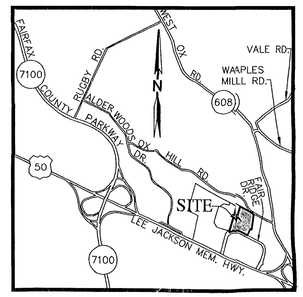
GENERALIZED DEVELOPMENT PLAN AND SPECIAL EXCEPTION PLAT FOR FAIR RIDGE INDEPENDENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

GENERAL NOTES

1. THIE PROPERTY IS IDENTIFIED ON FAIRFAX COUNTY TAX ASSESSMENT MAP: 46-3-((1))-14C.
2. THIE ABOVE REFERENCED PROPERTY IS CURRENTLY ZONED PDC
3. THIE BOUNDARY INFORMATION SHOWN HEREON WAS COMPILED FROM ALTA PREPARED BY URBAN LTD. DATED OCT. 5, 2005.
4. THIE TOPOGRAPHY SHOWN HEREON IS AT A TWO-FOOT CONTOUR INTERVAL, COMPILED FROM AIR SUIRVEY, DATED MARCH 30, 2005. GRID BASE ON VIRGINIA STATE PLANE COORDINATE SYSTEM, NORTH ZOINE NAD 1983.
5. THIE PROPERTY SHOWN ON THIS GDP PLAN IS LOCATED IN THE SULLY DISTRICT.
6. THIIS PROPOSED DEVELOPMENT IS IN CONFORMANCE WITH THE COMPREHENSIVE PLAN AND ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED CONDITIONS WITH THE EXCEPTION OF THE FOILLOWNG:
   *BULK PLANE ANGLES FOR SIDE AND FRONT YARDS. SEE SHEET 3 FOR PROPOSED ANGLES.
7. THIS SITE IS SERVED BY PUBLIC SEWER AND WATER.
8. STORM WATER MANAGEMENT (SWM) AND BEST PRACTICES (BMP) WILL BE PROVIDED BY AN EXISTING ONSITE FACILITY AS CONSTRUCTED WITH A PREVIOUSLY APPROVED FAIRFAX COUNTY SITE PLAN.
9. UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THERE ARE NO EXISTING UTILITY EASEMENTS OF 25' OR MORE IN WIDTH ON THE SITE.
10. INDIVIDUAL UTILITY PLANS AND PROFILES WILL BE SUBMITTED DURING THE SITE PLAN STAGE FOR CONSTRUCTION PURPOSES.
11. THERE ARE NO KNOWN HAZARDOUS OR TOXIC SUBSTANCES ON THIS SITE. IF ANY SUBSTANCES ARE FOUND, THE METHODS FOR DISPOSAL SHALL ADHERE TO COUNTY, STATE, OR FEDERAL LAW.
12. THERE ARE NO KNOWN BURIAL SITES OR EXISTING STRUCTURES FOUND ON THIS SITE.
13. ALL PUBLIC STREETS SHALL CONFORM TO FAIRFAX COUNTY AND/OR VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) STANDARDS AND SPECIFICATIONS UNLESS MODIFIED AS DESCRIBED IN GENERAL NOTE 6 ABOVE. PRIVATE STREETS SHALL CONFORM TO STANDARDS SET BY THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL SECTION 7 UNLESS MODIFIED AS DESCRIBED IN GENERAL NOTE 6 ABOVE.
14. IN ACCORDANCE WITH ARTICLE 18 OF THE ZONING ORDINANCE, MINOR MODIFICATIONS TO THE SIZE, DIMENSIONS, FOOTPRINTS, AND LOCATION OF BUILDINGS, PARKING SPACES, GARAGES AND SIDEWALKS MAY OCCUR WITH FINAL ENGINEERING AND DESIGN.
15. THERE ARE NO DESIGNATED ENVIRONMENTAL QUALITY CORRIDORS (EQC) AND RPA'S ON THE SUBJECT SITE PER FAIRFAX COUNTY MAPS.
16. THERE ARE NO SCENIC ASSETS OR NATURAL FEATURES ON THE SUBJECT SITE WHICH WOULD DESERVE PROTECTION OR PRESERVATION.
17. THERE ARE NO EXISTING BUILDINGS ON SITE.
18. THE SPECIAL AMENITIES PROPOSED WITH THIS SITE SHALL INCLUDE:
    * PEDESTRIAN SIDEWALKS
    * NEIGHBORHOOD GREENS
    THE LOCATION OF THESE AMENITIES ARE REFLECTED IN THIS PLAN.
19. THE DEVELOPMENT SCHEDULE AND PROPOSED SITE PLAN SUBMISSIONS SHALL BE DETERMINED BY THE APPLICANT BASED UPON MARKET CONDITIONS.
20. NOTWITHSTANDING THE IMPROVEMENTS AND TABULATIONS SHOWN ON THIS PLAN, THE APPLICANT RESERVES THE RIGHT TO REASONABLY MODIFY THE FINAL DESIGN CONCEPTS, INCLUDING SIZES AND LOCATIONS OF IMPROVEMENTS, TO CONFORM WITH ARCHITECTURAL AND ENGINEERING TOLERANCES AND TO COMPLY WITH NEW CRITERIA AND REGULATIONS THAT MAY BE ADOPTED BY FAIRFAX COUNTY. AND OTHER AGENCIES WHOSE JURISDICTIONAL APPROVAL MAY BE REQUIRED. IN NO EVENT SHALL THE OVERALL GFA BE INCREASED AND SUCH MODIFICATIONS SHALL BE IN SUBSTANTIAL CONFORMANCE WITH THE GDP/SE PLAT AS DETERMINED BY DPZ.
21. THIS PROJECT PROPOSES REZONING THIS *PROPERTY* TO R-8.
22. DIMENSIONS AND SIZES AS SCALED ARE APPROXIMATE AND MAY VARY DEPENDING ON THE FINAL USE AND ARCHITECTURAL/ENGINEERING DESIGN DURING SITE PLANNING. THE FINAL DESIGN SHALL BE IN SUBSTANTIAL CONFORMANCE WITH GDP.
23. FOR BULK PLANE DIAGRAMS, SEE SHEET #3.



VICINITY MAP
SCALE: 1" = 2000'

SITE TABULATIONS:

EXISTING SITE AREA	302,138 SF or 6.94 AC.
EXISTING ZONING	PDC
PROPOSED ZONING	R-8
PROPOSED DENSITY	28.82 DU AC.
PROPOSED MAX NUMBER OF UNITS ALLOWED	222 (WITH SPECIAL EXCEPTION, SEE NOTE#3)
PROPOSED USE	INDEPENDENT LIVING (WITH SPEX, SEE NOTE #3
PROPOSED MAX. NUMBER OF UNITS PROVIDED	200
MINIMUM ALLOWABLE OPEN SPACE	25% OR 75,535 SF (SEE NOTE #3)
LANDSCAPE OPEN SPACE PROVIDED	55.1% or 166,675 sf
MAXIMUM ALLOWABLE BUILDING HEIGHT	65'
BUILDING HEIGHT PROVIDED	65' (4 STORIES)
BUILDING GROSS SQUARE FOOTAGE	RESIDENTIAL=286,375 S.F. COMMUNITY CENTER=3,564 S.F. TOTAL=289,939 S.F.
BUILDING NET SQUARE FOOTAGE	RESIDENTIAL=229,097 S.F. COMMUNITY CENTER=2,850 S.F. TOTAL=231,947 S.F.
FAR-OVERALL SITE	289,939 S.F. / 302,138 S.F. = 0.96

1. ALL FOUR BUILDINGS ARE 1 STORY BELOW GRADE OF STRUCTURED PARKING WITH 4 STORIES ABOVE GRADE RESIDENTIAL.
2. THE HOUSING OF THE ELDERLY IS AGE RESTRICTED HOUSING FOR ADULTS 62 YEARS OF AGE AND OLDER.
3. 9-306-8(B) OF THE ZONING ORDINANCE ALLOW YOU 4 TIMES THE NUMBER OF UNITS AND REQUIRES A MINIMUM OF 25% OPEN SPACE.

PARKING TABULATIONS:

REQUIRED = 200 AGE RESTRICTED HOUSING UNITS @ 1 SP/ 4 UNITS & 1 SP/EMPLOYEE
= 200 UNITS/4 + 8 EMPLOYEE
= 58 SPACES

PROVIDED = 271 SP (210 GARAGE, 61 SURFACE)

LOADING REQUIRED 1 SP FOR THE 1ST 10,000 GSF + 1 SP/ ADDITION 100,000 GSF= 4 SPACES
LOADING PROVIDED = 4 SPACES

HANDICAPPED PARKING REQUIRED = 7 SPACES
HANDICAPPED PROVIDED = 7 SPACES: GARAGE= 14 SP (3 VAN, 1 REG.), SURFACE 3 SP (2 VAN, 3 REG.)

OWNER
FAIR RIDGE LLC.
8150 LEESBURG PIKE SUITE 1100
VIENNA, VA. 22182

DEVELOPER
ATLANTIC REALTY COMPANIES, INC.
8150 LEESBURG PIKE SUITE 1100
VIENNA, VIRGINIA 22182
PH. 703-760-9500

ARCHITECT
TORTI GALLAS AND PARTNERS, INC.
1300 SPRING STREET
SUITE 400
SILVER SPRING, MARYLAND 20910
PH. 301-588-4800

ENGINEER
URBAN, LTD.
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003
PH. 703-642-8080

LANDSCAPE ARCHITECT
URBAN, LTD.
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003
PH. 703-642-8080

Application No SE-2007-SU-002 Staff T. Strunk

Approved (SE) SP Plan
SEE DEV CONDS DATED 6/27/2007
Date of (BOS) (BZA) Approval 9/24/2007
Sheet 1 of 13
Concurrent w/ PCA-1998-SU-009-02
And RZ-2007-SU-003 (Proffers 9-20-2007)

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JUN 21 2007
Zoning Evaluation Division

SHEET INDEX

1. COVER SHEET
2. EXISTING CONDITIONS AND SOILS MAP
3. GENERALIZED DEVELOPMENT PLAN
4. GARAGE LAYOUT
5. LANDSCAPE PLAN
5A-5B. ILLUSTRATIVE DETAILS
6-8. S.W.M.-DRAINAGE DIVIDE MAP
9. EXISTING VEGETATION MAP
10. TYPICAL FLOOR PLAN
11. TYPICAL ELEVATION
12. SECTIONS
12A. LANDSCAPE PLAN RENDERING
12B. OPEN SPACE EXHIBIT

No.	DATE	DESCRIPTION	REV BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
11-09-06
01-11-07
03-12-07
04-02-07
05-14-07
06-04-07
06-21-07

Urban, Ltd.
7712 Little River Turnpike
Annandale, Virginia 22003
Tel. 703.642.8080
www.urban-ltd.com
urban
Planners-Engineers-Landscape Architects-Land Surveyors

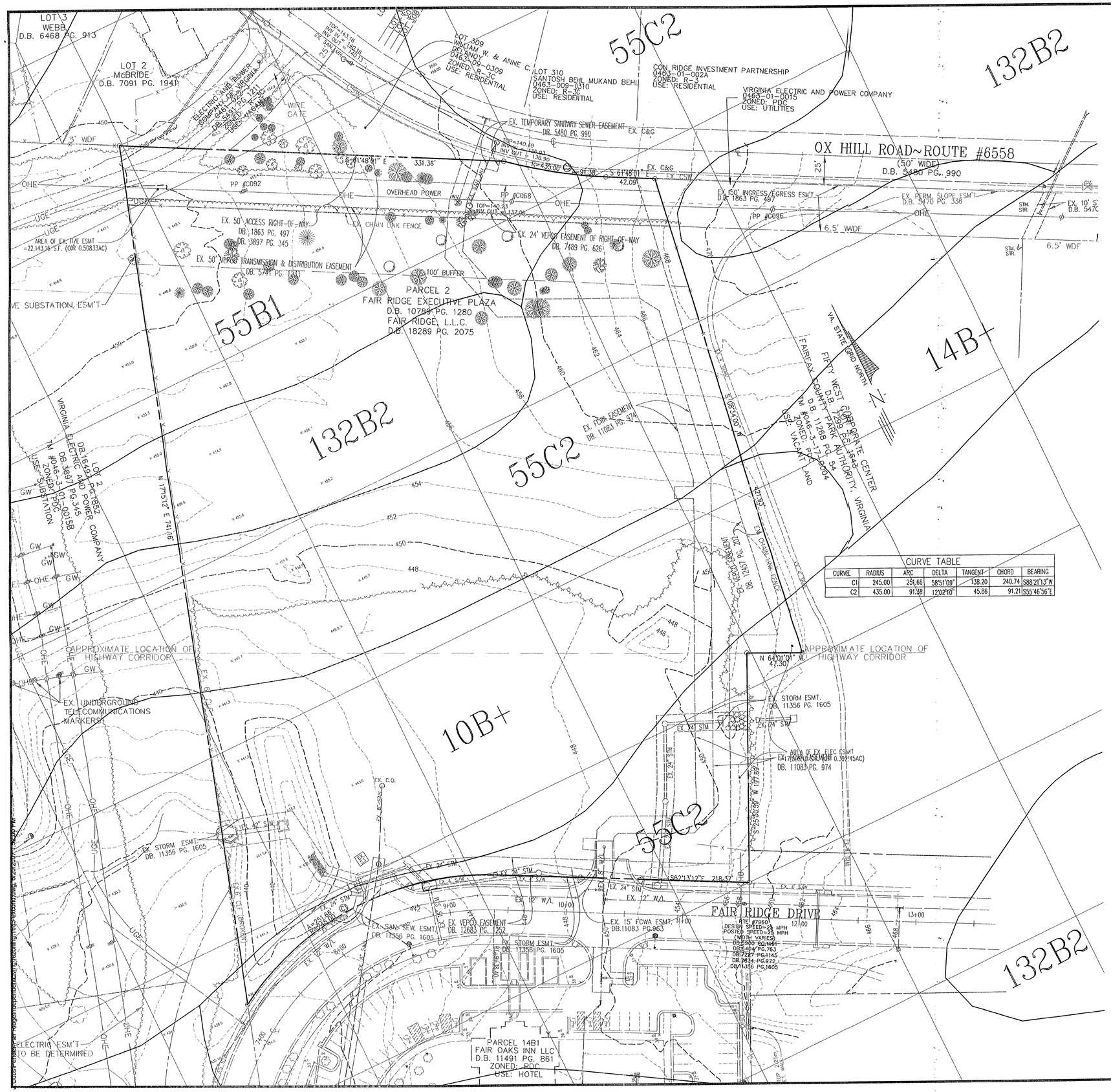
COMMONWEALTH OF VIRGINIA
ERIC S. SIEGEL
No. 023416
06/21/07
PROFESSIONAL ENGINEER

COVER SHEET
FAIR RIDGE
INDEPENDENT LIVING
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=40' | C.I. = N/A | DATE: NOV. 2006

SHEET 1 OF 12

FILE No. MISC 1683



CURVE TABLE						
CURVE	RADIUS	ARC	DELTA	TANGENT	CHORD	BEARING
C1	245.00	251.66	58°51'09"	138.20	240.74	S88°21'13"W
C2	435.00	91.38	12°02'10"	45.86	91.21	S55°46'56"E

Application No SE-2007-SU-002 Staff T. Strunk

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Sheet 7 of 18
Concurrent w/ PCA-1998-SU-009-02
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LEGEND:

- EXISTING TREE LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING PROPERTY LINE PIPES
- EXISTING FENCE
- EXISTING LIGHTING
- EXISTING CURB AND GUTTER
- EXISTING CONTOUR
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING UNDERGROUND TELEPHONE LINE
- GW EXISTING GUY WIRE
- EXISTING DRAINAGE WAY
- EXISTING POWER POLE

SOILS LEGEND		
NUMBER	NAME	CLASS
10B+	GLENVILLE	B
55B1	GLENELG	C
55C2	GLENELG	C
132B2	MAYODAN	C

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

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ERIC S. SIEGEL
No. 022446
06/21/07
PROFESSIONAL ENGINEER

EXISTING CONDITIONS AND SOILS MAP

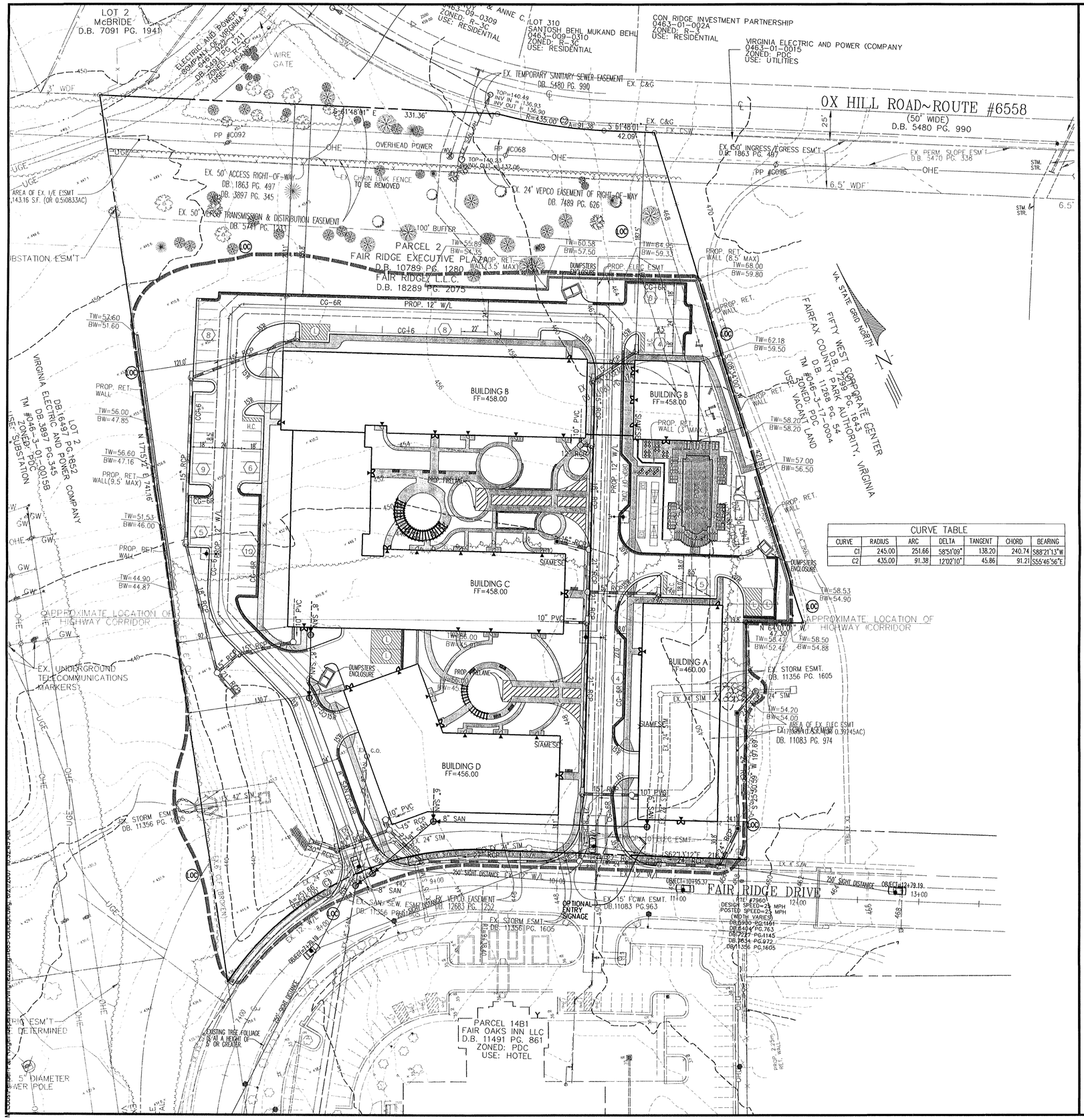
FAIR RIDGE
INDEPENDENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=40'
C.L. = 2'
DATE: NOV., 2006

SHEET 2 OF 12

FILE No. MISC 1683



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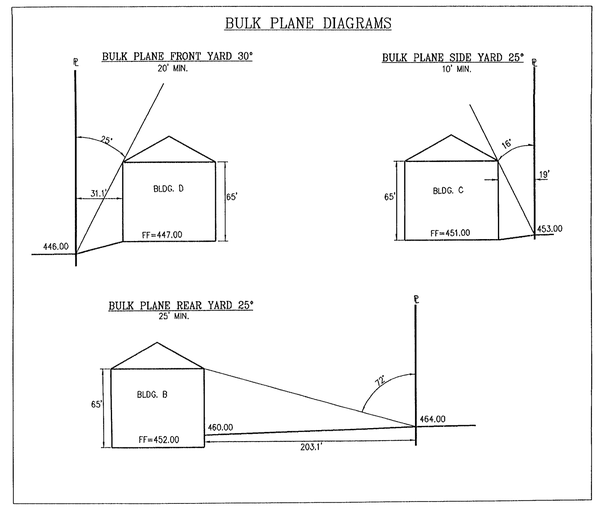
BULK PLANE DIAGRAMS



