Stormwater Division

MEMORANDUM

DATE: July 28, 2014
TO: Michael J. Gillis, Virginia Correctional Enterprises Document Management Services
FROM: Jacob Smith, Stormwater Intern
PO: 110426
RE: Files Approved for Scanning

NAME PDF/SCANNED FILE:	KINGSMILL LAUNDRY FACILITY		
BMP ID OR GEN FILE NUMBER:	JR051	**OWNER NAME:**	ANHEUSER BUSCH COMPANIES LLC
PIN:	5230100110	**SITE ADDRESS:**	8581 POCAHONTAS TR
		LEGAL DESCRIPTION:	PARCEL G-1 286 38 AC BUSCH PRO GOLF CRSE #3 HOLES 1-11&16-18

MAINTENANCE AGREEMENT IN FILE:	**YES**	**BOOK/PAGE OR DOCUMENT NO.:**	**714/469**	**OTHER DESCRIPTION:**	N/A

BOX NO.:	2	**COMMENTS:**	DECLARATION INSPECTION MAINTENACE

James City County, Virginia
Stormwater Division

Stormwater Facilities - BMP and Conveyance Systems
Record Drawing and Construction Certification Forms

Note: In accordance with the requirements of the Chesapeake Bay Preservation Ordinance, Chapter 23, Section 23-10(4), BMPs shall be designed and constructed in accordance with the manual entitled* James City County Guidelines for Design and Construction of Stormwater Management BMPs. *The Subdivision Ordinance, Chapter 19-62, the Zoning Ordinance, Chapter 24-159, and approved construction plans generally require that at the completion of the project and prior to release of surety, an "as-built" plan prepared by a registered Professional Engineer or Certified Land Surveyor must be provided for the drainage system for the project including any Best Management Practice (BMP) facilities. In addition, for BMP facilities, written construction certification is required by a Professional Engineer who inspected the structure during its construction. Currently there are over 20 water quality type BMPs accepted by the County.

Section 1 - Site Information:

Project Name: LAUNDRY FACILITY AT KINGSMILL

Structure/BMP Name: DETENTION BASIN

Project Location: CORNER OF BREWERY SERVICE ROAD AND U.S. ROUTE 60, WILLIAMSBURG

BMP Location: CORNER OF BREWERY SERVICE ROAD AND ENTRANCE TO LAUNDRY FACILITY

County Plan No.: SP - 116 - 00

Project Type:
- ☐ Residential
- ☑ Commercial
- ☐ Institutional
- ☐ Public
- ☐ Other
- ☐ Business
- ☐ Office
- ☐ Industrial
- ☐ Roadway

Tax Map/Parcel No.: (52-3)(01-110)

BMP ID Code (if known):

Zoning District: M-1

Land Use:

Site Area (sf or acres): 286 AC

Brief Description of Stormwater Management/BMP Facility: DRY DETENTION BASIN WITH OUTFALL STRUCTURE CONSISTED OF MODIFIED DI-5 WITH A 2" LOW FLOW PIPE WITH THE EW-12 LOW FLOW CONTROL STRUCTURE

Nearest Visible Landmark to SWM/BMP Facility:

Nearest Vertical Ground Control (if known):

☑ JCC Geodetic Ground Control ☐ USGS ☐ Temporary ☐ Arbitrary ☐ Other

Station Number or Name: STA. NO. 328

Datum or Reference Elevation: 88.62 (NGVD 29)

Control Description: JCC DISK IN CONCRETE

Control Location from Subject Facility: 3,475.00' FEET

Section 2 - Stormwater Management / BMP Facility Construction Information:

Preconstruction Meeting Held for Construction of SWM/BMP Facility: ☐ Yes ☐ No ☑ Unknown

Approx. Construction Start Date for SWM/BMP Facility: 2001

Facility Monitored by County Representative during Construction: ☐ Yes ☐ No ☑ Unknown

Name of Site Work Contractor Who Constructed Facility: UNKNOWN

Name of Professional Firm Who Routinely Monitored Construction: UNKNOWN

Date of Completion for SWM/BMP Facility: 2001

Date of Record Drawing/Construction Certification Submittal: 10/24/13

(Note: Record Drawing and Construction Certifications are required within thirty (30) days of the completion of construction of a Stormwater Facility – BMP or Conveyance system. Record Drawings and Construction Certifications must be reviewed and approved by the James City County Stormwater Division prior to final inspection, acceptance and surety release.)

Section 3 - Owner / Designer / Contractor Information:

Owner/Developer: *(Note: Site Owner or Applicant responsible for development of the project.)*

Name: XANTERRA KINGSMILL, LLC

Mailing Address: 14221 N. 73rd STREET, SCOTTSDALE, AZ 85260

Business Phone: 480-656-8502 Fax:

Contact Person: Title:

Design Professional: *(Note: Professional Engineer or Certified Land Surveyor responsible for the design and preparation of plans and specifications for the Stormwater facilities.)*

Firm Name: LANDMARK DESIGN GROUP A WHOLLY OWN SUBSIDIARY OF VHB, INC

Mailing Address: 351 McLAWS CIRCLE, SUITE 3

Business Phone: 757-220-0500 Fax: 757-220-8544

Responsible Plan Preparer: STEPHEN A. ROMEO L.S.

Title: PRINCIPAL

Plan Name: LAUNDRY FACILITY AT KINGSMILL

Firm's Project No. 2000186-000.03 Plan Date: 11/20/2000

Sheet No. Applicable to SWM/BMP Facility: C-2 / C2a / C-4 / C-5 /

Stormwater Facility Contractor: *(Note: Site Work Contractor directly responsible for construction of the Stormwater facilities.)*

Name: UNKNOWN

Mailing Address:

Business Phone: Fax:

Contact Person:

Site Foreman/Supervisor:

Specialty Subcontractors & Purpose (for BMP Construction Only):

Section 4 - Professional Certifications:

Certifying Professionals: *A Registered Professional Engineer or Certified Land Surveyor is responsible for preparation of a Record Drawing, sometimes referred to as an As-Built plan, for the stormwater facilities for the project including all BMP and conveyance systems. A Registered Professional Engineer is responsible for the inspection, monitoring and certification of all stormwater facilities – BMP and conveyance systems during their construction.*

Record Drawing and Construction Certifications for Stormwater Facilities - BMP and Conveyance Systems

Record Drawing Certification

Firm Name: VANASSE HANGEN BRUSTLIN, INC.
Mailing Address: 351 McLAWS CIR, SUITE 3
WILLIAMSBURG, VA 23185
Business Phone: 757-220-0500
Fax: 757-220-8544

Name: STEPHEN ROMEO, LS
Title: PRINCIPAL

Signature: Stephen Romeo
Date: 10/24/13

I hereby certify to the best of my knowledge and belief that this record drawing represents the actual condition of the Stormwater Facilities. The facilities appear to conform to the provisions of the approved construction plans and specifications except as specifically noted.

COMMONWEALTH OF VIRGINIA
10/24/13
STEPHEN A. ROMEO
Lic. No. 1448-B
LAND SURVEYOR

(Seal)
Virginia Registered Professional Engineer or Certified Land Surveyor

Construction Certification

Firm Name: VANASSE HANGEN BRUSTLIN, INC
Mailing Address: 351 McLAWS CIRCLE, SUITE 3
WILLIAMSBURG, VA 23185
Business Phone: 757-220-0500
Fax: 757-220-8544

Name: PIOTR SWIETUCHOWSKI, PE
Title: PROJECT MANAGER

Signature:
Date: 10/24/13

I hereby certify to the best of my knowledge and belief that these Stormwater Facilities were monitored and constructed in accordance with the provisions of the approved construction plans and specifications except as specifically noted. WHILE WE WERE NOT UNDER CONTRACTUAL OBLIGATION TO PROVIDE CONSTRUCTION OVERSIGHT, AND WHILE STAFF WAS NOT PRESENT DURING CONSTRUCTION, SITE OBSERVATION REVEALS THAT TO THE BEST OF MY KNOWLEDGE AND UNDERSTANDING ALL MATERIALS AND APPURTENANCES APPEAR TO HAVE BEEN INSTALLED GENERALLY IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

COMMONWEALTH OF VIRGINIA
PIOTR SWIETUCHOWSKI
Lic. No. 044606
10/24/13
PROFESSIONAL ENGINEER

(Seal)
Virginia Registered Professional Engineer

Section 5 - Record Drawing and Construction Certification Requirements and Instructions:

☑ Preconstruction Meeting - Provides an opportunity to review stormwater facilities construction, maintenance and operation plans, and address any questions regarding construction and/or monitoring of the structure. The certifying professionals, geotechnical engineer, Owner/Applicant, Contractor and County representative(s) are required to attend the preconstruction meeting. Advance notice to the Stormwater Division is required. Usually, this requirement can be met simultaneously with Erosion and Sediment Control preconstruction meeting held for the project.

☑ A fully completed ***Stormwater Facilities – BMP and Conveyance Systems, RECORD DRAWING and CONSTRUCTION CERTIFICATION FORM*** and ***RECORD DRAWING CHECKLIST***. All applicable sections shall be completed in their entirety and certification statements signed and sealed by the registered professional responsible for individual record drawing and/or construction certification.

☑ The Record Drawing shall be prepared by a Registered Professional Engineer or Certified Land Surveyor for the stormwater facilities including all BMPs and conveyance systems.

☑ Construction Certification. Construction of Stormwater BMP facilities which contain impoundments, embankments and related engineered appurtenances including subgrade preparation, compacted soils, structural fills, liners, geosynthetics, filters, seepage controls, cutoffs, toe drains, hydraulic flow control structures, etc. shall be visually observed and monitored by a Registered Professional Engineer or his/her authorized representative. The Engineer must certify that the structure, embankment and associated appurtenances were built in accordance with the approved construction plans and specifications, and standard accepted construction practice and shall submit a written certification and/or drawings to the Stormwater Division as required. Soil and compaction test reports, concrete test reports, inspection reports, logs and other required construction material or installation documentation shall be required by the Stormwater Division to substantiate the certification. The Engineer shall have the authority and responsibility to make minor changes to the approved plan, in coordination with the assigned County inspector, in order to compensate for unsafe or unusual conditions encountered during construction such as those related to bedrock, soils, groundwater, topography, etc. as long as changes do not adversely affect the integrity of the structure(s). Major changes to the approved design plan or structure must be reviewed and approved by the original design professional and the James City County Environmental Division with notification to the Stormwater Division.

☑ Record Drawing and Construction Certifications are required within **thirty (30) days** of the completion of any Stormwater Facility - BMP or conveyance system. Submittals must be reviewed and accepted by James City County Stormwater Division prior to final inspection, acceptance, surety release or issuance of a Certificate of Occupancy.

Dual Purpose Facilities - Completion of construction also includes any interim stage for Stormwater BMP facilities which serve a dual purpose as temporary sediment basins during construction and as permanent stormwater BMP facilities following completion of development and stabilization. For these dual purpose facilities, construction certification is required once the temporary sediment basin phase of construction is complete. Final record drawing and construction certification of additional permanent components is required once permanent facility construction is complete.

Interim Construction Certification is required for those dual purpose embankment-type facilities that are generally ten (10) feet or greater in dam height (*) and may not be converted, modified or begin function as a permanent SWM / BMP structure for a period generally ranging from six (6) to eighteen (18) months or more from issuance of a Land Disturbance permit for construction.

Interim or final record drawing and construction certifications are not required for temporary sediment basins which are designed and constructed in accordance with current minimum standards and specifications for temporary sediment basins per the Virginia Erosion and Sediment Control Handbook (VESCH); have a temporary service life of less than eighteen (18) months; and will be removed completely once associated disturbed areas are stabilized, unless a distinct hazard to the public's health, safety and welfare is determined by the Stormwater Division due to the size or presence of the structure or due to evidence of improper construction.

(*Note: Dam Height as referenced above is generally defined as the vertical distance from the natural bed of the stream or waterway at the downstream toe of the embankment to the top of the embankment structure in accordance with 4VAC50-20-30, Virginia Impoundment Structure Regulations and the Virginia Dam Safety Program.)

☑ Record Drawings shall provide, at a minimum, all information as shown within these requirements and the attached **RECORD DRAWING CHECKLIST** specific to the type of SWM/BMP facility being constructed. Other additional record data may be formally requested by the James City County Stormwater Division. *(Note: Refer to the current edition of the James City County Guidelines for Design and Construction of Stormwater Management BMP's manual for a complete list of acceptable BMP's. Currently there are over 20 acceptable water quality type BMP's accepted by the County.)*

☑ Record Drawings shall consist of blue/black line prints and a reproducible (mylar, sepia, diazo, etc.) set of the approved stormwater facilities construction plan including applicable plan views, profiles, sections, details, maintenance plans, etc. as related to the subject Stormwater Facility. The set shall indicate **"RECORD DRAWING"** in large text in the lower right hand corner of each sheet with record elevations, dimensions and data drawn in a clearly annotated format and/or boxed beside design values. Approved design plan values, dimensions and data shall not be removed or erased. Drawing sheet revision blocks shall be modified as required to indicate record drawing status. Elevations to the nearest 0.1' are sufficiently accurate except where higher accuracy is needed to show positive drainage. Certification statements as shown in Section 4 of the Record Drawing and Construction Certification Form, ***or similar forms thereof***, and professional signatures and seals, with dates matching that of the record drawing status in the revision or title block, are also required on all associated record drawing plans, prints or reproducibles.

☑ Submission Requirements. Initial and subsequent submissions for review shall consist of a minimum of one (1) blue/black line set for record drawings and one copy of the construction certification documents with appropriate transmittal. Under certain circumstances, it is understood that the record drawing and construction certification submissions may be performed by different professional firms. Therefore, record drawing submission may be in advance of construction certification or vice versa. Upon approval and prior to release of surety or a Certificate of Occupancy, final submission shall include one (1) reproducible set of the record drawings, one (1) blue/black line set of the record drawings and one (1) copy of the construction certification. Also for current and/or future incorporation into the County BMP database and GIS system, it is requested that the record drawings also be submitted to the Stormwater Division on a diskette or CD-ROM in an acceptable electronic file format such as *.dxf, *.dwg, etc. or in a standard scanned and readable format. The electronic file requirement can be discussed and coordinated with Stormwater Division staff at the time of final submission.

