KEY CONTACTS

ENGINEERING CONCEPTS (540.473.1253)
BOBBY WAMPLER, P.E.
HAL BAILEY, P.E.

ROANOKE COUNTY SCHOOLS (540.562.3801)
GEORGE ASSAID
RICHARD FLORA

ROANOKE COUNTY ENGINEERING (540.772.2080)
GEORGE SIMPSON, P.E.

SHEET INDEX

SEWER NOTES

A minimum cover of three (3) feet is required over proposed lines.

Contractor shall be responsible for locating and uncovering all manholes after paving. Manhole tops shall be adjusted to grade if necessary.

All existing utilities may not be shown or may not be shown in the exact location. The contractor shall comply with State Water Works Regulations, Section 12.05.03, where lines cross.

House connections are to be made with 4" pipe installed at a minimum grade of 1/4 inch to 1 foot in R/W.

Laterals from manholes shall be PVC or Ductile Iron of sufficient length to provide two (2) feet of bearing on natural ground. The transition from ductile iron to asbestos cement or concrete pipe shall be made with an adapter coupling in R/W.

All trenches in existing or future rights-of-way shall be compacted according to V.D.O.T. standards.

Lines shall be staked prior to construction.

WATER NOTES

A minimum cover of three (3) feet is required over proposed lines.

Contractor shall be responsible for locating and uncovering valve vaults after paving and adjustment to final grade if necessary.

All existing utilities may not be shown or may not be shown in the exact location. The contractor shall comply with the State Water Works Regulations, Section 12.05.03, where lines cross.

All trenches in existing or future highway right-of-ways shall be compacted according to V.D.O.T. standards.

Lines shall be staked prior to construction.

Water main shall be minimum Class 52 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

Availability number_____

All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County and/or the Virginia Department of Transportation.

The contractor or developer is required to notify the Roanoke County Engineering Division in writing at least three (3) days prior to any construction, including, but not limited to the following:

A. Installation of approved erosion control devices
B. Clearing and grubbing
C. Subgrade excavation
D. Installing storm sewers or culverts
E. Setting curb and gutter forms
F. Placing curb and gutter
G. Placing other concrete
H. Placing gravel base
I. Placing any roadway surface
J. Installing water lines
K. Installing sanitary sewer lines

A pre-construction conference should be scheduled with the Roanoke County Engineering Division, to be held at least one (1) day prior to any construction.

Measures to control erosion and siltation must be provided prior to plan approval. Plan approval in no way relieves the developer or contractor of the responsibilities contained within the erosion and siltation control policies.

A permit must be obtained from the V.D.O.T. Residency Office, Roanoke County, prior to construction in the highway right-of-way.

Plan approval does not guarantee issuance of any permits by V.D.O.T.

An approved set of plans and all permits must be available at the construction site.

Field construction shall honor proposed drainage divides as shown on plans.

All unsuitable material shall be removed from the construction limits of the roadway before placing embankment.

Pavement sections on approved plans are based on a minimum CBR of 10. CBR tests are to be performed by the engineer and submitted to V.D.O.T. and to the Roanoke County Engineering Division prior to placement. CBR values < 10 will require revised pavement sections.

All roadside ditches or grades of more than 5 percent shall be paved with cement concrete to the limits as indicated on the plans and as required at the field inspection.

Location of guard rails shall be determined at a joint field inspection by the County and V.D.O.T.

All springs shall be capped and piped to the nearest storm sewer or natural watercourse. The pipe shall be 6 inch minimum diameter and conform to V.D.O.T. Standard SB-1.

Standard street and traffic control signs shall be erected at each intersection by the developer prior to final street acceptance.

Construction debris shall be containerized in accordance with the Virginia Litter Control Act. No less than one litter receptacle shall be provided on site.

The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets. It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times.

The developer and/or contractor shall supply all utility companies with copies of approved plans, advising them that all grading and installation shall conform to approved plans.

Contractors shall notify utilities of proposed construction at least two (2), but not more than ten (10) working days in advance. Area public utilities may be notified thru "Miss Utility": 1-800-552-7001.

The developer or contractor shall supply the county with correct As-Built plans before final acceptance.

All work shall be subject to inspection by Roanoke County and/or V.D.O.T. inspectors.

Field corrections shall be approved by the Roanoke County Engineering Division prior to such construction.

100 year floodway and floodplain information shall be shown where applicable.

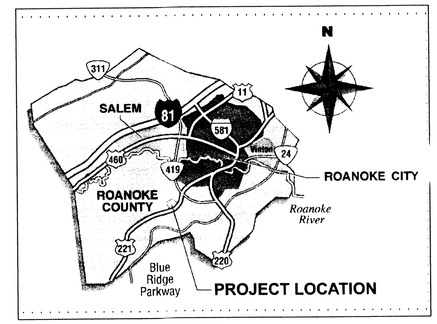
Grade stakes shall be set for all curb and gutter, culver, sanitary sewer and storm sewer.

LEGEND

Property Line — ℄ —
Right-of-way — R/W —
Centerline — ℄ —
Minimum Building Line — M.B.L. —
Existing Storm Sewer — 18" S.D. — 18" S.D.
Existing Sanitary Sewer — 8" SAN. — 8" SAN.
Existing Water Main — 4" W — 4" W
Existing Contour — 1045 —
Proposed Contour — 1045 —
Proposed Drainage Divide
Proposed Limits of Clearing
Proposed Storm Sewer — 24" S.D.
Proposed Sanitary Sewer — 8" — M.H.
Proposed Water Main — HYDRANT — VALVE — BLOWOFF

COMMONWEALTH OF VIRGINIA
ROBERT H. WAMPLER, JR.
No. 34713
3/N/05
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
SEAL AND SIGNATURE



VICINITY MAP
N.T.S.

SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) 1998
by BALZER AND ASSOCIATES

Source of topographic mapping is BALZER AND ASSOCIATES
dated NOVEMBER 6, 1998

Boundary was performed by BALZER AND ASSOCIATES
dated NOVEMBER 6, 1998

COUNTY OF ROANOKE

NAME OF DEVELOPMENT	ROANOKE COUNTY REGIONAL STORMWATER MANAGEMENT FACILITY
MAGISTERIAL DISTRICT(S)	WINDSOR HILLS

I, _____ OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OTHER APPLICABLE COUNTY CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS, UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.

