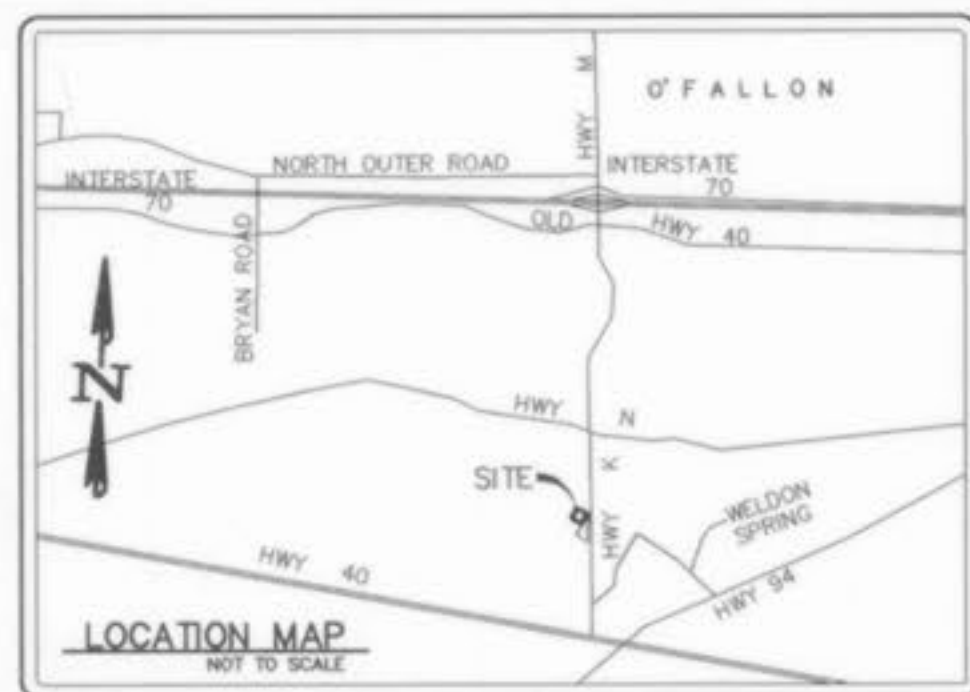


A SET OF AS-BUILT PLANS FOR KNAUST BUSINESS PARK AT KEATON CROSSING A TRACT OF LAND BEING PART OF LOT 15 OF "JOHN D. COALTERS HOWELL PRAIRIE TRACT", IN U.S. SURVEY 1669, TOWNSHIP 46 NORTH, RANGE 3 EAST OF THE FIFTH PRINCIPAL MERIDIAN, ST. CHARLES COUNTY, MISSOURI



PRINCIPALS & STANDARDS

- All excavations, grading, or filling shall have a finished grade not to exceed a 3:1 slope (33%). Steeper grades may be approved by the designer or official if the excavation is through rock or the excavation or the fill is adequately protected (a designed head wall or toe wall may be required). Retaining walls that exceed a height of four (4) feet shall require the construction of safety guards as identified in the appropriate section(s) of the adopted BOCA Codes and must be approved by the City Building Department. Permanent safety guards will be constructed in accordance with the appropriate section(s) of the adopted BOCA Codes.
 - Sediment and erosion control plans for sites that exceed 20,000 square feet of grading shall provide for sediment or debris basins, silt traps or filters, stacked straw bales or other approved measures to remove sediment from run-off waters. Temporary siltation control measures shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.
 - Where natural vegetation is removed during grading, vegetation shall be re-established in such a density as to prevent erosion. Permanent type grasses shall be established as soon as possible during the next seeding period after grading has been completed.
 - When grading operations are completed or suspended for more than 30 days permanent grass must be established at sufficient density to provide erosion control on the site. Between permanent grass seeding periods, temporary cover shall be provided.
- All finished grades (areas not to be disturbed by future improvement) in excess of 20% slopes (5:1) shall be mulched and loaded at the rate of 100 pounds per 1,000 square feet when seeded.
- Provisions shall be made to accommodate the increased runoff caused by changed soils and surface conditions during and after grading. Unvegetated open channels shall be designed so that gradients result in velocities of 2 fps (feet per second) or less. Open channels with velocities more than 2 fps and less than 5 fps shall be established in permanent vegetation by use of commercial erosion control blankets or lined with rock riprap or concrete or other suitable materials. Detention basins, diversions or any other appropriate structures shall be constructed to prevent velocities above 5 fps.
 - The adjoining ground to development sites (lots) shall be provided with protection from accelerated and increased surface water, silt from erosion, and any other consequence of erosion. Run-off water from developed areas (parking lots, paved sites and buildings) above the area to be developed shall be directed to diversions, detention basins, concrete gutters and/or underground outlet systems. Sufficiently anchored straw bales may be temporarily substituted.
 - Development along natural watercourses shall have residential lot lines, commercial or industrial improvements, parking areas or driveways set back a minimum of 25 feet from the top of the existing stream bank. The watercourse shall be maintained and made the responsibility of the subdivision trustees or in the case of a site plan by the property owner. Permanent vegetation should be left intact. Variations will include designed streambank erosion control measures.
- FEMA and U.S. Army Corps of Engineers guidelines shall be followed where applicable regarding site development areas designated as flood plains and wetlands.
- All lots shall be seeded and mulched or sodded before an occupancy permit shall be issued except that a temporary occupancy permit may be issued by the Building Department in cases of undue hardship because of unfavorable ground conditions.