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: ***XX*** *Acceptable* ***N/A*** *Not Applicable* ***Inc*** *Incomplete)*

I. Methods and Presentation: *(Required for all Stormwater Management / BMP facilities.)*

XX 1. All constructed facilities meet approved design plans, unless otherwise shown. Record information or deviations from approved design plan shown in clearly annotated format and/or boxed beside design values.

XX 2. Elevations to the nearest 0.1' unless higher accuracy is needed to show positive drainage.

XX 3. All plan sheets labeled with "RECORD DRAWING" in large text in lower right hand corner. Include approved County Plan Number and BMP ID Code if known.

XX 4. All plan sheet revision blocks modified to indicate date and record drawing status.

XX 5. All plan sheets have certification statements and certifying professional's signature and seal.

II. Minimum Standards: *(Required for all Stormwater Management / BMP facilities, as applicable.)*

XX 1. All requirements of Section I (Methods and Presentation) apply to this section.

XX 2. Plan Views: Show general location, arrangement and dimensions. Location and alignment shall generally match approved design plans.

XX 3. Profile or elevations along top or berm of the facility. At a minimum, elevations are required at each end, at intervals not to exceed 50 feet and where low spots may be present. Top of embankment or berm elevations must be no less than design elevation plus any settlement allowances.

XX 4. Top widths, berm widths and embankment side slopes.

XX 5. Show length, width and depth of facility or grading, contours or spot elevations as required to verify permanent pool and design storage volumes were met or were reasonably close to the approved design. Evaluation of as-built grading, contours, spot elevations, or cross-sections, may be necessary by the professional to ensure approved design configurations, depths and volumes were closely maintained. If grading or elevations are significantly different from the approved plan, the Stormwater Division shall be contacted immediately to determine whether the variation is acceptable or whether further evidence will be required. Facilities which do not closely resemble approved plan grades, elevations or configurations may require regrading by the Contractor; check volumetric computations; and/or a check hydraulic routing to ensure approved design water surface elevations, discharges or freeboard were closely maintained.

N/A 6. Cross-section of the embankment through the principal spillway or outlet barrel. Must extend at least 100 ft. downstream of the pipe outlet or to recorded site property line, whichever is closer. Proper correlation is required between principal spillway (control structure) crest, emergency spillway crest, orifice and weirs and the top of the dam or facility. All elevations and dimensions must reasonably match the design plan or be sequentially relative to each other and the facility must reflect the required design storage

volume(s) and/or design depth.

XX 7. Profile or elevations along the entire centerline of the emergency spillway. Emergency spillway may be steeper, but no flatter or narrower than design.

XX 8. Elevation of the principal spillway crest or outlet crest of the structure.

XX 9. Primary control structure (riser) diameter or dimensions, height, type of material and base size. Indicate provisions for access that are present such as steps, ladders, etc.

XX 10. Dimensions, locations and elevations of outlet orifices, weirs, slots and drains.

XX 11. Type and size of anti-vortex and trash rack device. Height, diameter, dimensions, bar spacings (if applicable) and elevations relative to the principal spillway crest. Indicate if lockable hatch is present or not.

N/A 12. Type, location, size and number of anti-seep collars or documentation of other methods utilized for seepage control. **May need to obtain this information during construction.**

UNKNOWN 13. Top of impervious core embankment, core trench limits and elevation of cut-off trench bottom. **May need to obtain this information during construction.**

XX 14. Elevation of the principal spillway barrel (outlet pipe) inlet and outlet invert.

XX 15. Outlet barrel diameter, length, slope, type and thickness class of material and type of flared end sections, headwall or endwall.

XX 16. Outfall protection dimension, type and depth of rock and if underlain filter fabric is present.

N/A 17. BMP interior and periphery landscaping zones conform with arrangements and requirements of the approved design plan.

XX 18. Maintenance plan taken from approved design plan transposed onto record drawing set.

N/A 19. Fencing location and type, if applicable to facility.

XX 20. BMP vicinity properly cleaned of stockpiles and construction debris.

XX 21. No visual signs of erosion or channel degradation immediately downstream of facility.

N/A 22. Any other information formally requested by the Stormwater Division specific to the constructed Stormwater BMP facility.

N/A

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

III. Group A - Wet Ponds *(Includes A-1 Small Wet Ponds; A-2 Wet Ponds; A-3 Wet Ext Det Ponds.)*

_____ A1. All requirements of Section II, Minimum Standards, apply to Group A facilities.

_____ A2. Principal spillway consists of reinforced concrete pipe with O-Ring gaskets for watertight joint construction.

_____ A3. Sediment forebays or pretreatment devices provided at inlets to pond. Generally 4 to 6 ft. deep.

_____ A4. Access for maintenance and equipment is provided to the forebay(s). Access corridors are at least 12 ft. wide, have a maximum slope of 15 percent and are adequately stabilized to withstand heavy equipment or vehicle use.

_____ A5. Adequate fixed vertical sediment depth markers installed in the forebay(s) for future sediment monitoring purposes.

_____ A6. Pond liner (if required) provided. Either clay liners, polyliners, bentonite liners or use of chemical soil additives based on requirements of the approved plan.

_____ A7. Minimum 6 percent slope safety bench extending a minimum of 15 feet outward from normal pool edge and/or an aquatic bench extending a minimum of 10 feet inward from the normal shoreline with a maximum depth of 12 inches below the normal pool elevation, if applicable, per the approved design plans. (Note: Safety benches may be waived if pond side slopes are no steeper than 4H:1V).

_____ A8. No trees are present within a zone 15 feet around the embankment toe and 25 feet from the principal spillway structure.

_____ A9. Wet permanent pool, typically 3 to 6 feet deep, is provided and maintains level within facility.

_____ A10. Low flow orifice has a non-clogging mechanism.

_____ A11. A pond drain pipe with valve was provided.

_____ A12. Pond side slopes are not steeper than 3H:1V, unless approved plan allowed for steeper slope.

_____ A13. End walls above barrels (outlet pipe) greater than 48 inch in diameter are fenced to prevent a fall hazard.

N/A

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

IV. Group B – Wetlands *(Includes B-1 Shallow Marsh; B-2 Ext Det Shallow Wetlands; B-3 Pond Wetland System and B-4 Pocket Wetland)*

_____ B1. Same requirements as Group A Wet Ponds.

_____ B2. Minimum 2:1 length to width flow path provided across the facility.

_____ B3. Micropool provided at or around outlet from BMP (generally 3 to 6 ft. deep).

_____ B4. Wetland type landscaping provided in accordance with approved plan. Includes correct pondscaping zones, plant species, planting arrangements, wetland beds, etc. Wetland plants include 5 to 7 emergent wetland species. Individual plants at 18 inches on center in clumps.

_____ B5. Adequate wetland buffer provided (Typically 25 ft. outward from maximum design water surface elevation and 15 ft. setback to structures).

_____ B6. No more than one-half (½) of the wetland surface area is planted.

_____ B7. Topsoil or wetland mulch provided to support vigorous growth of wetland plants.

_____ B8. Planting zones staked or flagged in field and locations subsequently established by appropriate field surveying methods for record drawing presentation.

N/A

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: ***XX*** *Acceptable* ***N/A*** *Not Applicable* ***Inc*** *Incomplete)*

V. Group C - Infiltration Practices *(Includes C-1 Infiltration Trench; C-2 Infiltration Trench; C-3 Infiltration Basin; and C-4 Infiltration Basin)*

_____ C1. All requirements of Section II, Minimum Standards, apply to Group C facilities as applicable.

_____ C2. Facility is not located on fill slopes or on natural ground in excess of six (6) percent.

_____ C3. Pretreatment devices provided prior to entry into the infiltration facility. Acceptable pretreatment devices include sediment forebays, sediment basins, sediment traps, sump pits or inlets, grass channels, plunge pools or other acceptable measures.

_____ C4. Three (3) or more of the following pretreatment devices provided to protect long term integrity of structure: grass channel; grass filter strip; bottom sand layer; upper filter fabric layer; use of washed bank run gravel aggregate.

_____ C5. Sides of infiltration practice lined with filter fabric.

_____ C6. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.

_____ C7. Stabilization and acceptable vegetative cover established over contributing drainage area prior to conveyance of stormwater to the facility.

_____ C8. Minimum one hundred (100) foot separation horizontally from any known water supply well and minimum one hundred (100) foot separation upslope from any building.

_____ C9. Minimum twenty-five (25) foot separation down gradient from any structure.

_____ C10. Stormwater outfalls provided for overflow associated with larger design storms.

_____ C11. No visual signs of erosion or channel degradation immediately downstream of facility.

_____ C12. Facility does not currently cause any apparent surface or subsurface water problems to downgrade properties.

_____ C13. Observation well provided.

_____ C14. Adequate, direct access provided to the facility for future maintenance, operation and inspection.

N/A

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: ***XX*** *Acceptable* ***N/A*** *Not Applicable* ***Inc*** *Incomplete)*

VI. Group D - Filtering Systems *(Includes D-1 Bioretention Cells; D-2 Surface Sand Filters; D-3 Underground Sand Filters; D-4 Perimeter Sand Filters; D-5 Organic Filters; and D-6 Pocket Sand Filters)*

_____ D1. All requirements of Section II, Minimum Standards, apply to Group D facilities.

_____ D2. Sediment pretreatment devices provided.

_____ D3. For D-1 BMPs (Bioretention Cells), pretreatment consisting of a grass filter strip below level spreader (deflector); a gravel diaphragm; and mulch and planting soil layers were provided.

_____ D4. For D-1 BMPs (Bioretention Cells), plantings consist of native plant species; vegetation provided was based on zones of hydric tolerances; trees and understory of shrubs and herbaceous materials were provided; woody vegetation is absent from inflow locations; and trees are located around facility perimeter.

_____ D5. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.

_____ D6. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed .

_____ D7. Filtering system is off-line from storm drainage conveyance system.

_____ D8. Overflow outlet has adequate erosion protection.

_____ D9. Deflector, diversion, flow splitter or regulator structure provided to divert the water quality volume to the filtering structure.

_____ D10. Minimum four (4) inch perforated underdrain provided in a clean aggregate envelope layer beneath the facility.

_____ D11. Minimum fifty (50) foot separation from any slope fifteen (15) percent or greater. Minimum one hundred (100) foot separation horizontally from any known water supply well. Minimum one hundred (100) foot separation upslope and twenty-five (25) foot separation downslope from any building.

_____ D12. Stabilization and acceptable vegetative cover established over contributing drainage area prior to conveyance of stormwater to the facility.

_____ D13. No visual signs of erosion or channel degradation immediately downstream of facility.

_____ D14. Adequate, direct access provided to the pretreatment area and/or filter bed for future maintenance.

N/A

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
AS-BUILT PLAN CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

VII. Group E - Open Channel Systems *(Includes E-1 Wet Swales (Check Dams); E-2 Dry Swales;and E-3 Biofilters)*

_____E1. All requirements of Section II, Minimum Standards, apply to Group E facilities as applicable.

_____E2. Open channel system has constructed longitudinal slope of less than four (4) percent.

_____E3. No visual signs of erosion in the open channel system's soil and/or vegetative cover.

_____E4. Open channel side slopes are no steeper than 2H:1V at any location. Preferred channel sideslope is 3H:1V or flatter.

_____E5. No visual signs of ponding are present at any location in the open channel system, except at rock check dam locations for E-1 systems (Wet Swales).

_____E6. For E-2 BMPs (Dry Swales), an underdrain system was provided.

_____E7. Treated timber or rock check dams provided as pretreatment devices for the open channel system.

_____E8. Gravel diaphragm provided in areas where lateral sheet flow from impervious surfaces are directly connected to the open channel system.

_____E9. Grass cover/stabilization in the open channel system appears adaptable to the specific soils and hydric conditions for the site and along the channel system.

_____E10. Open channel system areas with grass covers higher than four (4) to six (6) inches were properly mowed.

_____E11. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.

_____E12. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed and no adverse affects to the function of the facility are anticipated.

_____E13. For E-3 BMPs (Biofilters), the bottom width is six (6) feet maximum at any location.

_____E14. For E-3 BMPs (Biofilters), sideslopes are 3H:1V maximum at any location.

_____E15. For E-3 BMPs (Biofilters), the constructed channel slope is less than or equal to three (3) percent at any location.

_____E16. For E-3 BMPs (Biofilters), the constructed grass channel is approximately equivalent to the constructed roadway length.

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

VIII. Group F - Extended Dry Detention *(Includes F-1 Timber Walls; and F-2 Dry Extended Detention with Forebay)*

INC F1. All requirements of Section II, Minimum Standards, apply to Group F facilities.

XX F2. Basin bottom has positive slope and drainage from all basin inflow points to the riser (or outflow) location.

N/A F3. Timber wall BMP used in intermittent stream only. (ie. Prohibited in perennial streams.)

N/A F4. Forebay provided approximately 20 ft. upstream of the facility. Forebays generally 4 to 6 feet in depth.

N/A F5. A reverse slope pipe, vertical stand pipe or mini-barrel and riser was provided to prevent clogging.

UNKNOWN F6. Principal spillway and outlet barrel provided consisting of reinforced concrete pipe with O-Ring gaskets for watertight joint construction.

N/A F7. Mini-barrel and riser, if used, contains a removable trash rack to reduce clogging.

XX F8. Low flow orifice, if used, has a minimum diameter of three (3) inches or two (2) inches if internal orifice control was utilized and a small, cage type external trash rack.

N/A F9. Timbers properly reinforced or concrete footing provided if soil conditions were prohibitive.

N/A F10. Timber wall cross members extended to a minimum depth of two (2) feet below ground elevation.

XX F11. Protection against erosion and scour from the low flow orifice and weir-flow trajectory provided.

XX F12. Stilling basin or standard outlet protection provided at principal spillway outlet.

XX F13. Adequate, direct access provided to the facility. Access corridor to facility is at least ten (10) feet wide, slope is less than twenty (20) percent and appropriate stabilization provided for equipment and vehicle use. Access extends to forebay, standpipe and timber wall, as applicable.

N/A F14. No visual signs of undercutting of timber walls or clogging of the low orifice were present.

XX F15. No visual signs of erosion or channel degradation immediately downstream of facility.

XX F16. No visible signs of accumulated silt/sediment were present in the facility following construction or alternately, accumulated silt/sediment was properly removed and no adverse affects to the function of the facility are anticipated.

N/A

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

IX. Group G - Open Spaces *(Includes All Open Space Types G-1; G-2; and G-3)*

_____G1. All requirements of Section II, Minimum Standards, apply to Group G facilities as applicable.

_____G2. Constructed impervious areas appear to conform with locations indicated on the approved plan and appear less than sixty (60) percent impervious in accordance with the requirements of the James City County Chesapeake Bay Preservation Ordinance.