OWNER (name, address, telephone)	ROANOKE COUNTY (ATTN: GEORGE SIMPSON) 5204 BRAMBLETON AVE., P.O. BOX 29800 ROANOKE, VA 24018-0798 540.772.2080
DEVELOPER (name, address, telephone)	ROANOKE COUNTY (ATTN: GEORGE SIMPSON) 5204 BRAMBLETON AVE., P.O. BOX 29800 ROANOKE, VA 24018-0798 540.772.2080
ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone)	ENGINEERING CONCEPTS (ATTN: BOBBY WAMPLER) 20 S. ROANOKE ST., P.O. BOX 619 FINCASTLE, VA 24090 540.473.1253

TAX MAP NO(S) 86.07-1-1/86.08-4-33/76.20-6-16 BLOCK NO(S) — PARCEL NO(S) —

SHEET 1 OF 8

ENGINEERING CONCEPTS, INC.
20 S. ROANOKE ST., PO BOX 619
FINCASTLE, VIRGINIA 24090
540.473.1253 FAX: 540.473.1254

AS-BUILT

Drawn WTR	ROANOKE REGIONAL STORMWATER MANAGEMENT FACILITY
Designed WTR	ROANOKE COUNTY COVER SHEET
Checked RHW	
Approved RHW	

NO SCALE
AUGUST 2000
PROJECT: 00075
of

161005 - DAM AS BLT - 2000 03 04 West END 16105

GRADING NOTES

1. THE GRADING CONTRACTOR SHALL OBTAIN ALL NECESSARY LAND DISTURBING PERMITS.

2. PRIOR TO BEGINNING EARTHWORK OPERATIONS, THE CONTRACTOR SHALL EMPLOY A QUALIFIED, PROFESSIONAL GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF VIRGINIA. AS A RESULT OF ONSITE TESTING, THE GEOTECHNICAL ENGINEER SHALL MAKE RECOMMENDATIONS REGARDING THE ONSITE PLACEMENT OF FILL MATERIAL AND PROPER COMPACTION METHODS. NO WARRANTIES ARE MADE BY THE OWNER OR ENGINEER FOR ANY SUBSURFACE CONDITIONS ON THE PROPERTY.

3. FILL SHALL BE PLACED ONLY ON FIRM SUBGRADES APPROVED BY THE SOILS ENGINEER. SUBGRADES SHALL BE SCARIFIED TO A DEPTH OF 4 INCHES PRIOR TO FILL PLACEMENT TO ASSURE BONDING BETWEEN THE TWO SOILS. ALL FILL AREAS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% DRY DENSITY (ASTMD698), UNLESS NOTED OTHERWISE. THE COMPACTION SHALL BE ACCOMPLISHED BY PLACING FILL IN 6 TO 8 INCH LIFTS AND MECHANICALLY COMPACTING EACH LIFT TO THE REQUIRED DENSITY. THE SOILS ENGINEER SHALL PERFORM FIELD DENSITY TEST ON EACH LIFT OR AS NECESSARY TO ASCERTAIN THAT ADEQUATE COMPACTION HAS BEEN ACHIEVED. CALIFORNIA BEARING RATIO TESTS SHALL BE PERFORMED IN MATERIAL PROPOSED FOR USE BENEATH PAVEMENT WHETHER CUT OR FILL.

4. CLEAR SITE WITHIN LIMITS OF GRADING WORK. DO NOT DISTURB AREAS OUTSIDE OF GRADING LIMITS OR PROPERTY BOUNDARY.

5. REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF IN A MANNER AND LOCATION ACCEPTABLE TO THE GOVERNING AUTHORITY. REMOVE TREES AND OTHER VEGETATION, INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING.

6. BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.

7. EXCAVATION FOR STRUCTURES:
A. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF PLUS OR MINUS 0.10 FOOT.
B. PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
C. REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
D. PROVIDE A MINIMUM OF 2'-0" FROM THE FINISHED GRADE TO TOP OF ALL EXTERIOR WALL FOOTINGS.
E. FOOTINGS WHICH SUPPORT CONCRETE MASONRY UNITS MAY BE STEPPED PROVIDED THE VERTICAL STEP DOES NOT EXCEED ONE HALF OF THE HORIZONTAL DISTANCE BETWEEN STEPS AND HORIZONTAL DISTANCE BETWEEN STEPS IS NOT LESS THAN TWO FEET.
F. IF ROCK IS ENCOUNTERED IN A FOOTING EXCAVATION, UNDERCUT IT A MINIMUM OF 12" BELOW THE BOTTOM OF THE FOOTINGS AND FILL THE RESULTING OVER-EXCAVATION WITH CONTROLLED FILL.

8. CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED.

9. EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB-1 FOR STORM DRAINAGE PIPING AND UB-1 FOR SANITARY SEWER AND WATER. BACK FILL TRENCHES WITH CONTROLLED FILL.

10. PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. CONVEY WATER REMOVED FROM EXCAVATIONS AND RAIN WATER TO COLLECTING OR RUNOFF AREAS. ESTABLISH AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND OTHER DIVERSIONS OUTSIDE EXCAVATION LIMITS FOR EACH STRUCTURE. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DITCHES.

11. PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THAN 35° F (1° C).

12. BACKFILLING:
A. COMPACT THE BACK FILL AROUND THE OUTSIDE OF BUILDING TO A MINIMUM OF 90% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698 STANDARD PROCTOR. DO NOT ALLOW HEAVY COMPACTION EQUIPMENT SUCH AS ROLLERS, ETC., CLOSER TO ANY FOOTING THAN THE HORIZONTAL DISTANCE SUBTENDED BY A 45° ANGLE WITH THE TOP EDGE OF THE FOOTINGS AND THE SURFACE OF THE GROUND.
B. BACK FILL BEHIND WALLS AFTER PERMANENT CONSTRUCTION WHICH BRACES THE WALL IS IN PLACE OR TEMPORARY BRACING OF THE WALL IS PROPERLY INSTALLED, AND AFTER ACCEPTANCE OF CONSTRUCTION BELOW FINISH GRADE INCLUDING DAMP-PROOFING, REMOVAL OF CONCRETE FORMWORK, AND REMOVAL OF TRASH AND DEBRIS.

13. UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING INCLUDING ADJACENT TRANSITION AREAS. SMOOTH FINISHED SURFACES WITHIN SPECIFIED TOLERANCES, COMPACT WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. GRADE AREAS ADJACENT TO BUILDING LINES TO DRAIN AWAY FROM STRUCTURES TO PREVENT PONDING.

14. FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS TO LINE, GRADE, AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.

15. GRADE SURFACE UNDER BUILDING SLABS SMOOTH AND EVEN, FREE OF VOIDS. PROVIDE FINAL GRADES WITHIN 1/2" OF THOSE INDICATED WHEN TESTED WITH A 10' STRAIGHT EDGE.

16. PROTECT GRADED AREAS FROM TRAFFIC AND EROSION. REPAIR AREAS WHICH HAVE SETTLED, ERODED, OR BECOME DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.

17. UNDER FOUNDATIONS, SIDEWALKS, AND PAVEMENTS COMPACT EACH LAYER TO 95% MAXIMUM DRY DENSITY ASTM D698 (STANDARD PROCTOR).

18. UNDER LAWN OR UNPAVED AREAS, COMPACT SUBGRADE AND EACH LAYER TO 90% MAXIMUM DRY DENSITY ASTM D698 (STANDARD PROCTOR).

19. ALL SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE CAPPED AND PIPED TO THE NEAREST STORM SEWER SYSTEM OR NATURAL WATERCOURSE. THE PIPE SHALL BE A MINIMUM OF 6" DIAMETER AND CONFORM TO V.D.O.T. STANDARD SB-1.

STORM SEWER SPECIFICATIONS

1. ALL STORM SEWER PIPE AND FITTINGS SHALL CONFORM TO THE LATEST STANDARDS & SPEC'S. OF THE MANUFACTURER.
2. THE STORM SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. THE PIPE SHALL BE LAID IN A TRUE, STRAIGHT LINE WITH THE BELL ENDS UPSTREAM AND WITH THE INVERT OF THE PIPE BEING THE TRUE ELEVATION AND GRADE OF THE SYSTEM. THE PIPE SHALL BE VISUALLY INSPECTED FOR DEFECTS BEFORE LOWERING THE PIPE INTO THE TRENCH. FIELD CUTTING OF THE PIPE SHALL BE DONE IN A NEAT MANNER, SO AS TO LEAVE A SMOOTH END AT RIGHT ANGLES TO THE AXIS OF THE PIPE.
3. TRENCHES SHALL BE EXCAVATED IN STRAIGHT LINES AND SHALL BE OF SUFFICIENT WIDTH TO PERMIT THE PROPER INSTALLATION OF BRACING, SHORING OR SHEETING. TRENCH WIDTH SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. THE BOTTOM OF THE PIPE TRENCH SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 4 INCHES BELOW THE BOTTOM OF THE PIPE, TO PROVIDE FOR THE COMPACTED BEDDING MATERIAL.
4. BACKFILL MATERIAL SHALL BE EITHER APPROVED EXCAVATED MATERIAL OR APPROVED SUITABLE MATERIAL FROM OTHER SOURCES THAT IS FREE OF ORGANIC MATTER OR OTHER OBJECTIONABLE MATERIAL. BACKFILL FROM PIPE BEDDING TO MINIMUM ONE FOOT ABOVE THE TOP OF THE PIPE SHALL BE FREE OF STONES LARGER THAN 2 INCHES AND SHALL BE PLACED IN 6 INCH LAYERS AND COMPACTED WITH HAND TAMPERS. BACKFILL FROM THIS POINT TO THE TOP OF THE TRENCH SHALL BE FREE OF STONES LARGER THAN 4 INCHES AND SHALL BE PLACED IN LAYERS NOT TO EXCEED 8 INCHES AND COMPACTED WITH MECHANICAL TAMPERS.

SITE DEMOLITION NOTES

1. COORDINATE DEMOLITION WITH OWNER PRIOR TO COMMENCING WORK.
2. PRIOR TO COMMENCING DEMOLITION AND THROUGHOUT THE ENTIRE CONSTRUCTION TERM PROVIDE SAFETY FENCING AT THE CONSTRUCTION LIMITS TO DETER PEDESTRIAN TRAFFIC FROM ENTERING THE CONSTRUCTION AREA. ENSURE THAT FENCING REMOVED FOR THE ON-SITE DELIVERY OF MATERIALS AND EQUIPMENT IS PROMPTLY REPLACED AT THE EARLIEST POSSIBLE TIME.
3. INSTALL ALL PERIMETER EROSION CONTROL DEVICES PRIOR TO DEMOLITION.
4. DO NOT LEAVE STRUCTURES IN THE PROCESS OF DEMOLITION IN AN UNSTABLE CONDITION SUCH THAT FAILURE WOULD RISK IMPACTING ANY OFF-SITE AREAS, EXISTING STRUCTURES, VEHICLES OR PERSONS. SECURE ALL DEMOLITION AREAS AT THE END OF THE WORK DAY IN A MANNER ADHERING TO O.S.H.A. AND STATE REGULATIONS.
5. NOTIFY THE OWNER PRIOR TO UTILITIES DEMOLITION IN ORDER TO MINIMIZE DISRUPTION OF DAILY OPERATIONS.
6. WHERE NECESSARY PROVIDE BY-PASS CONNECTIONS TO MAINTAIN CONTINUITY OF UTILITIES SERVICE THROUGH DEMOLITION AND CONSTRUCTION. CAP AND PLUG EXISTING UTILITIES WHERE REQUIRED. THIS INCLUDES CONSTRUCTION OF NEW GAS AND TELEPHONE EXTENSIONS BEFORE DEMOLITION OF CURRENT SERVICE LINES.
7. SAW CUT PAVED AND CONCRETE AREAS TO BE PARTIALLY DEMOLISHED AT THE APPROPRIATE LIMITS TO PRECLUDE A ROUGH REJOINING OF MATERIALS.
8. REMOVE DEMOLISHED MATERIALS FROM THE CONSTRUCTION AREA IMMEDIATELY AND DISPOSE OF OFF-SITE IN A LOCATION AND MANNER ACCEPTABLE TO ALL GOVERNING AGENCIES DICTATING DISPOSAL LAW. IF HAZARDOUS MATERIALS ARE ENCOUNTERED DURING DEMOLITION OPERATIONS, COMPLY WITH ALL REGULATIONS, LAWS AND ORDINANCES CONCERNING REMOVAL, HANDLING AND PROTECTION AGAINST EXPOSURE OR ENVIRONMENTAL POLLUTION.
9. BURNING OF REMOVED MATERIAL IS NOT PERMITTED.
10. AFTER COMPLETION OF DEMOLITION WORK SECURE THE AREA FOR THE COMMENCEMENT OF FINAL CONSTRUCTION AND EXCAVATIONS.