GRADING NOTES

- A Geotechnical Engineer shall be employed by the owner and therefore location shall be considered approximate only. The verifications of the location of all underground utilities, either shown or not shown on these plans, shall be the responsibility of the contractor and shall be located prior to any grading or construction improvements.
- Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including house laterals.
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match pre construction conditions.
- All fill including places under proposed storm and sanitary sewer lines and paved areas within and off the road right-of-way shall be compacted to 90 percent of maximum density as determined by the "Standard Proctor Test (ASTM-D-698)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-yielding and non-pumping during proof rolling and compaction. All trench backfills in paved areas shall be granular fill.
- The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system.
- All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
- Easements shall be provided for all sanitary sewers, storm sewers and all utilities on the record plat. See record plat for location and size of easement.
- All construction and materials shall conform to the current construction standards of the City of O'Fallon and Duckett Creek Sanitary District.
- The City of O'Fallon and Duckett Creek Sanitary District shall be notified at least 48 hour prior to start of construction for coordination and inspection.
- All sanitary sewer building connections have been designed so that the minimum vertical distances from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection is not less than the diameter of the pipe plus the vertical distance of 2-1/2 feet.
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance Missouri Dept. Of Natural Resources specifications 10 CSR-8.120(7)(E).
- All PVC sanitary sewer pipe is to be SDR-35 or equal with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate back fill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top pipe.
- All sanitary and storm sewer trench backfills shall be water jetted. Granular back fill will be used under pavement areas.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed.
- Brick shall not be used on sanitary sewer manholes.
- All PVC sanitary sewer pipe shall meet the following standards: A.S.T.M. D-3034 SDR-35 with well thickness compression joint A.S.T.M. D-3212. An appropriate rubber seal waterstop as approved by the sewer district shall be installed between P.V.C. pipe and masonry structures.
- All sanitary and storm sewers shall meet all specifications and installation requirements of the local governing authority.
- Storm sewers 18 inch diameter and smaller shall be A.S.T.M. C-14 unless otherwise shown on the plans.
- Storm sewers 21 inch diameter and larger shall be A.S.T.M. C-76, Class II minimum, unless otherwise shown on the plans.
- All storm sewer pipe in the right-of-way shall be reinforced concrete pipe (A.S.T.M. C-76, Class III minimum).
- All storm sewer pipe shall be "O-ring" pipe.
- All water lines shall be laid at least 10 feet horizontally from any sanitary sewer, or manhole. Whenever water lines must cross sanitary sewers, laterals or storm drains the water line shall be laid at such an elevation that the bottom of the water line is 18 inches above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet, horizontally, of any sewer or drain it crosses.
- All water lines shall be C-900 Class 200 P.V.C.
- All sanitary sewer laterals shall be a minimum of 6 inches diameter.
- Existing sanitary sewer service shall not be interrupted.
- Maintain access to all existing residential drives and streets.
- Pre-manufactured adapters shall be used at all P.V.C. to D.I.P. connections. Rubber boot / Mission type couplings will not be allowed.
- Any permits, licenses, easements, or approvals required to work on public private properties or roadways are the responsibility of the developer.

CATEGORY	MINIMUM PERCENT COMPACTION
Fill in building areas below footings	90%
Fill under slabs, walks, and pavement	90%
Fill other than building areas	90%
Natural subgrade	90%
Pavement subgrade	90%
Pavement base course	92%

Measured as a percent of the maximum dry density as determined by modified Proctor Test (ASTM-D-1557).

Moisture content must be within 2 percent below or 4 percent above optimum moisture content if fill is deeper than 10 feet.

All site construction shall conform to the design recommendations as outlined in the "Exploration of Subsurface Conditions and Foundation Recommendations" prepared by Geotest, Inc. dated May 2000.