_____G3. Dedicated open space areas are in undisturbed common areas, conservation easements or are protected by other enforceable instruments that ensures perpetual protection.

_____G4. Provisions included to clearly specify how the natural vegetated areas utilized as dedicated open space will be managed and field identified (marked).

_____G5. Adequate protection measures were implemented during construction to protect the defined dedicated open space areas.

_____G6. Dedicated open space areas were not disturbed during construction (ie. cleared, grubbed or graded).

N/A

STORMWATER FACILITY - BMP AND CONVEYANCE SYSTEM RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

X. Storm Drainage Systems, closed and open

(Includes all stormwater drainage conveyance systems such as onsite or offsite storm drains, open channels, inlets, manholes, junctions, outlet protections, deflectors, etc. The intent of this portion of the certification is toensure the drainage conveyance facilities are constructed in accordance with the construction plans and specifications so that they convey the desing flow levels and don not require excessive maintenance.)

_____SD1. All requirements of Section II, Minimum Standards, apply to Storm Conveyance systems.

_____SD2. Horizontal location of all pipes, structures and channels relative to the approved plan.

_____SD3. Type, top elevation and invert elevation of all closed system access structures (inlets, manholes, etc.).

_____SD4. Material type, size or diameter, class, invert elevations, lengths and slopes for all closed pipe segments.

_____SD5. Channel cross-section and invert elevations at 100 foot intervals. Channel liners as specified on the construction plans.

_____SD6. Class, length, width and depth of riprap and outlet protections or dimensions of special energy dissipation structures.

XII. Other Systems

N/A

(Includes any non-typical, specialty, manufactured or innovative stormwater management BMP practices or systems generally accepted for use as or in conjunction with other acceptable stormwater management BMP practices. Requires evidence of prior satisfactory industry use and prior Environmental Division approval, waiver or exception.)

_____O1. All requirements of Section II, Minimum Standards, apply to this section.

_____O2. Certification criteria to be determined on a case-by-case basis by the Stormwater Division specific to the proposed SWM/BMP facility.

STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST

XIII. References *(The James City County Record Drawing and Construction Certification Forms and Checklists for Stormwater Management / BMP facilities were developed using the following sources and references.)*

- ☐ Baltimore County, Maryland Soil Conservation District, As-Built Stormwater Management Pond Checklist.
- ☐ James City County, Virginia, Guidelines for Design and Construction of Stormwater Management BMP's (October 1999).
- ☐ James City County, Virginia, Stormwater Detention/Retention Basin Design Checklist and Erosion and Sediment Control and Stormwater Management Design Plan Checklists.
- ☐ James City County Stormwater Policy Framework, Final Report of the James City County BMP Policy Project, October 1998, The Center for Watershed Protection.
- ☐ Prince Georges County, Maryland, As-Built Requirements Retention or Detention Pond/Basin.
- ☐ Prince William County, Virginia, Stormwater Management Fact Sheet.
- ☐ Stafford County, Virginia, As-Built Plan Checklist.
- ☐ Stormwater Management Design Manual, NRCS Maryland Code No. 378, Pond Standards and Specifications.
- ☐ USEPA/Watershed Management Institute, Stormwater Management Inspection Forms.
- ☐ Virginia Impounding Structure Regulations (Dam Safety), Department of Conservation & Recreation, 1997.
- ☐ Virginia Erosion and Sediment Control Handbook, Third Edition 1992, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation.
- ☐ Virginia Stormwater Management Handbook, 1999 edition, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation.

File: Shared\SWMProg\BMP\Certif\RDCC.wpd

COPY

DECLARATION OF COVENANTS

INSPECTION/MAINTENANCE OF DRAINAGE SYSTEM

THIS DECLARATION, made this 27 day of November, 2000, between Busch Properties, Inc and all successors in interest, hereinafter referred to as the "COVENANTOR(S)," owner(s) of the following property: Real Estate Tax Map # (52-3) (01-110) KINGSMILL LAUNDRY BUILDING, Deed Book 714, Page No. 469 or Instrument No. _____, and James City County, Virginia, hereinafter referred to as the "COUNTY."

WITNESSETH:

We, the COVENANTOR(S), with full authority to execute deeds, mortgages, other covenants, and all rights, titles and interests in the property described above, do hereby covenant with the COUNTY as follows:

1. The COVENANTOR(S) shall provide maintenance for the drainage system including any runoff control facilities, conveyance systems and associated easements, hereinafter referred to as the "SYSTEM," located on and serving the above-described property to ensure that the SYSTEM is and remains in proper working condition in accordance with approved design standards, and with the law and applicable executive regulations. The SYSTEM shall not include any elements located within any Virginia Department of Transportation rights-of-way.

2. If necessary, the COVENANTOR(S) shall levy regular or special assessments against all present or subsequent owners of property served by the SYSTEM to ensure that the SYSTEM is properly maintained.

3. The COVENANTOR(S) shall provide and maintain perpetual access from public right-of-ways to the SYSTEM for the COUNTY, its agent and its contractor.

4. The COVENANTOR(S) shall grant the COUNTY, its agent and its contractor a right of entry to the SYSTEM for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the SYSTEM.

5. If, after reasonable notice by the COUNTY, the COVENANTOR(S) shall fail to maintain the SYSTEM in accordance with the approved design standards and with the law and applicable executive regulations, the COUNTY may perform all necessary repair or maintenance work, and the COUNTY may assess the COVENANTOR(S) and/or all property served by the SYSTEM for the cost of the work and any applicable penalties.

6. The COVENANTOR(S) shall indemnify and save the COUNTY harmless from any and all claims for damages to persons or property arising from the installation, construction, maintenance, repair, operation or use of the SYSTEM.

7. The COVENANTOR(s) shall promptly notify the COUNTY when the COVENANTOR(S) legally transfers any of the COVENANTOR(S)' responsibilities for the SYSTEM. The COVENANTOR(S)' shall supply the COUNTY with a copy of any document of transfer, executed by both parties.

8. The covenants contained herein shall run with the land and shall bind the COVENANTOR(S) and the COVENANTOR(S)' heirs, executors, administrators, successors and assignees, and shall bind all present and subsequent owners of property served by the SYSTEM.

9. This COVENANT shall be recorded in the County Land Records.

Instrument # 000022313
Recorded on: Nov. 29, 2000

IN WITNESS WHEREOF, the COVENANTOR(S) have executed this DECLARATION OF COVENANTS as of this 27 day of November, ~~19~~ 2000

COVENANTOR(S)

Terri A Haack

ATTEST:

_____

COVENANTOR(S)

_____

ATTEST:

_____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF James City

I hereby certify that on this 27 day of November, ~~19~~ 2000, before the subscribed, a Notary Public of the State of Virginia, and for the County of James City, aforesaid personally appeared Terri A. Haack and did acknowledge the aforegoing instrument to be their Act.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 27 day of November, ~~19~~ 2000.

Allison M. Hayes
Notary Public

My Commission expires: April 30, 2002

Approved as to form:

Leo P Rogers
Deputy County Attorney

This Declaration of Covenants prepared by:

JESSE YOUNG
(Print Name)

DIRECTOR OF COMMUNITY AFFAIRS AND PROJECT DEVELOPMENT
(Title)

1010 KINGSMILL RD.
(Address)

WILLIAMSBURG VA 23185
(City) (State) (Zip)

drainage.pre
Revised 2/97

James City County Environmental Division
Stormwater Management / BMP Inspection Report
Detention and Retention Pond Facilities

SP-116-00

Database Inventory No. (if known): 1R051

Name of Facility: Kingsmill Laundry Facility BMP No.: 1 of 1 Date: 08/08/01

Location: US Route 60 @ Anheuser Busch Const. Entrance Gate

Name of Owner: Kingsmill Resorts

Inspector: SJ Thomas, MD Woolson

Type of Facility: Dry Detention Pond

Weather Conditions: Sunny, Hot. Humid 90's

N

If an inspection item is not applicable, mark NA, otherwise mark the appropriate column.

O.K. - The item checked is in adequate condition and the maintenance program is currently satisfactory.
Routine - The item checked requires attention, but does not present an immediate threat to the function of the BMP.
Urgent - The item checked requires immediate attention to keep the BMP operational and prevent damage to the facility.

Rect Shaped

Provide an explanation and details in the comment column, if routine or urgent are marked.

Facility Item	O.K.	Routine	Urgent	Comments
Embankments and Side Slopes:				East D/S Earth Embankment; steep sloped 2H:1V
Grass Height	X	X		Bare Soil Spot NW of riser.
Vegetation Condition	X			Good Ryegrass Cover; Dead.
Tree Growth	X			None.
Erosion	X			None.
Trash & Debris	X			None.
Seepage	X	X		None Observed. 5' RIGHT OF D/S BARREL. SMALL SEEP.
Fencing or Benches	X			None.
Interior Landscaping/Planted Areas:	☐ None	☐ Constructed Wetland/Shallow Marsh		☒ Naturally Established Vegetation
Vegetated Conditions				Dry Basin. Little Pond
Trash & Debris				Bottom Veg.
Floating Material				
Erosion				
Sediment				
Dead Plant				
Aesthetics				
Other				
Services Building Yard & Parking Area.				

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools ❒ Permanent Pool (Retention Basin) ❒ Shallow Marsh (Detention Basin) ☑ None (Detention Basin)				
Shoreline Erosion	X			Minimal.
Algae	X			
Trash & Debris	X			NEGLIGIBLE
Sediment	X			1-2" basin; 1'@ Riser
Aesthetics	X			
Other				Small pool 1-2" deep; 2" corp stop was closed. South End.
Inflow Stuctures (Describe Locations): Riprap Channel @				
Condition of Structure	X			
Erosion	X			None.
Trash and Debris	X			
Sediment	X			None-Little.
Aesthetics	X			
Other	X			
Principal Flow Control Structure - Intake, Riser, etc. (Describe Location): DI-7 3'x3'; 2" PVC; 5' Deep				
Condition of Structure	X			
Corrosion	X			
Trash and Debris		X		Remove Trash & Wood Debris inside
Sediment	X	1'@ Riser		and around north side of riser
Aesthetics				
Other				2" low flow w/ endwall + grate mesh.
Principal Outlet Structure - Barrel, Conduit, etc. : 6" Ductile Iron Barrel.				
Condition of Structure	X			
Settlement	X			
Trash & Debris	X			
Sediment	X			
Erosion	X			
Other	X	X		Clean debris from 6" outfall end.
Emergency Spillway (Overflow): 7' wide Riprap				
Vegetation	X			
Lining	X			Riprap 1'ϕ.
Erosion	X			
Trash & Debris	X			
Other				

SCC system to BMPs; Perimeter Channels.

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions: WOODS (EAST); BLDG WEST				
Mosquito Breeding	X			
Animal Burrows	X			
Graffiti	X			
Other				
Surrounding Perimeter Conditions: WOODS (EAST); BLDG WEST				
Land Uses	X			
Vegetation	X			
Trash & Debris	X			Some Large Cut Trees along D/S Toe. No effect to structure.
Aesthetics	X			
Access /Maintenance Roads or Paths	X			EASY ACCESS. PARKING LOT.
Other				

Remarks:

- ▷ Remove Trash + Wood Debris from Main Riser Structure. Clean around 2" Low Flow Drain Inflow & Mesh Screen. CLEAN + Remove WOOD, TRASH + Debris from around riser (north side)
- ▷ Valve was closed + pond was holding water. Opened valve
- ▷ Mesh screen on D/S 6" pipe was removed. Water seep @ toe of emb 5' RIGHT (south) of pipe outfall. Slowed considerably as 6" outlet was cleaned + screen removed. Grout seal between end of 6" DI pipe and VDOT endwall is needed. Water is seeping thru edge of endwall to seep area

- ▷ STABILIZE BARE SOIL SPOT NW of RISER.
- ▷ REMOVE ST from LOW FLOW ORIFICE.
- ▷ SITE STABILIZATION ISSUES.

Overall Environmental Division Internal Rating: 4

Signature: Scott J. Thomas P.E. **Date:** 08/08/07

Title: Civil Engineer ENV DIV

SWMProg\BMP\CoInspProg\DetRet.wpd

DEVELOPMENT MANAGEMENT

101-E MOUNTS BAY ROAD, P.O. BOX 8784, WILLIAMSBURG, VIRGINIA 23187-8784
(757) 253-6671 Fax: (757) 253-6850 E-MAIL: devtman@james-city.va.us

CODE COMPLIANCE
(757) 253-6626
codecomp@james-city.va.us

ENVIRONMENTAL DIVISION
(757) 253-6670
environ@james-city.va.us

PLANNING
(757) 253-6685
planning@james-city.va.us

COUNTY ENGINEER
(757) 253-6678
INTEGRATED PEST MANAGEMENT
(757) 259-4116

January 9, 2002

Kingsmill Resorts
1010 Kingsmill Road
Williamsburg, Va. 23185

Attn: Jesse C. Young

Re: Kingsmill Laundry Facility
County Plan No. SP-116-00
County BMP ID Code: JR 051 (Dry Pond)

Dear Mr. Young:

The Environmental Division has reviewed additional information as forwarded to our office by LandMark Design Group on November 21st 2001. The information as provided by the consultant was forwarded to directly respond to correspondence issued by our office on August 24th 2001.

Based on our review of information as submitted and upon reinspection of the site by our office, the following items must be addressed prior to release of the developer's surety instrument for the stormwater management/BMP facility:

Construction Certification:

1. Pursuant to previous comment # 1 as outlined in our correspondence dated August 24, 2001 and in accordance with Note # 19 on Sheet C-5 of the approved plan:

   "As-built drawings must be provided for all detention/BMP facilities. Also upon completion, the construction of all detention/BMP facilities shall be certified by a professional engineer who inspected the structure during construction. The certification shall state that to the best of his/her judgement, knowledge and belief, the structure was constructed in accordance with the approval plans and specifications".

Construction certification was required for this specific BMP facility due to the moderate size embankment fill along the east side of the facility and due to it's hydraulic control structure. As the note as outlined above was present on the approved plans and specifications, it was responsibility of the owner/contractor to ensure a professional engineer was present during the construction process to observe construction and to provide construction certification once the structure was completed. Although recently we have strengthened and provided better definition to the record drawing (as-built) and construction certification process for stormwater management facilities in James City County, the requirement for construction certification by a registered professional engineer has not changed.