GENERAL NOTES

1. VERIFY LOCATION, SIZE AND ELEVATION FOR ALL UTILITIES IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION, SIZE OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN, IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON PLAN.

2. PROVIDE CONSTRUCTION METHODS AND MATERIALS IN ACCORDANCE WITH THE COMMONWEALTH OF VIRGINIA SEWAGE AND WATERWORKS REGULATIONS AND ROANOKE COUNTY BUILDING REGULATIONS WHERE APPLICABLE.

3. A MINIMUM OF THREE (3) FEET OF COVER IS REQUIRED OVER PROPOSED WATER AND SEWER LINES.

4. ALL EXISTING UTILITIES MAY NOT BE SHOWN IN EXACT LOCATION. THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER WORKS REGULATIONS, SECTION 12.05.03, WHERE LINES CROSS.

5. ALL UTILITY LINES SHALL BE STAKED PRIOR TO CONSTRUCTION.

6. REFER TO DETAIL SHEETS FOR BEDDING DETAILS. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, THE TRENCH SHALL BE BACKFILLED WITH SELECTED MATERIAL, THOROUGHLY COMPACTED TO 95% OF THE STANDARD PROCTOR (ASTM D698) UNDER PAVEMENT OR CONCRETE SLAB, USING CARE NOT TO DAMAGE THE PIPE.

7. ALL WATER MAINS SHALL BE PROPERLY RESTRAINED WITH PROPER THRUST BLOCKING OR APPROVED ALTERNATIVE.

8. ALL WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARDS. COORDINATE INSPECTIONS FOR TESTING WITH GOVERNING JURISDICTION.

9. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. UTILITIES MAY EXIST WITHIN THE CONSTRUCTION AREA OF THESE PLANS THAT ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES BEFORE COMMENCING WORK, AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE SUCH UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THESE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE CONTINUANCE OF SERVICE. CALL MISS UTILITIES AT 1.800.552.7001 (TOLL FREE) 48 HOURS BEFORE DIGGING.

10. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL, GAS, TELEPHONE, CABLE, AND FIBER OPTIC INSTALLATIONS WITH THE APPROPRIATE UTILITY COMPANY. SEE COVER SHEET FOR CONTACT LIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL UTILITY REQUIRED CONDUIT. WHERE UTILITIES DROP TO UNDERGROUND, PROVIDE CONDUIT RUNS THE ENTIRE LENGTH OF ROUTE TO BUILDING CONNECTION POINT.

EROSION & SEDIMENT CONTROL NOTES

THE CONTRACTOR SHALL HAVE, WITHIN THE LIMITS OF THE PROJECT, AN EMPLOYEE CERTIFIED BY THE DEPARTMENT OF CONSERVATION AND RECREATION IN EROSION AND SEDIMENT CONTROL WHO SHALL INSPECT EROSION AND SILTATION CONTROL DEVICES AND MEASURES FOR PROPER INSTALLATION AND DEFICIENCIES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY WHEN NO RAINFALL EVENT OCCURS.

EROSION – SEDIMENT CONTROL PHASING NOTES

1. INSTALL ALL PERIMETER SILT FENCE.
2. CONTRACTOR SHALL REMOVE EROSION CONTROL MEASURES ONLY AFTER DISTURBED AREAS ARE STABILIZED.

DATES OF CONSTRUCTION

FALL OF 2000 TO SPRING OF 2001

1. UNLESS OTHERWISE INDICATED ALL VEGETATIVE AND STRUCTURAL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VA. EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
2. ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED AS THE FIRST STEP IN GRADING.
3. A COPY OF THE APPROVED EROSION CONTROL PLANS SHALL BE KEPT ON SITE AT ALL TIMES.
4. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE INSPECTOR.
5. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL DEVICES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND UNTIL FINAL STABILIZATION IS ACHIEVED. THE CONTRACTOR SHALL REMOVE ALL DEVICES FROM THE SITE AFTER STABILIZATION, ONLY AFTER PRIOR APPROVAL OF THE INSPECTOR.
6. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADES.
7. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RAINFALL EVENT . ANY REPAIRS NECESSARY SHALL BE MADE IMMEDIATELY TO ENSURE THE PROTECTION OF OFFSITE PROPERTIES.
8. THE CONTRACTOR IS REQUIRED TO REMOVE ALL SILT FROM DRAINAGE WAYS AND ADJACENT PAVED AREAS PRIOR TO CONTRACT RELEASE.

COORDINATION OF DRAWINGS

THE CONSTRUCTION OF THIS FACILITY COINCIDES WITH THE CONSTRUCTION OF THE SOUTH COUNTY HIGH SCHOOL AS SHOWN OF THE PLANS PREPARED BY ENGINEERING CONCEPTS EARLY SITEWORK PACKAGE DATED MAY 17, 2000. ANY INFORMATION THAT CONFLICTS BETWEEN THE EARLY SITEWORK PACKAGE AND THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.