SCALE: 1"=50'

LEGEND:

- PROPOSED GRASSPAVE
- PROPOSED SIDEWALK
- EX. STREET LIGHTS
- PROP. STREET LIGHTS
- O.R. — OVERLAND RELIEF
- ???? VPD — PROJECTED TRAFFIC COUNT
- STREET SIGN
- STOP SIGNS
- PROP. FIRE HYDRANT
- EX. FIRE HYDRANT
- PROPOSED CURB
- MAIN BULDING ENTERANCE
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- 00 — EXISTING CONTOUR
- 00 — PROPOSED CONTOUR
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- W — EXISTING WATER LINE
- W — PROPOSED WATER LINE
- EXISTING TREE LINE
- LOC — PROPOSED LIMITS OF CLEARING & GRADING
- EX. POWER POLE
- ROAD SIGN
- EXISTING FENCE
- 25.6 — EXISTING SPOT ELEVATION
- +25 60 — PROP. SPOT ELEVATION
- PROPOSED CG-12

Application No SE-2007-SU-002 Staff T. Strunk

Approved SP SP Plan
SEE DEV CONDS DATED 6/27/2007
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COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER
BRIC S. SIEGEL
No. 023416
06/21/07

GENERALIZED DEVELOPMENT PLAN

FAIR RIDGE INDEPENDENT LIVING

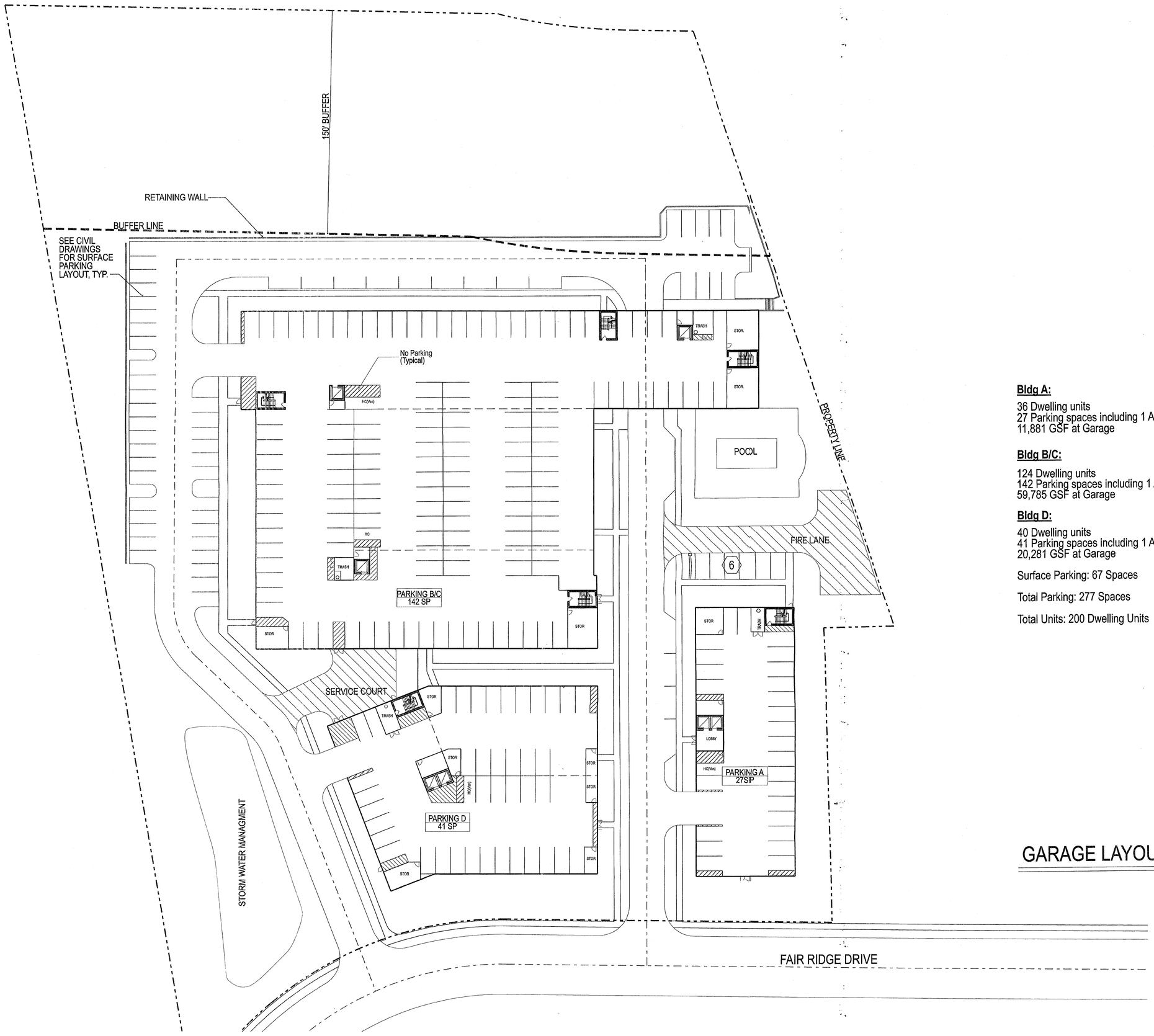
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE: NOV., 2006

SCALE: 1"=40' C.I. = 2'

SHEET 3 OF 12

FILE No. MISC 1683



Bldg A:

36 Dwelling units
27 Parking spaces including 1 Accessible Van Space
11,881 GSF at Garage

Bldg B/C:

124 Dwelling units
142 Parking spaces including 1 Accessible Van Space and 1 Accessible Space
59,785 GSF at Garage

Bldg D:

40 Dwelling units
41 Parking spaces including 1 Accessible Van Space
20,281 GSF at Garage

Surface Parking: 67 Spaces

Total Parking: 277 Spaces

Total Units: 200 Dwelling Units

GARAGE LAYOUT

Application No SE-2007-SU-002 Staff T. Strunk

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Sheet 4 of 18
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30' 20' 10' 0 30'
SCALE: 1" = 30'-0"

FAIR RIDGE INDEPEN-DENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY,VA

Torti Gallas and Partners, Inc.
1300 Spring Street,
4th Floor
Silver Spring, MD 20910
301.588.4800
www.tortigallaschk.com

Owner
Atlantic Realty Companies
703.760.9500

Civil / Landscape Engineer
Urban Ltd.
703.642.8080

Key Plan

Revisions

No.	Date

Date
05/14/07
06/04/07
Principal In Charge
D.F.

Project Architect.
E.C.

Approved
M.B.

Drawn
N.F.,E.C.,S.V.,A.M.

Job No.
07135.00

Scale
As Noted

Drawing No.
4 of 12

TORTI GALLAS AND PARTNERS INC.

ecristiansen
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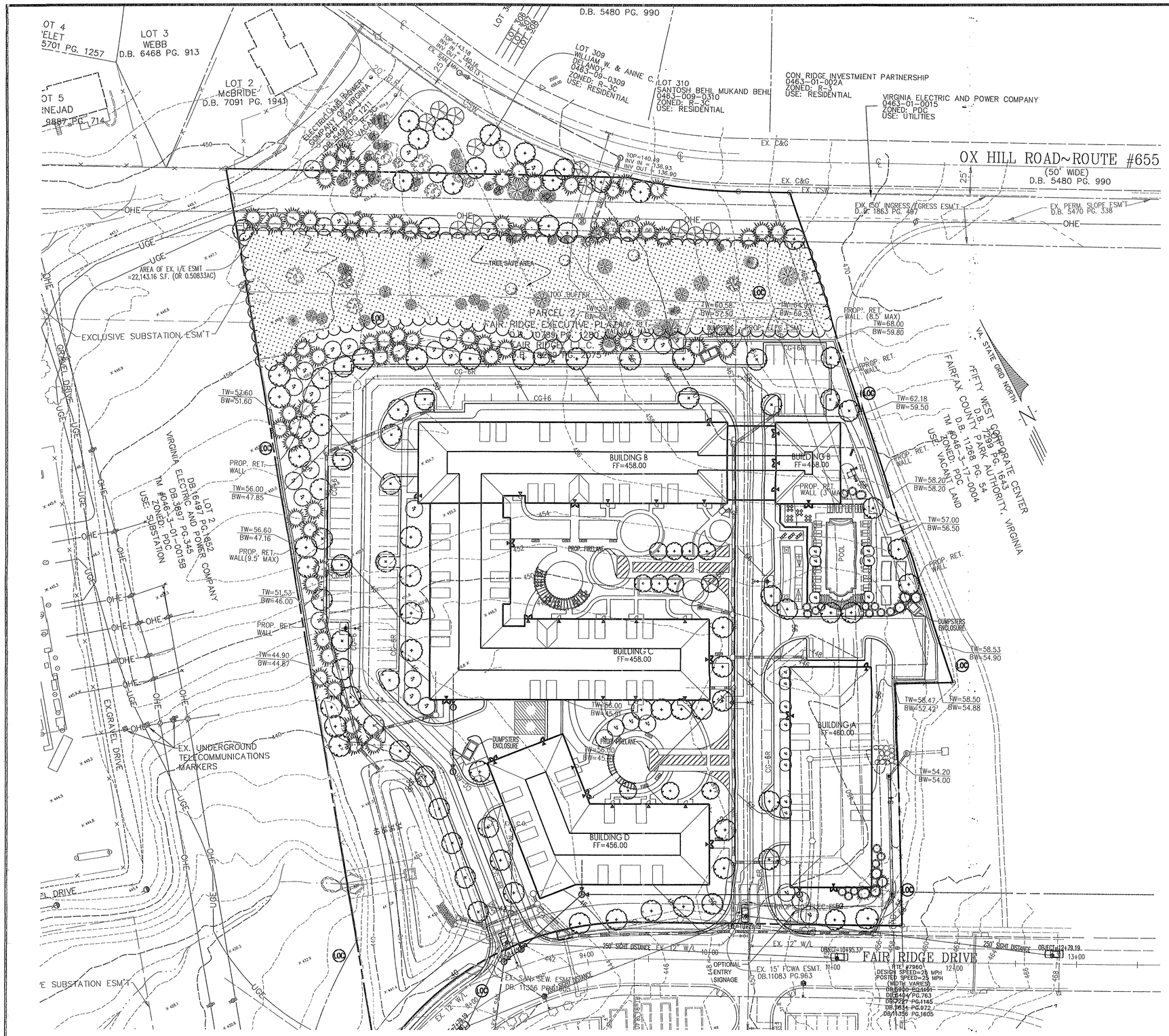

TYPICAL PLANT PALETTE

Botanical Name	Common Name	Size
CANOPY TREES		
Acer rubrum 'October Glory'	Oclober Glory Red Maple	3" cal.
Fraxinus americana	Seedless Green Ash	3" cal.
Liquidambar styraciflua	Sweetgum	3" cal.
Quercus palustris	Pin Oak	3" cal.
Quercus phellos	Willow Oak	3" cal.
Quercus rubra	Red Oak	3" cal.
ORNAMENTAL / EVERGREEN TREES		
Cercis canadensis	Eastern Redbud	8'-10' ht.
Cornus florida	Flowering Dogwood	8'-10' ht.
Hammelis virginiana	Witch Hazel	6'-8' ht.
Ilex opaca	American Holly	6'-8' ht.
Juniperus virginiana	Eastern Redcedar	6'-8' ht.
Lagerstroemia indica 'Natchez'	Crape Myrtle	8'-10' ht.
Magnolia lilliflora x stellata 'Susan'	Susan Magnolia	8'-10' ht.
Magnolia soulangiana	Saucer Magnolia	8'-10' ht.
Magnolia Virginiana	Sweetbay Magnolia	8'-10' ht.
Pinus strobus	White Pine	8'-10' ht.
SHRUBS / GROUNDCOVERS / PERENNIALS / MISC.		
Azalea 'Delaware Valley'	White Azalea	30"
Calamagrostis acutiflora 'Karl Forester'	Feather Reed Grass	3 gal.
Cotoneaster dammeri 'Coral Beauty'	Coral Beauty Cotoneaster	18"-24"
Hemerocallis minor 'Stella D'Oro'	Stella D'Oro Daylily	2 gal.
Hydrangea quercifolia	Oakleaf Hydrangea	30-36"
Hypericum calycinum	Aaronsbeard St. John's Wort	3 gal.
Ilex crenata 'Hellen'	Helleri Holly	18"-24"
Ilex x meserveae 'Blue Princess'	Blue Princess Holly	30"-36"
Viburnum rhytidophylum	Leatherleaf Viburnum	30"-36"

NOTES:
1. LANDSCAPING SHOWN IS CONCEPTUAL AND PRESENTED ONLY TO ILLUSTRATE CHARACTER AND QUALITY OF DESIGN. LOCATIONS, SPECIES AND QUANTITIES MAY BE ADJUSTED WITH FINAL DESIGN AND ENGINEERING.

TREE CANOPY COVER REQUIREMENTS

TOTAL SITE AREA:	302,138 s.f.
BUILDING FOOTPRINTS:	69,390 s.f.
NET SITE AREA:	232,748 s.f.
CANOPY REQUIRED (20%):	46,550 s.f.
TREE SAVE AREA (20,000 x 1.25):	25,000 s.f.
LANDSCAPING PROVIDED:	22,000 s.f.
CANOPY PROVIDED:	47,000 s.f.

THE FOLLOWING MODIFICATIONS ARE REQUESTED:

(i) A MODIFICATION OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENTS ALONG THE NORTHERN BOUNDARY TO THAT SHOWN ON THIS PLAN IN CONFORMANCE WITH PARAGRAPH (3) SECTION 13-304 OF THE ZONING ORDINANCE. EXISTING TREES TO REMAIN AND PROPOSED TREE AND SHRUB PLANTINGS WILL PROVIDE A SUBSTANTIAL VISUAL BUFFER BETWEEN USES.

Application No SE-2007-SU-002 Staff T. Strunk

Approved (SE) SP Plan
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Date of (BOS) (BZA) Approval 9/24/2007
Sheet 5 of 18
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11-09-06
12-14-06
1-22-07
4-02-07
05-14-07
06-04-07
06-21-07

Urban, Ltd.
7112 Little River Turnpike
Annandale, Virginia 22003
Tel. 703.642.8080
www.urban-ltd.com
Planners-Engineers-Landscape Architects-Land Surveyors

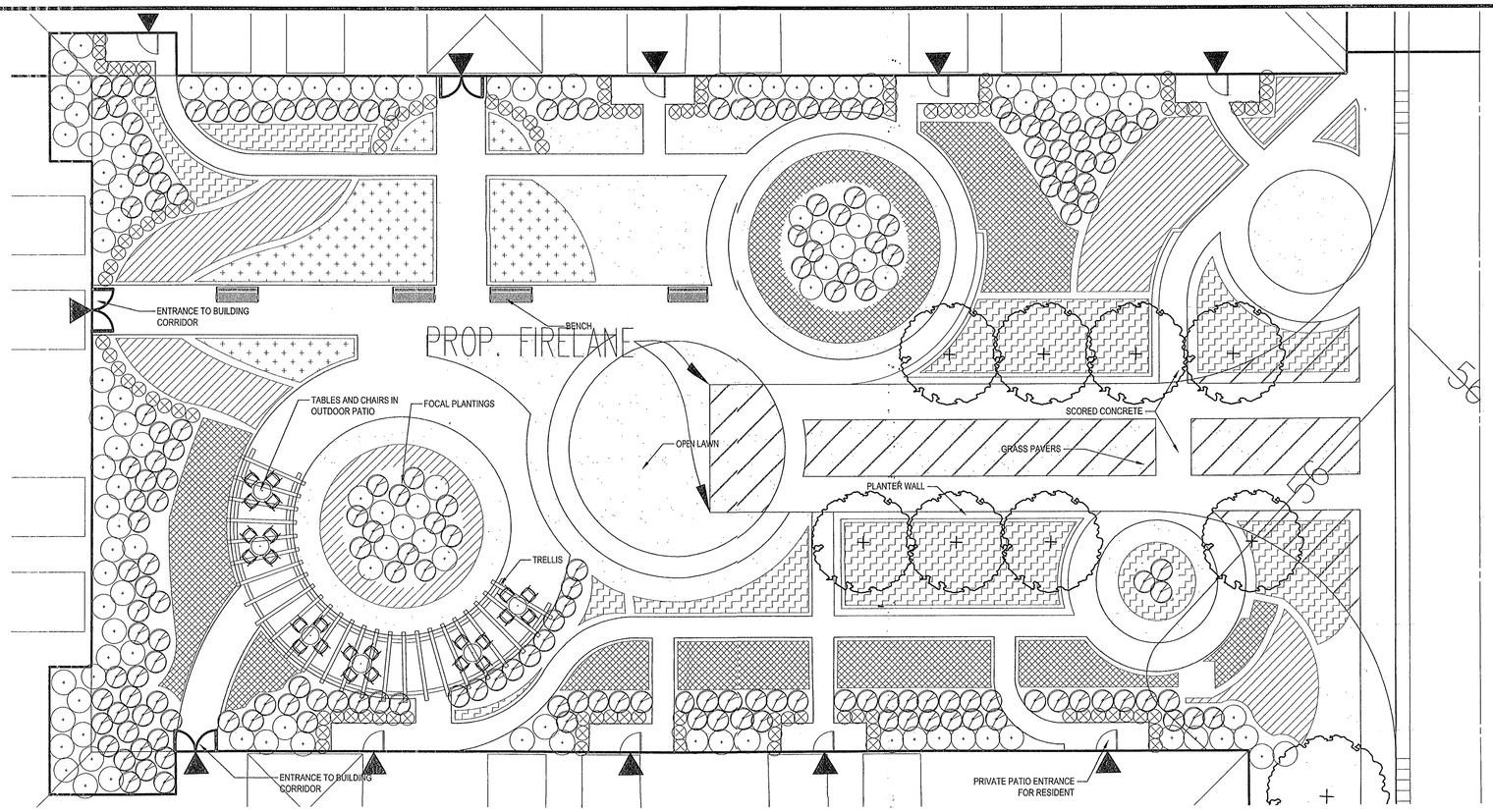
COMMONWEALTH OF VIRGINIA
ERIC S. SIEGEL
No. 023418
06/21/07
PROFESSIONAL ENGINEER

LANDSCAPE PLAN
FAIR RIDGE
INDEPENDENT LIVING
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

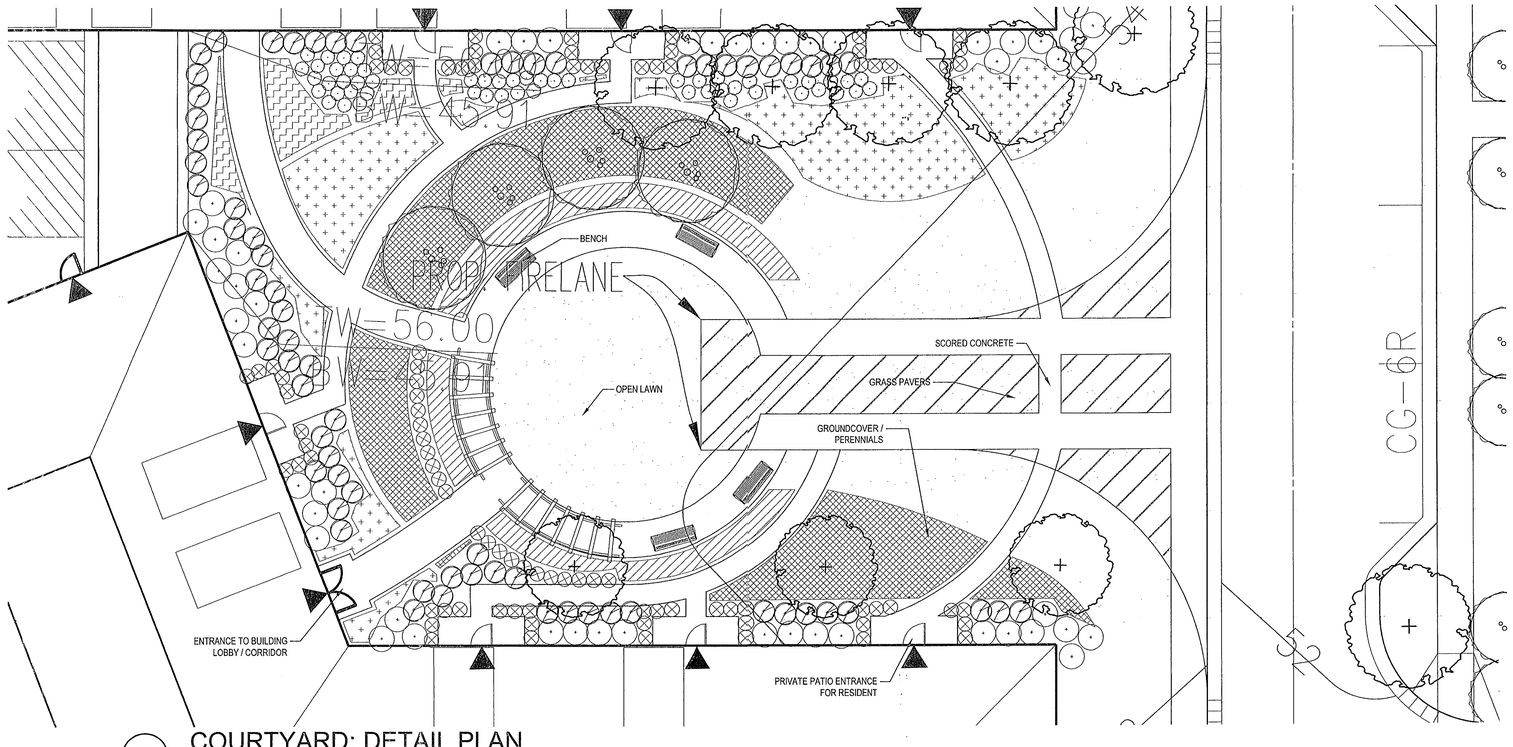
SCALE: 1"=40' C.I. =2' DATE: NOV., 2006

SHEET 5 OF 12

FILE No. MISC-1683



1 COURTYARD: DETAIL PLAN
Scale: 1"=10'



2 COURTYARD: DETAIL PLAN
Scale: 1"=10'

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COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER
ERIC S. SIEGEL
No. 023416
06/21/07