BENCHMARK

REFERENCE BENCHMARK - (U.S.G.S.) RM57 ELEV. 548.01 "CHISELED SQUARE" ON THE SOUTHWEST END OF THE SOUTH HEADWALL OF THE CULVERT LOCATED AT THE JUNCTION OF U.S. HIGHWAY 40 AND MISSOURI STATE HIGHWAY K. FEMA MAP 29183C0430 E

SITE BENCHMARK ELEV=560.07 CHISELED SQUARE IN CENTER OF CABLE PEDESTAL 75' WEST OF CENTERLINE OF HIGHWAY K AND 75' SOUTH OF CENTERLINE OF GRAVEL ROAD (ACCESS DRIVE)

DUCKETT CREEK SANITARY DISTRICT

- Underground utilities have been plotted from available information and therefore location shall be considered approximate only. The verifications of the location of all underground utilities, either shown or not shown on these plans, shall be the responsibility of the contractor and shall be located prior to any grading or construction improvements.
- Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including house laterals.
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match pre construction conditions.
- All fill including places under proposed storm and sanitary sewer lines and paved areas within and off the road right-of-way shall be compacted to 90 percent of maximum density as determined by the "Standard Proctor Test (ASTM-D-698)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-yielding and non-pumping during proof rolling and compaction. All trench backfills in paved areas shall be granular fill.
- The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system.
- All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
- Easements shall be provided for all sanitary sewers, storm sewers and all utilities on the record plat. See record plat for location and size of easement.
- All construction and materials shall conform to the current construction standards of the City of O'Fallon and Duckett Creek Sanitary District.
- The City of O'Fallon and Duckett Creek Sanitary District shall be notified at least 48 hour prior to start of construction for coordination and inspection.
- All sanitary sewer building connections have been designed so that the minimum vertical distances from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection is not less than the diameter of the pipe plus the vertical distance of 2-1/2 feet.
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance Missouri Dept. Of Natural Resources specifications 10 CSR-8.120(7)(E).
- All PVC sanitary sewer pipe is to be SDR-35 or equal with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate back fill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top pipe.
- All sanitary and storm sewer trench backfills shall be water jetted. Granular back fill will be used under pavement areas.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed.
- Brick shall not be used on sanitary sewer manholes.
- All PVC sanitary sewer pipe shall meet the following standards: A.S.T.M. D-3034 SDR-35 with well thickness compression joint A.S.T.M. D-3212. An appropriate rubber seal waterstop as approved by the sewer district shall be installed between P.V.C. pipe and masonry structures.
- All sanitary and storm sewers shall meet all specifications and installation requirements of the local governing authority.
- Storm sewers 18 inch diameter and smaller shall be A.S.T.M. C-14 unless otherwise shown on the plans.
- Storm sewers 21 inch diameter and larger shall be A.S.T.M. C-76, Class II minimum, unless otherwise shown on the plans.
- All storm sewer pipe in the right-of-way shall be reinforced concrete pipe (A.S.T.M. C-76, Class III minimum).
- All storm sewer pipe shall be "O-ring" pipe.
- All water lines shall be laid at least 10 feet horizontally from any sanitary sewer, or manhole. Whenever water lines must cross sanitary sewers, laterals or storm drains the water line shall be laid at such an elevation that the bottom of the water line is 18 inches above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet, horizontally, of any sewer or drain it crosses.
- All water lines shall be C-900 Class 200 P.V.C.
- All sanitary sewer laterals shall be a minimum of 6 inches diameter.
- Existing sanitary sewer service shall not be interrupted.
- Maintain access to all existing residential drives and streets.
- Pre-manufactured adapters shall be used at all P.V.C. to D.I.P. connections. Rubber boot / Mission type couplings will not be allowed.
- Any permits, licenses, easements, or approvals required to work on public private properties or roadways are the responsibility of the developer.

SITE NOTES

- All dimensions shown are to back of curb unless noted otherwise.
- DO NOT SCALE DRAWINGS, USE DIMENSIONS AS SHOWN.
- Additional siltation control may be required as directed by the City of O'Fallon.
- Storm sewers are to be private unless otherwise noted.
- Contractor to notify the engineer if discrepancies are found in the field compared to the design plans.
- Reference points, such as survey monuments, bench marks, stakes, etc., shall be preserved, but if disturbed or destroyed, shall be replaced as directed, at the expense of the contractor.
- All concrete and asphalt concrete pavement to be removed shall be sawcut on a straight line along the contact line with the existing pavement to remain. Concrete walks and curbs to be removed shall be sawcut at the nearest contraction or expansion joint.
- No work shall be done which will affect existing utilities prior to having ascertained that the utilities have been properly capped, plugged, or otherwise abandoned in a manner acceptable to the affected utility company. The appropriate agency shall be notified prior to the commencement of any work which will affect any existing utility. Removals or relocations by utility companies are to be initiated and coordinated by the Contractor.
- All site construction and sewer construction to be per City of O'Fallon standards and specifications. Work within Highway K R.O.W. shall be per Missouri Standard Specifications for Highway Construction and O'Fallon standards and specifications.
- Building dimensions as shown are to outside face of building and are per architectural plans received during August, 2000. Building dimensions are to outside face of wall. See architectural plans for locations of building area walks, walls, etc. If overall building dimensions vary from those shown on these plans, contact the engineer prior to proceeding with site construction.
- Conduct operations to prevent injury to adjacent buildings, structures, other facilities and persons. Signs, lights, and barricades shall be installed at all locations as necessary to guard against accident. Promptly repair damages caused to facilities by operations, as directed by the engineer and at no cost to the Owner.
- New pavement - The Contractor shall fine grade and proof roll the subgrade to the elevations as shown. Subgrade shall be compacted to densities noted.
- Maintenance of finished asphaltic concrete surfacing will be required until acceptance of work by Owner.
- Pavement traffic marking to be one (1) coat of paint, white except as shown, and shall be chlorinated rubber based paint meeting Federal Specifications No. TT-P-115-D, Type III or equal. Application shall be 15 mils thick wet film (320 in. ft. of 4" stripe per gallon).
- All new utilities shall be located underground.
- All curbing on site shall be 6" vertical concrete.
- Site signage will require a separate permit from the planning department.
- Detention basins and access drive for Highway K to be completed before Occupancy Permit will be issued.
- All inlets to have 5/8" trashbar in throats.