ENGINEERING CONCEPTS, INC.
20 S. ROANOKE ST., PO BOX 619
FINCASTLE, VIRGINIA 24090
540.473.1253 FAX: 540.473.1254

AS-BUILT

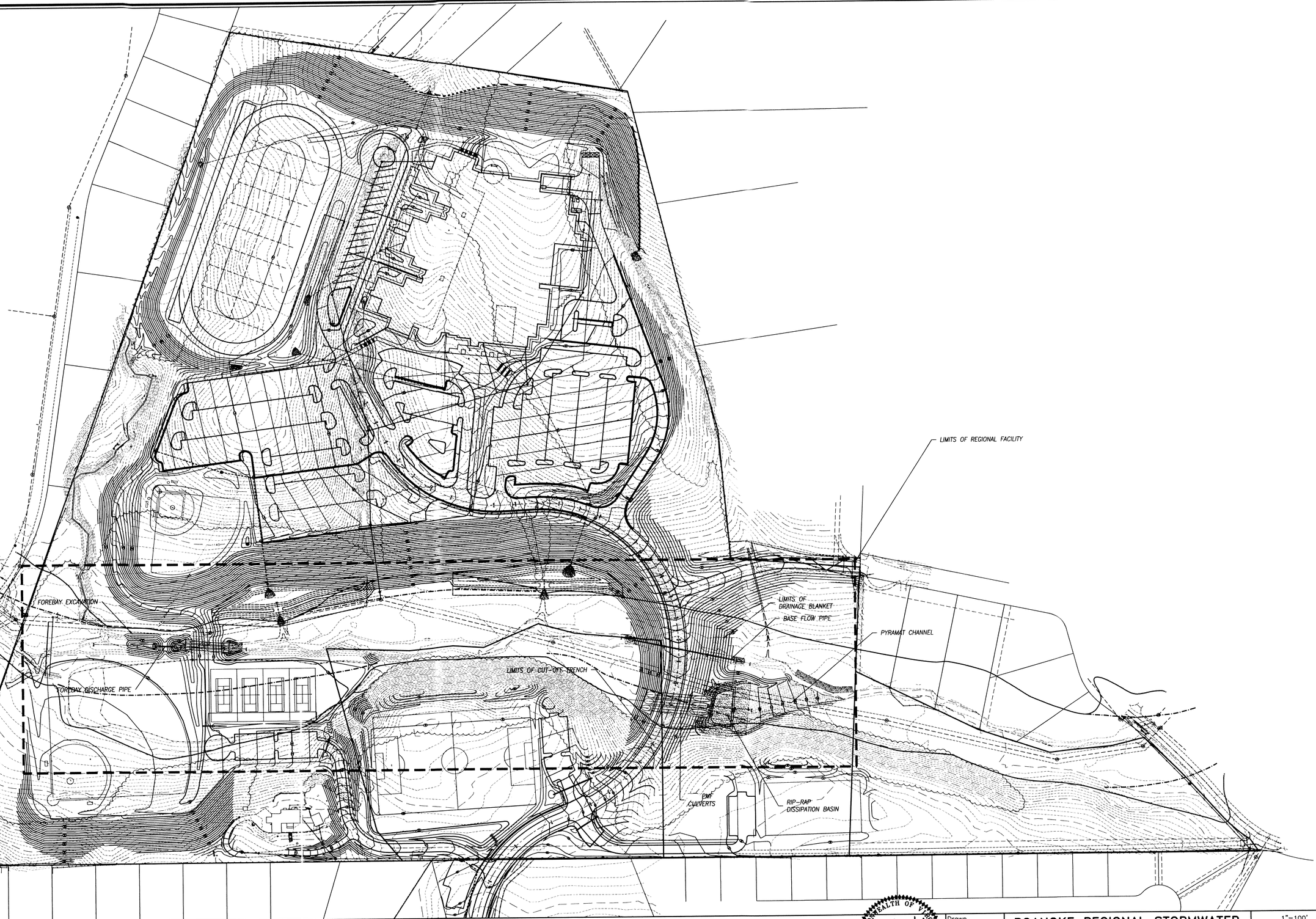
COMMONWEALTH OF VIRGINIA
ROBERT H. WAMPLER, JR.
No. 34713
PROFESSIONAL ENGINEER
3/14/05

Drawn	WTR
Designed	WTR
Checked	RHW
Approved	RHW

ROANOKE REGIONAL STORMWATER MANAGEMENT FACILITY

GENERAL NOTES

NO SCALE
AUGUST 2000
PROJECT: 00075
2 of 8



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AS-BUILT

COMMONWEALTH OF VIRGINIA
ROBERT H. WAMPLER, JR.
No. 34713
PROFESSIONAL ENGINEER
3/14/05

Drawn	RHW
Designed	RHW
Checked	WPJ
Approved	RHW

ROANOKE REGIONAL STORMWATER MANAGEMENT FACILITY

OVERALL PLAN

1"=100'
AUGUST 2000
PROJECT: 00075
3 of 8

ENGINEERING CONCEPTS, INC.
20 S. ROANOKE ST., PO BOX 619
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AS-BUILT

COMMONWEALTH OF VIRGINIA
ROBERT H. WAMPLER, JR.
No. 34713
PROFESSIONAL ENGINEER
3/4/05

Drawn	RHW
Designed	RHW
Checked	WPJ
Approved	RHW

ROANOKE REGIONAL STORMWATER MANAGEMENT FACILITY

FOREBAY GRADING DETAIL

1"=20'
AUGUST 2000
PROJECT: 00075
4 of 8

END CUTOFF TRENCH STA. 18+48.00 (NOT SHOWN)

N: 18309.7326
E: 7985.3668
STA 16+68.3 – 130.0'L
FROM ROAD CENTERLINE

SEDIMENT PIT
(20' OF CL. I RIP-RAP – 2.0' DEPTH)

STA 0+28.9
235' – 24" D.I.P. CL..350
WITH DEBRIS RACK
INV IN=1095.5
INV OUT=1092.5

PMF CULVERT SLOPE PROTECTION

N: 18233.0368
E: 8102.2347
STA 14+68.6 – 111.3' L
FROM ROAD CENTERLINE

STA 0+57.5 – 15.5'L

STA 0+53.2
12-1/2' STRUCT. CMP (3)
WITH ENDWALL TREATMENT
INV IN=1110.5
INV OUT=1104.0

STA 0+48.5 – 15.5'R

START CUTOFF
TRENCH STA
13+75.00

RIP-RAP DISSIPATION POOL TO
EXTEND TO STA 2+61.8
(CL. II RIP-RAP – 3.2' DEPTH)

BOTTOM OF POOL
ELEVATION=1098.4

DRAINAGE BLANKET
(VDOT GRADING G)

SEDIMENT PIT
(CL. I RIP-RAP – 2.0')

N: 18525.9761
E: 8193.3062
STA 16+04.5 – 163.5'R
FROM ROAD CENTERLINE

INSTALL 65' OF 6" PVC PIPE
(SLOTTED) FROM DISSIPATION
POOL TO BASE FLOW PIPE
OUTLET. PROVIDE MIN. 3' OF
COVER AND SLOPE TO DRAIN.
SEE DRAIN DETAIL.

N: 18471.7113
E: 8283.9886
STA 15+31.4 – 181.8'R
FROM ROAD CENTERLINE

RAISE MH RIM TO
ELEV = 1105.0

STA 2+07.5 – 15.5'L

STA 2+05.2

STA 2+02.5 – 15.5'R

RIP-RAP DISSIPATION APRON TO EXTEND
FROM STA 2+61.8 TO STA 2+89.9
(CL. II RIP-RAP – 4.8' DEPTH)

1104.0

PYRAMAT LINED CHANNEL FROM STA
2+89.9 TO MUD LICK CREEK. EMBED
PYRAMAT 2' AT TOP OF BANK.
(PYRAMAT PLACEMENT BY OTHERS)

PLACE RIP-RAP FOR APPROXIMATELY
130' OF STREAM BANK PROTECTION
(CL. I – 2.0'). CONTRACTOR SHALL
NOT REMOVE ANY TREES NOT
REQUIRED FOR CONSTRUCTION OF
STREAM BANK PROTECTION.
COORDINATE WITH ENGINEER.