ILLUSTRATIVE DETAIL PLANS

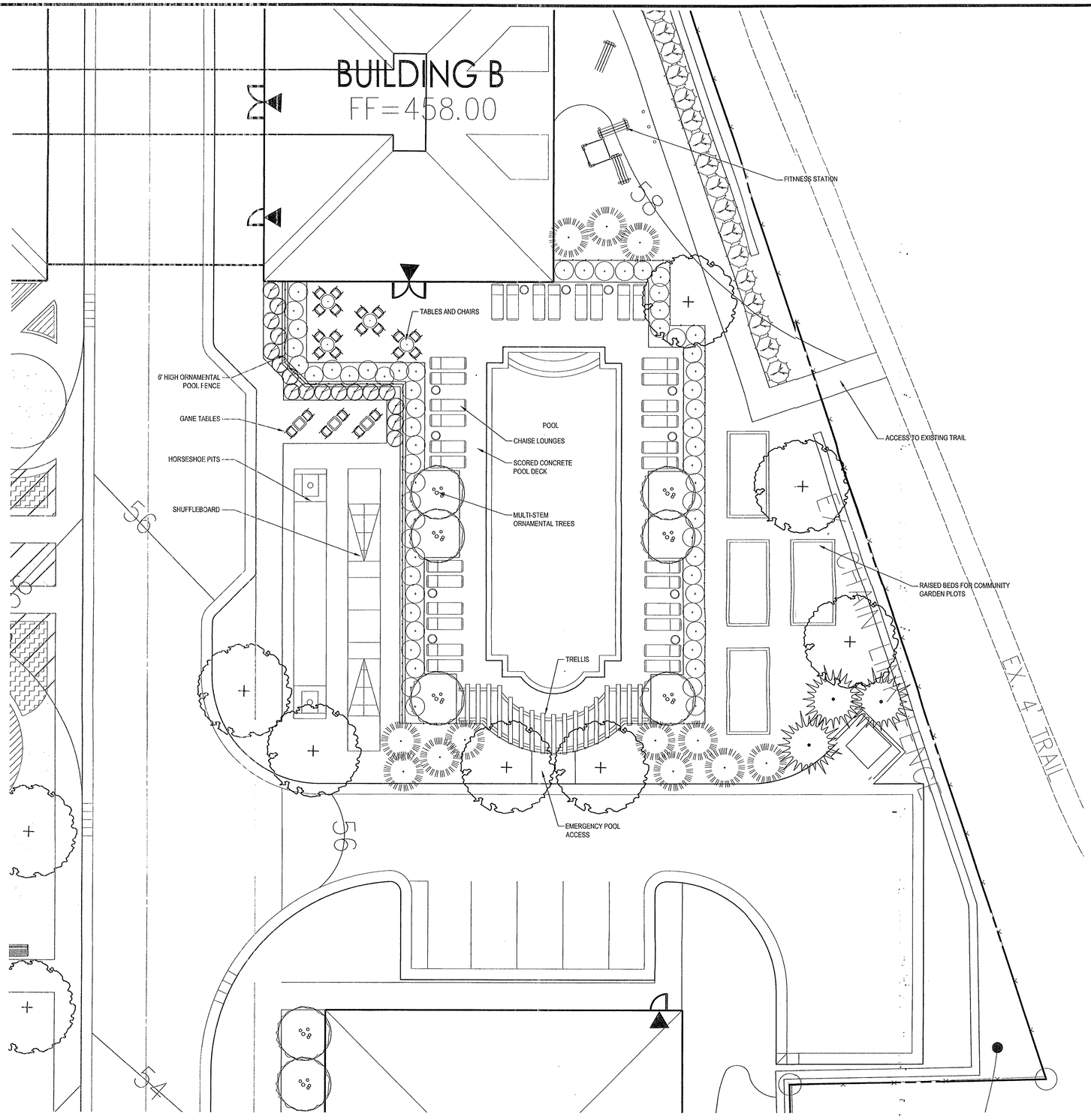
FAIR RIDGE INDEPENDENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

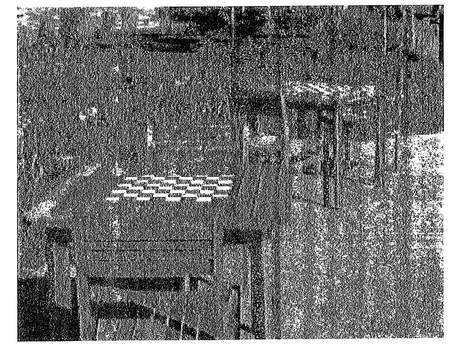
SCALE: 1"=40' C.I. =2' DATE: NOV., 2006

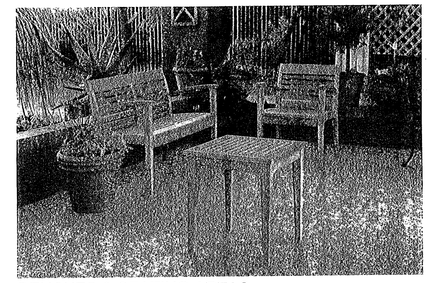
SHEET 5A OF 12

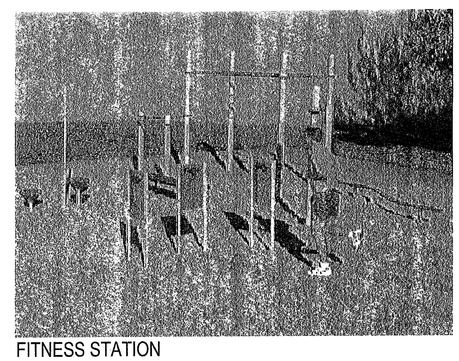
FILE No. MISC-1683



1 CLUBHOUSE RECREATION: DETAIL PLAN
Scale: 1"=10'


GAME TABLES


BENCHES & SEATING AREAS


FITNESS STATION

2 RECREATIONAL AMENITIES
NTS

Application No SE-2007-SU-002 Staff T. Strunk

Approved SE SP Plan
SEE DEV CONDS DATED 6/27/2007
Date of (BOS) (BZA) Approval 9/24/2007
Sheet 7 of 18
Concurrent w/ PCA-1998-SU-009-02
And RZ-2007-SU-003 (Proffers 9-20-2007)

No.	DATE	DESCRIPTION	REV BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE
11-09-06
12-14-06
3-22-07
4-02-07
05-14-07
06-04-07
08-21-07

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7112 Little River Turnpike
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Tel. 703-642-8080
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Planners-Engineers-Landscape Architects-Land Surveyors

COMMONWEALTH OF VIRGINIA
ERIC S. SIEGEL
No. 023416
06/21/07
PROFESSIONAL ENGINEER

ILLUSTRATIVE DETAIL PLANS

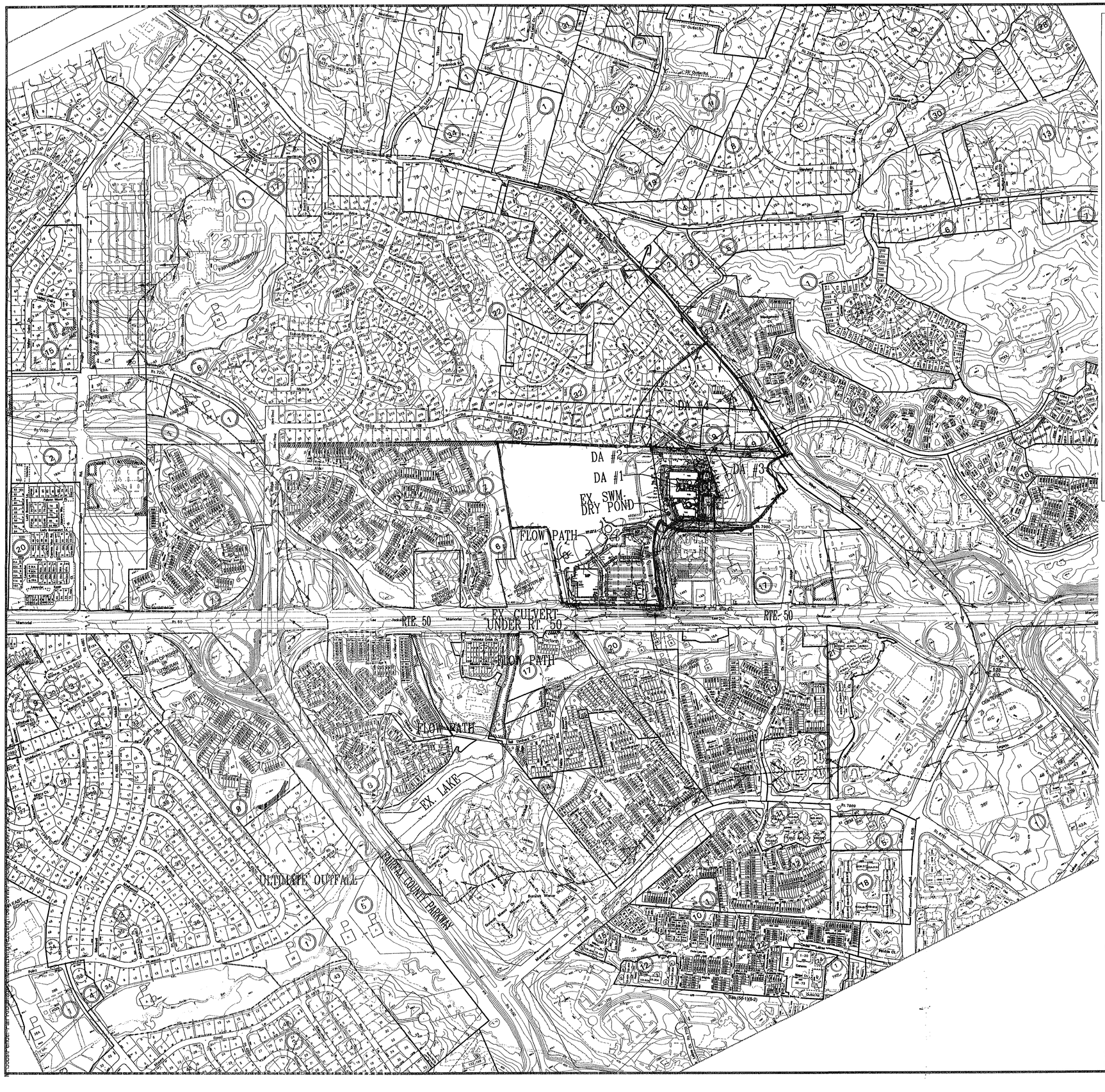
FAIR RIDGE INDEPENDENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=40'
C.L. =2'
DATE: NOV., 2006

SHEET 5B OF 12

FILE No. MISC-1683



MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:

Special Permits (8-011 2J & 2L)	Special Exceptions (9-011 2J & 2L)
Cluster Subdivision (9-615 1G & 1N)	Commercial Revitalization Districts (9-622 2A (12) & (14))
Development Plans PRC District (16-302 3 & 4L)	PRC Plan (16-303 1E & 1O)
FDP P Districts (except PRC) (16-502 1F & 1Q)	Amendments (18-202 10F & 10I)

✓ 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').

✓ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 3.

✓ 3. Provide:

Facility Name/ Type & No.	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf)	If pond, dam height (ft)
(e.g. dry pond #1, silt trap #2, or dispersal area, etc.)						
EXISTING DRY POND	5.89	0	5.89	49x174=8,526 S.F.	59,682 C.F.	7'
Totals						

✓ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 3. Pond inlet and outlet pipe systems are shown on Sheet 3.

✓ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 3. Type of maintenance access road surface noted on the plat is Private Road (asphalt, geoblock, gravel, etc.). (gravel)

✓ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet N/A.

✓ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 6A.

✓ 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 6A.

✓ 9. A description of how the outfall requirements, including known changes to contributing drainage areas (i.e. drainage diversions), of the Public Facilities Manual will be satisfied is provided on Sheet 6A.

✓ 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 2 (air survey)

✓ 11. A submission waiver is requested for Offsite BMP

✓ 12. Stormwater management is not required because (is required and provided)

Revised 2-21-2006

Application No SE-2007-SU-002 Staff T. Strunk

Approved SE SP Plan
SEE DEV CONDS DATED 6/27/2007
Date of (BOS) (BZA) Approval 9/24/2007
Sheet 8 of 18
Concurrent w/ PCA-1998-SU-009-02
And RZ-2007-SU-003 (Proffers 9-20-2007)

DRAINAGE AREA SUMMARY

DRAINAGE AREA DESIGNATOR	ONSITE/OFFSITE	CONTROLLED/ UNCONTROLLED	DRAINAGE AREA
DA #1	ONSITE	CONTROLLED	5.89 AC (OR 256,568 S.F.)
DA #2	ONSITE	UNCONTROLLED	1.05 AC (OR 45,738 S.F.)
DA #3	OFFSITE	UNCONTROLLED *	12.34 AC (OR 537,530 S.F.)
DA #4	OFFSITE	UNCONTROLLED	12.16 AC (OR 529,689 S.F.)

*WILL NOT BE DETAINED BY THE ONSITE POND.

SWM NOTES

1. THE EXISTING POND WILL BE REROUTED WITH THE FINAL SITE PLAN TO ENSURE IT IS ADEQUATELY SIZED, HOWEVER, THE PROPOSED LAND USE IS LESS INTENSE THAN THE ORIGINAL DESIGN OF THE POND ANTICIPATED.

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
11-09-06
12-14-06
01-11-07
02-22-07
03-26-07
05-14-07
06-04-07
06-21-07

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CLAYTON C. TOCK
No. 038190
06/21/07
PROFESSIONAL ENGINEER

S.W.M. - DRAINAGE DIVIDE MAP

FAIR RIDGE INDEPENDENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=400' C.I. = 2' DATE: NOV., 2006

SHEET 6 OF 12

FILE No. MISC 1683

STORM SEWER DESIGN COMPUTATIONS

FROM	TO	TYPE OF STRT.	DRAIN. AREA (ACRES)	RUN OFF COEF. 'C'	C X A INCR	C X A ACCUM	TIME OF CONCENTRATION TC	TIME	ACC	TOTAL FLOW I In/hr	INCR	ACCUM	PIPE RUN LENGTH (ft)	DIA.	SLOPE %	CAPACITY CFS	VEL FPS	ELEVATIONS UPPER INVERT	FALL	LOWER INVERT	DROP STR	TOP STR	REMARKS	DIA. (METRIC)
6	5	*	0.49	0.80	0.39	0.60	5.0	0.1	5.00	7.27	2.40	4.07	59.55	15	1.91	8.96	7.15	130.52	1.14	129.38	0.00	0.00		375mm
3E	3B	*	0.60	0.60	0.36	0.36	5.0	0.1	5.00	7.27	2.62	2.62	42.50	15	5.22	14.80	9.15	132.60	2.22	130.38	0.00	0.00	*	375mm
3C	3B	*	0.01	0.90	0.01	0.01	5.0	0.3	5.00	7.27	0.07	0.07	23.57	15	0.51	4.62	1.39	130.50	0.12	130.38	0.00	0.00		375mm
3B	3A	*	0.27	0.78	0.21	0.58	5.0	0.1	5.00	7.27	1.53	4.22	29.42	15	0.71	5.47	4.91	130.28	0.21	130.07	0.00	0.00		375mm
3D	3A	*	0.50	0.72	0.36	0.36	5.0	0.0	5.00	7.27	2.62	2.62	5.79	15	0.52	4.66	3.90	130.10	0.03	130.07	0.00	0.00		375mm
3A	2C	*	0.29	0.78	0.23	1.17	5.0	0.1	5.00	7.27	1.67	8.51	21.50	18	0.98	10.41	6.55	129.99	0.21	129.78	0.00	0.00		450mm
2C	2B	*	0.00	0.00	0.00	1.17	5.0	0.0	5.00	7.27	0.00	8.51	15.50	18	0.97	10.36	6.53	129.36	0.15	129.21	0.00	0.00	*	375mm
3	2A	*	0.25	0.90	0.23	0.23	5.0	0.0	5.00	7.27	1.67	1.67	10.50	15	0.57	4.90	3.62	129.46	0.06	129.40	0.00	0.00		375mm
2A	2	*	0.00	0.00	0.00	0.00	25.0	0.1	25.00	0.00	8.66	8.66	24.50	27	1.14	33.20	7.03	128.40	0.28	128.12	0.00	0.00	Q10	675mm
2A	2	*	0.00	0.00	0.00	0.00	15.0	0.0	15.00	0.00	28.92	28.92	24.50	27	1.14	33.20	9.38	128.40	0.28	128.12	0.00	0.00	Q100	675mm
2	1	*	0.24	0.60	0.14	0.00	5.0	0.1	5.00	7.27	1.02	2.62	35.72	27	1.18	33.67	5.03	128.02	0.42	127.60	0.00	0.00	Q10	675mm
2	1	*	0.24	0.75	0.18	0.00	15.0	0.1	15.00	7.05	1.27	30.19	35.72	27	1.18	33.67	9.55	128.02	0.42	127.60	0.00	0.00	Q100	675mm
1	EXA2	*	0.35	0.90	0.32	0.00	5.0	0.1	5.00	7.27	2.33	4.95	21.88	27	1.65	39.83	6.86	127.50	0.36	127.14	0.00	0.00	Q10	675mm
1	EXA2	*	0.35	1.13	0.40	0.00	15.0	0.0	15.00	7.05	2.82	33.01	21.88	27	1.65	39.83	11.17	127.50	0.36	127.14	0.00	0.00	Q100	675mm
EXA2	EXA1	*	0.00	0.00	3.23	0.00	5.0	0.1	5.00	7.27	23.48	28.43	42.20	36	0.92	64.29	8.83	127.09	0.39	126.70	0.00	0.00	Q10	900mm
EXA2	EXA1	*	0.00	0.00	4.04	0.00	15.0	0.1	15.00	7.05	28.46	61.47	42.20	36	0.92	64.29	10.33	127.09	0.39	126.70	0.00	0.00	Q100	900mm
13C	13B	*	9.92	0.63	0.00	0.00	25.0	0.0	25.00	4.03	15.08	15.08	16.52	24	3.33	41.39	12.17	136.25	0.55	135.70	0.00	0.00	*	600mm
13B	13A	*	1.38	0.78	1.08	1.08	25.0	0.0	25.00	4.03	4.35	19.43	20.50	24	0.98	22.40	8.01	135.60	0.20	135.40	0.00	0.00	*	600mm
13A	13	*	0.29	0.67	0.19	1.27	25.0	0.0	25.00	4.03	1.38	20.22	22.62	24	1.33	26.12	9.16	135.30	0.30	135.00	0.00	0.00		600mm
13	12	*	0.11	0.90	0.10	1.37	25.0	0.1	25.00	4.03	0.40	20.62	31.82	24	1.26	25.43	9.00	134.70	0.40	134.30	0.00	0.00		600mm
12	11	*	0.00	0.00	0.00	1.90	25.0	0.0	25.00	4.03	0.00	22.74	29.21	24	3.08	39.82	13.07	134.20	0.90	133.30	0.00	0.00		600mm
11A	11	*	0.35	0.75	0.26	0.26	5.0	0.1	5.00	7.27	1.89	1.89	14.61	15	0.68	5.36	4.00	133.20	0.10	133.10	0.00	0.00		375mm
11	10	*	0.08	0.60	0.05	2.21	25.0	0.0	25.00	4.03	0.20	23.99	8.01	24	1.87	31.04	10.88	133.00	0.15	132.85	0.00	0.00		600mm
10	9B	*	0.35	0.90	0.32	2.53	25.0	0.0	25.00	4.03	1.29	25.28	14.00	24	1.86	30.91	10.94	132.55	0.26	132.29	0.00	0.00		600mm
9B	9A	*	0.25	0.85	0.21	2.74	25.0	0.0	25.00	4.03	0.85	26.13	9.50	24	2.00	32.08	11.35	132.19	0.19	132.00	0.00	0.00	*	600mm
1B	1A	*	0.39	0.76	0.30	0.30	5.0	0.0	5.00	7.27	2.15	2.15	9.06	15	2.21	9.62	6.35	127.70	0.20	127.50	0.00	0.00		