The construction certification as provided using the standard statement per page 3 of the current record drawing/construction certification guidelines was without proper seal and signature of a licensed professional engineer cannot be accepted by our division, as it contradicts our past and current policy for construction certification of BMP facilities. In addition, the form (Page 3) as provided to our office was electronically altered by the consultant. The standard statement on the right hand side of Section 4, Page 3 of the guidelines allows for the placement of a seal for a Virginia registered professional engineer, consistent with the standard note on the approved plan set and in accordance with our current record drawing/construction certification guidelines. Therefore, the statement (form) as received by our office is considered invalid.

Record Drawing:

2. The revised record drawing dated 11/16/01 appears **satisfactory.**

Construction - Related Items:

3. Upon reinspection, all construction-related (field) items appear properly addressed and are now **satisfactory**.

In addition, I highly recommend that you and other individuals within your organization who routinely oversee and construct stormwater management and drainage facilities in James City County review and familiarize yourselves with our current requirements for record drawings and construction certification. This includes Note # 20 of the James City County Environmental Division, Erosion and Sediment Control notes dated July 6th 2001 and our current record drawing/construction certification packet entitled ***James City County Environmental Division, Stormwater Management /BMP Facilities, Record Drawing and Construction Certification, Standard Forms & Instructions***. The items are attached for your review and use.

Please contact me at 757-253-6639 if you have any further comments or questions relative to certification requirements for this project.

Sincerely,

Scott J. Thomas, P.E.
Civil Engineer
Environmental Division

Enclosures
SJT/sjt

cc: Ronnie Osborne, LandMark Design Group
Stephen A. Romeo, LandMark Design Group
Pete Henderson, Henderson Inc.

G:\SWMProg\AsBuilts\ClarLetters\JR051.0

Larry S. Barry, P.E., President
Norman H. Mason, L.S., VP
Vaughn B. Rinner, C.L.A.
Elizabeth J. Anderson, P.E.
Kenneth A. Dierks
Robert P. Kerr, R.E.P., P.W.S.

LANDMARK DESIGN GROUP

Clayton E. Massey, P.E.
Charles R. Orsborne, L.S.
Stephen A. Romeo, L.S.
Mark W. Strickland, P.E.
William R. Turner, Jr., A.I.C.P.
A. Gary Webb, P.E.

NOV 2001
RECEIVED
ENVIRONMENTAL DIVISION

November 21, 2001

Scott J. Thomas, PE
James City County
Environmental Division
PO Box 8784
Williamsburg, Virginia 23187-8784

RE: Kingsmill Laundry Facility
County Plan Number SP-116-00
Stormwater Management Facility
County BMP ID Code JRO 51 (JR 051)

Dear Mr. Thomas:

Attached please find the construction certification and revised record drawing for the above referenced project. Please be advised to the best of our knowledge and belief all the comments outlined in your, August 24, 2001, letter have been addressed. The owner has directed the site contractor to raise the top of the dam structure to the designed elevation of 78.00, which is now reflected on the record drawing. All construction related items have been completed at the direction of the owner and has acknowledged that items 7-11 have been completed.

If you have any questions regarding the attached information please do not hesitate to call.

Sincerely,

The LandMark Design Group Inc.

Ronnie Orsborne
Vice President

CRO/jmr

Engineers • Planners • Surveyors • Landscape Architects • Environmental Consultants
4029 Ironbound Road, Suite 100, Williamsburg, VA 23188 (757) 253-2975 FAX: (757) 229-0049 lmdg@landmarkdgwb.com

James City County Environmental Division
Stormwater Management / BMP Inspection Report
Detention and Retention Pond Facilities

County BMP ID Code (if known): JR-051

Name of Facility: Kingsmill Laundry Facility BMP No.: 1 of 1 Date: 3/30/2013

Location: US Route 60 at Busch Construction Gate

Name of Owner: Anheuser Busch Companies, LLC

Name of Inspector: Gregory B. Jackson

Type of Facility: Dry Detention Pond

Weather Conditions: Sunny/Cool Type: ☒ Final Inspection ☐ County BMP Inspection Program ☐ Owner Inspection

If an inspection item is not applicable, mark NA, otherwise mark the appropriate column.

O.K. - The item checked is in adequate condition and the maintenance program is currently satisfactory. No action required.
Routine - The item checked requires attention, but does not present an immediate threat to the function/integrity of the BMP.
Urgent - The item checked requires immediate attention to keep the BMP operational and to prevent damage to the facility.

Provide an explanation and details in the comment column, if routine or urgent are marked.

Facility Item	O.K.	Routine	Urgent	Comments
Embankments and Side Slopes: East D/S Earth Embankment Step Slope 2H:1V				
Grass Height	X			
Vegetation Condition	X			
Tree Growth			X	Site covered with trees/brush
Erosion	X			
Trash & Debris		X		Trash and Debris throughout
Seepage	X			None observed
Fencing or Benches	X			
Interior Landscaping/Planted Areas: ☐ None ☐ Constructed Wetland/Shallow Marsh ☒ Naturally Established Vegetation				
Vegetated Conditions	X			Dry basin - Little Pond
Trash & Debris	X			Bottom Vegetated
Floating Material	X			None observed
Erosion	X			None observed
Sediment	X			
Dead Plant	X			
Aesthetics		X		Tree and brush removal
Other				
Notes:				

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools: ☐ Permanent Pool (Retention Basin) ☐ Shallow Marsh (Detention Basin) ☒ None, Dry (Detention Basin)				
Shoreline Erosion	X			
Algae	X			
Trash & Debris		X		Trash throughout
Sediment	X			
Aesthetics	X			
Other	X			
Inflows (Describe Types/Locations): Riprap channel				
Condition of Structure	—			None
Erosion	X			None observed
Trash and Debris		X		
Sediment	X			
Outlet Protection	—			None
Other				
Principal Flow Control Structure - Riser, Intake, etc. (Describe Type): DI-7 3'x3' 2" PVC 5' DEEP				
Condition of Structure	X			
Corrosion	X			
Trash and Debris		X		Trash and debris around and inside
Sediment	X			
Vegetation	X			
Other	—			
Principal Outlet Structure - Barrel, Conduit, etc. : 6" Ductile Iron Barrel				
Condition of Structure	X			
Settlement	X			
Trash & Debris	X			
Erosion/Sediment	X			
Outlet Protection	X			
Other	X			Inspect for any obstruction
Emergency Spillway (Overflow): Riprap 8' WIDE				
Vegetation		X		Remove vegetation from down slope
Lining		X		Re arrange stone flat
Erosion	X			
Trash & Debris	X			
Other				
Notes:				

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions:				
Mosquito Breeding	X			
Animal Burrows	X			
Graffiti	X			
Other		X		Brush dumped on dam
Surrounding Perimeter Conditions:				
Land Uses	X			
Vegetation	X			
Trash & Debris	X			
Aesthetics	X			
Access /Maintenance Roads or Paths	X			
Other				

Remarks:

Overall Environmental Division Internal Rating: ___ _____

Signature: _____ **Date:** 5/30/2013

Title: Inspection

SWMProg\BMP\CoInspProg\InspForms\DetRet.wpd

James City County Engineering and Resource Protection Division
Stormwater Management/BMP Record Drawing and Construction Certification Review Tracking Form

Project Name: Kingsmill Laundry Facility
County Plan No. (List any amendments): SP-116-00
Stormwater Management Facility Type: Detention Pond
BMP Phase #: ☐ I ☐ II ☐ III

- [x] Information Package Submittal Date: 8/3/2001
- [ ] Completeness Check:
  - [x] Record Drawing — Date/By: 10/24/2013 Steve Romeo
  - [x] Construction Certification — Date/By: 10/24/2013 Rick Swietuchowski
  - [x] RD/CC Standard Forms — (Ensure that all forms for the BMP type are included)
  - [x] Insp/Maint Agreement — # / Date: 0000022313 11/29/2000
  - [x] BMP Maintenance Plan — Location: C2A
  - [ ] Special Considerations:
- [x] Standard E&SC Notes on Approved Plan Requiring RD/CC or County comment in plan review
  Location (sheet #): C5 #19
- [x] **County BMP ID Code #:** JR-051
- [x] Log into Division's "As-Built Tracking Log"
- [x] Obtain basic site information (GPIN, Owner, Address, etc.)
- [x] Log into Access Database (BMP ID #, Plan No., GPIN, Project Name, etc.)
- [x] Copy from Active Project File (correspondence, H&H, design computations, etc.).
- [x] Create As-Built File using Project File information (File label, folder, copy plan/details/design information, etc.).
- [x] Inspector Review of RD/CC (consult with Chief Engineer prior to completion of comments).
- [x] Record Drawing Review against Approved Plan prior to Field Inspection.
- [x] Final Site Inspection (FI) Performed — Date: 8/8/01
- [x] Record Drawing (RD) Review — Date: 3/15/2013
- [x] Construction Certification (CC) Review — Date:
- [x] Actions:
  - [ ] No comments.
  - [x] Comments. Letter Forwarded. — Date: 8/24/2001
  - [x] Record Drawing (RD)
  - [x] Construction Certification (CC)
  - [x] Construction-Related (CR)
  - [ ] Site Issues (SI)
  - [ ] Other :
- [ ] Resubmittal (# and date):
- [x] Re-inspection (if necessary): 10/28/2013
- [x] Drainage System Information Acceptable (RD/CC/System Info). Ok for bond release.
- [x] Complete "Surety Request Form".
- [x] Final Inspection of active file copying any relevant information to "As-Built" file.
- [x] On County BMP Inventory (Phase I, II or III).
- [x] Copy Final Inspection Report into County BMP Inspection Program file.
- [x] Provide Digital Photographs of BMP and save into County BMP Inventory.
- [x] Request mylar/reproducible from As-Built plan preparer.
- [x] Complete "As-built Tracking Log".
- [x] Last check of BMP Access Database (County BMP Inventory).
- [x] Add BMP to JCC Hydrology & Hydraulic database (optional).
- [x] Add BMP to Municipal BMP list (if a County-owned facility)
- [x] Add BMP to PRIDE BMP ratings database.

Final Sign-Off

Inspector: [signature] Date: 11/21/2013

Chief Engineer: Date:

*** See separate checklist, if needed.

TRANSMITTAL SHEET

ENGINEERING & RESOURCE PROTECTION → STORMWATER

Project: **Kingsmill Laundry**

County Plan No.: **SP-116-00**

Assigned BMP No.: **JR051**

BMP Type: **Dry Pond**

Information Enclosed:

X Record Drawings (Asbuilts)

X Construction Certification

X Computations

X Other : Approved Plan and Deed of Easement

Name: **Greg Johnson**

Date: 02/11/2014

Signature: Greg B. Johnson

Active; maint agreement in file

RECORD DRAWING
OF
DETENTION POND
KINGSMILL LAUNDRY FACILITY

DATE: 08/01/01 SCALE: 1"=20'

JAMES CITY COUNTY, VIRGINIA

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel. (757) 253-2975
Fax (757) 229-0049
Email: lmdg@landmarkdgwb.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel. (757) 473-2000
Fax (757) 497-7933
Email: lmdg@landmarkdg.com

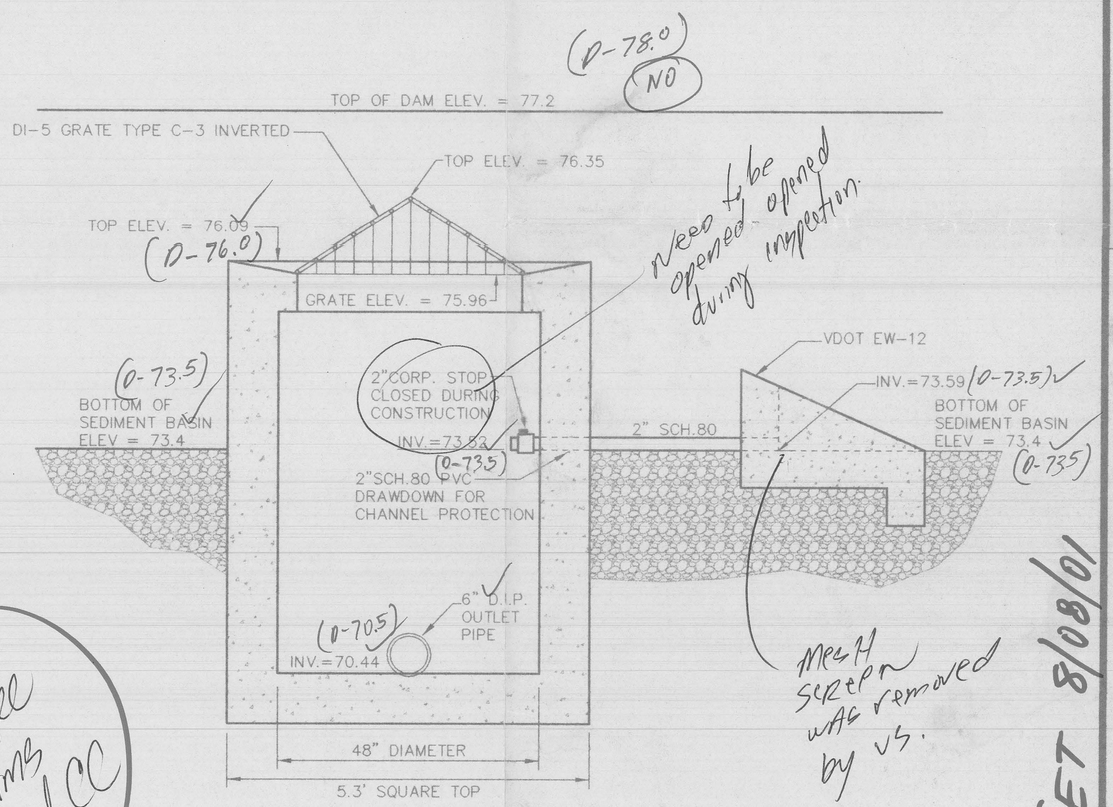
FIELD COPY 8-8-01

Pre
2- A=0.56AC; CN=70; Tc=18.6min.
10- 0.61CFS
100- 1.70CFS

Post Inflow
2- A=0.71AC; CN=86; Tc=10min.
10- 2.26CFS
100- 4.23CFS
100- 6.22 CFS

Route
2- 0.24CFS @ EL 76.01
10- 1.69CFS @ EL. 76.73
100- 4.78CFS @ EL 77.25 DHW

T.O.D PROBLEM
Need RD Rel Forms
Need CC
Put MAINT PLAN on RD.