130'

SANITARY SEWER TO BE
REPLACED AND STEEL
ENCASED. (BY OTHERS)

A

A

6" PVC PIPE
(SLOTTED)

6" MIN.
ALL SIDES

VDOT #78
STONE

GEOTEXTILE FABRIC

DRAIN DETAIL
NOT TO SCALE

PYRAMAT LINING TO BE
INSTALLED PER MANUFACTURER'S
RECOMMENDATIONS. (BY OTHERS)

3.0' TOP OF BERM

2.0' MIN.

2:1 MAX

2:1 MAX

65.0'

SECTION A–A
NOT TO SCALE

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AS-BUILT

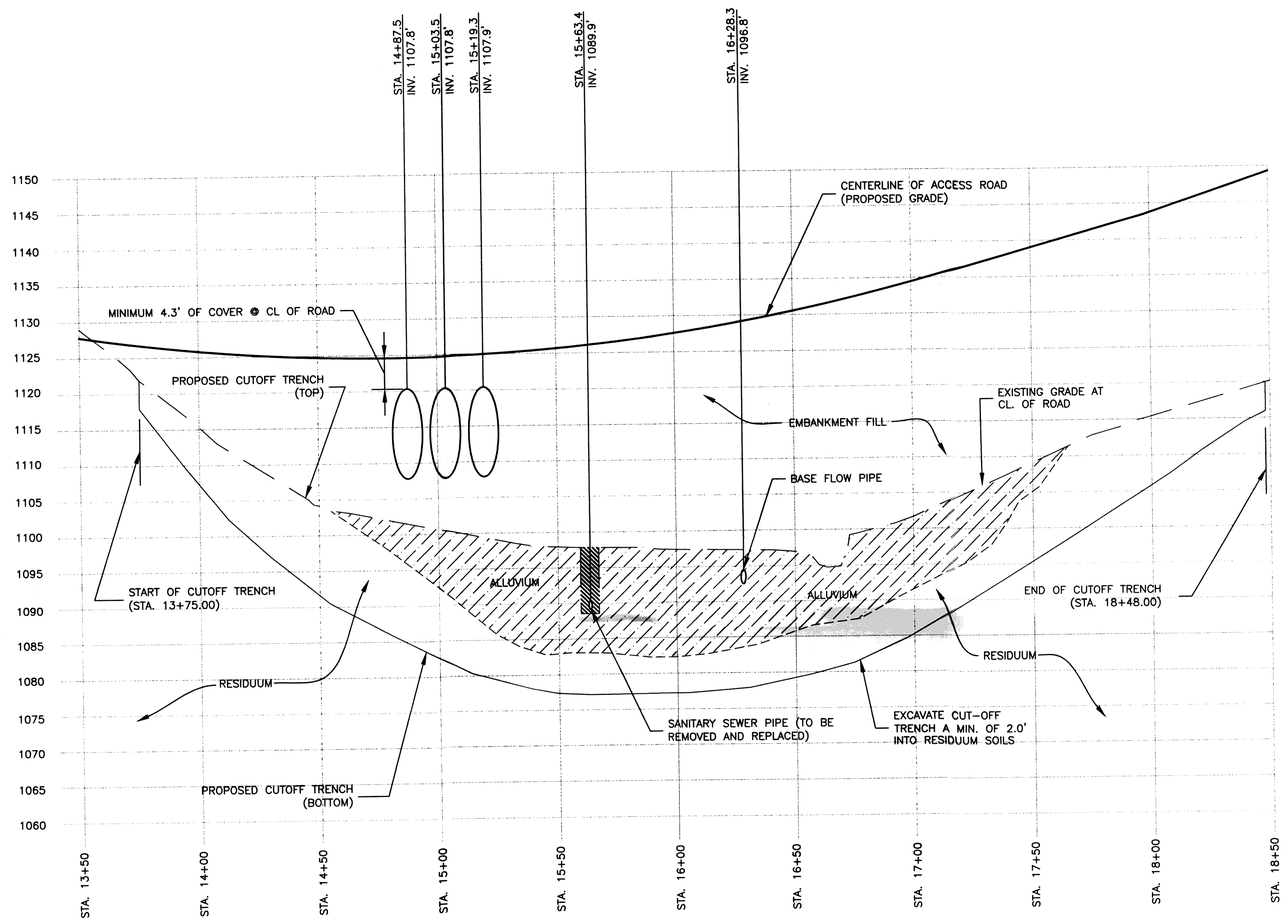
COMMONWEALTH OF VIRGINIA
ROBERT H. VAMPLER, JR.
No. 34713
PROFESSIONAL ENGINEER
3/14/05

Drawn	RHW
Designed	RHW
Checked	WPJ
Approved	RHW

ROANOKE REGIONAL STORMWATER MANAGEMENT FACILITY

EMBANKMENT & OUTLET STRUCTURE GRADING DETAIL

1"=20'
AUGUST 2000
PROJECT: 00075
5 of 8



UPSTREAM VIEW OF MUD LICK CROSSING
SCALE:
H:1"=30'
V:1"=10'