GRADING NOTES

- All straw bales must be counter sunk a minimum of 3" and additional straw bales shall be placed at the direction of the city.
- Siltation control shall be straw bales placed end to end and anchored with no less than 2 1/2" x 4" reinforcing rods. Upon completion of storm sewers, straw bales shall be placed on all sides of structures and shall remain until all graded areas are seeded or sodded.
- Siltation control will be provided as required to prevent run-off.
- All grade shall be within 0.1 feet more or less of those shown on the grading plan.
- No slope shall be greater than 3:1 and shall be either sodded or seeded or mulched.
- Earth subgrade for paved areas must be compacted to 90% of maximum dry density as determined by a "Modified Proctor Test" (ASTM D-1557), and must be inspected and approved by a City Representative, before paving may commence.
- No area shall be cleared without permission of the developer.
- The contractor shall field investigate the entire site prior to his bid submittal noting the existing vegetation and trees and including the removal and disposal of same in his bid.
- The contractor shall restore offsite construction areas to an equal or better condition than existed prior to commencement of construction.

GRADING NOTE:

FOR EARTHWORK QUANTITIES
SEE CONSTRUCTION PLANS FOR KEATON CROSSING
PREPARED BY BAX ENGINEERING CO., INC.
BAX PROJECT NO. 98-10314A

GENERAL NOTES

- Underground utilities have been plotted from available information and therefore their location shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans shall be the responsibility of the contractor, and shall be located prior to any grading or construction of the improvements.
- All filled places, including trench backfills, under buildings, proposed storm and sanitary sewer lines and/or paved areas, shall be compacted to 90% maximum density as determined by the "Modified AASHTO T-180 Compaction Test" (A.S.T.M.-D-1557). All filled places within public roadways shall be compacted to 95% maximum density as determined by the "Standard Proctor Test AASHTO T-99, Method C" (A.S.T.M.-D-698).
- All trench backfills shall be compacted to 90% maximum density as determined by the "Modified AASHTO T-180 Compaction Test" (A.S.T.M.-D-1557). All trench backfills under paved areas including sidewalks shall be granular fill. All other trench backfills may be earth material (free of large clods or stones).
- No area shall be cleared without the permission of the project engineer.
- All grade shall be within 0.2 feet of those shown on the grading plan.
- No slope shall be steeper than 3:1. All slopes shall be sodded or seeded and mulched.
- All construction methods and materials used shall conform to the current City of O'Fallon standards.
- All mechanical equipment shall be screened from public view.
- Proposed building shall comply with current Americans with Disabilities Act requirements.
- See architectural drawings for all building dimensions, service connections, details, etc.
- All utilities shown area existing unless otherwise noted. All new utilities shall be located underground.
- Minimum tree requirements per zoning ordinance:
Street trees: 155 l.f. frontage
1 tree / 40 l.f. = 3.88 ~ 4 trees
Additional trees: 68,299 s.f. open space
1 tree / 3000 s.f. = 22.77 ~ 23 trees
Total trees required: 27 trees
- The developer shall comply with current tree preservation ordinance number 1688 and provide landscaping as set forth in article 23 of the City of O'Fallon zoning ordinances.
15 trees per Acre required: 1.90 Ac. x 15 = 28.50 ~ 29 trees
Total Trees Proposed on Site: 53 Trees
- The developer shall comply with current article 13 performance standards.
- One lane of roadway shall remain open at all times and traffic control shall meet Missouri Department of Transportation specifications.
- All construction methods and practices shall conform with OSHA standards.
- Any signage to be placed on the property will require a separate permit from the planning department.