MODIFIED VDOT DI-5
N.T.S.

COMMONWEALTH OF VIRGINIA
8/3/01
CHARLES R. ORSBORNE
NO. 1381
LAND SURVEYOR

THIS RECORD DRAWING IS BASED ON AN ACTUAL FIELD SURVEY, PERFORMED BY LANDMARK DESIGN GROUP, 07/01

77.25 + 1.00 = 78.25 min T.O.D.

PLAN APPROVED FOR T.O.D = 78.0

FB 0.75

BENCH MARK
JAMES CITY COUNTY
GEODETIC CONTROL MONUMENT
STA. NO. 328
ELEVATION= 88.62

1. TOD Needs Higher
PLAN 78.0
AB 77.2 Low (77.2 to 77.7)
DHW 77.25
DHW+1' 78.25
APP FB 78-77.25=0.75'

JR 051
SIT FIELD SET 8/08/01

DRAWN BY : SDC	PROJ. NO. : 2000186-000.12
CHKD. BY : RE	DWG. NO. : 12584-W

RECORD DRAWING
OF
DETENTION POND
KINGSMILL LAUNDRY FACILITY

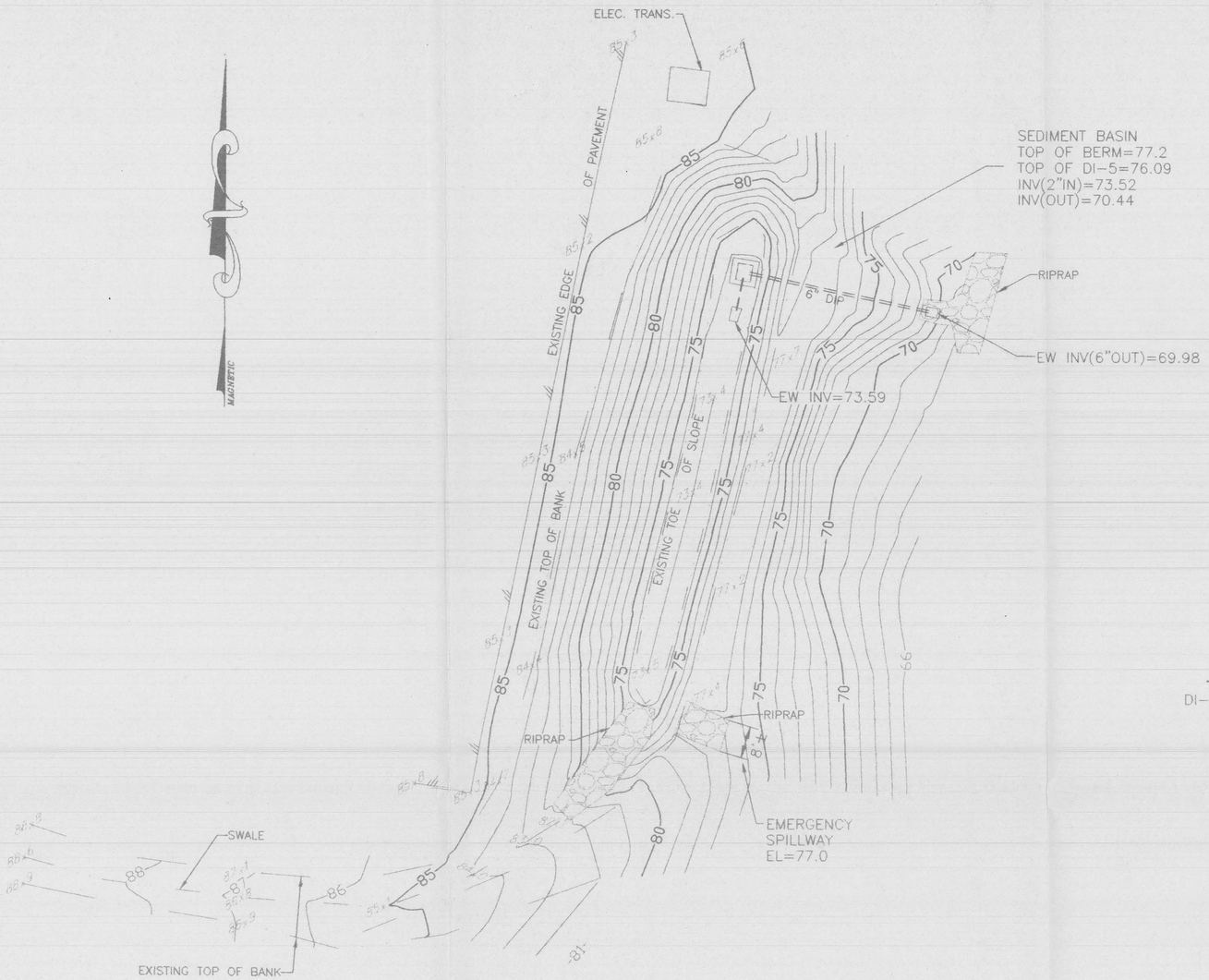
DATE: 08/01/01 SCALE: 1"=20'

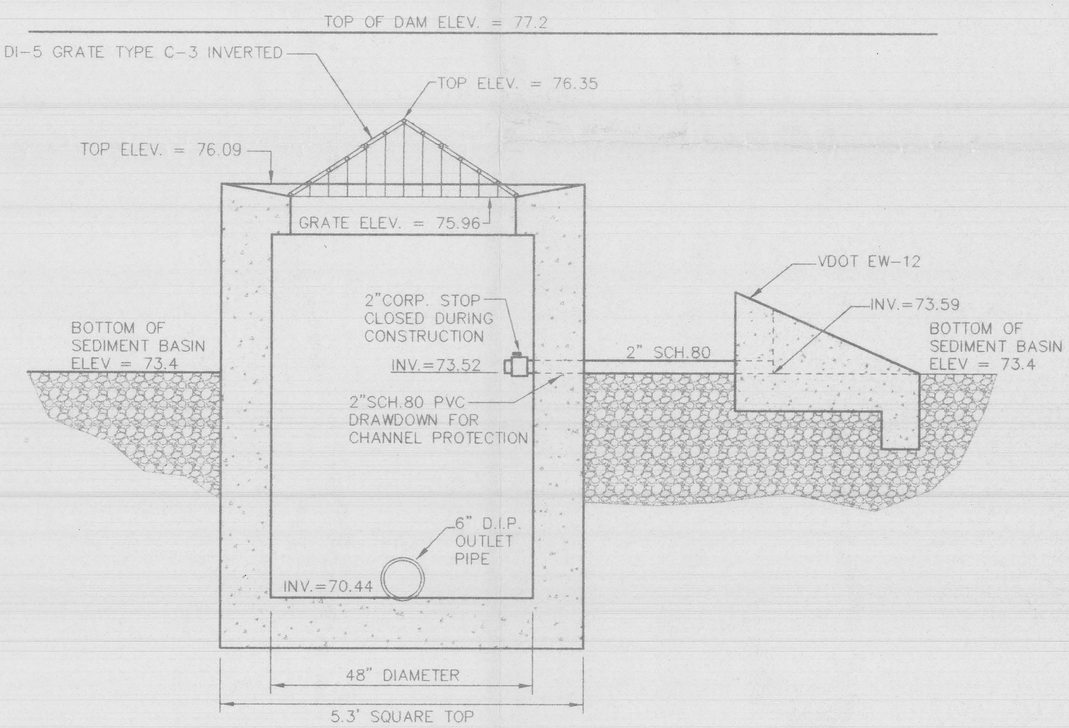
JAMES CITY COUNTY, VIRGINIA

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel. (757) 253-2975
Fax (757) 229-0049
Email: lmdg@landmarkdgwb.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel. (757) 473-2000
Fax (757) 497-7933
Email: lmdg@landmarkdg.com





MODIFIED VDOT DI-5

N.T.S.

COMMONWEALTH OF VIRGINIA
8/3/01
CHARLES R. ORSBORNE
NO. 1381
LAND SURVEYOR

THIS RECORD DRAWING IS BASED ON AN ACTUAL FIELD SURVEY, PERFORMED BY LANDMARK DESIGN GROUP, 07/01

BENCH MARK
JAMES CITY COUNTY
GEODETIC CONTROL MONUMENT
STA. NO. 328
ELEVATION= 88.62

DRAWN BY : SDC	PROJ. NO. : 2000186-000.12
CHKD. BY : PF	DWG. NO. : 12584 W

DETENTION BASIN EMBANKMENT CONSTRUCTION

1. STRIP EMBANKMENT SUBGRADE OF ALL TOPSOIL, ORGANIC MATTER, AND SOFT AND LOOSE SOILS PRIOR TO PLACEMENT OF FILL MATERIALS.
2. PROOF ROLL SUBGRADE WITH A LOADED TANDEM DUMP TRUCK OR SIMILAR EQUIPMENT UNDER THE OBSERVATION OF THE ENGINEER.
3. UNDERCUT AREAS THAT EXHIBIT EXCESSIVE PUMPING OR WEAVING.
4. PLACE FILL IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND COMPACT TO AT LEAST 95% OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D-698, STANDARD PROCTOR. COMPACT FILL TO A MOISTURE CONTENT WITHIN 3% ABOVE AND 1% BELOW THE OPTIMUM MOISTURE CONTENT FOR THE MATERIAL.
5. EMBANKMENT FILL SHALL CONSIST OF UNIFIED SOIL CLASSIFICATION SYSTEM ASTM D-2487 MATERIALS, SM,SC,ML,MH, OR CL, FREE OF ALL ORGANIC MATERIALS.
6. SCARIFY TO 2 OR 3 INCHES IN DEPTH THE SURFACE OF EACH COMPLETED LIFT OF COMPACTED FILL PRIOR TO PLACING ADDITIONAL FILL TO LIMIT THE DEVELOPMENT OF HORIZONTAL SEEPAGE PLANES.
7. COMPACT FILL IN HORIZONTAL LIFTS.
8. BENCH ALL SURFACES STEEPER THAN 4:1 SCHEDULED TO RECEIVE FILL. DO NOT EXCEED BENCH HEIGHTS OF 2 FEET.
9. PROVIDE SITE DRAINAGE TO MAINTAIN SUBGRADES FREE OF WATER AND TO AVOID SATURATION AND DISTURBANCE OF THE SUBGRADE SOILS PRIOR TO CONSTRUCTION OF FOUNDATIONS AND PLACING FILL. REMOVE ANY SOILS THAT HAVE BEEN WEAKENED DUE TO SATURATION AND DISTURBANCE AS RECOMMENDED BY THE ENGINEER. PROVIDE SITE DRAINAGE TO MAINTAIN ANY EXISTING BASE FLOW AS NECESSARY AND TEMPORARY EROSION AND SEDIMENT CONTROL AS NECESSARY DURING CONSTRUCTION.
10. DEWATER DAM FOUNDATION AREAS (WELL POINTING OR PUMPING FROM SUMPS), AND DILIVER SURFACE WATER AWAY FROM THE WORK AREA TO ALLOW PROPER EXECUTION OF THE CONSTRUCTION.
11. MAINTAIN THE DAM FOUNDATION FREE OF PONDED WATER, EXCESSIVELY MUDDY CONDITIONS AND IN DRAINABLE CONDITION AS NEEDED FOR PROPER EXECUTION OF THE CONSTRUCTION WORK.

THE OWNER, KINGSMILL RESORTS, SHALL BE RESPONSIBLE FOR DIRECTING AND OVERSEEING THE SCHEDULED MAINTENANCE OF THE ON-SITE EXTENDED DETENTION BASIN FACILITY. THE MAINTENANCE REQUIREMENTS ARE OUTLINED AS FOLLOWS:

ROUTINE MAINTENANCE:

A. MOWING - THE UPPER STAGE SIDE SLOPES SHALL BE MOWED TO DISCOURAGE WOODY GROWTH AND TO CONTROL WEEDS. THE FREQUENCY OF MOWING SHALL DEPEND ON VISUAL INSPECTIONS PERFORMED AT LEAST FOUR TIMES A YEAR.

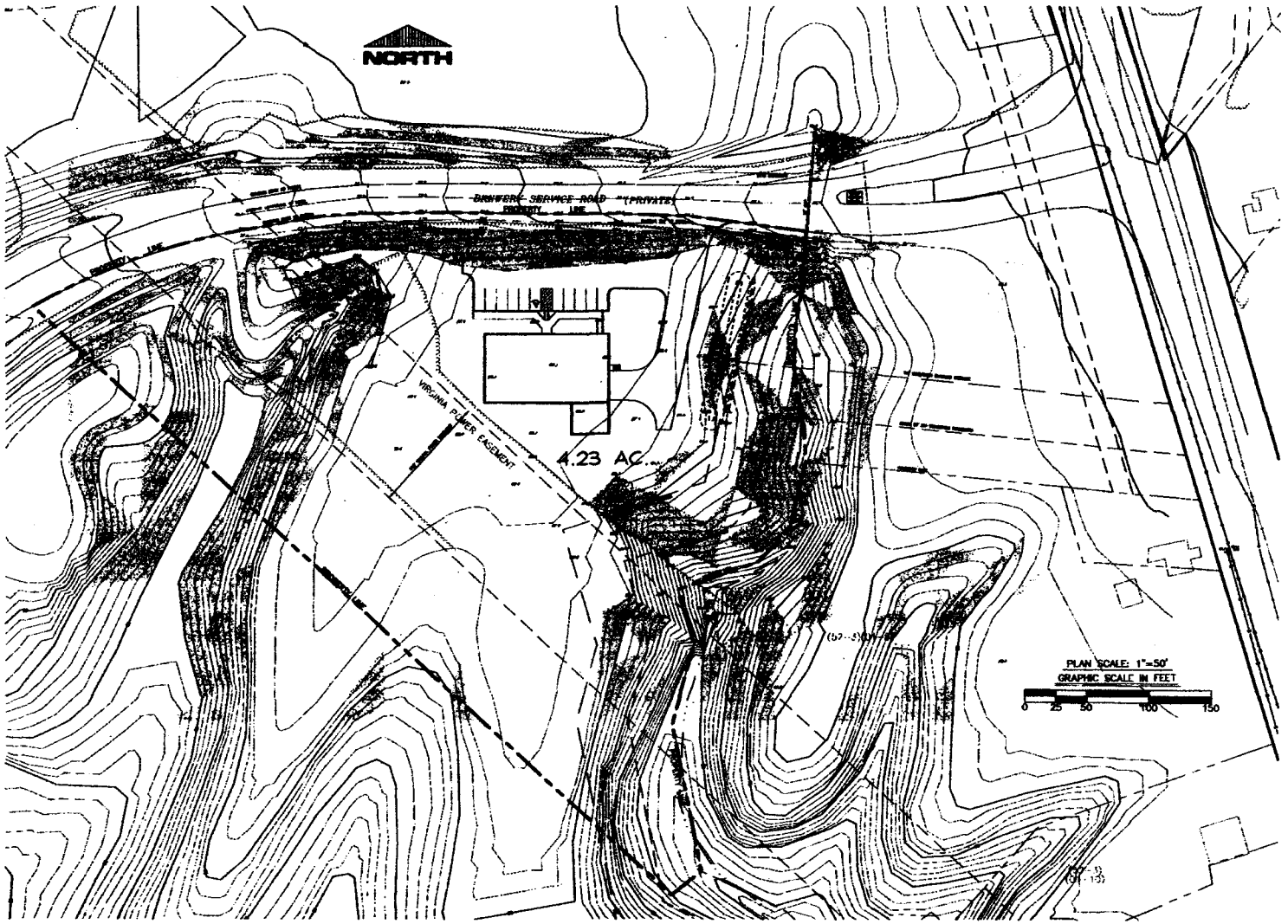
B. INSPECTIONS - THE ENTIRE DETENTION BASIN AREAS AND OUTLET CONTROL STRUCTURES SHALL BE INSPECTED ON AN ANNUAL BASIS. INSPECTION PRIORITIES SHALL INCLUDE CHECKING FOR SIDE SLOPE OR EMBANKMENT EROSION; TREE GROWTH; CONDITION OF THE OUTLET CONTROL STRUCTURE, AND THE ACCUMULATION OF SEDIMENT OR CLOGGING OF THE OUTLET CONTROL STRUCTURE.