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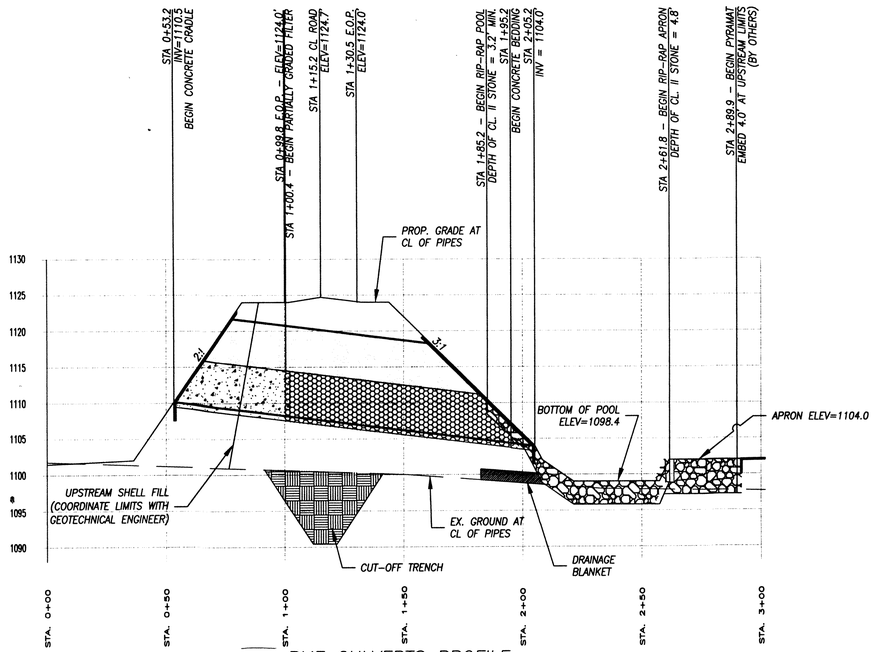
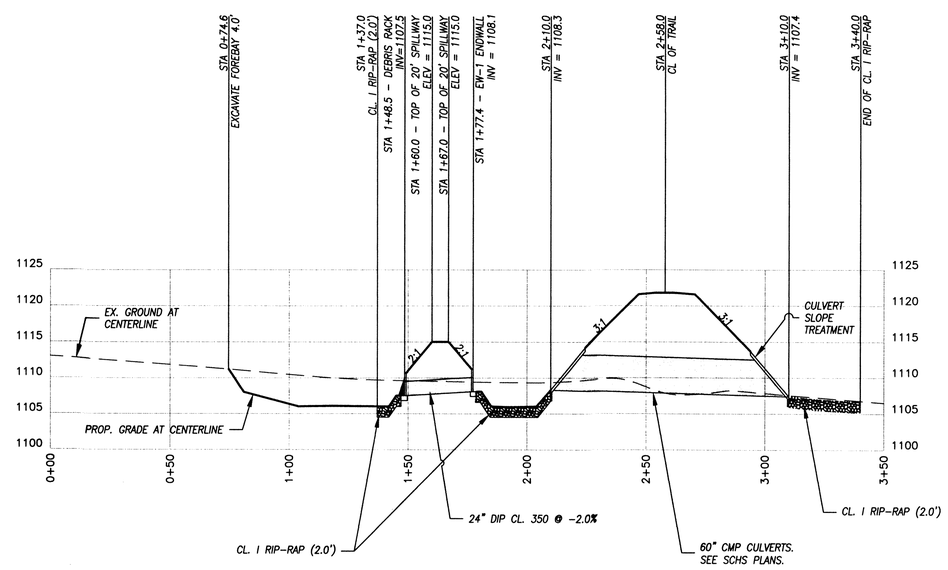
EMBANKMENT PROFILE DETAIL

SCALE NOTED
AUGUST 2000
PROJECT: 00075



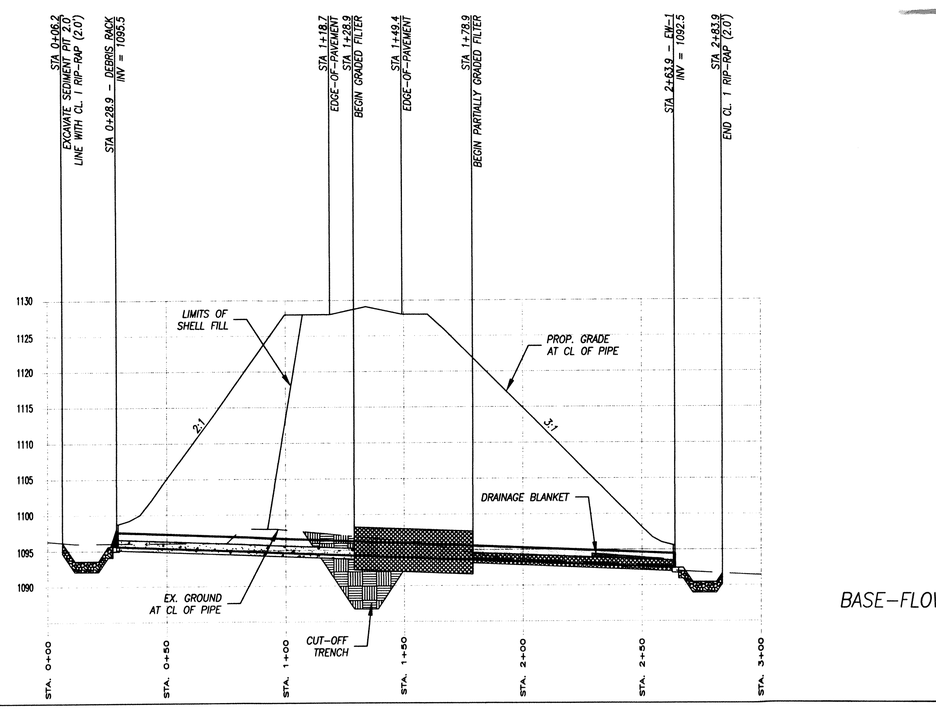
PMF CULVERTS PROFILE

SCALE:
H:1"=30'
V:1"=10'



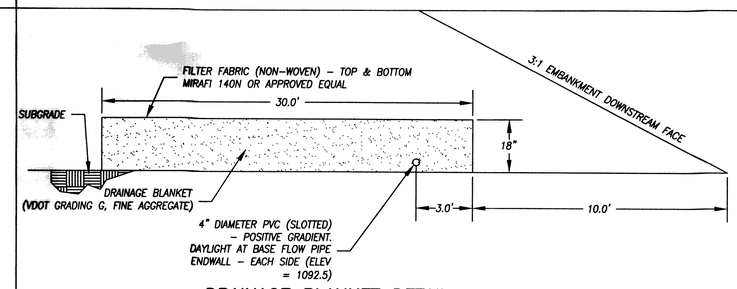
FOREBAY CROSS-SECTION

SCALE:
H:1"=30'
V:1"=10'



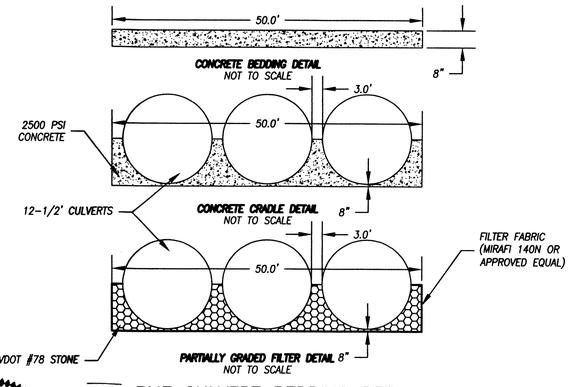
BASE-FLOW PIPE PROFILE

SCALE:
H: 1"=30'
V: 1"=10'