DEVELOPMENT NOTES

- Area of Tract: 2.78 Acres
- Existing Zoning: C-O Commercial Office
- Proposed Use: Office Space
- Area of Building: 9,260 sq.ft.
- The required height and building setbacks are as follows:
Minimum Front Yard: 25 feet
Minimum Side Yard: 10 feet
Minimum Rear Yard: 35 feet
Maximum Height of Building: 3 stories
Maximum Proposed Height: 23'-4"
- Site is served by:
Duckett Creek Sanitary Sewer District
AmerenUE Company
Laclede Gas Company
Missouri American Water Company
Southwestern Bell Telephone Company
- According to the Flood Insurance Rate Map of the City of O'Fallon, (Community Panel number 29183 C 0430 E dated August 2, 1996) this property lies within zone X. Zone X is defined as an area outside the 500 year floodplain.
8. Parking Required: Total building area = 9,260 sq.ft.
1 space / 300 sq. ft. office space
9,260 sq. ft. / 300 sq. ft. = 31 spaces
Total Parking Required: 31 spaces
Total Parking Provided: 79 spaces (including 4 handicap spaces)
- Landscaping Required:
Interior Landscape Requirements:
79 (sq.) x 270 = 21,330 S.F.
21,330 sq. ft. x 0.06 (%) = 1,279.80
Total Interior Landscape Required: 1,279.80 S.F.
Total Interior Landscape Provided: 1,307.67 S.F.
Open Space Landscape Requirements:
76,751 S.F. / 3,000 S.F. = 25.58 ~ 26 Trees
Total Open Landscape Required: 26 Trees
Bufferland Landscape Requirements:
422,500 L.F. / 100 L.F. = 4,225 x 2 (units) = 8,450 ~ 9 Units
Total Buffer Landscape Required: 9 Units
- Site Coverage Calculations:
Building = 9,260 sq.ft.
Pavement = 35,096 sq.ft.
Green Space = 76,751 sq.ft.

SEWER MEASUREMENTS

THE EXISTING SEWER LENGTHS, SIZES, FLOWLINES, DEPTHS OF STRUCTURES AND SEWERS AND LOCATIONS WITH RESPECT TO EXISTING OR PROPOSED EASEMENTS HAVE BEEN MEASURED. THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS.

ALL PUBLIC SEWERS ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS EXCEPT AS FOLLOWS:

SIGNED:
P.E.A.S.

D. W. Bax
DATE: 4/15/03
DATE

AS-BUILTS NOTE:
ALL DISTANCE AND SLOPE CALCULATIONS ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

AS-BUILTS ADDED APRIL 2003

PREPARED FOR: JAMES B. KNAUST
 P.O. BOX 383
 WENTZVILLE, MO 63385
 (314) 559-8438

DISCLAIMER OF RESPONSIBILITY
I hereby certify that the documents intended to be submitted by my use are based on the data, and I accept full responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used on any part or parts of the architectural or engineering project or survey.

Copyright 2003
Bax Engineering Company, Inc.
All Rights Reserved

REVISIONS

NO.	DATE	DESCRIPTION



ENGINEERING
PLANNING
SURVEYING

1052 South Cloverleaf Drive
St. Peters, MO. 63376-6445
314-928-5552
FAX 928-1718

4-23-2003

DATE

99-10638

PROJECT NUMBER

1 OF 3

SHEET OF

10638ASB.dwg

FILE NAME

BGC WSK

DRAWN CHECKED

Knaust Business Park
As-Builts

PROPERTY N/F
THOMAS A. & RUTH A. SEVICK
BK.1768 PG.1837
ZONED C-2

PROPERTY N/F
PHILLIP & KAREN BURKEMPER
BK.940 PG.0006
ZONED R-1

AN AS-BUILT SITE PLAN FOR
KNAUST BUSINESS PARK
99-10638 4-23-2003

MONTICELLO VILLAGE "B"
P.B.30 PGS.68-71
ZONED R-1 P.U.D.