STORM WATER INLET COMPUTATIONS

INLET NUMBER	TYPE	LENGTH	STATION	DRAINAGE AREA (AC)	C	CA	W CA	I IN/HR	Q INCR	Q CARRY OVER	Qt (CFS)	S Gutter Slope (FT/FT)	Sx	T Spread (FT)	W (FT)	W/T	Sw	Sw /Sx	Eo	a	Sw1	Se	Lt. p eff	L/Lt d	E h #16	Q INTCEP (CFS)	Qb CARRY OVER (CFS)	d / h	T SPREAD @ SAG	REMARKS LENGTH OF THROAT
6	3B	12.0		0.49	0.80	0.39	0.39	4.00	1.57	0.00	1.57	0.080	0.06	2.4	2.0	0.82	0.00	1.4	0.99	2.6	0.11	0.17	12.4	1.0	1.0	1.56	0.0			3.6m
5	3B	10.0		0.53	0.90	0.48	0.48	4.00	1.91	0.00	1.91	0.010	0.02	7.6	2.0	0.26	0.00	4.2	0.71	3.5	0.15	0.12	8.6	1.2	1.0	1.91	0.0			3.0m
4	3B	12.0		1.00	0.86	0.86	0.86	4.00	3.44	0.00	3.44	0.010	0.03	7.9	2.0	0.25	0.00	2.8	0.63	3.3	0.14	0.12	11.4	1.1	1.0	3.44	0.0			3.6m
3	3B	8.0		0.25	0.90	0.23	0.23	3.50	0.79	0.00	0.79	0.025	0.02	2.9	2.0	0.69	0.00	4.2	0.99	3.5	0.15	0.17	6.6	1.2	1.0	0.79	0.0			2.4m
2	3B	6.0		0.24	0.60	0.14	0.14	3.50	0.50	0.00	0.50	0.025	0.02	2.0	2.0	1.00	0.00	4.2	1.00	3.5	0.15	0.17	5.4	1.1	0.9	0.50	0.0			1.8m
1	3B	8.0		0.35	0.90	0.31	0.32	3.50	1.10	0.00	1.10	0.025	0.02	4.0	2.0	0.50	0.00	4.2	0.95	3.5	0.15	0.16	7.7	1.0	0.9	1.10	0.0			2.4m
3D	3B	8.0		0.50	0.72	0.36	0.36	3.50	1.26	0.00	1.26	0.025	0.02	4.4	2.0	0.45	0.00	4.2	0.92	3.5	0.15	0.16	8.3	1.0	1.0	1.26	0.0			2.4m
3C	3B	4.0		0.01	0.90	0.01	0.01	3.50	0.03	0.00	0.03	0.020	0.02	2.0	2.0	1.00	0.00	4.2	1.00	3.5	0.15	0.17	1.6	2.5	0.0	0.03	0.0			1.2m
3B	3B	8.0		0.27	0.78	0.21	0.21	3.50	0.74	0.00	0.74	0.040	0.04	2.0	2.0	1.00	0.00	2.1	1.00	3.0	0.13	0.17	7.3	1.1	1.0	0.74	0.0			2.4m
3A	3B	8.0		0.29	0.78	0.23	0.23	3.50	0.79	0.01	0.80	0.033	0.04	2.3	2.0	0.89	0.00	2.1	1.00	3.0	0.13	0.17	7.2	1.1	1.0	0.80	0.0			2.4m
13A	3B	12.0		1.45	0.85	1.23	1.23	3.50	4.31	0.00	4.31	0.010	0.04	7.4	2.0	0.27	0.00	2.1	0.63	3.0	0.13	0.12	12.4	1.0	1.0	4.31	0.0			
13	3B	6.0		0.11	0.90	0.10	0.10	3.50	0.35	0.00	0.35	0.070	0.02	2.0	2.0	1.00	0.00	4.2	1.00	3.5	0.15	0.17	6.3	1.0	1.0	0.34	0.0			1.8m
3E	3B	10.0		0.60	0.60	0.36	0.36	3.50	1.26	0.00	1.26	0.036	0.03	3.3	2.0	0.61	0.00	2.8	0.97	3.3	0.14	0.16	9.0	1.1	1.0	1.26	0.0			3.0m
11A	3B	8.0		0.35	0.75	0.26	0.26	3.50	0.92	0.00	0.92	0.050	0.02	2.3	2.0	0.88	0.00	4.2	1.00	3.5	0.15	0.17	8.6	0.9	1.0	0.91	0.0			2.4m
11	3B	4.0		0.08	0.60	0.05	0.05	3.50	0.17	0.00	0.17	0.050	0.08	2.0	2.0	1.00	0.00	1.0	1.00	2.0	0.08	0.17	4.2	1.0	1.0	0.17	0.0			1.2m
10	3B	8.0		0.35	0.90	0.31	0.32	3.50	1.10	0.00	1.10	0.020	0.04	3.3	2.0	0.61	0.00	2.1	0.96	3.0	0.13	0.16	7.2	1.1	1.0	1.10	0.0			2.4m
1A	3B	10.0		0.39	0.76	0.30	0.30	4.00	1.19	0.00	1.19	0.029	0.02	3.9	2.0	0.51	0.00	4.0	0.95	3.5	0.15	0.16	8.4	1.2	0.7	1.19	0.0			
																														3.0m

STORMWATER OUTFALL COMPUTATIONS:

2 YR. POND RELEASE=7.50 CFS (@ TIME=75 MINS.)
10 YR. POND RELEASE=21.88 CFS (@ TIME=35 MINS.)
100 YR. POND RELEASE=58.18 CFS (@ TIME=20 MINS.)
DRAINAGE AREA BETWEEN X-SECTION 1-1 AND POND:
A=0.6223HA.=1.54 AC. C=0.30
PER TIME OF CONCENTRATION = 5 MINS.
Q2=1.54 X 0.30 X 5.75=2.66 CFS
Q10=1.54 X 0.30 X 7.27 =3.56 CFS
Q100=1.25 X (1.54 X 0.30 X 9.84)=5.68 CFS
TOTAL RUNOFF (WORST CASE):
Q2=7.50+2.66=10.16 CFS
Q10=21.88+3.56=25.44 CFS
Q100=58.18+5.68=63.86 CFS

X-SECTION 1-1 — OPEN CHANNEL – UNIFORM FLOW

	2 YR	10 YR	100 YR
LEFT SIDE SLOPE	= 6:1	= 6:1	= 6:1
RIGHT SIDE SLOPE	= 6:1	= 6:1	= 6:1
MANNING'S	N=0.06	N=0.06	N=0.06
CHANNEL SLOPE	=0.031	=0.031	=0.031
DISCHARGE	Q2= 10.16 CFS	Q10=25.44 CFS	Q100=63.86 CFS
DEPTH	D2= 0.84 FT.	D10= 1.18 FT.	D100= 1.67 FT.
VELOCITY	V2=2.42 FPS	V10=3.04 FPS	V100=3.83 FPS
FLOW AREA	=4.20 SF	=8.37 SF	=16.68 SF
FLOW TOP WIDTH	=10.04 FT.	=14.17 FT.	=20.01 FT.
WETTED PERIMETER	=10.18 FT.	=14.37 FT.	=20.29 FT.
CRITICAL DEPTH	=0.71 FT.	=1.02FT.	=1.48 FT.
CRITICAL SLOPE	=0.0756	=0.0699	=0.0591
FROUDE NUMBER	=0.66	=0.70	=0.74
FLOW IS SUBCRITICAL			

X-SECTION 2-2 — OPEN CHANNEL – UNIFORM FLOW

	2 YR	10 YR	100 YR
LEFT SIDE SLOPE	= 10:1	= 10:1	= 10:1
RIGHT SIDE SLOPE	= 17:1	= 17:1	= 17:1
MANNING'S	N=0.06	N=0.06	N=0.06
CHANNEL SLOPE	=0.031	=0.031	=0.031
DISCHARGE	Q2=10.16 CFS	Q10=25.44 CFS	Q100=63.86 CFS
DEPTH	D2=0.62 FT.	D10= 0.87 FT.	D100=1.23 FT.
VELOCITY	V2=1.98 FPS	V10=2.50 FPS	V100=3.14 FPS
FLOW AREA	=5.12SF	=10.19 SF	=20.32 SF
FLOW TOP WIDTH	=16.63 FT.	=23.46 FT.	=33.13 FT.
WETTED PERIMETER	=16.68 FT.	=23.53 FT.	=33.23 FT.
CRITICAL DEPTH	=0.51 FT.	=0.74 FT.	=1.07 FT.
CRITICAL SLOPE	=0.083	=0.0734	=0.065
FROUDE NUMBER	=0.63	=0.67	=0.71
FLOW IS SUBCRITICAL			

X-SECTION 3-3 — OPEN CHANNEL – UNIFORM FLOW

	2 YR	10 YR	100 YR
LEFT SIDE SLOPE	= 8.75:1	= 8.75:1	= 8.75:1
RIGHT SIDE SLOPE	= 11.25:1	= 11.25:1	= 11.25:1
MANNING'S	N=0.06	N=0.06	N=0.06
CHANNEL SLOPE	=0.018	=0.018	=0.018
DISCHARGE	Q2=10.16 CFS	Q10=25.44 CFS	Q100=63.86 CFS
DEPTH	D2=0.76 FT.	D10= 1.08 FT.	D100=1.52 FT.
VELOCITY	V2=1.74 FPS	V10=2.19 FPS	V100=2.76 FPS
FLOW AREA	=5.83 SF	=11.60 SF	=23.14SF
FLOW TOP WIDTH	=15.27 FT.	=21.54 FT.	=30.43 FT.
WETTED PERIMETER	=15.35 FT.	=21.65 FT.	=30.56 FT.
CRITICAL DEPTH	=0.58 FT.	=0.83 FT.	=1.20 FT.
CRITICAL SLOPE	=0.0800	=0.0708	=00626
FROUDE NUMBER	=0.50	=0.53	=0.56
FLOW IS SUBCRITICAL			

STORMWATER MANAGEMENT/BMP NARRATIVE

AN UNDERGROUND DETENTION FACILITY(FACILITY #1) ON PHASE 1 SITE AND A DRY DRY POND(FACILITY #2) ON PHASE 2 SITE FOR STORMWATER MANAGEMENT.

BOTH FACILITIES HAVE BEEN DESIGNED TO REGULATE 2 AND 10 YEARS STORM EVENTS FROM POST-DEVELOPMENT CONDITION. THE DETENTION STORAGE OF FACILITY #1 IS ACHIEVED BY UNDERGROUND CORRUGATED METAL PIPES.
THE PRE-DEVELOPMENT AND POST-DEVELOPMENT RUNOFF AT POINT OF RELEASE ARE AS FOLLOWING:
FACILITY #1(PRE-DEVELOPMENT)--Q2=3.27 CFS, Q10=8.72 CFS & Q100=14.76 CFS
(POST-DEVELOPMENT)--Q2=3.18 CFS, Q10=8.66 CFS & Q100=28.92 CFS
FACILITY #2(PRE-DEVELOPMENT)--Q2=7.55 CFS, Q10=21.74 CFS & Q100=40.20 CFS
(POST-DEVELOPMENT)--Q2=7.50 CFS, Q10=21.88 CFS & Q100=58.18 CFS

THE BMP REQUIREMENTS HAVE BEEN MET BY THE EX. OFFSITE FAIR LAKES, LAKE #2. PLEASE SEE SHEET 13D FOR APPROVAL LETTER.
BMP NOTES, WATERQUALITY NARRATIVE, BMP MAP AND COMPUTAIONS HAVE ALSO BEEN PROVIDED ON SHEET 13D.

STORMWATER OUTFALL NARRATIVE

PHASE 1 SITE:
THE RUNOFF GENERATED FROM THE SITE WILL BE COLLECTED BY THE PROPOSED STORM SEWER SYSTEM AND CONVEYED TO THE UNDERGROUND DETENTION FACILITY. AFTER BEING DETAINED, THE RELEASE FROM THE UNDERGROUNG CMP STORAGE WILL THEN FLOW TO THE EXISTING STORM SEWER EX. A2-EX. A1 THAT IS TO FUNCTION AS THE OUTFALL FOR THE SITE. COMPUTATIONS HAVE BEEN PROVIDED WITH 10 YR. AND 100 YR. STORM EVENTS TO VERIFY THE CAPACITY OT THE OUTFALL. BASED ON OUR CALCULATION, IT IS OUR OPINION THAT THERE IS NO ADVERSE IMPACT TO THE DOWNSTREAM AREA AND THE SITE HAS AN ADEQUATE OUTFALL.

PHASE 2 SITE:
SINCE A MINOR PORTION OF PHASE 1 SITE FALLS WITHIN THE DRAINAGE AREA OF PHASE 2 SITE, A DRY POND HAS ALSO BEEN PROVIDED ON PHASE 2 SITE. THE DRY POND HAS BEEN DESIGNED TO ACCOMMODATE THE POST-DEVELOPMENT CONDITION OF PHASE 2 SITE AND PORTION OF PHASE 1 SITE THAT DRAINS TOWARDS THE POND.
AFTER BEING DETAINED, THE STORMWATER WILL THEN DISCHARGE INTO A WELL DEFINED CHANNEL THAT FUNCTION AS THE SECOND OUTFALL. THE OUTFALL CHANNEL COMPUTATIONS AND CROSS-SECTIONS HAVE BEEN PROVIDED ON THIS SHEET. BASED ON OUR ANALASYS, IT IS OUR OPINION THAT THE SECOND OUTFALL IS ALSO ADEQUATE.

DESIGN FLOW FOR STORM SEWER STR #13C TO STR #9A:

10 YR. STORM
1. TC= 5 MINS.:
   ONSITE RUNOFF= 2.74 X 7.27 = 19.92 CFS
   OFFSITE POND RELEASE = 0 CFS
   TOTAL = 19.92 CFS
2. TC= 10 MINS.:
   ONSITE RUNOFF= 2.74 X 5.92 = 16.22 CFS
   OFFSITE POND RELEASE = 0 CFS
   TOTAL = 16.22 CFS
3. TC= 15 MINS.:
   ONSITE RUNOFF= 2.74 X 5.10 = 13.97 CFS
   OFFSITE POND RELEASE = 4.06 CFS
   TOTAL = 18.03 CFS
4. TC= 20 MINS.:
   ONSITE RUNOFF= 2.74 X 4.56 = 12.49 CFS
   OFFSITE POND RELEASE = 12.12 CFS
   TOTAL = 24.61 CFS
5. TC= 25 MINS.(TIME OF EX. POND PEAK RELEASE):
   ONSITE RUNOFF= 2.74 X 4.03 = 11.04 CFS
   OFFSITE POND RELEASE = 15.08 CFS
   TOTAL = 26.13 CFS
6. TC= 30 MINS.:
   ONSITE RUNOFF= 2.74 X 3.71 = 10.17 CFS
   OFFSITE POND RELEASE = 13.45 CFS
   TOTAL = 23.62CFS

USE TC= 25 MINS. I10= 4.03 IN./HR. & EX. POND RELEASE=15.08 CFS FOR DESIGN FLOW.

NOTE:
THE HYDROGRAPH/RELEASE OF THE EX. UPSTREAM POND IS PER 6169-SP-02 "FIFTY WEST CORPORATE CENTER, BUILDING 2".

DESIGN FLOW FOR STORM SEWER STR #2 TO STR EX. A1:

10 YR. STORM
1. TC= 5 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   (0.14+0.32+1.60+1.63)X7.27=26.83 CFS
   RELEASE FROM UNDERGROUND DETETION=1.60 CFS
   TOTAL= 26.83 + 1.60 = 28.43 CFS
2. TC= 10 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   (0.14+0.32+1.60+1.63)X5.92=21.84 CFS
   RELEASE FROM UNDERGROUND DETETION=2.47 CFS
   TOTAL= 21.84 + 2.47 = 24.31 CFS
3. TC= 15 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   (0.14+0.32+1.60+1.63)X5.10=18.82 CFS
   RELEASE FROM UNDERGROUND DETETION=2.88 CFS
   TOTAL= 18.82 + 2.88 = 21.70 CFS
4. TC= 20 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   (0.14+0.32+1.60+1.63)X4.56=16.83 CFS
   RELEASE FROM UNDERGROUND DETETION=4.31 CFS
   TOTAL= 16.83 + 4.81 = 21.14 CFS
5. TC= 25 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   (0.14+0.32+1.60+1.63)X4.03=14.87 CFS
   RELEASE FROM UNDERGROUND DETETION=8.66 CFS
   TOTAL= 14.87 + 8.66 = 23.53 CFS
6. TC= 30 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   (0.14+0.32+1.60+1.63)X3.71=13.69 CFS
   RELEASE FROM UNDERGROUND DETETION=7.89 CFS
   TOTAL= 13.69 + 7.89 = 21.58 CFS

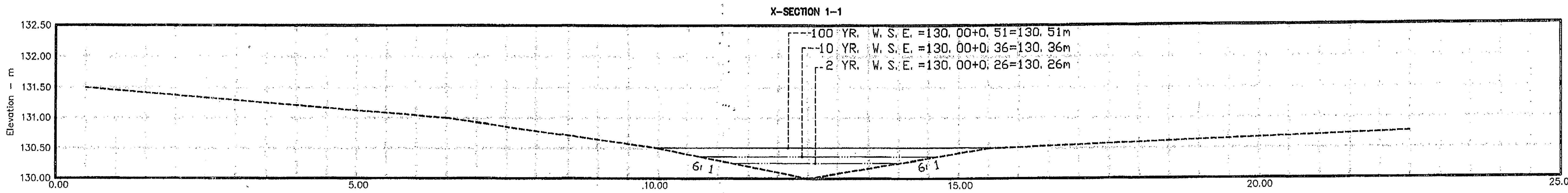
USE TC= 5 MINS. I10= 7.27 IN./HR. & DETENTION RELEASE=1.60 CFS FOR DESIGN FLOW.

DESIGN FLOW FOR STORM SEWER STR #2 TO STR EX. A1:

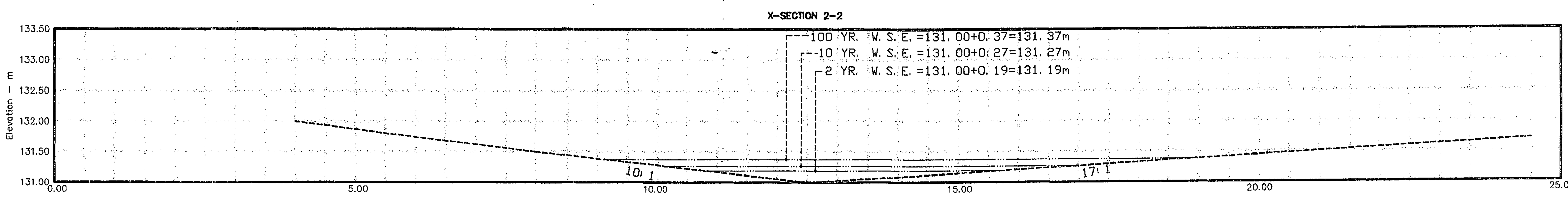
100 YR. STORM
1. TC= 5 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   1.25X(0.14+0.32+1.60+1.63)X9.84=45.39 CFS
   RELEASE FROM UNDERGROUND DETETION=2.02 CFS
   TOTAL= 45.39 + 2.02 = 47.41 CFS
2. TC= 10 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   1.25X(0.14+0.32+1.60+1.63)X8.10=37.36 CFS
   RELEASE FROM UNDERGROUND DETETION=6.74 CFS
   TOTAL= 37.36 + 6.74 = 44.10 CFS
3. TC= 15 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   1.25X(0.14+0.32+1.60+1.63)X7.05=32.52 CFS
   RELEASE FROM UNDERGROUND DETETION=28.92 CFS
   TOTAL= 32.52 + 28.92 = 61.43 CFS
4. TC= 20 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   1.25X(0.14+0.32+1.60+1.63)X6.32=29.15 CFS
   RELEASE FROM UNDERGROUND DETETION=16.90 CFS
   TOTAL= 29.15 + 16.90 = 46.05 CFS
5. TC= 25 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   1.25X(0.14+0.32+1.60+1.63)X5.75=26.52 CFS
   RELEASE FROM UNDERGROUND DETETION=15.66 CFS
   TOTAL= 26.52 + 15.66 = 42.18 CFS
6. TC= 30 MINS.:
   ADDITIONAL RUNOFF BETWEEN STR. #2 AND EX. A2:
   1.25X(0.14+0.32+1.60+1.63)X5.22=24.08 CFS
   RELEASE FROM UNDERGROUND DETETION=13.08 CFS
   TOTAL= 24.08 + 13.08= 37.16 CFS

USE TC= 15 MINS. I100= 7.05 IN./HR. & DETENTION RELEASE=28.92 CFS FOR DESIGN FLOW.