C. DEBRIS AND LITTER REMOVAL - ANY ACCUMULATION OF DEBRIS AND LITTER NEAR THE OUTLET CONTROL STRUCTURES, PARTICULARLY FLOATABLE DEBRIS, SHALL BE REMOVED DURING SCHEDULED MOWING OPERATIONS OR AS NEEDED.

NON-ROUTINE MAINTENANCE:

A. STRUCTURAL REPAIRS AND REPLACEMENT - REPAIRS OR REPLACEMENT OF THE OUTLET CONTROL STRUCTURES SHALL BE PERFORMED ON AN AS-NEEDED BASIS TO INSURE PROPER OPERATION.

B. SEDIMENT REMOVAL - AFTER EACH SIGNIFICANT RAINFALL, THE BASIN AREAS SHALL BE INSPECTED FOR ACCUMULATION OF SEDIMENT OR DEBRIS WHICH MAY HINDER THE PERFORMANCE OF THE OUTLET CONTROL STRUCTURE.



OVERALL PLAN

EROSION AND SEDIMENT CC

GENERAL

PROJECT DESCRIPTION: THE PURPOSE OF THIS PROJ
AREA FOR A PROPOSED LAUNDRY FACILITY TO SERVE

EXISTING SITE CONDITIONS: THIS SITE IS ALMOST ENT
IT IS BOUNDED ON THE NORTH BY THE BREWERY SERV
ON THE EAST BY A RAVINE WHICH DRAINS LAND DWN
SERVICE ROAD.

SOILS: PREDOMINANT SOILS WHICH WILL BE DISTURB
MODERATELY DRAINED SOILS. THEY ARE FORMED IN
ARE ON UPLAND FLATS, IN SLIGHT DEPRESSIONS, AN
FROM 0 TO 8 PERCENT. PERMEABILITY IS MODERATE
THE LOWER PART. THE AVAILABLE WATER CAPACITY I
MODERATE. THE SOILHAS MODERATE SHRINK-SWELL

CRITICAL EROSION AREAS: THE CRITICAL EROSION AR
WHICH WILL EXIST ALONG THE RAVINE ON THE EAST S
CHANNEL OF THE EXISTING RAVINE. THESE ARE TO B
TO OCCUR FOR PLACEMENT OF THIS RIP-RAP.

EROSION AND SEDIMENT CONTROL MEASURES: ALL VE
ON THE DRAWINGS WILL BE CONSTRUCTED AND MAINT
THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDB
CONTROL NOTES, LATEST REVISION.

STRUCTURAL PRACTICES

1. TREE PROTECTION 3.38: TREE PROTECTION SHOU
INSPECTOR DEEMS TREE PROTECTION NOT NECESS
2. TEMPORARY CONSTRUCTION ENTRANCE 3.02: THE
PROJECT CONNECTS TO THE BREWERY SERVICE R
3. SILT FENCE BARRIERS 3.05: SILT FENCE SHALL
4. OUTLET PROTECTION 3.18: CLASS 1 RIP-RAP SH
5. TEMPORARY SEDIMENT TRAP 3.14: TEMPORARY SI
INLET PROTECTION.
6. PERMANENT SEEDING 3.32: PERMANENT SEEDING
GRADING HAS BEEN ESTABLISHED.
7. SOIL STABILIZATION MATTING (VDOT STANDARD): S
WHERE CALLED FOR ON THE PLANS AND AS NECE
ACCORDANCE WITH VIRGINIA DEPARTMENT OF TRAN
8. EC-2 MATTING: EC-2 MATTING SHOULD BE APPL
MATTING TO ALLOW FOR A STABLE VEGEATIVE SLO

MANAGEMENT STATEGIES AND SEQUENCE OF CONTRUCT

SITE PLAN

1. LIMITS OF CLEARING SHALL BE FLAGGED, TREE PR
2. THE CONSTRUCTION ENTRANCE SHALL BE INSTALLE
3. THE CONTRACTOR SHALL CLEAR ENOUGH OF THE
PIPE SHOULD BE INSTALLED NEXT. THE AREAS IN
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GRUBBED ONCE THE SEDIMENT BASIN IS INSTALLED
4. THE SWALE ON THE SOUTH SIDE OF THE BUILDING
THE SITE.
5. SITE GRADING AND BUILDING PAD TO BE CONSTRU
6. SITE TO BE TEMPORARY SEEDED WITHIN 7 DAYS O

OFFSITE SANITARY SEWER

1. CONTRACTOR SHALL INSTALL NECESSARY TREE PR
SEWER FORCE MAIN CONSTRUCTION CAN OCCUR.
MAIN CAN BE INSTALLED AND CAPPED AT THE LOC
2. ONCE THE GRAVITY PORTION OF THE SITE SEWER
3. UPON COMPLETION OF THE INSTALLATION OF THE
PERMANENTLY SEED ALL DISTURBED AREAS IN ACC
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1. CONTRACTOR SHALL INSTALL NECESSARY TREE PR
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THE INSTALLATION OF THE SANITA
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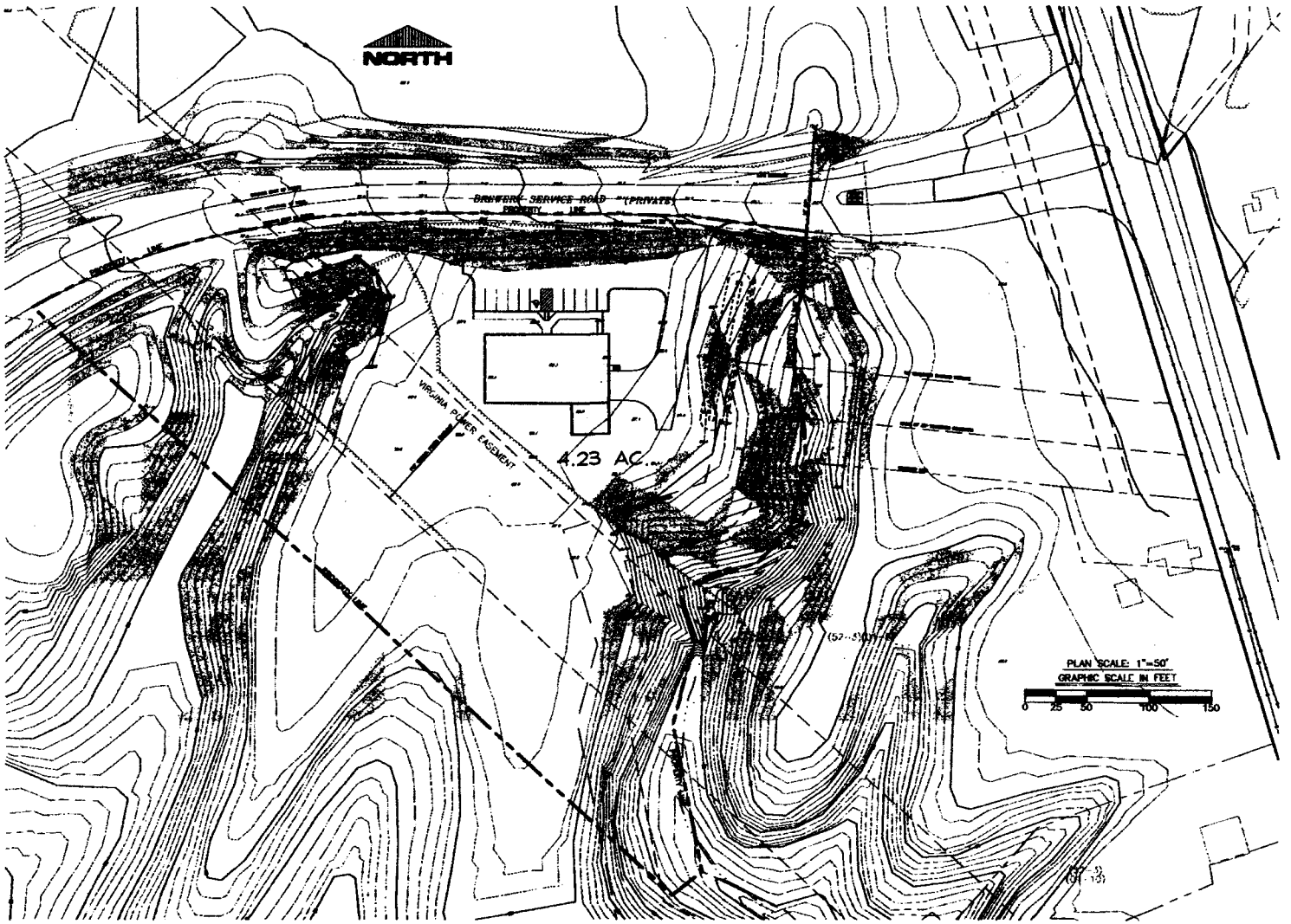

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MANAGEMENT STRATEGIES AND SEQUENCE OF CONTRUCTI

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RECORD DRAWING
OF
DETENTION POND
KINGSMILL LAUNDRY FACILITY

DATE: 06/01/01 SCALE: 1"=20'

REVISED: 9/18/01 PER COUNTY COMMENTS

REVISED: 10/29/01 DAM RAISED TO DESIGN ELEVATION

JAMES CITY COUNTY, VIRGINIA

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

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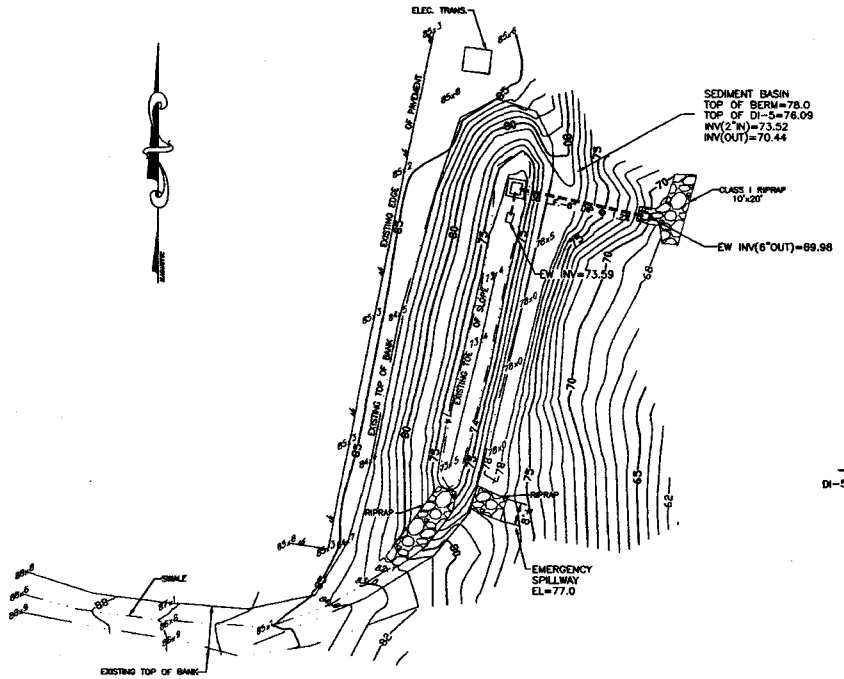

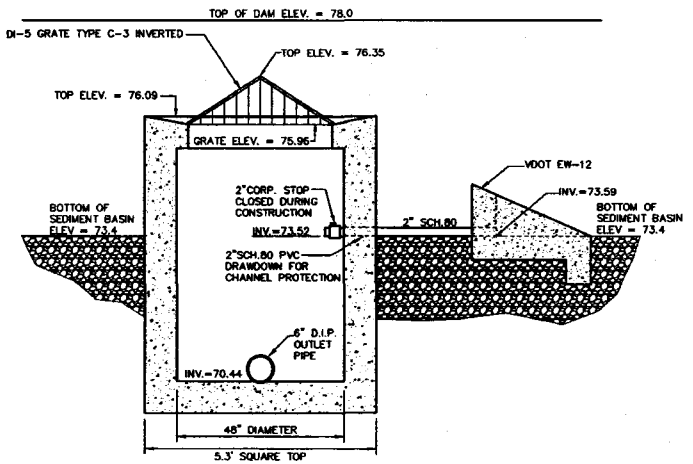

MODIFIED VDOT DI-5

N.T.S.