PROPERTY N/F
BILL WILSON PROPERTIES, INC.
BK.1980 PG.193
ZONED C-2

LOT 2
KEATON CROSSING
ZONED C-2

LOT 4
KEATON CROSSING

4122 KEATON CROSSING BOULEVARD
PROPOSED OFFICE BUILDING
9,260' SQ.FT.
F.F.=549.70

FUTURE OFFICE BUILDING
4,300 SQ.FT.
F.F.=546.10
4155 KEATON CROSSING BOULEVARD

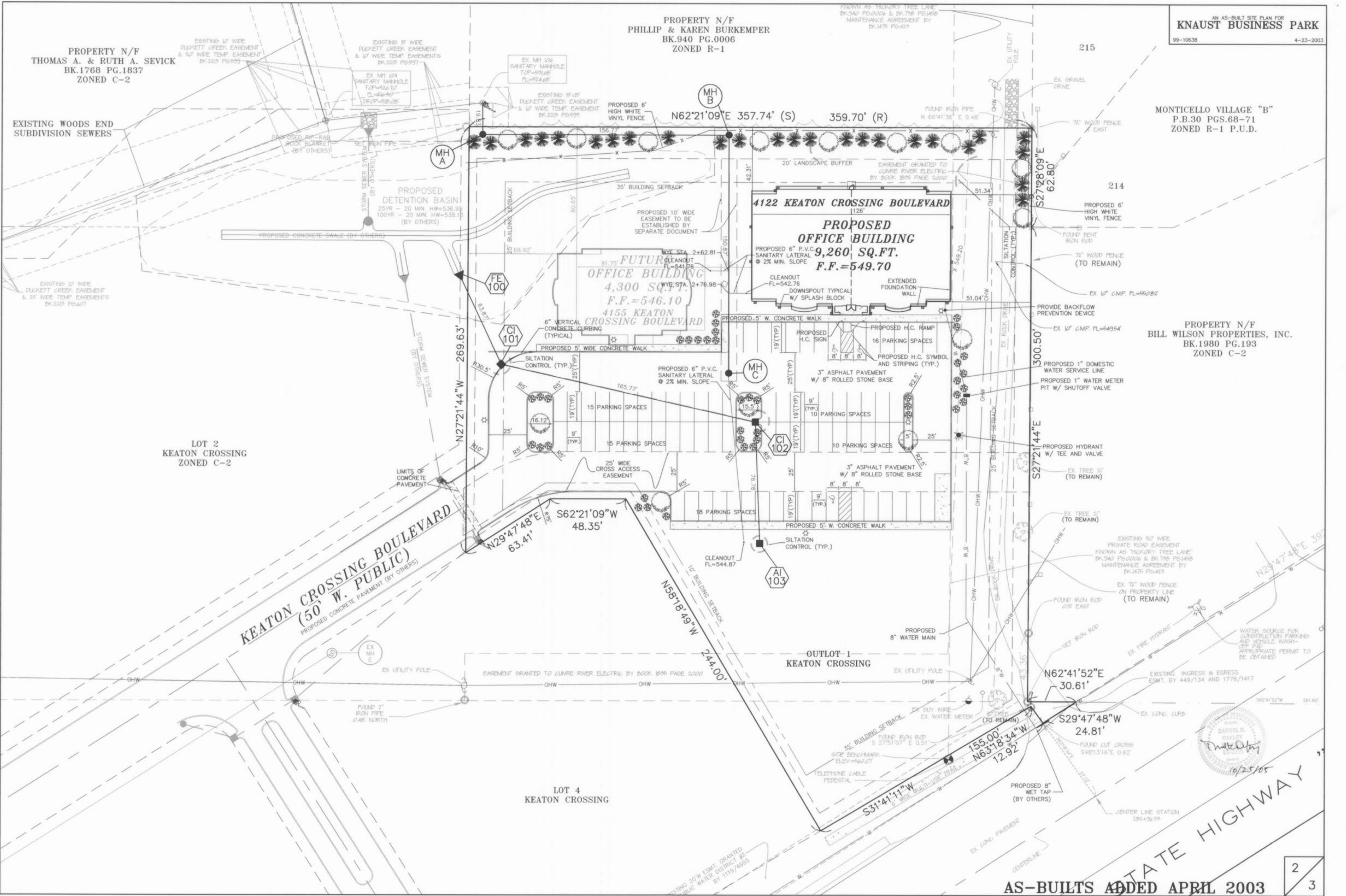
OUTLOT-1
KEATON CROSSING

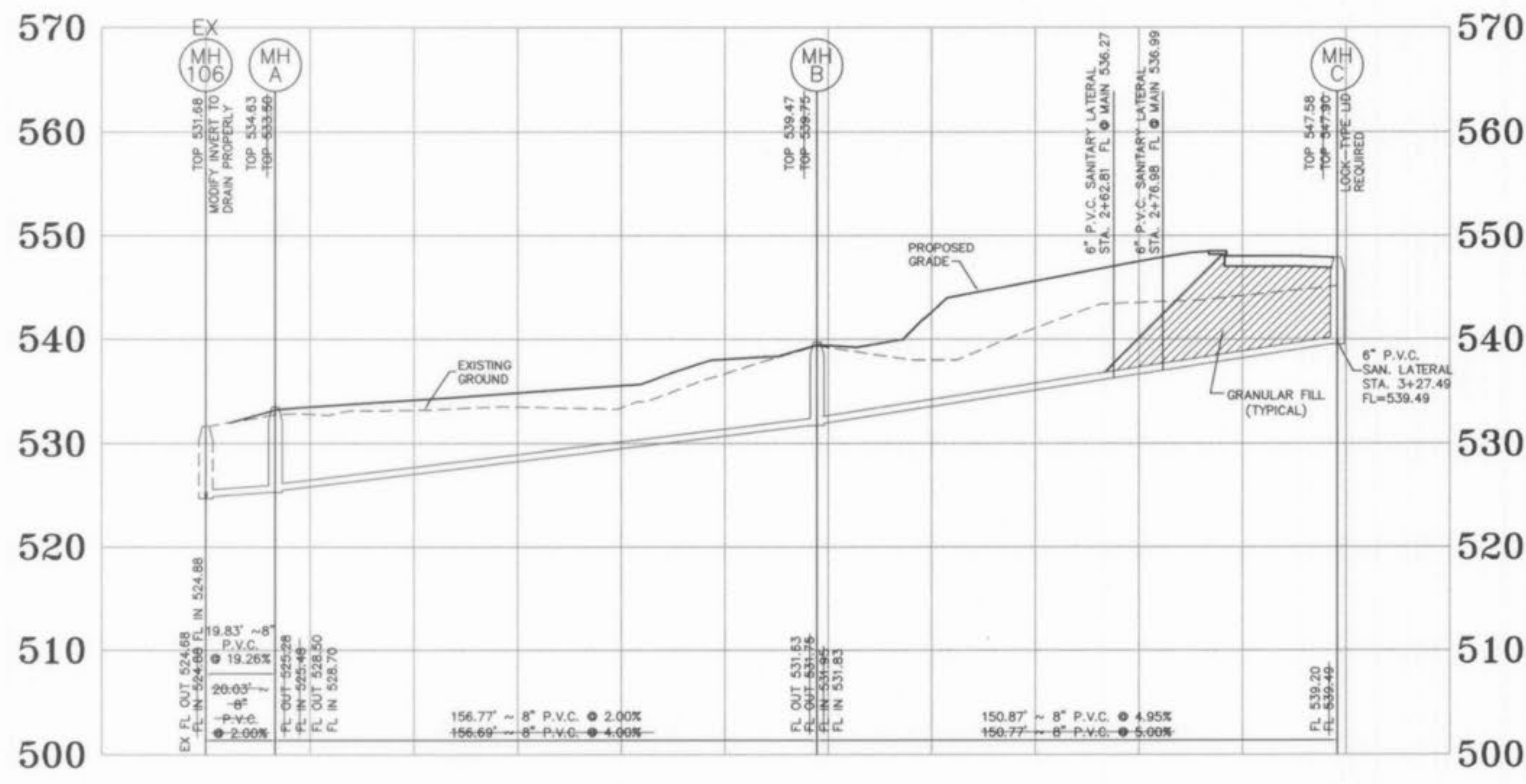
KEATON CROSSING BOULEVARD
(50' W. PUBLIC)
PROPOSED CONCRETE PAVEMENT (BY OTHERS)