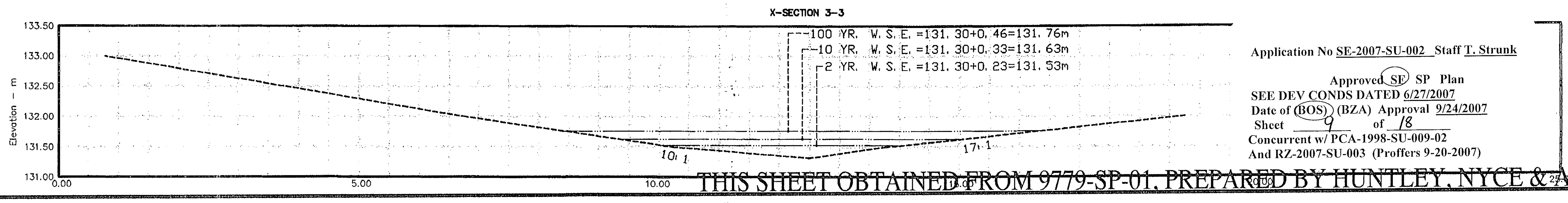
X-SECTION 1-1



X-SECTION 2-2



X-SECTION 3-3



NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE
1.	REVISE INLET COMPS. FOR STR. 4, 5, 6,			

REVISON APPROVED BY DIVISION OF DESIGN REVIEW

I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR PROFILE EXCEPT THOSE PREVIOUSLY APPROVED.

CERTIFYING ENGINEER OR LAND SURVEYOR

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
11-09-06
12-14-06
01-11-07
03-22-07
04-02-07
05-14-07
06-04-07
06-21-07

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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
No. 036790
06/21/07
PROFESSIONAL ENGINEER

S.W.M. - DRAINAGE DIVIDE MAP
FAIR RIDGE
INDEPENDENT LIVING
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE: NOV., 2006
C.I. = N/A
SCALE: N/A

SHEET 7A OF 12

FILE No. MISC 1683

Application No SE-2007-SU-002 Staff T. Strunk
Approved (SE) SP Plan
SEE DEV CONDS DATED 6/27/2007
Date of (BOS) (BZA) Approval 9/24/2007
Sheet 9 of 18
Concurrent w/ PCA-1998-SU-009-02
And RZ-2007-SU-003 (Proffers 9-20-2007)

~~THIS SHEET OBTAINED FROM 9779-SP-01, PREPARED BY HUNTLEY, NYCE & ASSOC.~~

SWM / BMP ANALYSIS

THIS SITE IS LOCATED ON TAX MAP ASSESSMENT NUMBER 46-3-((1))-14C. THE PURPOSE OF THIS PLAN IS FOR THE CONSTRUCTION OF AN INDEPENDENT LIVING FACILITY ALONG WITH A COMMUNITY CENTER. SURFACE PARKING AND ALL THE NECESSARY INFRASTRUCTURE TO SUPPORT THE DEVELOPMENT WILL BE PROVIDED. THE TOTAL SITE AREA IS 6.94 ACRES, OF WHICH, 6.14 ACRES IS BEING DISTURBED WITH THIS DEVELOPMENT.

THE EXISTING SITE HAS A NATURAL DRAINAGE DIVIDE THAT FLOWS EAST TO WEST, AND THEN ULTIMATELY BREAKS NORTH TO SOUTH NEAR THE WESTERN PROPERTY LINE. AT THE BREAK POINT, THE FLOW BREAK SOUTH TO THE EXISTING STORMWATER MANAGEMENT POND, LOCATED IN THE SOUTHWEST CORNER OF THE SITE AND THE BALANCE OF THE SITE DRAINS NORTHWEST TO AN EXISTING SWALE THAT ULTIMATELY DRAINS TO AN EXISTING FLOODPLAIN. THERE IS ALSO APPROXIMATELY 12.34 AC OF OFFSITE WATER THAT DRAINS THROUGH THE POND, BUT IT IS NOT DETAINED IN THE ONSITE POND. IT IS ACTUALLY DETAINED IN AN EXISTING S.W.M. POND LOCATED TO THE EAST OF OUR SITE. THE ONSITE POND DISCHARGES THROUGH THE RISER STRUCTURE AND FLOWS VIA AN EXISTING SWALE TO AN EXISTING CULVERT SYSTEM UNDER ROUTE 50, WHICH CONSISTS OF AN EXISTING 42" RCP AND 24" RCP. AS THE COMPUTATIONS ON THIS SHEET INDICATE, THE EXISTING CULVERT SYSTEM IS ADEQUATELY CONTROLLING THE RUNOFF DRAINING TO IT. HOWEVER, URBAN ENGINEERING HAS RECENTLY SUBMITTED A SITE PLAN FOR PENDER VILLAGE, WHICH WILL COLLECT THE RUNOFF FROM OUR SUBJECT SITE AND ROUTE IT THROUGH THE PENDER VILLAGE SITE, VIA A CLOSED CONDUIT SYSTEM, TO A UNDERGROUND SWM VAULT. THE ROUTE OF THE CLOSED CONDUIT SYSTEM IS SHOWN ON SHEET 16. THE PATH OF THE FLOW IS LABELED "FLOW PATH'. THE FLOW PATH ON THE EXHIBIT SHOWS THE PATH OF FLOW FROM OUR SITE TO AN EXISTING LAKE, LOCATED TO THE EAST OF ROUTE 7100.

THE EXISTING ONSITE STORMWATER MANAGEMENT POND WAS DESIGNED UNDER FAIRFAX COUNTY PLAN NUMBER 9779-SP-01, TITLED "FAIR RIDGE EXECUTIVE PLAZA - PHASE 1 SITE -- HILTON GARDEN INN". THE ORIGINAL ROUTING AND HYDROGRAPHS FOR THE POND HAVE BEEN PROVIDED ON SHEET 7. AS SHOW ON SHEET 8 IN THE EXHIBIT TITLED "OFFSITE DRAINAGE MAP", THE POND WAS SIZED TO ACCOMMODATE A DEVELOPMENT OF LIKE INTENSITY AND DRAINAGE AREA AS WHAT WE ARE PROPOSING WITH THIS APPLICATION. THE CURRENT DESIGN RESULTS IN A WATER SURFACE ELEVATIONS FOR THE 2, 10, AND 100 YEAR STORM EVENTS OF 438.41, 439.20, AND 439.76. THE TOP OF DAM IS 441.50 AND THE APPROXIMATE VOLUME OF THE DRY POND IS 57,978 CUBIC FEET.

THE EXISTING DRAINAGE DIVIDES RESULTS IN APPROXIMATELY 2.10 ACRES OF THE SUBJECT SITE DRAINING TO THE NORTHWEST CORNER OF THE SITE AND 4.84 ACRES OF THE SUBJECT SITE DRAINING TO THE EXISTING DRY POND. WITH THE PROPOSED DEVELOPMENT, THE AMOUNT OF SITE AREA BEING COLLECTED AND CONVEYED TO THE EXISTING DRY POND WILL INCREASE TO 5.89 ACRES, LEAVING 1.05 ACRES UNTREATED. AS SUCH, THE PROPOSED DEVELOPMENT WILL CHANGE THE DRAINAGE AREAS LEAVING THE SITE, BUT A LARGER PORTION WILL BE LEAVING VIA THE DETENTION POND IN HE SOUTHWEST CORNER OF THE SITE. A REDUCTION OF OF UNCONTROLLED RUNOFF FROM THE SITE WILL OCCUR AS A RESULT OF THE DEVELOPMENT. THERE WILL BE NO NEW FLOODPLAINS CREATED AS A RESULT OF THE CHANGED DRAINAGE AREA TO THE NORTHWEST OR SOUTHWEST CORNER OF THE SUBJECT PROPERTY.

PER THE FAIRFAX COUNTY LETTER TO INDUSTRY CONCERNING ADEQUACY OF THE OUTFALL, THE SITE RUNOFF WILL BE EVALUATED 150' DOWNSTREAM OF THE POINT WHERE 649 ACRES JOIN TOGETHER. THE GENERAL LOCATION IS AT THE EXISTING LAKE JUST EAST OF ROUTE 7100 (SEE SHEET 16). AT THE TIME OF THE ORIGINAL REZONING FOR OUR SITE, THE SAID LAKE WAS USED TO MEET THE BMP TREATMENT REQUIREMENTS. THIS APPLICATION WILL PROPOSE TO CONTINUE UTILIZING THE EXISTING LAKE FOR BMP TREATMENT OF OUR SITE.

SIGNATURE: Clayton C. Tock DATE: 01/12/07

CLAYTON C. TOCK, P.E.
ASSOCIATE

EXISTING CULVERT ANALYSIS - UNDER ROUTE 50

CULVERT CALCULATION
AREA = 33.92 AC.
C = 0.70
Q_2 = 129.40 CFS
Q_{100} = 172.62 CFS
SLOPE 'S' = 0.03 FT/FT
ROUGHNESS COEFFECIENT 'n' = 0.013

FOR 42" PIPE:
RADIUS = 21" = 1.75'
WETTED PERIMETER 'R'= 1.75'
AREA OF PIPE = 9.62 SQFT.
VELOCITY = (1.49/N)*(R^(2/3))*(S^(0.5))
= 28.83 FT/SEC.
CAPACITY OF PIPE 'Q' = AREA*VELOCITY
= 28.83 * 9.62
= 277.33 CFS.
MULTIPLYING THE AREA RATIO OF THE TWO PIPES (42" AND 24") TO THE TOTAL FLOW OF 172.62 CFS, THE 10 YR FLOW TO 42" PIPE IS 115.65 CFS WHICH IS LESS THAN THE DESIGN PIPE FLOW (277.33 CFS). HENCE OK.

FOR 24" PIPE:
RADIUS = 12" = 1.00'
WETTED PERIMETER 'R'= 1.00'
AREA OF PIPE = 3.14 SQFT.
VELOCITY = (1.49/n)*(R^(2/3))*(S^(0.5))
= 19.85 FT/SEC.
CAPACITY OF PIPE 'Q' = AREA*VELOCITY
= 3.14 * 19.85
= 62.34 CFS.
MULTIPLYING THE AREA RATIO OF THE TWO PIPES (42" AND 24") TO THE TOTAL FLOW OF 172.62 CFS, THE 10 YR FLOW TO 24" PIPE IS 56.96 CFS WHICH IS LESS THAN THE DESIGN PIPE FLOW (62.34 CFS). HENCE OK.

Application No SE-2007-SU-002 Staff T. Strunk

Approved SP SP Plan
SEE DEV CONDS DATED 6/27/2007
Date of (BOS) (BZA) Approval 9/24/2007
Sheet 10 of 18
Concurrent w/ PCA-1998-SU-009-02
And RZ-2007-SU-003 (Proffers 9-20-2007)

No.	DATE	DESCRIPTION	REV'BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE
11-09-06
12-14-06
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04-02-07
05-07-07
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COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
No. 036790
06/21/07
PROFESSIONAL ENGINEER

S.W.M. - DRAINAGE DIVIDE MAP

FAIR RIDGE INDEPENDENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=400' C.I. = 2' DATE: NOV., 2006

SHEET 6A OF 12

FILE No. MISC 1683

OFFSITE INFLOW PREDEVELOPMENT & POSTDEVELOPMENT

2 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	0
.1666	10	0
.2499	15	0
.3332	20	1.736
.4165	25	3.286
.4998	30	4.526
.5831	35	5.27
.6664	40	5.642
.7497	45	5.766
.833	50	5.642
.9163	55	5.456
.9996	60	5.208
1.0829	65	4.96
1.1662	70	4.65
1.2495	75	4.402
1.3328	80	3.844
1.4161	85	3.782
1.4994	90	3.472
1.5827	95	3.162
1.666	100	2.914
1.7493	105	2.604
1.8326	110	2.356
1.9159	115	2.046
1.9992	120	1.674

10 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	0
.1666	10	0
.2499	15	4.03
.3332	20	12.09
.4165	25	15.066
.4998	30	13.454
.5831	35	11.594
.6664	40	10.106
.7497	45	8.865999
.833	50	7.935999
.9163	55	7.13
.9996	60	6.509999
1.0829	65	6.014
1.1662	70	5.642
1.2495	75	5.456
1.3328	80	5.208
1.4161	85	4.96
1.4994	90	4.588
1.5827	95	4.216
1.666	100	3.968
1.7493	105	3.596
1.8326	110	3.162
1.9159	115	2.79
1.9992	120	2.418

100 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	0
.1666	10	3.472
.2499	15	25.606
.3332	20	26.908
.4165	25	20.708
.4998	30	17.732
.5831	35	15.314
.6664	40	13.578
.7497	45	12.214
.833	50	11.656
.9163	55	10.974
.9996	60	10.23
1.0829	65	9.485999
1.1662	70	8.679999
1.2495	75	7.935999
1.3328	80	7.254
1.4161	85	6.509999
1.4994	90	5.704
1.5827	95	4.96
1.666	100	4.216
1.7493	105	3.782
1.8326	110	3.41
1.9159	115	2.976
1.9992	120	2.542

ONSITE INFLOW PREDEVELOPMENT

2 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	4.5126
.1666	10	3.8088
.2499	15	3.2292
.3332	20	2.83176
.4165	25	2.50056
.4998	30	2.28528
.5831	35	2.07
.6664	40	1.9044
.7497	45	1.75536
.833	50	1.656
.9163	55	1.5318
.9996	60	1.449
1.0829	65	1.3248
1.1662	70	1.2834
1.2495	75	1.2006
1.3328	80	1.1592
1.4161	85	1.1178
1.4994	90	1.035
1.5827	95	.9936001
1.666	100	.97704
1.7493	105	.9108
1.8326	110	.89424
1.9159	115	.8694
1.9992	120	.828

10 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	12.03912
.1666	10	9.80352
.2499	15	8.4456
.3332	20	7.55136
.4165	25	6.67368
.4998	30	6.14376
.5831	35	5.7132
.6664	40	5.24952
.7497	45	4.8852
.833	50	4.6368
.9163	55	4.3884
.9996	60	4.14
1.0829	65	3.9744
1.1662	70	3.8088
1.2495	75	3.5604
1.3328	80	3.3948
1.4161	85	3.1464
1.4994	90	3.0636
1.5827	95	2.9808
1.666	100	2.898
1.7493	105	2.8152
1.8326	110	2.7324
1.9159	115	2.5668
1.9992	120	2.484

100 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	20.3688
.1666	10	16.767
.2499	15	14.5935
.3332	20	13.0824
.4165	25	11.9025
.4998	30	10.8054
.5831	35	9.936001
.6664	40	9.315001
.7497	45	8.901001
.833	50	8.383501
.9163	55	7.969501
.9996	60	7.659001
1.0829	65	7.348501
1.1662	70	7.038001
1.2495	75	6.624001
1.3328	80	6.3135
1.4161	85	6.003001
1.4994	90	5.796
1.5827	95	5.589001
1.666	100	5.382
1.7493	105	5.175
1.8326	110	4.968
1.9159	115	4.761
1.9992	120	4.554

TOTAL INFLOW PREDEVELOPMENT

2 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	4.5126
.1666	10	3.8088
.2499	15	3.2292
.3332	20	4.56776
.4165	25	5.78656
.4998	30	6.81128
.5831	35	7.34
.6664	40	7.5464
.7497	45	7.52136
.833	50	7.298
.9163	55	6.9878
.9996	60	6.657
1.0829	65	6.2848
1.1662	70	5.9334
1.2495	75	5.6026
1.3328	80	5.0032
1.4161	85	4.8998
1.4994	90	4.507
1.5827	95	4.1556
1.666	100	3.89104
1.7493	105	3.5148
1.8326	110	3.25024
1.9159	115	2.9154
1.9992	120	2.502

10 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	12.03912
.1666	10	9.80352
.2499	15	12.4756
.3332	20	19.64136
.4165	25	21.73968
.4998	30	19.59776
.5831	35	17.3072
.6664	40	15.35552
.7497	45	13.7512
.833	50	12.5728
.9163	55	11.5184
.9996	60	10.65
1.0829	65	9.9884
1.1662	70	9.4508
1.2495	75	9.016399
1.3328	80	8.6028
1.4161	85	8.1064
1.4994	90	7.6516
1.5827	95	7.1968
1.666	100	6.866
1.7493	105	6.4112
1.8326	110	5.8944
1.9159	115	5.3568
1.9992	120	4.902

100 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	20.3688
.1666	10	20.239
.2499	15	40.1995
.3332	20	39.9904
.4165	25	32.6105
.4998	30	28.5374
.5831	35	25.25
.6664	40	22.893
.7497	45	21.115
.833	50	20.0395
.9163	55	18.9435
.9996	60	17.889
1.0829	65	16.8345
1.1662	70	15.718
1.2495	75	14.56
1.3328	80	13.5675
1.4161	85	12.513
1.4994	90	11.5
1.5827	95	10.549
1.666	100	9.598
1.7493	105	8.957001
1.8326	110	8.378
1.9159	115	7.737
1.9992	120	7.096

ONSITE INFLOW POSTDEVELOPMENT

2 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	31.39
.1666	10	20.22
.2499	15	14.98
.3332	20	11.98
.4165	25	9.91
.4998	30	8.41
.5831	35	7.37
.6664	40	6.34
.7497	45	5.76
.833	50	5.13
.9163	55	4.72
.9996	60	4.26
1.0829	65	3.92
1.1662	70	3.57
1.2495	75	3.23
1.3328	80	2.82
1.4161	85	2.48
1.4994	90	2.13
1.5827	95	1.79
1.666	100	1.44
1.7493	105	1.09
1.8326	110	.69
1.9159	115	.35
1.9992	120	0

10 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	41.88
.1666	10	26.96
.2499	15	19.93
.3332	20	15.96
.4165	25	13.19
.4998	30	11.17
.5831	35	9.68
.6664	40	8.47
.7497	45	7.55
.833	50	6.8
.9163	55	6.22
.9996	60	5.7
1.0829	65	5.24
1.1662	70	4.78
1.2495	75	4.26
1.3328	80	3.8
1.4161	85	3.34
1.4994	90	2.88
1.5827	95	2.36
1.666	100	1.9
1.7493	105	1.44
1.8326	110	.98
1.9159	115	.46
1.9992	120	0

100 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	70.85
.1666	10	45.86
.2499	15	34.06
.3332	20	26.93
.4165	25	22.54
.4998	30	19.08
.5831	35	16.78
.6664	40	14.9
.7497	45	13.54
.833	50	12.17
.9163	55	11.16
.9996	60	10.22
1.0829	65	9.36
1.1662	70	8.5
1.2495	75	7.7
1.3328	80	6.84
1.4161	85	5.98
1.4994	90	5.11
1.5827	95	4.25
1.666	100	3.38
1.7493	105	2.59
1.8326	110	1.73
1.9159	115	.86
1.9992	120	0

TOTAL INFLOW POSTDEVELOPMENT

2 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	31.39
.1666	10	20.22
.2499	15	14.98
.3332	20	13.716
.4165	25	13.196
.4998	30	12.936
.5831	35	12.64
.6664	40	11.982
.7497	45	11.526
.833	50	10.772
.9163	55	10.176
.9996	60	9.468
1.0829	65	8.88
1.1662	70	8.22
1.2495	75	7.632
1.3328	80	6.664
1.4161	85	6.262
1.4994	90	5.602
1.5827	95	4.952
1.666	100	4.354
1.7493	105	3.694
1.8326	110	3.046
1.9159	115	2.396
1.9992	120	1.674

10 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	41.88
.1666	10	26.96
.2499	15	23.96
.3332	20	28.05
.4165	25	28.256
.4998	30	24.624
.5831	35	21.274
.6664	40	18.576
.7497	45	16.416
.833	50	14.736
.9163	55	13.35
.9996	60	12.21
1.0829	65	11.254
1.1662	70	10.422
1.2495	75	9.716
1.3328	80	9.008
1.4161	85	8.3
1.4994	90	7.468
1.5827	95	6.576
1.666	100	5.868
1.7493	105	5.036
1.8326	110	4.142
1.9159	115	3.25
1.9992	120	2.418

100 YEAR STORM

TIME HRS.	MINS.	FLOW CFS
0	0	0
.0833	5	70.85
.1666	10	49.332
.2499	15	59.666
.3332	20	53.838
.4165	25	43.248
.4998	30	36.812
.5831	35	32.094
.6664	40	28.478
.7497	45	25.754
.833	50	23.826
.9163	55	22.134
.9996	60	20.45
1.0829	65	18.846
1.1662	70	17.18
1.2495	75	15.636
1.3328	80	14.094
1.4161	85	12.49
1.4994	90	10.814
1.5827	95	9.21
1.666	100	7.596
1.7493	105	6.372
1.8326	110	5.14
1.9159	115	3.836
1.9992	120	2.542

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISON APPROVED BY DIVISION OF DESIGN REVIEW

I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR PROFILE EXCEPT THOSE PREVIOUSLY APPROVED.

