190043
				SHEET 2 OF 2

204090 15/15

Appendix C

2005 Costin Pond Certification



204090
09K
Pond 1 - 204090
2003-3032

COSTIN ENGINEERING CONSULTANTS, INC.

Engineering • Surveying • Construction Management

June 30, 2005

Mr. Bill McCormick PE
Senior Engineer
City of Aurora
Public Works Department
15151 E. Alameda Parkway, 3rd Floor
Aurora, Colorado 80012

RE: Buckley/Alameda ~~Storage~~ Subdivision #1
Water Quality Pond and Detention Pond Certification

OTC M. M. Muen
6/30/05

Dear Bill:

I hereby state that on June 30, 2005, we had preformed field as-builts of the Water Quality and Detention Pond within the referenced project had found that the existing volumes meet or exceed those volumes as designed. The Volumes are as follows:

L per COT plan # 204090

	Design Capture Volume (ft ³)	As-Built Capture Volume (ft ³)
WQCV	9507	9510
10yr + WQCV	24,650	25,000
100Yr + WQCV	35,719	36,220

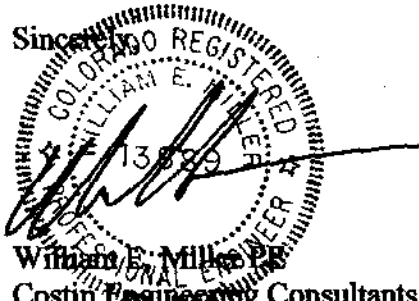
The outlet configuration was also checked for conformance with the design and the comparison between the design and asbuilt conditions are:

	Design	As-Constructed
Bottom WQC Outlet	5479.5	5479.35
Inv. 10 Yr Orifice	5481.1	5481.19
Top grate 100 yr	5482.41	5482.44
Inv. Overflow Weir	5482.5	5482.5

The Design and As-Built Capture Volumes were calculated using the prismoidal method per City of Aurora Regulations.

If you should have any questions, please give me a call.

Sincerely,



William E. Miller, P.E.
Costin Engineering Consultants, Inc.

Appendix D

Drainage Map

LEGEND

- 668 --- EXISTING CONTOUR (MINOR)
--- 660 --- EXISTING CONTOUR (MAJOR)
--- 676 --- PROPOSED CONTOUR (MINOR)
--- 670 --- PROPOSED CONTOUR (MAJOR)
--- PROPERTY LINE/ROW
--- EXISTING EASEMENT
--- BUILDING SETBACK
--- PROPOSED LEASE AREA
--- WATERBODY
X X EXISTING FENCE
X X PROPOSED FENCE
--- ROADWAY CENTERLINE
--- EXISTING EDGE OF ASPHALT
--- EXISTING EDGE OF GRAVEL
--- PROPOSED EDGE OF PAVEMENT
UG/U UNDERGROUND UTILITY
V UNDERGROUND WATER LINE
S UNDERGROUND SEWER LINE
EXISTING SLOPE/DRAINAGE
PROPOSED SLOPE/DRAINAGE
PROPOSED DITCH
670.20 PROPOSED SPOT ELEV
X 662.20 EXISTING SPOT ELEV

DRAINAGE MAP LEGEND

- PROPOSED DRAINAGE AREA
PROPOSED IMPERVIOUS
PROPOSED GRAVEL

DRAINAGE MAP NOTES

CITY OF AURORA PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH CITY OF AURORA DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND ELEVATIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE. THE CITY OF AURORA, THROUGH THE APPROVAL OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

THIS PLAN SUBMITTED AS PART OF THE DRAINAGE CONFORMANCE LETTER CONTAINS SITE GRADING, LOT LAYOUTS, STORM SEWER AND INLET LAYOUTS, CONNECTIONS TO ADJACENT CONVEYANCE SYSTEMS AND PONDS AND OTHER ELEMENTS OF DRAINAGE DESIGN FOR THE SITE THAT CANNOT BE EVALUATED BY THE CITY FOR APPROVAL WITHOUT THE DETAILED ENGINEERING ANALYSIS THAT WILL BE SUBMITTED AT A LATER TIME WITH CIVIL PLANS. APPROVAL OF THIS DRAINAGE CONFORMANCE LETTER BY THE CITY DOES NOT IMPLY APPROVAL FOR ANY ASPECT OF GRADING OR DRAINAGE DESIGN THAT MAY BE SHOWN HEREIN OR ANY VARIANCES FROM CITY DRAINAGE CRITERIA.

DETENTION POND COMPLIANCE
THE PROPOSED METRONET HUT PROJECT WILL INTRODUCE LESS THAN 6,000 SQUARE FEET OF IMPERVIOUS SURFACE, INCLUDING GRAVEL. THIS RESULTS IN A REDUCTION OF APPROXIMATELY 18,500 SQUARE FEET OF IMPERVIOUS AREA DRAINING INTO THE DETENTION POND COMPARED TO THE ORIGINAL 2004 DESIGN. DUE TO THIS SIGNIFICANT DECREASE IN THE IMPERVIOUS, NO MODIFICATIONS TO THE DETENTION AND WATER QUALITY POND ARE PROPOSED.

EXISTING POND DATA

POND INFORMATION TAKEN FROM 2004 COSTIN ENGINEERING PLANS ELECTRONIC DRAWING NUMBER (EDN): 204090CP

Determine Outlet Design from Pond

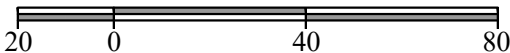
WQC Elev & Volume = 5785 ft.³ @ 5480.1
10 Year + WQCV = 13,628+5785=19,413; 5481.6
100 Year + WQCV = 23,591+5785=29,376; 5482.5
Sediment Volume = 9306 ft.³

Pond Chart

Water Surface Elevation			Storage Volume (ft ³)			Inflow		Outflow	
WQCV/Depth	10yr./Depth	100yr./Depth	WQCV	10yr.	100yr.	Q ₂	Q ₁₀₀	Q ₂	Q ₁₀₀
5480.4/0.80'	5481.6/2.3'	5482.5/3.2'	5785.0	15,143	26,212	12.8	31.5	1.55	5.17

STORMWATER MANAGEMENT PLAN

11" X 17": #####



AURORA WATER - DRAINAGE DIVISION

METRONET

3701 COMMUNICATIONS WAY
EVANSVILLE, IN 47715
812-213-1095

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COMMUNICATIONS SHELTER
AURORA, CO

DESIGN ENG: DAS

DRAWN BY: DAS

REVIEWED BY: TBD

SUBMITTALS

DATE	DESCRIPTION	REV

SCALE: 1"=40'

SITE ADDRESS: 16620 E ALAMEDA PKWY

SITE NAME: AURORA SHELTER

SHEET NAME: DRAINAGE MAP

SHEET NUMBER: 7C