COMMONWEALTH OF VIRGINIA
11/16/01
CHARLES R. DESHONE
NO. 1308
LAND SURVEYOR

THIS RECORD DRAWING IS BASED ON AN ACTUAL FIELD SURVEY, PERFORMED BY LANDMARK DESIGN GROUP, 07/01

BENCH MARK
JAMES CITY COUNTY
GEODETIC CONTROL MONUMENT
STA. NO. 328
ELEVATION= 88.62

DRAWN BY : SDC	PROJ. NO. : 2000186-000.12
CHKD. BY : PF	DWG. NO. : 12584 W

RECORD DRAWING
OF
DETENTION POND
KINGSMILL LAUNDRY FACILITY

DATE: 08/01/01 SCALE: 1"=20'
REVISED: 9/18/01 PER COUNTY COMMENTS
REVISED: 10/29/01 DAM RAISED TO DESIGN ELEVATION

JAMES CITY COUNTY, VIRGINIA

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
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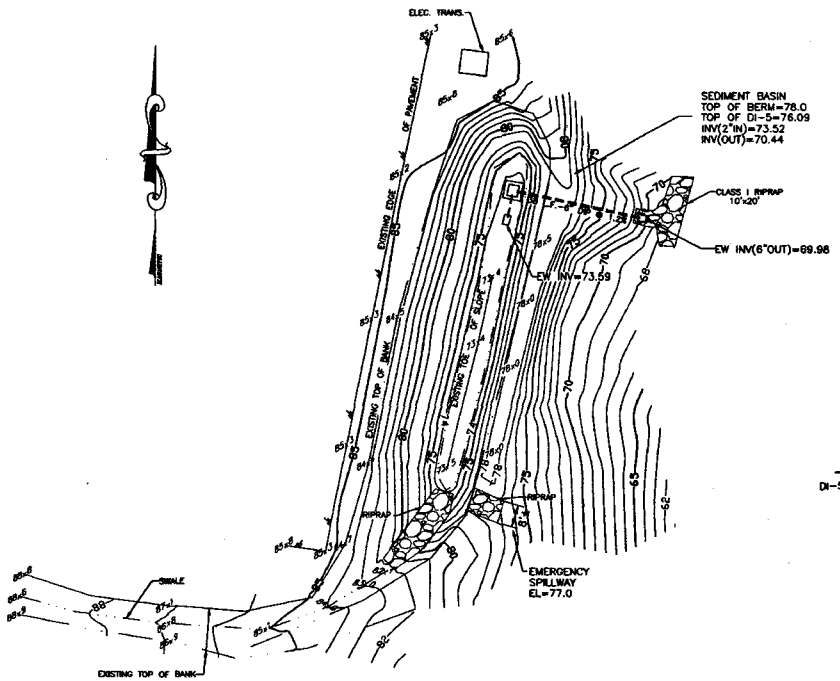
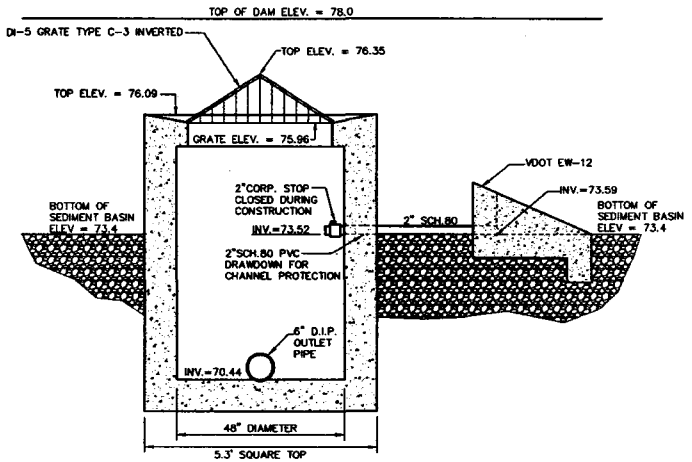




MODIFIED VDOT DI-5
N.T.S.

COMMONWEALTH OF VIRGINIA
11/16/01
CHARLES R. DESIGNE
NO. 1300
LAND SURVEYOR

THIS RECORD DRAWING IS BASED ON AN ACTUAL FIELD SURVEY, PERFORMED BY LANDMARK DESIGN GROUP, 07/01

BENCH MARK
JAMES CITY COUNTY
GEODETIC CONTROL MONUMENT
STA. NO. 328
ELEVATION= 88.62

DRAWN BY : SDC	PROJ. NO. : 2000186-000.12
CHKD. BY : PF	DWG. NO. : 12584 W

CALCULATIONS
FOR
KINGSMILL LAUNDRY

Roberts Magisterial District
James City County, Virginia

JR051
SP-116-00

November 21, 2000

INITIAL DATA

Subject KINGSMILL LAUNDRY FACILITY
Computed MRG Checked

LANDMARK DESIGN GROUP

Project # 2000186-000.03
Client KINGSMILL RESORTS
Date 11-17-00 Sheet #

Engineers • Planners • Surveyors • Landscape Architects • Environmental Consultants

TOTAL SITE AREA = 4.231 AC
IMPERVIOUS COVER = 0.4229 AC.
% IMPERVIOUS = 9.99%
* IS LESS THAN 10% IMPERVIOUS ∴ NO CHES. BAY REQD.

SEDIMENT BASIN DATA

- EXIST DRAINAGE AREA = 0.557 AC
  PREDEVELOPMENT CN = 0.70
  SOIL CLASS = 29B SLAGLE
  HYDROLOGIC GROUP = C

- POST DEVELOPMENT AREA = 0.7134 AC
  POST DEVELOPMENT CN = 0.86

			CN		
IMPERVIOUS	—	0.3519 AC	@ 98	=	34.4862
PERVIOUS	—	0.3615 AC	@ 74	=	26.7533
					61.2395

$\frac{61.2395}{0.7134} = 85.84 = 86$ weighted CN

- EXTENDED DETENTION VOLUME FOR 1 YR 24 HR STORM (RAINFALL = 2.8")
  PER TR-55 TABLE 2-1
  * SEE ATTACHED CALCULATIONS
  FILE 200186-03 chvol.xls

- ROADSIDE DITCH ADEQUACY CALCS
  - SEE ATTACHED FLOWMASTER CALCULATIONS
  STA. 0+00 IS @ ℄ DITCH @ END OF PROP. PAVED FLUME

CHANNEL PROTECTION CALCULATIONS

OK

Roadside Ditch Sta. 0+23.27
Worksheet for Irregular Channel

Project Description	
Worksheet	Roadside Ditch
Flow Element	Irregular Channel
Method	Manning's Formul
Solve For	Channel Depth

Input Data		
Slope	0.035096	ft/ft
Discharge	1.38	cfs

Options	
Current Roughness Method	mproved Lotter's Method
Open Channel Weighting Metho	mproved Lotter's Method
Closed Channel Weighting Met	Horton's Method

Results		
Mannings Coefficient	0.050	
Water Surface Elevatio	76.34	ft
Elevation Range	76.00 to 78.00	
Flow Area	0.8	ft²
Wetted Perimeter	4.87	ft
Top Width	4.83	ft
Actual Depth	0.34	ft
Critical Elevation	76.30	ft
Critical Slope	0.069684	ft/ft
Velocity	1.69	ft/s
Velocity Head	0.04	ft
Specific Energy	76.38	ft
Froude Number	0.73	
Flow Type	Subcritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	0+32	0.050

Natural Channel Points

Station (ft)	Elevation (ft)
0+00	77.64
0+10	77.42
0+18	76.00
0+27	77.00
0+32	78.00

Roadside Ditch Sta. 0+90.67
Worksheet for Irregular Channel

Project Description	
Worksheet	Roadside Ditch 2
Flow Element	Irregular Channel
Method	Manning's Formul
Solve For	Channel Depth

Input Data		
Slope	0.012090	ft/ft
Discharge	1.80	cfs

Options	
Current Roughness Method	mproved Lotter's Method
Open Channel Weighting Metho	mproved Lotter's Method
Closed Channel Weighting Met	Horton's Method

Results		
Mannings Coefficient	0.050	
Water Surface Elevatio	74.14	ft
Elevation Range	73.60 to 78.00	
Flow Area	1.3	ft²
Wetted Perimeter	4.62	ft
Top Width	4.46	ft
Actual Depth	0.54	ft
Critical Elevation	74.00	ft
Critical Slope	0.064933	ft/ft
Velocity	1.40	ft/s
Velocity Head	0.03	ft
Specific Energy	74.17	ft
Froude Number	0.46	
Flow Type	Subcritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	0+23	0.050

Natural Channel Points

Station (ft)	Elevation (ft)
0+00	75.41
0+06	75.06
0+10	74.00
0+13	73.60
0+14	74.00
0+19	76.00
0+23	78.00

Roadside Ditch Sta. 1+58.06
Worksheet for Irregular Channel

Project Description	
Worksheet	Roadside Ditch 3
Flow Element	Irregular Channel
Method	Manning's Formul
Solve For	Channel Depth

Input Data		
Slope	0.041800	ft/ft
Discharge	2.07	cfs

Options	
Current Roughness Method	mproved Lotter's Method
Open Channel Weighting Metho	mproved Lotter's Method
Closed Channel Weighting Met	Horton's Method

Results		
Mannings Coefficient	0.050	
Water Surface Elevatio	72.50	ft
Elevation Range	72.00 to 77.30	
Flow Area	0.9	ft²
Wetted Perimeter	3.73	ft
Top Width	3.58	ft
Actual Depth	0.50	ft
Critical Elevation	72.46	ft
Critical Slope	0.062863	ft/ft
Velocity	2.33	ft/s
Velocity Head	0.08	ft
Specific Energy	72.58	ft
Froude Number	0.83	
Flow Type	Subcritical	

Roughness Segments

Start Station	End Station	Mannings Coefficient
0+00	0+25	0.050

Natural Channel Points

Station (ft)	Elevation (ft)
0+00	73.15
0+07	72.95
0+11	72.00
0+16	74.00
0+21	76.00
0+25	77.30

CHANNEL PROTECTION VOLUME CALCULATIONS

CHANNEL PROTECTION VOLUME CALCULATION

Project Name : KINGSMILL LAUNDRY

File: 2000186-03chvol.xls
Project # : 2000186-000.03

One Year Precipitation : P= 2.8 Inches

TABLE F1 / TR-55

Coefficients for Rainfall Type II

Ia/P	Co	C1	C2
0.10	2.55323	-0.61512	-0.16403
0.30	2.46532	-0.62257	-0.11657
0.35	2.41896	-0.61594	-0.08820
0.40	2.36409	-0.59857	-0.05621
0.45	2.29238	-0.57005	-0.02281
0.50	2.20282	-0.51599	-0.01259

PRE-DEVELOPMENT CONDITIONS :

Drainage Area : DApre = 0.7 Acres
SCS Curve Number : CNpre = 74 Unitless
Time of Concentration Tcpre = 0.31 Hours

Initial abstraction : Ia=0.2x(1000/CN - 10) = 0.703 Inches
Ia/P = 0.25

Accumulated direct runoff : Qu = (P-Ia)^2 / (P+4xIa) = 0.78 Inches

Unit Peak Discharge : qu = 666 cfs/sq.mile/in.
log(qu)=Co+C1log(Tc)+C2[log(Tc)]^2
Co,C1,C2 Coefficients from TABLE F1 above

Pre-development peak discharge :
qp =qu x DA x Qu/ 640 = 0.57 c.f.s.

POST DEVELOPMENT CONDITIONS :

Drainage Area : DApost = 0.71 Acres
SCS Curve Number : CNpost = 86 Unitless
Time of Concentration Tcpost = 0.16 Hours

Initial abstraction : Ia = 0.326 Inches
Ia/P = 0.12
Accumulated direct runoff : Qu = 1.49 Inches
Unit Peak Discharge : qu = 869 cfs/sq.mile/in.
Post development peak discharge rate : qi = qp = 1.45 c.f.s.

Ratio of outflow to inflow : * qo/qi = 11.98 x qu^0.937 = 0.0211
* Direct calculation using equation for T=24hr. developed by Stewart Comstock,P.E., MDE

Peak outflow discharge : qo = 0.0305 c.f.s.

Ratio of storage volume to runoff volume : Vs/Vr = 0.654
Vs/Vr = 0.683 - 1.43(Qo/Qi) + 1.64(Qo/Qi)^2 - 0.804(Qo/Qi)^3

Required Storage Volume :
Vs =Vs/Vr x Qu x A/12 x 43560 = **2526** cubic feet

ESTIMATED POND FULL DRAWDOWN

Htrial = 2.5
Ao = 0.0040139
do = 0.857861

Sediment Basin Dorfice = 2 inches

W.S.E. (feet)	AREA s.f.	INC. VOL c.f.	STORAGE c.f	Havg ft.	Qavg cfs	dT hours	
79.0	3417	3120	10314	5.00			
78.0	2822	2537	7195	4.00			
77.0	2252	1980	4658	3.00	0.1794		
76.0	1708	152	2677	2.46	0.1618		
75.91	1661	1297	**2526**	1.96	**0.1437**	**2.5**	**WQVSE**
75.0	1189	941	1229	1.00	0.1006	2.6	
74.0	694	288	288	0.25	0.0429	1.9	
73.5	457	0	0	0.00			

DRAW DOWN TIME = 7.0 hrs.