CERTIFYING ENGINEER OR LAND SURVEYOR

****
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****

INFLOW HYDROGRAPH FILE: D: TOT2. INF, TOT10. INF
POND DESIGN DATA FILE: POND2. PND

2 YEAR ROUTING

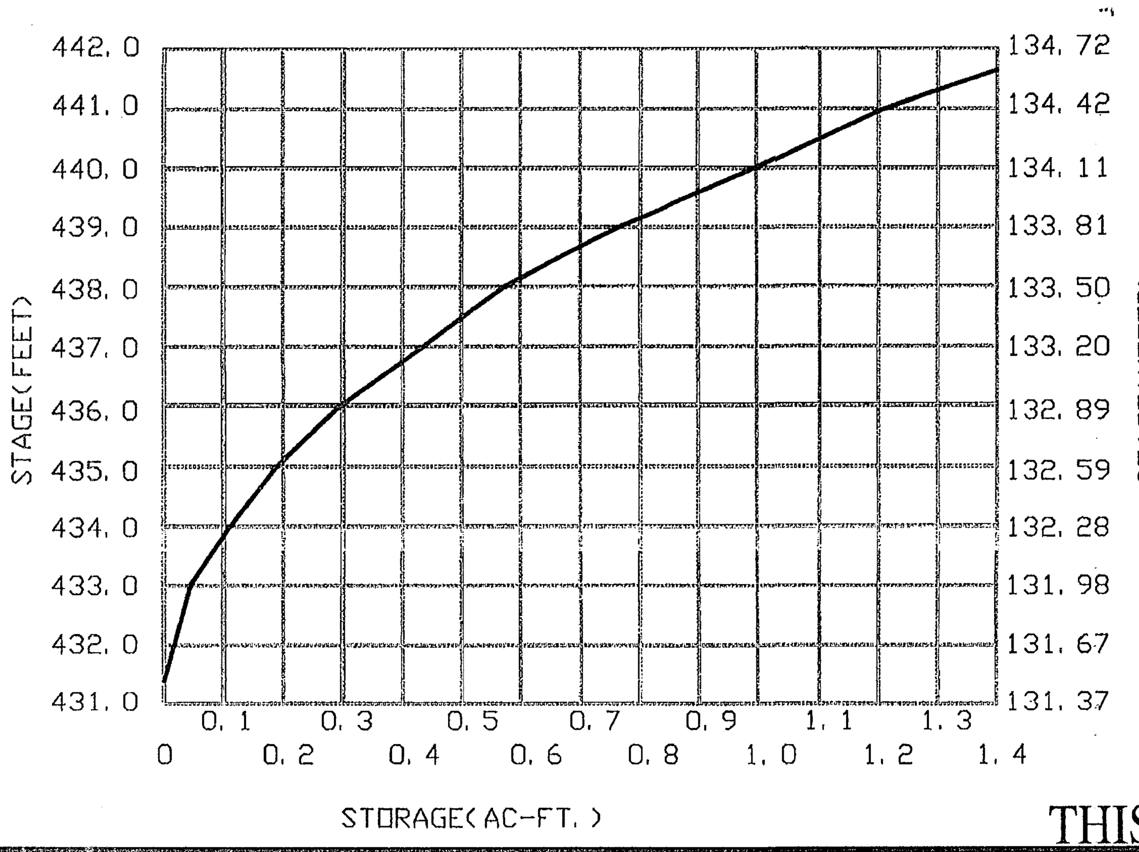
TIME (MINS.)	OUTFLOW (CFS)	INFLOW (CFS)	ELEV. (FT.)	STORAGE (AC-FT)
0.	0.00	0.00	431.33	0.00
5.	4.28	31.39	433.77	0.19
10.	5.67	20.22	435.44	0.29
15.	6.20	14.98	436.19	0.35
20.	6.48	13.72	436.62	0.40
25.	6.69	13.20	436.94	0.44
30.	6.87	12.94	437.23	0.48
35.	7.04	12.64	437.51	0.52
40.	7.19	11.98	437.76	0.56
45.	7.30	11.53	437.97	0.58
50.	7.38	10.77	438.11	0.61
55.	7.45	10.18	438.22	0.63
60.	7.59	9.47	438.31	0.64
65.	7.72	8.88	438.36	0.65
70.	7.79	8.22	438.39	0.65
75.	7.80	7.63	438.40	0.65
80.	7.75	6.66	438.37	0.64
85.	7.64	6.26	438.33	0.63
90.	7.50	5.60	438.27	0.62
95.	7.43	4.95	438.19	0.60
100.	7.37	4.35	438.09	0.58
105.	7.30	3.69	437.96	0.56
110.	7.20	3.05	437.78	0.53
115.	7.07	2.40	437.57	0.50
120.	6.93	1.67	437.34	0.46
125.	6.76	0.00	437.05	0.41

****
ROUTING OUTPUT SUMMARY---2 YEAR
PEAK OUTFLOW =7.50 CFS
MAX. WATER SURFACE ELEVATION =438.42 FT.
STORAGE VOLUME AT PEAK OUTFLOW =0.65 AC-FT
TIME TO PEAK OUTFLOW =75 MIN.
APPROX. TIME FOR FULL DRAWDOWN =3.58 HR.
****

10 YEAR ROUTING

TIME (MINS.)	OUTFLOW (CFS)	INFLOW (CFS)	ELEV. (FT.)	STORAGE (AC-FT)
0.	0.00	0.00	431.33	0.00
5.	4.73	41.88	434.26	0.26
10.	6.26	26.96	436.28	0.40
15.	6.85	23.96	437.20	0.52
20.	7.36	28.05	438.07	0.66
25.	11.46	28.26	438.75	0.77
30.	20.06	24.62	439.14	0.81
35.	21.88	21.27	439.22	0.80
40.	20.65	18.58	439.17	0.79
45.	18.66	16.42	439.09	0.77
50.	16.72	14.74	439.01	0.76
55.	15.24	13.35	438.94	0.74
60.	13.91	12.21	438.87	0.73
65.	12.73	11.25	438.81	0.72
70.	11.71	10.42	438.76	0.71
75.	10.98	9.72	438.72	0.71
80.	10.34	9.01	438.67	0.70
85.	9.67	8.30	438.62	0.69
90.	8.96	7.47	438.57	0.68
95.	8.19	6.58	438.51	0.67
100.	7.91	5.87	438.44	0.65
105.	7.71	5.04	438.36	0.63
110.	7.46	4.14	438.25	0.61
115.	7.38	3.25	438.11	0.58
120.	7.29	2.42	437.94	0.55
125.	7.12	0.00	437.66	0.50

****
ROUTING OUTPUT SUMMARY---10 YEAR
PEAK OUTFLOW =21.88 CFS
MAX. WATER SURFACE ELEVATION =439.21 FT.
STORAGE VOLUME AT PEAK OUTFLOW =0.80 AC-FT
TIME TO PEAK OUTFLOW =35 MIN.
APPROX. TIME FOR FULL DRAWDOWN =3.75 HR.
****



****
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****

INFLOW HYDROGRAPH FILE: D: TOT100. INF, TOTFBH. INF
POND DESIGN IDATA FILE: FBH. PND

SDF(Q100) ROUTING

TIME (MINS.)	OUTFLOW (CFS)	INFLOW (CFS)	ELEV. (FT.)	STORAGE (AC-FT)
0.	0.00	0.00	438.42	0.00
5.	220.53	70.85	439.32	0.17
10.	335.67	49.33	439.58	0.21
15.	550.80	59.67	439.68	0.23
20.	558.18	53.84	439.75	0.25
25.	416.23	43.25	439.63	0.22
30.	338.55	36.81	439.56	0.21
35.	333.47	32.09	439.51	0.20
40.	229.86	28.48	439.46	0.19
45.	226.79	25.75	439.41	0.19
50.	224.55	23.83	439.38	0.18
55.	222.79	22.13	439.36	0.18
60.	221.12	20.45	439.33	0.17
65.	119.48	18.85	439.31	0.17
70.	117.84	17.18	439.29	0.16
75.	116.24	15.64	439.26	0.16
80.	114.96	14.09	439.24	0.15
85.	113.88	12.49	439.20	0.14
90.	112.43	10.81	439.14	0.13
95.	110.86	9.21	439.08	0.12
100.	9.27	7.60	439.02	0.11
105.	7.95	6.37	438.97	0.10
110.	6.81	5.14	438.91	0.09
115.	5.60	3.84	438.85	0.08
120.	4.34	2.54	438.78	0.06
125.	3.00	0.00	438.70	0.04

****
ROUTING OUTPUT SUMMARY---100 YEAR
PEAK OUTFLOW =58.18 CFS
MAX. WATER SURFACE ELEVATION =439.75 FT.
STORAGE WOLUME AT PEAK OUTFLOW =0.18 AC-FT(ABOVE WEIR)
TIME TO PEAK OUTFLOW =20 MIN.
APPROX. TIME FOR FULL DRAWDOWN =3.83 HR.
****

FBH(1.5 X Q100) ROUTING

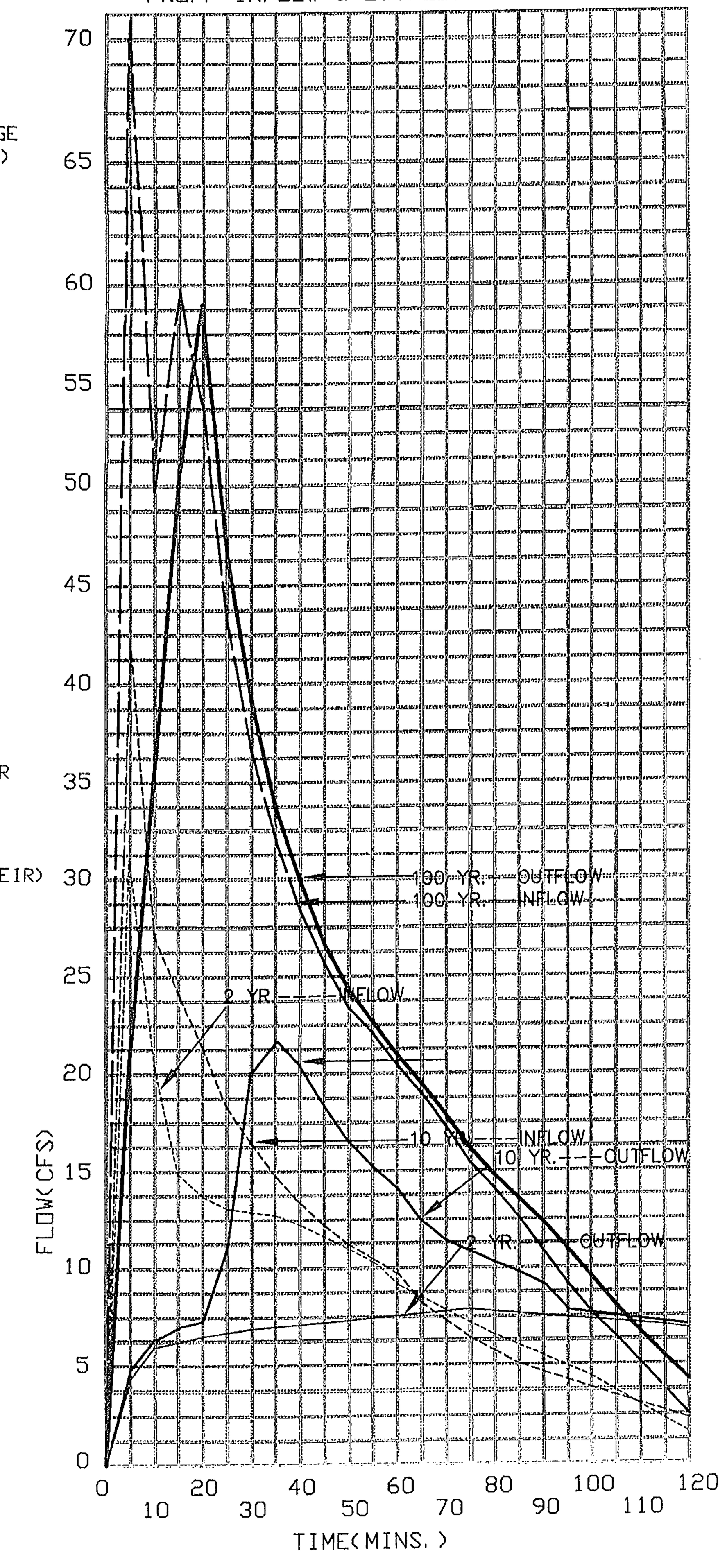
TIME (MINS.)	OUTFLOW (CFS)	INFLOW (CFS)	ELEV. (FT.)	STORAGE (AC-FT)
0.	0.00	0.00	438.42	0.00
5.	41.13	106.27	439.58	0.45
10.	102.87	72.27	440.09	0.23
15.	65.86	76.69	439.65	0.25
20.	73.71	67.30	439.62	0.22
25.	57.34	54.51	439.52	0.21
30.	48.78	46.35	439.47	0.19
35.	42.13	40.47	439.41	0.18
40.	37.27	35.94	439.37	0.18
45.	33.50	32.51	439.33	0.17
50.	30.89	29.91	439.30	0.17
55.	28.57	27.71	439.28	0.16
60.	26.42	25.57	439.26	0.16
65.	24.33	23.53	436.23	0.15
70.	22.25	21.42	439.20	0.14
75.	20.25	19.50	439.16	0.14
80.	18.30	17.51	439.11	0.13
85.	16.28	15.47	439.06	0.12
90.	14.67	13.37	439.01	0.11
95.	13.16	11.33	438.96	0.10
100.	11.31	9.30	438.91	0.09
105.	9.48	7.67	438.85	0.08
110.	7.93	6.00	438.78	0.06
115.	6.48	4.28	438.72	0.05
120.	4.88	2.54	438.64	0.03
125.	3.19	0.00	438.57	0.02

****
ROUTING OUTPUT SUMMARY---1.5 X 100 YEAR
PEAK OUTFLOW =100.54 CFS
MAX. WATER SURFACE ELEVATION =440.09 FT.
STORAGE VOLUME AT PEAK OUTFLOW =0.23 AC-FT(ABOVE WEIR)
TIME TO PEAK OUTFLOW =10 MIN.
APPROX. TIME FOR FULL DRAWDOWN =3.75 HR.
****

STAGE/DISCHARGE/STORAGE CURVE

ELEVATION (FT.)	DISCHARGE (CFS)	STORAGE (AC-FT)
431.330	0.000	0.000
431.500	0.250	0.002
431.750	0.980	0.009
432.000	1.870	0.016
432.250	2.360	0.022
432.500	2.770	0.029
432.750	3.120	0.036
433.000	3.440	0.043
433.250	3.730	0.057
433.500	4.000	0.075
433.750	4.260	0.092
434.000	4.490	0.110
434.250	4.720	0.127
434.500	4.940	0.145
434.750	5.140	0.164
435.000	5.340	0.190
435.250	5.530	0.217
435.500	5.720	0.243
435.750	5.900	0.270
436.000	6.070	0.296
436.250	6.240	0.323
436.500	6.410	0.355
436.750	6.570	0.392
437.000	6.730	0.428
437.250	6.880	0.465
437.500	7.030	0.501
437.750	7.180	0.537
438.000	7.320	0.574
438.250	7.460	0.622
438.500	8.040	0.669
438.750	11.430	0.716
439.000	16.480	0.763
439.250	22.750	0.810
439.500	30.020	0.858
439.750	38.170	0.910
440.000	47.110	0.969
440.250	56.780	1.028
440.500	67.120	1.087
440.750	78.100	1.146
441.000	89.680	1.205
441.250	101.820	1.263
441.500	114.500	1.331
441.750	127.710	1.399

PROP. INFLOW & OUTFLOW HYDROGRAPH



EMERGENCY SPILLWAY

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Version : 1.30 Executed : 02-08-1999 14:31:52

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TITLE OF COMPUTATIONS ===> POND -- PHASE 2 SITE

TOP OF DAM ELEVATION = 441.75

ELEVATION @ INVERT OF FACILITY = 431.33

FLOW CONTROLS USED :
INVERT/ORIFICE (Dia. - ins. or Height X Width - ft)
OR WEIR (Length - ft) :

Weir1= 438.42 / 6.5 Weir2= 439.21 / 21.5

DATA FILENAME (Elev. vs Dischg.)===>

WEIR FLOW, CFS

Elevation	Weir-1	Weir-2	Tot. Weir
441.75	118.49	287.21	405.71
441.50	105.40	245.87	351.28
441.25	92.83	206.73	299.56
441.00	80.81	169.92	250.73
440.75	69.35	135.59	204.95
440.50	58.50	103.95	162.45
440.25	48.27	75.25	123.52
440.00	38.73	49.82	88.55
439.75	29.91	28.15	58.06
439.50	21.89	11.08	32.97
439.25	14.74	0.57	15.31
439.00	8.61	0.00	8.61
438.75	3.70	0.00	3.7(
438.50	0.44	0.00	0.4

Application No <u>SE-2007-SU-002</u> Staff <u>T. Strunk</u>

Approved (SE) SP Plan
SEE DEV CONDS DATED 6/27/2007
Date of (BOS) (BZA) Approval 9/24/2007
Sheet 11 of 18
Concurrent w/ PCA-1998-SU-009-02
And RZ-2007-SU-003 (Proffers 9-20-2007)

PRINCIPAL SPILLWAY

ffffffffffffffffffffffffffffffffffff........
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Version : 1.30 Executed : 02-08-1999 14:32:47

ffffffffffffffffffffffffffffffffffffffffff
TITLE OF COMPUTATIONS ===> POND -- PHASE 2 SITE

TOP OF DAM ELEVATION = 441.75

ELEVATION @ INVERT OF FACILITY = 431.33

FLOW CONTROLS USED :
INVERT/ORIFICE
OR WEIR (Length - ft) :
Weir1= 438.42 / 6.5
Orifice1= 431.33 / .5 X 1.2
DATA FILENAME (Elev. vs Dischg.)===>

Elevation	Orifice-1	Weir-1	TOTAL FLOW
441.75	9.21	118.49	127.71
441.50	9.10	105.40	114.50
441.25	8.98	92.83	101.82
441.00	8.87	80.81	89.68
440.75	8.75	69.35	78.10
440.50	8.63	58.50	67.12
440.25	8.51	48.27	56.78
440.00	8.38	38.73	47.11
439.75	8.26	29.91	38.17
439.50	8.13	21.89	30.02
439.25	8.00	14.74	22.75
439.00	7.87	8.61	16.48
438.75	7.74	3.70	11.43
438.50	7.60	0.44	8.04
438.25	7.46	0.00	7.46
438.00	7.32		7.32
437.75	7.18		7.18
437.50	7.03		7.03
437.25	6.88		6.88
437.00	6.73		6.73
436.75	6.57		6.57
436.50	6.41		6.41
436.25	6.24		6.24
436.00	6.07		6.07
435.75	5.90		5.90
435.50	5.72		5.72
435.25	5.53		5.53
435.00	5.34		5.34
434.75	5.14		5.14
434.50	4.94		4.94
434.25	4.72		4.72
434.00	4.49		4.49
433.75	4.26		4.26
433.50	4.00		4.00
433.25	3.73		3.73
433.00	3.44		3.44
432.75	3.12		3.12
432.50	2.77		2.77
432.25	2.36		2.36
432.00	1.87		1.87
431.75	0.98		0.98
431.50	0.25		0.25

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
11-09-06
12-14-06
01-11-07
03-22-07
04-02-07
05-14-07
06-04-07
06-21-07

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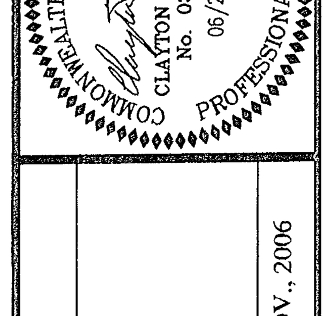


S.W.M. - DRAINAGE DIVIDE MAP

FAIR RIDGE INDEPENDENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE: NOV., 2006
C.I. = N/A
SCALE: N/A

SHEET 7 OF 12

FILE No. MISC 1683

THIS SHEET OBTAINED FROM 9779-SP-01, PREPARED BY HUNTLEY, NYCE & ASSOC.