AS-BUILTS ADDED APRIL 2003

Knaust Business Park
As-Built

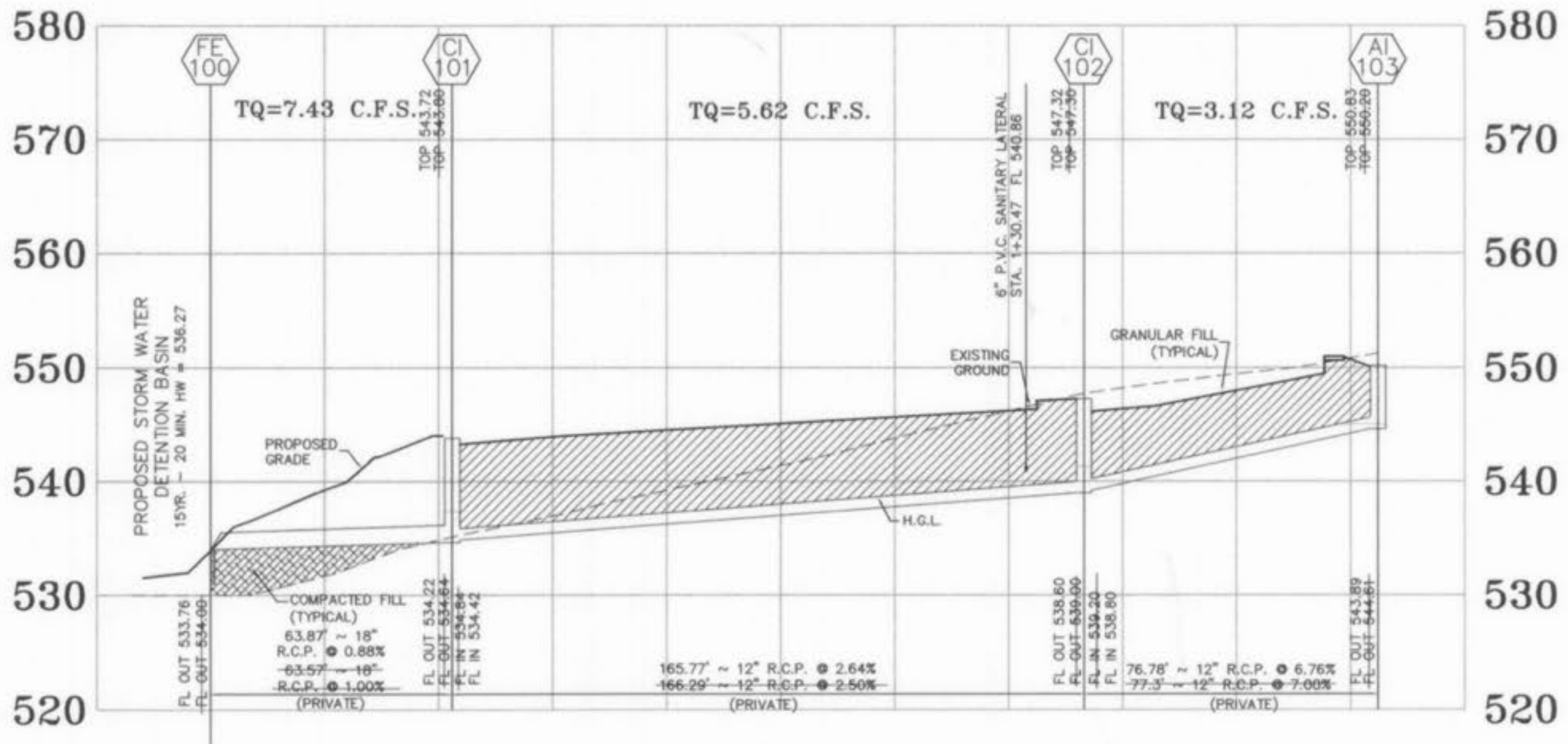
2
3





SANITARY SEWER PROFILE

HORIZONTAL SCALE: 1" = 30'
 VERTICAL SCALE: 1" = 10'



STORM SEWER PROFILE

HORIZONTAL SCALE: 1" = 30'
 VERTICAL SCALE: 1" = 10'

AS-BUILTS ADDED APRIL 2003

Duckett Creek Sanitary District
 PRE-CAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 18"

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	12-30-99	7

Duckett Creek Sanitary District
 TERMINAL MANHOLE FOR SEWERS 8" THROUGH 18"

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	01-03-00	8

Duckett Creek Sanitary District
 MANHOLE STEP 8" THROUGH 18"

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	1-8-01	18

Duckett Creek Sanitary District
 TYPICAL SEWER LATERAL CLEANOUT DETAILS

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	1-8-01	25

Duckett Creek Sanitary District
 SDR-35 x C900 BELL & SPIGOT ADAPTERS

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	1-3-01	19B

Duckett Creek Sanitary District
 SDR-35 x C900 BELL AND BELL ADAPTERS

SIZE	CATALOG NO.	OD	ID	WT	CTN
4"	335-040	4.80	4.215	4.80	4.25
6"	335-060	6.90	6.275	6.96	6.32
8"	335-080	9.05	8.400	9.13	8.45

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	1-3-01	19C

Duckett Creek Sanitary District
 PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE

ROUND PIPE	HORIZONTAL ELLIPTICAL PIPE
INCHES	INCHES
4	3.28
6	3.58
8	3.87
10	4.08
12	4.25
15	4.55
18	4.81
21	5.04
24	5.24
27	5.42
30	5.58
33	5.73
36	5.87
39	6.00
42	6.11
45	6.21
48	6.30
51	6.38
54	6.45
57	6.51
60	6.56
63	6.61
66	6.65
69	6.69
72	6.73
75	6.76
78	6.79
81	6.82
84	6.85
87	6.88
90	6.90
93	6.92
96	6.94
99	6.96
102	6.98
105	7.00
108	7.02
111	7.04
114	7.06
117	7.08
120	7.10
123	7.12
126	7.14
129	7.16
132	7.18
135	7.20
138	7.22
141	7.24
144	7.26

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	12-21-99	1

Duckett Creek Sanitary District
 PAYLINE LIMITS FOR EXCAVATION

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	12-21-99	2

Duckett Creek Sanitary District
 PIPE BEDDING CLASS 'C' (FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	12-21-99	3

Duckett Creek Sanitary District
 CAST IRON MANHOLE COVERS (LOCK TYPE)

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	12-27-00	14

Duckett Creek Sanitary District
 LOCK TYPE MANHOLE COVER

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	12-27-00	15

Duckett Creek Sanitary District
 LOCKING DEVICE FOR TYPE 'N' LOCK TYPE MANHOLE COVER

SECTION	PIPE	BSM	KLA	DATE
TOP	42" DIA.	MOOB	12-28-00	16