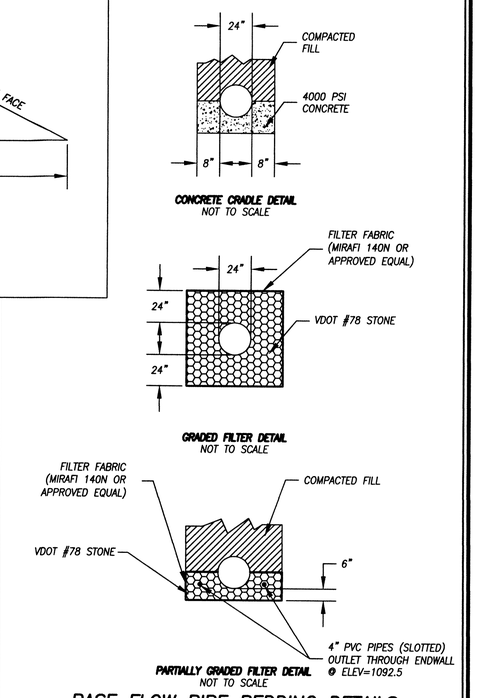


DRAINAGE BLANKET DETAIL

NOT TO SCALE



PMF CULVERT BEDDING DETAIL



BASE FLOW PIPE BEDDING DETAILS

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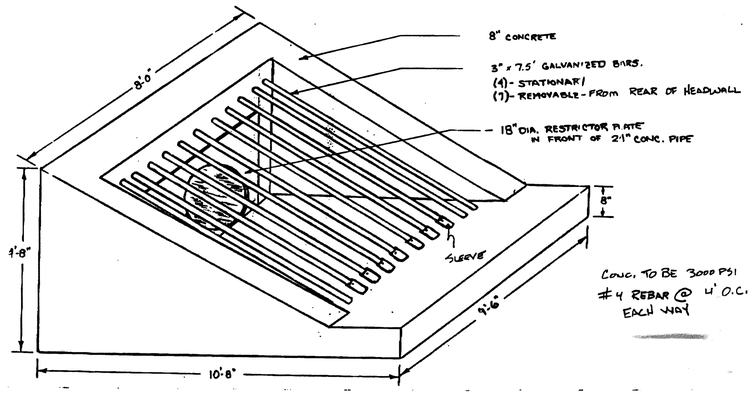
ROANOKE REGIONAL STORMWATER MANAGEMENT FACILITY

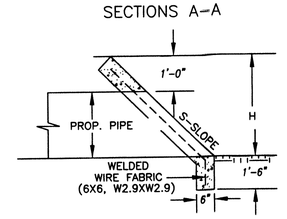
CROSS-SECTION DETAILS

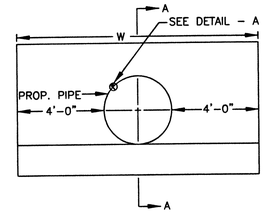
SCALE NOTED
AUGUST 2000
PROJECT: 00075

AS-BUILT TRASH RACK DETAIL
BASE FLOW PIPE
NOT TO SCALE

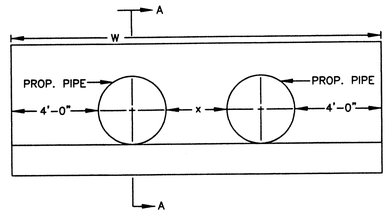


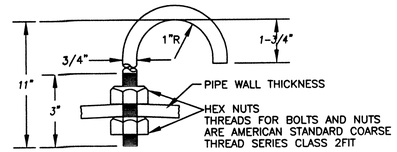
SECTIONS A–A





PIPE DIAMETER	MIN. DIST BETWEEN PIPES (X)
6" TO 24"	12"
24" TO 72"	1/2 DIAMETER (D) IN INCHES
72" TO 150"	36"





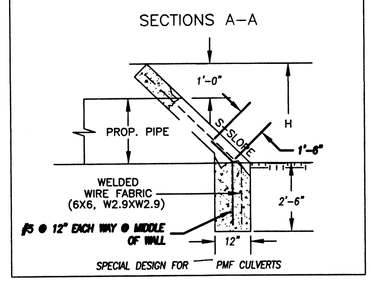
DETAIL – A APPROXIMATE DIMENSIONS FOR HOOK BOLTS.

NOTES:
ALL CONCRETE TO BE CLASS A 3. HOOK BOLTS 18" C.C. WILL BE REQUIRED WHEN STRUCTURE IS ON A SKEW OF MORE THAN 15°. FOUR INCH BITUMINIZED FIBER PIPE MAY BE ADDED ON THE OUTLET END AS DEEMED NECESSARY BY THE PROJECT ENGINEER.

THE REINFORCEMENT IS TO BE PLACED IN ACCORDANCE WITH SECT. 404 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATIONS ROAD AND BRIDGE SPECIFICATIONS DATED JANUARY 1994.

HOOK BOLT MATERIAL SHALL MEET CURRENT ASTM A–307. BOLTS SHALL BE GALVANIZED TO MEET CURRENT ASTM A–153. FOR ALUMINUM PIPE, HOOK BOLTS SHALL BE PROTECTED WITH ONE OF THE FOLLOWING: BITUMASTIC 50, BITUMASTIC M, OR CONCOTE B–50 WHERE CONTACT IS MADE BETWEEN PIPE AND HOOK BOLTS.

SECTIONS A–A



NOTE:
PROVIDE A MINIMUM OF FOUR (4) – FOUR INCH (4") DIAMETER WEEP HOLES THROUGH THE SLOPE TREATMENT FOR THE PMF CULVERTS LOCATED AT THE INVERT OF THE PIPE AND AT THE MIDPOINT BETWEEN THE CULVERTS AND AT THE MIDPOINT BETWEEN THE CULVERT AND EDGE OF SLOPE TREATMENT.

SLOPE TREATMENT

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ROANOKE REGIONAL STORMWATER MANAGEMENT FACILITY

DEBRIS RACK DETAIL

NO SCALE
AUGUST 2000
PROJECT: 00075
8 of 8