BMP NOTES:

1. AN OFFSITE BMP WAIVER REQUEST HAS BEEN APPROVED. PLEASE SEE THIS SHEET FOR APPROVAL LETTER AND WATER QUALITY NARRATIVE.
2. THE PROPOSED DETENTION FACILITIES HAVE BEEN DESIGNED FOR STORMWATER MANAGEMENT PURPOSE ONLY. HOWEVER, THE PROPOSED SWM FACILITIES HAVE PROVIDED CERTAIN DRAWDOWN TIME BY DETAINING THE STORM RUNOFF. BASED ON OUR POND ROUTING CALCULATIONS, THERE ARE APPROX. 6 HOURS AND 3.7 HOURS DRAWDOWN TIMES THAT HAVE BEEN ACHIEVED BY THE DETENTION FACILITY #1 AND #2 RESPECTIVELY. THEREFORE, THE ONSITE SWM FACILITIES HAVE ALSO CONTRIBUTED SOME BMP CONTROL ONTO THE WATERSHED. FOR INFORMATIONAL PURPOSE, THE BMP FACILITY DESIGN CALCULATIONS HAVE BEEN SHOW ON THIS SHEET.

Water Quality Narrative for the Watershed Draining to the Offsite Existing Fair Lakes, Lake No. 2

1. Location of Lake No. 2: Tax Map 45-5-001 Parcel 24.
2. Designed Watershed: 530 acres of ultimate condition per zoning uses.
3. BMP storage required: 1975 cf/ac per equivalent 'c' factor of 0.65.
   BMP storage provided: 2811 cf/ac per equivalent 'c' factor of 0.84.
   The weighted 'c' factor of the overall phase 1 and phase 2 site is 0.79.
4. Based on the facts above, we believe that the water quality control has been achieved by the existing Lake No. 2.
5. An offsite BMP waiver has been requested and approved. However, we have proposed an underground detention facility on Fair Ridge Executive Phase One site and a dry pond on Phase Two site. These onsite SWM facilities will provide a phosphorus removal efficiency of 33.37% for the runoff being generated from the site. The site is within the water supply overlay district and a removal efficiency of 50% is normally required. Since the proposed facilities are additional control to the watershed of Lake No. 2, the water quality will be further improved.
6. For onsite BMP control, please see 'BMP Facility Design Calculations'.

BMP Facility Design Calculations (FOR INFORMATIONAL PURPOSE ONLY)

I. Water Quality Narrative

A. The BMP requirement for the site (WSPOD) = 50% Phosphorus Removal.
B. One underground and one above ground dry detention facilities are proposed. However, the site is to be served by the ex. Fair Lakes, Lake No. 2 to meet the requirements.
C. 1.10 acre open space (proffer required buffer area) has been used for BMP credit.
D. The offsite area being controlled = 0.24 acre.
E. The onsite area being uncontrolled = 0.88 acre.
F. The site (overall phase 1 and phase 2) is a 12.49 acre commercial/office use land with 11.61 acres being controlled and 0.88 acre being uncontrolled.
G. The proposed SWM facilities are to be privately owned and maintained by the owners.
H. A minor drawdown time has been provided.

II. Watershed Information

Part 1: subarea and 'c' factors used in the BMP computations

Subarea	Designation	'C'	Acres
BMP Area #1	Onsite Controlled	0.85	4.11
BMP Area #2	Offsite Controlled at 20%	0.85	0.24
BMP Area #3	Onsite Uncontrolled	0.30	0.88
BMP Area #4	Onsite Controlled	0.90	6.40
BMP Area #5	Onsite Controlled	0.30	1.10

III. Phosphorus Removal

Part 2: Compute the weighted average 'c' factor for the site

Subarea	Designation	'C'	Acres	Product
BMP Area #1	Onsite Controlled	0.85	4.11	3.49
BMP Area #3	Onsite Uncontrolled	0.30	0.88	0.26
BMP Area #4	Onsite Controlled	0.90	6.40	5.76
BMP Area #5	Onsite Controlled	0.30	1.10	0.33
			12.49	9.84

Weighted average 'c' factor for the site = 9.84/12.49 = 0.79

Part 3: Compute the total phosphorus removal for the site.

Subarea	BMP Type	Removal Efficiency	Area Ratio	'C' Factor Ratio	Product
BMP Area #1	Dry Pond(*)	35(***)	0.329	1.076	12.39
BMP Area #2	Dry Pond(*)	35(***)	0.004	1.076	0.15
BMP Area #4	Wet Pond(**)	30(***)	0.512	1.139	17.50
BMP Area #5	Open Space	100	0.088	0.380	3.33
					33.37

Total Phosphorus removal of the site = 33.37%

* 6 hours drawdown time

** 3.7 hours drawdown time

*** per 'CONTROLLING URBAN RUNOFF: A PRACTICAL MANUAL FOR PLANNING AND DESIGNING URBAN BMPS' BY DEPARTMENT OF ENVIRONMENTAL PROGRAMS, METROPOLITAN WASHINTON COUNCIL OF GOVERNMENTS.

Part 4: Compliance with Phosphorus Removal Requirement

33.37% < 50% and the phosphorus removal requirement is not satisfied. -- IF SERVED BY ONSITE FACILITIES ONLY!

*See BMP Waiver #019615 (EX. OFFSITE LAKE NO. 2)

IV. Site Coverage

Part 5: Determine compliance with site coverage requirements.

Subarea	Designation	'C'	Acres	Product
BMP Area #3	Onsite Uncontrolled	0.30	0.88	0.26
			0.88	0.26

The uncontrolled site area = 0.88 acre.
The equivalent site area = 0.26 acre.
Weighted 'C' factor for the onsite uncontrolled area = 0.26/0.88 = 0.30.

1.93 < 2.50 (20% of the total site area) and the site coverage requirement is satisfied.

Part 6: Offsite areas for which coverage is required.

Subarea	Designation	'C'	Acres	Product
BMP Area #2	Offsite Controlled	0.85	0.24	0.204
			0.24	0.204

Total offsite area = 0.24 acre
Total equivalent offsite area = 0.204 acres

0.26 > 0.204 therefore all offsite uncontrolled area draining to the facilities must be included.

V. Storage

Part 7: Weighted average 'c' factor for the facilities

Detention facilty #1

Subarea	Designation	'C'	Acres	Product
BMP Area #1	Onsite Controlled	0.85	4.11	3.494
BMP Area #2	Offsite Controlled	0.85	0.24	0.204
			4.35	3.698

Weighted average 'c' factor for the Pond #1 = 3.698/4.35 = 0.85

Detention facility #2

Subarea	Designation	'C'	Acres	Product
BMP Area #4	Onsite Controlled	0.90	6.40	5.760
			6.40	5.760

Weighted average 'c' factor for the Pond #2 = 5.760/6.40 = 0.90

Part 8: Storage required for the BMP facilities --- N/A

FAIRFAX COUNTY
VIRGINIA

Department of Environmental Management
Division of Design Review
12055 Government Center Parkway
Fairfax, Virginia 22035-5503

May 26, 1998

Telephone (703) 324-1700
Waiver Request No: 019615
File No: ~~03045~~/98
EWS

Tom Chao, P.E.
Huntley, Nyce & Associates, Ltd.
45150 Russell Branch Parkway
Ashburn, Virginia 20147

Subject: Request for Waiver of the Water Quality Control Requirements of the Chesapeake Bay Preservation Ordinance for Fair Ridge Plaza and Exxon Station; Tax Map #46-3-001-14 and 14A; Sully District

Reference: Your Letter Dated May 14, 1998

Dear Mr. Chao:

This is in response to your request for a waiver of water quality control requirements for the subject project. Based on your letter the off-site Lake #2 will provide BMP for this site. If you demonstrate compliance with Section 6-0402.6B of the Public Facilities Manual by submission of water quality narrative, a water quality waiver should not be required.

However, an agreement must be executed between owners of the Lake and Fair Ridge Plaza and Exxon Station as described in our letter regarding stormwater detention waiver.

If further assistance is desired, please contact Qayyum M. Khan, Special Projects Branch at 324-1700.

Sincerely,

Ray Curd, Chief
Special Projects Branch

RC/bc
1217bsp

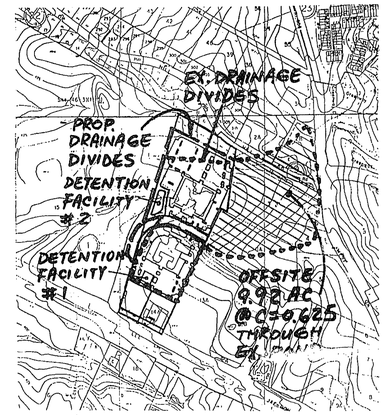
cc: Fred Rose, Chief, Stormwater Management Branch, Department Public Works
Henry Schenke, Chief, Bonds and Agreements Branch, DEM
Donald Croll, Acting, Chief, Site Review Branch, DEM
Qayyum M. Khan, Chief, Storm Drainage Section, Special Projects Branch, DEM
Chesapeake Bay Exception Request File, Special Projects Branch, DEM
Central Files

NO.	DESCRIPTION	REVISION BY	APPROVED	DATE
	REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

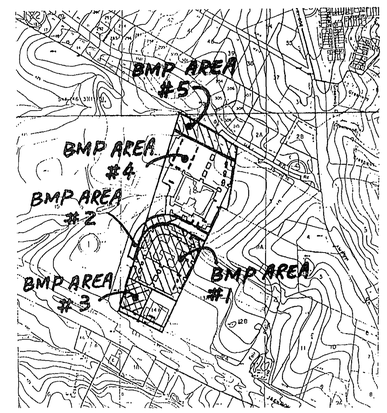
I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR PROFILE EXCEPT THOSE PREVIOUSLY APPROVED.

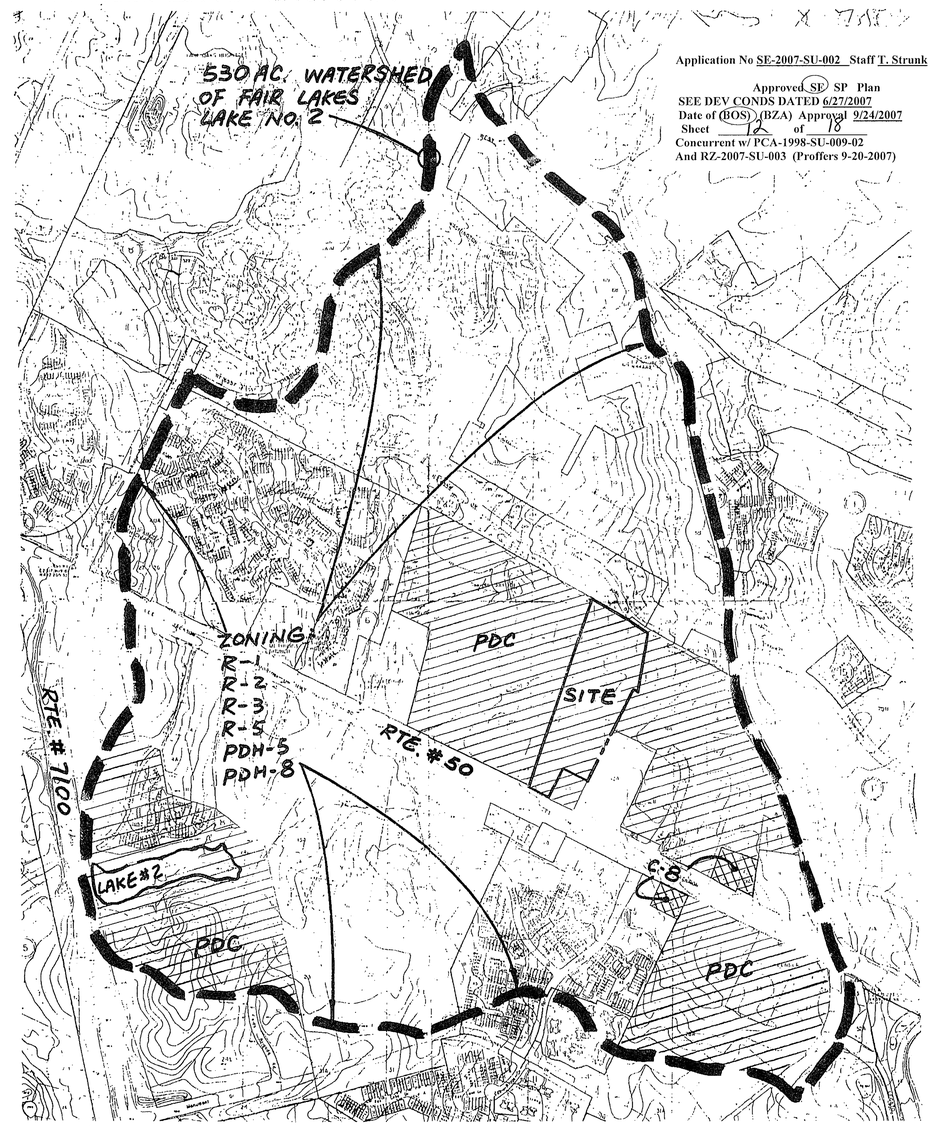
CERTIFYING ENGINEER OR LAND SURVEYOR

OFFSITE DRAINAGE MAP



BMP MAP





Application No SE-2007-SU-002 Staff T. Strunk

Approved SE SP Plan
SEE DEV CONDS DATED 6/27/2007
Date of (BOS) (BZA) Approval 9/24/2007
Sheet 12 of 18
Concurrent w/ PCA-1998-SU-009-02
And RZ-2007-SU-003 (Proffers 9-20-2007)

DRAINAGE MAP OF EXISTING LAKE #2
THIS SHEET OBTAINED FROM 9779-SP-01, PREPARED BY HUNTLEY, NYCE & ASSOC.

No.	DATE	DESCRIPTION	REV BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE
11-09-06
12-04-06
01-11-07
03-22-07
04-02-07
04-11-07
06-04-07
06-21-07

Urban, Ltd.
7712 Little River Turnpike
Annandale, Virginia 22003
Tel. 703-642-8080
www.urban-ltd.com
Planners-Engineers-Landscape Architects-Land Surveyors

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
No. 036790
06/21/07
PROFESSIONAL ENGINEER

S.W.M. - DRAINAGE DIVIDE MAP
FAIR RIDGE
INDEPENDENT LIVING
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=500'
C.L. = N/A
DATE: NOV., 2006

SHEET 8 OF 12

FILE No.
MISC 1683

SCALE 1"=100'

NORTH

LEGEND

SITE BOUNDARY

VEGETATION COMMUNITY BOUNDARY

	COVER TYPE	PRIMARY SPECIES	SUCCESSIONAL STAGE	CONDITION*	ACREAGE (AC)	COMMENTS
A	Upland Forest	Yellow-Poplar Red Maple	Sub-Climax	Good	4.35	See Condition Description
B	Old Field	Red Maple Black Locust Autumn Olive	Early-Successional	Fair to Good	0.32	See Condition Description
C	Open Field	Chinese Bushclover Indian Grass Carolina Nightshade	N/A	N/A	2.26	See Condition Description
TOTAL ACREAGE					6.93	

*CONDITION DESCRIPTION:

A. This area of upland forest is in generally good condition. The dominant species are yellow-poplar (*Liriodendron tulipifera*) and red maple (*Acer rubrum*). Tree diameters at breast height (DBH) ranged from approximately 5 to 20 inches. The understory is of moderate coverage and consists of young yellow poplar, red maple and sugar maple (*Acer saccharum*) saplings. Vines of Japanese honeysuckle (*Lonicera japonica*) moderately covered the forest floor. There is a low amount of coarse woody debris and a few dead limbs within the canopy.

B. The early successional old field is in fair to good condition. A diverse species composition included black locust (*Robinia pseudoacacia*), red maple, autumn olive (*Elaeagnus umbellata*), staghorn sumac (*Rhus typhina*), and common pokeweed (*Phytolacca americana*). Groundcover species included Indian hemp (*Apocynum cannabinum*), Japanese honeysuckle, Carolina nightshade (*Solanum carolinense*), and serrate-leaf blackberry (*Rubus argutus*).

C. The open field contained a moderately diverse species community, which was primarily dominated by Chinese bushclover (*Lespedeza cuneata*), Indian grass (*Sorghastrum nutans*), Carolina nightshade, and goldenrod (*Solidago* spp.). This area also included a dry storm water management pond and associated infrastructure in the southwestern portion of the property.

NOTES:

1. This Existing Vegetation Map is based upon examination of background materials, such as the USGS 1994 Fairfax and Vienna, VA-MD Topographic Quadrangle Maps, existing topography, Fairfax County Soils Map, National Wetlands Inventory Map, Resource Protection Area map and aerial photography. A field verification was performed by Wetland Studies and Solutions, Inc. (WSSI) on October 30, 2006.

2. Parcel boundaries were obtained in digital format from Fairfax County digital data. The property boundary information was provided in digital format from Urban Engineering & Associates, Inc. As shown on this map, the site boundary line differs from the parcel lines. This discrepancy is due to differences from the actual boundary survey-location conducted by Urban Engineering & Associates, Inc. and the information obtained from Fairfax County digital data. Since a survey-location of the boundary governs over County digital data, WSSI has used the surveyed boundary received from Urban Engineering & Associates, Inc. rather than the parcel lines from Fairfax County; therefore, the property size is 6.93 acres, which is consistent with the Fairfax County website.

3. A WSSI Spring 2004 Color Infrared Imagery was used as a base map for this exhibit.

Copyright ADC The Map People
Permitted Use Number 30411160

Vicinity Map
Fair Ridge Executive Plaza - Phase 2
WSSI #21288.01
Scale: 1" = 2000'

N W E S

Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100 • Gainesville, VA 20155
Phone 703 679 5600 • Fax 703 679 5601
www.wetlandstudies.com

EXISTING VEGETATION MAP

Prepared For: Atlantic Realty Companies

Fair Ridge Executive Park
Fairfax County, Virginia

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Application No SE-2007-SU-002 Staff T. Strunk

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And RZ-2007-SU-003 (Proffers 9-20-2007)

REVISIONS

No.	Date	Description	Rev. By	App. By

SCALE: AS NOTED

DATE: November 2006

Horizontal Datum: VCS NAD 83

Vertical Datum: NGVD 29

Boundary and Topo Source:
Urban Engineering & Associates, Inc.
Fairfax County Digital Data

Design	Draft	Approved
JNC	JNC	MH/LABG

Sheet #
9 of 12

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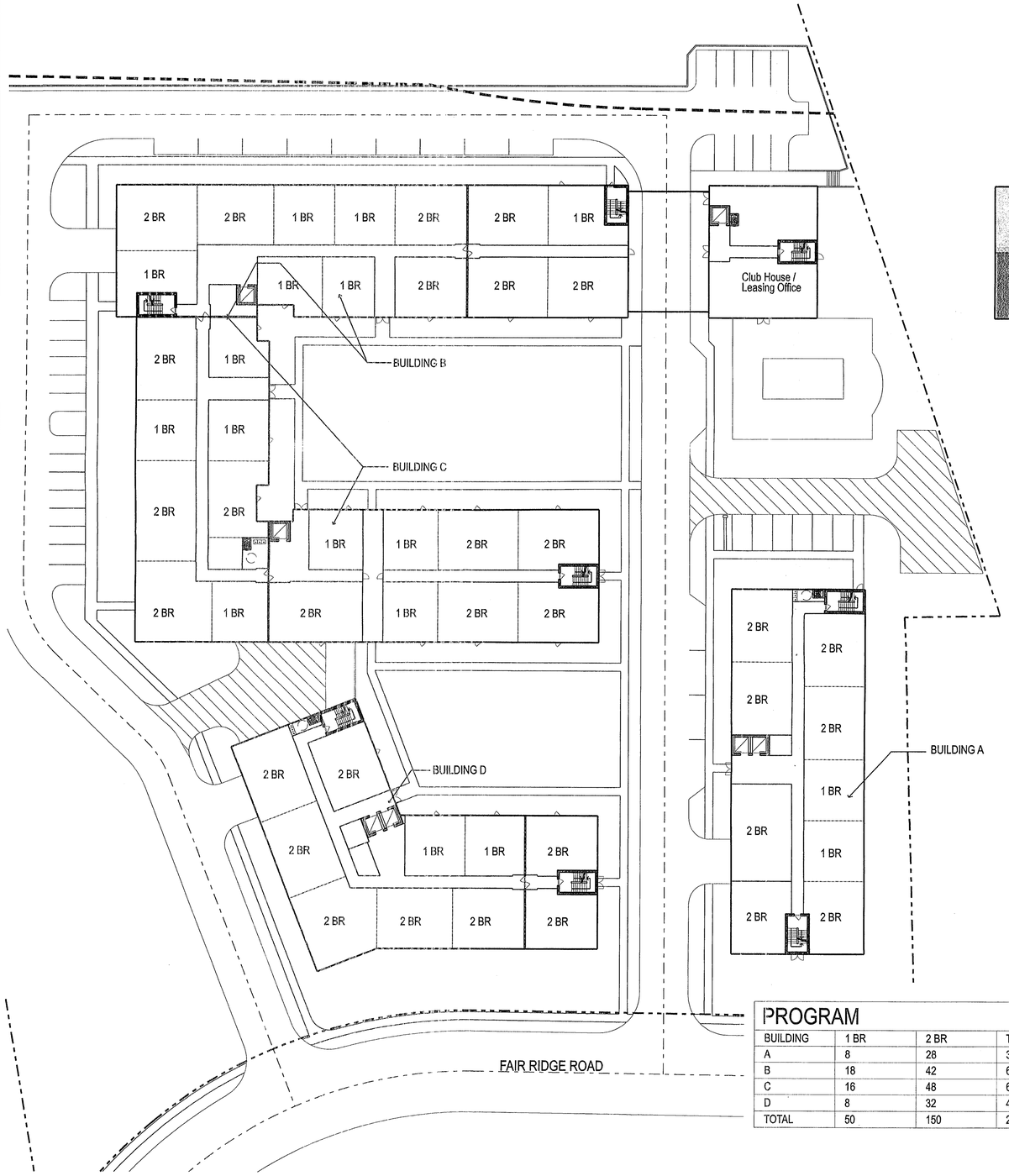

FIRST FLOOR PLAN

PROGRAM					
BUILDING	1 BR	2 BR	TOTAL	GFA (RES., INCL. LOFTS)	NFA (RES., INCL. LOFTS)
A	8	28	36	51,164 SF	40,930 SF
B	18	42	60	84,116 SF*	67,292 SF
C	16	48	64	92,044 SF	73,635 SF
D	8	32	40	59,051 SF	47,240 SF
TOTAL	50	150	200	286,375 SF	229,097 SF

*ADDITIONAL 3564 SF AT FIRST FLOOR COMMUNITY CENTER

TYPICAL FLOOR PLAN (Level 2-4)

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30' 20' 10' 0 30'
SCALE: 1" = 30'-0"

FAIR RIDGE INDEPENDENT LIVING

SULLY DISTRICT
FAIRFAX COUNTY,VA

Torti Gallas and Partners, Inc.
1300 Spring Street,
4th Floor
Silver Spring, MD 20910
301.588.4800
www.tortigallaschk.com

Owner
Atlantic Realty Companies
703.760.9500

Civil / Landscape Engineer
Urban Ltd.
703.642.8080

Key Plan

Revisions

No. Date

Date
05/14/07
06/04/07
Principal In Charge
D.F.

Project Architect.
E.C.

Approved
M.B.

Drawn
N.F.,E.C.,S.V.,A.M.

Job No.
07135.00

Scale
As Noted

Drawing No.
10 of 12

TORTI GALLAS AND PARTNERS, INC.

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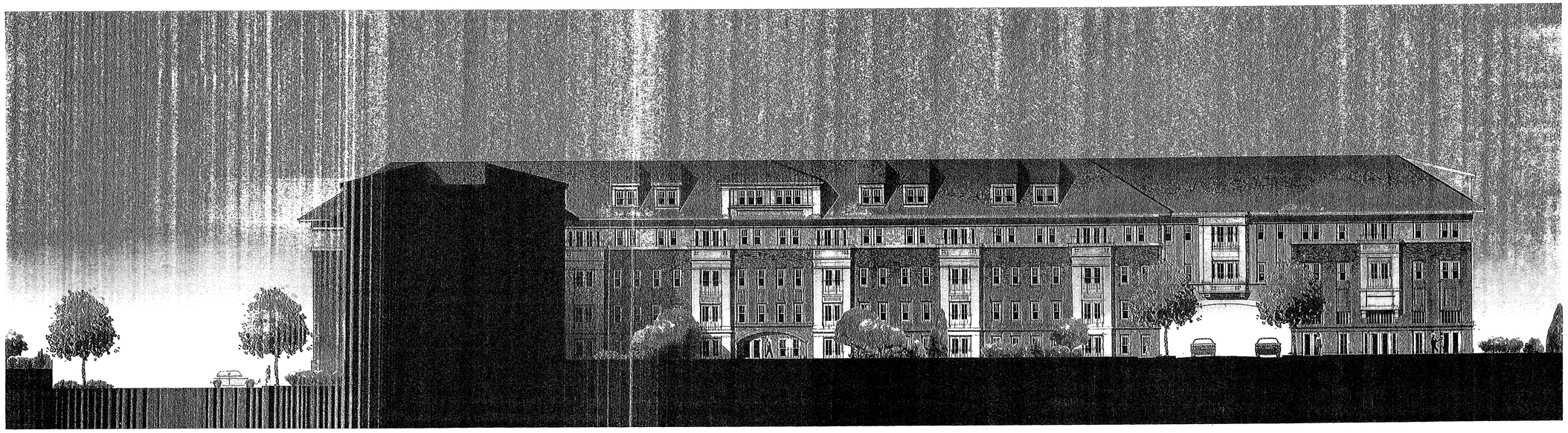
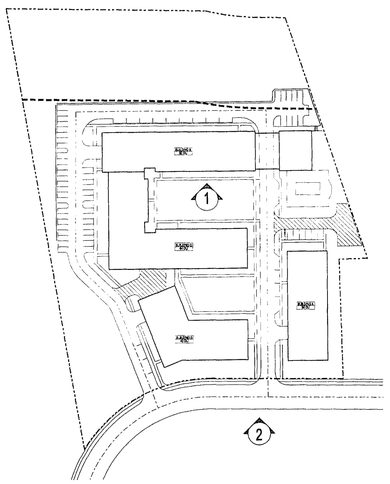


1 BUILDING B ELEVATION, AT COURTYARD

SCALE: 1/16" = 1'-0"

2 BUILDINGS D AND A ELEVATIONS, AT FAIR RIDGE DRIVE

SCALE: 1/16" = 1'-0"



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11 of 12

TORTI GALLAS AND PARTNERS INC

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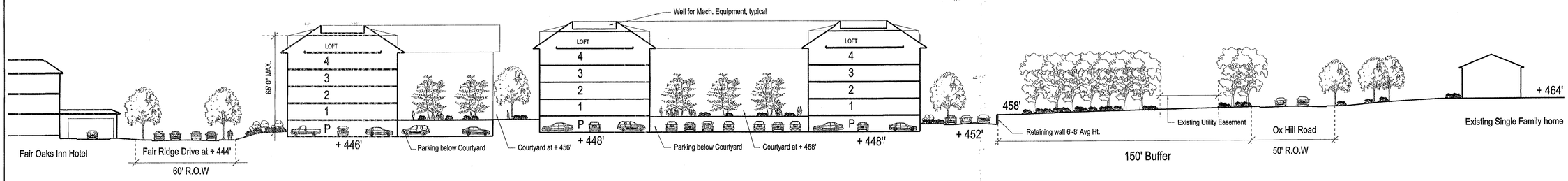

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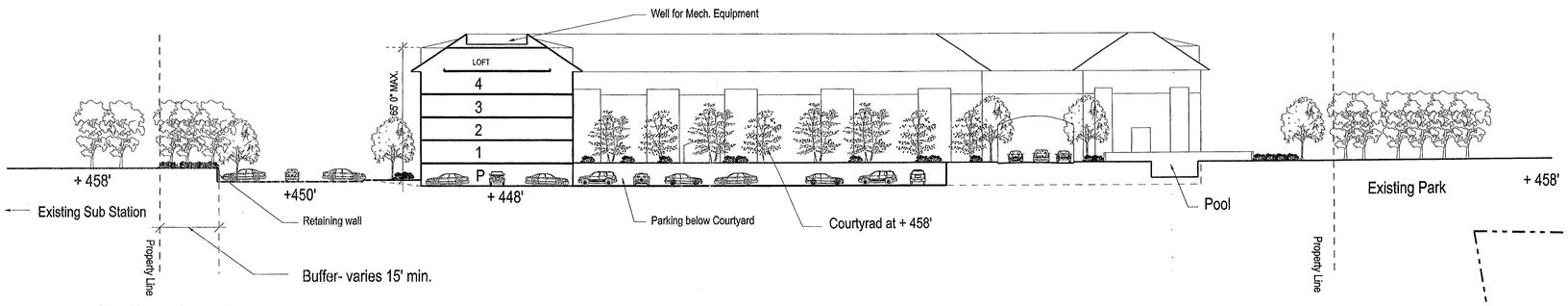

SECTION B-B

Application No SE-2007-SU-002 Staff T. Strunk

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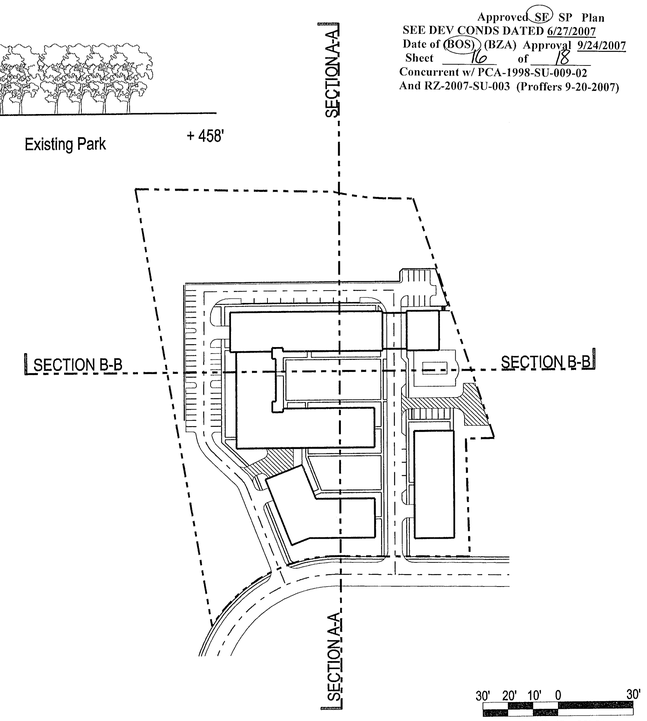

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Job No.
07135.00

Scale
As Noted

Drawing No.

12 of 12

TORTI GALLAS AND PARTNERS, INC.

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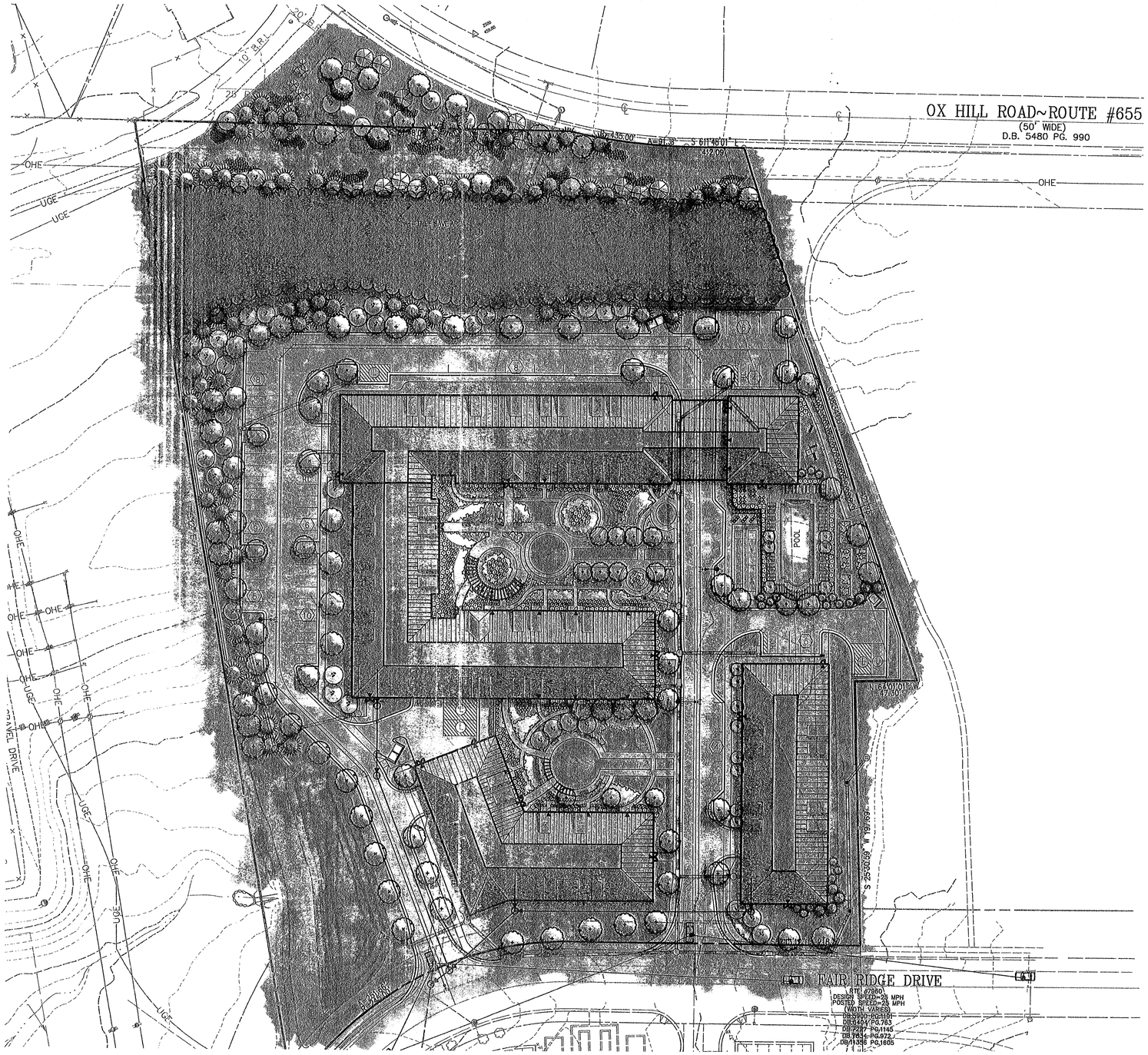

TYPICAL PLANT PALETTE

Botanical Name	Common Name	Size
CANOPY TREES		
Acer rubrum 'October Glory'	October Glory Red Maple	3" cal.
Fraxinus americana	Seedless Green Ash	3" cal.
Liquidambar styraciflua	Sweetgum	3" cal.
Quercus palustris	Pin Oak	3" cal.
Quercus phellos	Willow Oak	3" cal.
Quercus rubra	Red Oak	3" cal.
ORNAMENTAL / EVERGREEN TREES		
Cercis canadensis	Eastern Redbud	8'-10' ht.
Cornus florida	Flowering Dogwood	8'-10' ht.
Hammelis virginiana	Witch Hazel	6'-8' ht.
Ilex opaca	American Holly	6'-8' ht.
Juniperus virginiana	Eastern Redcedar	6'-8' ht.
Lagerstroemia indica 'Natchez'	Crape Myrtle	8'-10' ht.
Magnolia liliiflora x stellata 'Susan'	Susan Magnolia	8'-10' ht.
Magnolia soulangiana	Saucer Magnolia	8'-10' ht.
Magnolia Virginiana	Sweetbay Magnolia	8'-10' ht.
Pinus strobus	White Pine	8'-10' ht.
SHRUBS / GROUNDCOVERS / PERENNIALS / MISC.		
Azalea 'Delaware Valley'	White Azalea	30"
Calamagrostis acutiflora 'Karl Forester'	Feather Reed Grass	3 gal.
Cotoneaster dammeri 'Coral Beauty'	Coral Beauty Cotoneaster	18"-24"
Hemerocallis minor 'Stella D'Oro'	Stella D'Oro Daylily	2 gal.
Hydrangea quercifolia	Oakleaf Hydrangea	30-36"
Hypericum calycinum	Aaronsbeard St. John's Wort	3 gal.
Ilex crenata 'Helleri'	Helleri Holly	18"-24"
Ilex x meserveae 'Blue Princess'	Blue Princess Holly	30"-36"
Viburnum rhytidophylum	Leatherleaf Viburnum	30"-36"

NOTES:
1. LANDSCAPING SHOWN IS CONCEPTUAL AND PRESENTED ONLY TO ILLUSTRATE CHARACTER AND QUALITY OF DESIGN. LOCATIONS, SPECIES AND QUANTITIES MAY BE ADJUSTED WITH FINAL DESIGN AND ENGINEERING.

TREE CANOPY COVER REQUIREMENTS

TOTAL SITE AREA:	302,138 s.f.
BUILDING FOOTPRINTS:	69,390 s.f.
NET SITE AREA:	232,748 s.f.
CANOPY REQUIRED (20%):	46,550 s.f.
TREE SAVE AREA (20,000 x 1.25):	25,000 s.f.
LANDSCAPING PROVIDED:	22,000 s.f.
CANOPY PROVIDED:	47,000 s.f.

THE FOLLOWING MODIFICATIONS ARE REQUESTED:

(i) A MODIFICATION OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENTS ALONG THE NORTHERN BOUNDARY TO THAT SHOWN ON THIS PLAN IN CONFORMANCE WITH PARAGRAPH (3) SECTION 13-304 OF THE ZONING ORDINANCE. EXISTING TREES TO REMAIN AND PROPOSED TREE AND SHRUB PLANTINGS WILL PROVIDE A SUBSTANTIAL VISUAL BUFFER BETWEEN USES.

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ILLUSTRATIVE PLAN

urban

FAIR RIDGE INDEPENDENT LIVING

Fairfax County, Virginia
ATLANTIC REALTY COMPANIES

0 20' 40' 80' 160'

Scale: 1"=40'
June 21, 2007

Urban, Ltd. - L:\Jobs\Fair Ridge Exec Plaza\1683_Landscape-Illus.dwg [Illus. Plan] June 01, 2007 - 9:16am spearce

LOT 5
FARNEJAD
D.B. 9887 PG. 714

LOT 2
McBRIDE
D.B. 7091 PG. 1941

ELECTRIC AND POWER COMPANY OF VIRGINIA
DB 6491 PG. 1211
ZONED: R-3C
USE: VACANT

WILLIAM W. & ANNE C. DELANOY
0463-09-0309
ZONED: R-3C
USE: RESIDENTIAL

LOT 310
SANTOSH BEHL MUKAND BEHL
0463-009-0310
ZONED: R-3C
USE: RESIDENTIAL

COIN RIDGE INVESTMENT PARTNERSHIP
0463-01-002A
ZONED: R-3
USE: RESIDENTIAL

VIRGINIA ELECTRIC AND POWER COMPANY
0463-01-0015
ZONED: PDC
USE: UTILITIES

HOMEOWNERS ASSOCIATION
D.B. 5480 PG. 990

OX HILL ROAD~ROUTE #6558
(50' WIDE)
D.B. 5480 PG. 990

EX. C&G
EX. CSW

LOT 2
FIFTY WEST CORPORATE CENTER
D.B. 7299 PG. 1643
BRIT-FIFTY WEST LLC
D.B. 11649 PG. 575

PARCEL 2
FAIR RIDGE EXECUTIVE PLAZA
D.B. 10789 PG. 1280
FAIR RIDGE, L.L.C.
D.B. 15269 PG. 2075

BUILDING B
FF=458.00

BUILDING B
FF=458.00

BUILDING C
FF=458.00

BUILDING D
FF=456.00

BUILDING A
FF=460.00

VA. STATE GRID NORTH

FIFTY WEST CORPORATE CENTER
D.B. 7299 PG. 1643
FAIRFAX COUNTY PARK AUTHORITY, VIRGINIA
D.B. 11268 PG. 54
TM #046-3-17-0004
ZONED: PDC
USE: VACANT LAND

LOT 2
DB.16497 PG.1852
VIRGINIA ELECTRIC AND POWER COMPANY
DB 3897 PG.345
TM #046-3-01-0015B
ZONED: PDC
USE: SUBSTATION

EXISTING SUBSTATION

TOTAL OPEN SPACE: 166,675 S.F.

FAIR RIDGE DRIVE
RTE #7960
DESIGN SPEED=25 MPH
POSTED SPEED=25 MPH
(WIDTH VARIES)
DB.5800 PG.1191
DB.6404 PG.763
DB.7227 PG.1145
DB.7834 PG.972
DB.11356 PG.1605

PARCEL 14B1
FAIR OAKS INN LLC
D.B. 11491 PG. 861
ZONED: PDC
USE: HOTEL

PROP. 2.25m RET. WALL

Application No SE-2007-SU-002 Staff T. Strunk

Approved (SE) SP Plan
SEE DEV CONDS DATED 6/27/2007
Date of (BOS) (BZA) Approval 9/24/2007
Sheet 18 of 18
Concurrent w/ PCA-1998-SU-009-02
And RZ-2007-SU-003 (Proffers 9-20-2007)

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
11-09-06
12-14-06
01-11-07
03-22-07
04-20-07
05-14-07
06-04-07
06-21-07

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Planners-Engineers-Landscape Architects-Land Surveyors

COMMONWEALTH OF VIRGINIA
ERIC S. STIDEL
No. 02246
06/21/07
PROFESSIONAL ENGINEER

OPEN SPACE EXHIBIT
FAIR RIDGE
INDEPENDENT LIVING
SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=40' C.I. = 2' DATE: NOV., 2006

SHEET
12B
OF
12

FILE No.
MISC 1683