EROSION AND SEDIMENT CONTROL ROUTING

FILE: **2000187-SedTrap.xls**
Project: Laundry Facility at Kingsmill
Date: 20-Sep-00

LandMark Design Group
4029 Ironbound Rd., Suite 100
Williamsburg, Virginia 23188

SEDIMENT TRAP SIZING

TRAP NUMBER	PRE-CONSTRUCTION DRAINAGE AREA (AC)	POST CONSTRUCTION DRAINAGE AREA (AC)	VOLUME REQUIRED (134CY/AC)	WET DEPTH (FT)	WATER SURFACE DIMENSIONS LENGTH (FT)	WATER SURFACE DIMENSIONS WIDTH (FT)	AREA OF WATER SURFACE (SF)	DRY DEPTH (FT)	WET VOLUME PROVIDED (CY)	DRY VOLUME PROVIDED (CY)	TOTAL VOLUME PROVIDED (CY)	OK?
1	0.71	0.71	95.6	1.5	110	10	1100	1	51.94	49.93	101.87	YES
2	0	0	0	0	0	0	0	0	0.00	0.00	0.00	NO

OUTFALL SIZING

TRAP NUMBER	DRY DEPTH (FT)	H	Ho	W	L
1	1.0	2.0	1.0	2.0	4.2804
2	0.0	1.0	0.0	#N/A	0

STANDARDS

H	Ho	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
2.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

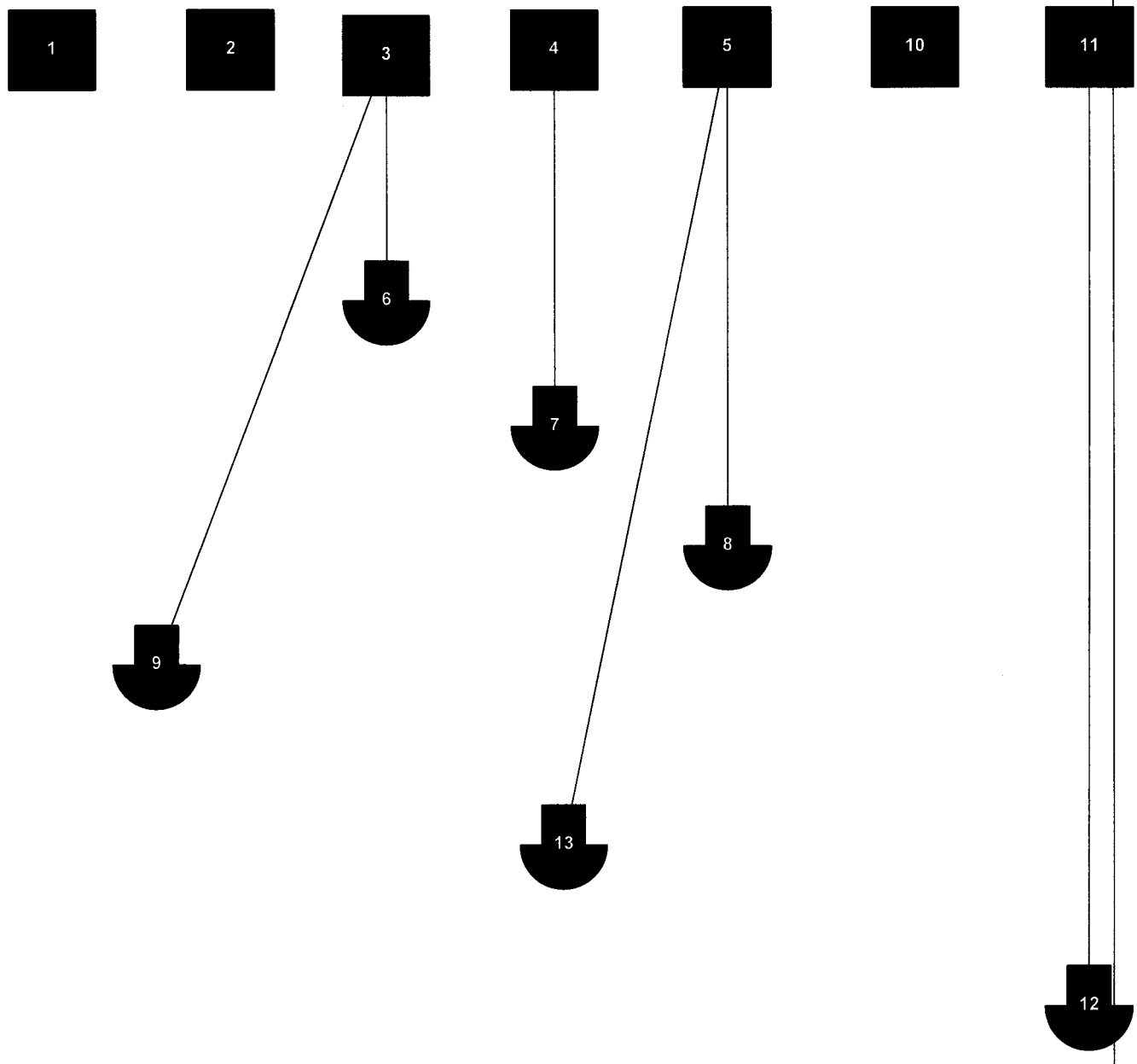
File:	2000186-03Dewater.xls				LANDMARK DESIGN GROUP		
Project:	**KINGSMILL LAUNDRY**				4029 Ironbound Rd, Suite 100		
Location:	Sediment Basin/BMP				Williamsburg, Virginia 23188		
Design:	M. Gordon						
Date:	11/17/00						
Rev.:							
	DRY STORAGE DRAWDOWN						
	ORFICE SIZE	=	2	in.		ok	
	STAGE INCREMENT	=	0.05	ft.			
	INVERT ELEV.	=	75.00				
	UPPER RANGE	=	76.00				
	COEFFICIENT	=	0.6				
	CONSTANT	=	0.04375				
	TOTAL VOLUME	=	1,448	cf - for 0.8 ac w/shed			
	ELEV.	HEAD	FLOW				
	75.00	0.00	0.00				
	75.05	0.05	0.02				
	75.10	0.10	0.03				
	75.15	0.15	0.04				
	75.20	0.20	0.05				
	75.25	0.25	0.05				
	75.30	0.30	0.06				
	75.35	0.35	0.06				
	75.40	0.40	0.07				
	75.45	0.45	0.07				
	75.50	0.50	0.07				
	75.55	0.55	0.08				
	75.60	0.60	0.08				
	75.65	0.65	0.08				
	75.70	0.70	0.09				
	75.75	0.75	0.09				
	75.80	0.80	0.09				
	75.85	0.85	0.10				
	75.90	0.90	0.10				
	75.95	0.95	0.10				
	76.00	1.00	0.10				

			1.34	cfs			
	AVG. FLOW RATE	=	0.07	cfs			
	DETENTION TIME	=	5.99	hrs.			

EXTENDED DETENTION HYDROGRAPHS AND ROUTING

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Return period (yrs)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	0.61	2	726	2,038	2	----	------	------	2YR-PRE
2	SCS Runoff	1.70	2	724	5,353	10	----	------	------	10YR-PRE
3	SCS Runoff	2.16	2	720	5,604	2	----	------	------	2YR-POST
4	SCS Runoff	4.23	2	720	11,269	10	----	------	------	10YR-POST
5	SCS Runoff	6.22	2	720	16,908	100	----	------	------	100YR-POST
6	Reservoir	0.24	2	752	5,604	2	3	76.01	2,690	2yr-route
7	Reservoir	1.69	2	730	11,269	10	4	76.73	4,117	10yr-route
8	Reservoir	4.78	2	726	16,908	100	5	77.25	5,288	100yr-route
9	Reservoir	1.54	2	726	5,601	2	3	76.17	3,019	2yr-E&Sroute
10	SCS Runoff	1.78	5	725	6,320	25	----	------	------	25YR-PRE
11	SCS Runoff	4.18	5	720	11,631	25	----	------	------	25YR-POST
12	Reservoir	2.11	5	730	11,630	25	11	77.05	4,784	25yr-E&Sroute
13	Reservoir	5.20	2	724	16,904	100	5	77.27	5,348	100yr-E&Sroute



Project: KINGSMILL LAUNDRY.GPW	IDF: Sample.idf	13 hyd's	11-21-2000

Reservoir Report

English

Reservoir No. 1 - SEDIMENT BASIN/BMP

Pond Data

Pond storage is based on known contour areas

Stage / Storage Table

Stage ft	Elevation ft	Contour area sqft	Incr. Storage cuft	Total storage cuft
0.00	73.50	457	0	0
0.50	74.00	694	288	288
1.50	75.00	1,189	942	1,229
2.50	76.00	1,708	1,449	2,678
3.50	77.00	2,252	1,980	4,658
4.50	78.00	2,822	2,537	7,195
5.50	79.00	3,417	3,120	10,314

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 6.0	2.0	0.0	0.0
Span in	= 6.0	2.0	0.0	0.0
No. Barrels	= 1	1	0	0
Invert El. ft	= 70.50	73.50	0.00	0.00
Length ft	= 50.0	0.0	0.0	0.0
Slope %	= 1.00	0.00	0.00	0.00
N-Value	= .013	.013	.000	.000
Orif. Coeff.	= 0.60	0.60	0.00	0.00
Multi-Stage	= -----	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 12.7	8.0	0.0	0.0
Crest El. ft	= 76.00	77.00	0.00	0.00
Weir Coeff.	= 3.08	3.00	0.00	0.00
Eqn. Exp.	= 1.50	1.50	0.00	0.00
Multi-Stage	= Yes	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Discharge cfs
0.00	0	73.50	1.18	0.00	---	---	0.00	0.00	---	---	0.00
0.05	29	73.55	1.18	0.00	---	---	0.00	0.00	---	---	0.00
0.10	58	73.60	1.19	0.02	---	---	0.00	0.00	---	---	0.02
0.15	86	73.65	1.20	0.03	---	---	0.00	0.00	---	---	0.03
0.20	115	73.70	1.21	0.04	---	---	0.00	0.00	---	---	0.04
0.25	144	73.75	1.22	0.04	---	---	0.00	0.00	---	---	0.04
0.30	173	73.80	1.23	0.05	---	---	0.00	0.00	---	---	0.05
0.35	201	73.85	1.24	0.05	---	---	0.00	0.00	---	---	0.05
0.40	230	73.90	1.25	0.06	---	---	0.00	0.00	---	---	0.06
0.45	259	73.95	1.26	0.06	---	---	0.00	0.00	---	---	0.06
0.50	288	74.00	1.27	0.07	---	---	0.00	0.00	---	---	0.07

Continues on next page...

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Discharge cfs
0.60	382	74.10	1.29	0.08	---	---	0.00	0.00	---	---	0.08
0.70	476	74.20	1.31	0.08	---	---	0.00	0.00	---	---	0.08
0.80	570	74.30	1.32	0.09	---	---	0.00	0.00	---	---	0.09
0.90	664	74.40	1.34	0.09	---	---	0.00	0.00	---	---	0.09
1.00	759	74.50	1.36	0.10	---	---	0.00	0.00	---	---	0.10
1.10	853	74.60	1.37	0.11	---	---	0.00	0.00	---	---	0.11
1.20	947	74.70	1.39	0.11	---	---	0.00	0.00	---	---	0.11
1.30	1,041	74.80	1.41	0.12	---	---	0.00	0.00	---	---	0.12
1.40	1,135	74.90	1.42	0.12	---	---	0.00	0.00	---	---	0.12
1.50	1,229	75.00	1.44	0.13	---	---	0.00	0.00	---	---	0.13
1.60	1,374	75.10	1.46	0.13	---	---	0.00	0.00	---	---	0.13
1.70	1,519	75.20	1.47	0.13	---	---	0.00	0.00	---	---	0.13
1.80	1,664	75.30	1.49	0.14	---	---	0.00	0.00	---	---	0.14
1.90	1,809	75.40	1.50	0.14	---	---	0.00	0.00	---	---	0.14
2.00	1,953	75.50	1.52	0.15	---	---	0.00	0.00	---	---	0.15
2.10	2,098	75.60	1.53	0.15	---	---	0.00	0.00	---	---	0.15
2.20	2,243	75.70	1.55	0.15	---	---	0.00	0.00	---	---	0.15
2.30	2,388	75.80	1.56	0.16	---	---	0.00	0.00	---	---	0.16
2.40	2,533	75.90	1.58	0.16	---	---	0.00	0.00	---	---	0.16
2.50	2,678	76.00	1.59	0.16	---	---	0.00	0.00	---	---	0.16
2.60	2,876	76.10	1.61	0.17	---	---	1.23	0.00	---	---	1.40
2.70	3,074	76.20	1.62	0.13	---	---	3.49	0.00	---	---	1.62
2.80	3,272	76.30	1.63	0.00	---	---	6.41	0.00	---	---	1.63
2.90	3,470	76.40	1.65	0.00	---	---	9.86	0.00	---	---	1.65
3.00	3,668	76.50	1.66	0.00	---	---	13.79	0.00	---	---	1.66
3.10	3,866	76.60	1.68	0.00	---	---	18.12	0.00	---	---	1.68
3.20	4,064	76.70	1.69	0.00	---	---	22.84	0.00	---	---	1.69
3.30	4,262	76.80	1.70	0.00	---	---	27.90	0.00	---	---	1.70
3.40	4,460	76.90	1.72	0.00	---	---	33.29	0.00	---	---	1.72
3.50	4,658	77.00	1.73	0.00	---	---	38.99	0.00	---	---	1.73
3.60	4,911	77.10	1.74	0.00	---	---	44.99	0.76	---	---	2.50
3.70	5,165	77.20	1.76	0.00	---	---	51.26	2.15	---	---	3.90
3.80	5,419	77.30	1.77	0.00	---	---	57.80	3.94	---	---	5.71
3.90	5,673	77.40	1.78	0.00	---	---	64.59	6.07	---	---	7.85
4.00	5,926	77.50	1.80	0.00	---	---	71.63	8.49	---	---	10.28
4.10	6,180	77.60	1.81	0.00	---	---	78.92	11.15	---	---	12.96
4.20	6,434	77.70	1.82	0.00	---	---	86.43	14.06	---	---	15.88
4.30	6,687	77.80	1.83	0.00	---	---	94.16	17.17	---	---	19.01
4.40	6,941	77.90	1.85	0.00	---	---	102.12	20.49	---	---	22.34
4.50	7,195	78.00	1.86	0.00	---	---	110.29	24.00	---	---	25.86
4.60	7,507	78.10	1.87	0.00	---	---	118.66	27.69	---	---	29.56
4.70	7,819	78.20	1.88	0.00	---	---	127.24	31.55	---	---	33.43
4.80	8,131	78.30	1.89	0.00	---	---	136.01	35.57	---	---	37.47
4.90	8,443	78.40	1.91	0.00	---	---	144.98	39.76	---	---	41.66
5.00	8,755	78.50	1.92	0.00	---	---	154.13	44.09	---	---	46.01
5.10	9,066	78.60	1.93	0.00	---	---	163.47	48.57	---	---	50.50
5.20	9,378	78.70	1.94	0.00	---	---	172.99	53.20	---	---	55.14
5.30	9,690	78.80	1.95	0.00	---	---	182.69	57.96	---	---	59.91
5.40	10,002	78.90	1.97	0.00	---	---	192.57	62.85	---	---	64.82
5.50	10,314	79.00	1.98	0.00	---	---	202.61	67.88	---	---	69.86

...End

Hydrograph Report

English

Hyd. No. 1

2YR-PRE

Hydrograph type	= SCS Runoff	Peak discharge	= 0.61 cfs
Storm frequency	= 2 yrs	Time interval	= 2 min
Drainage area	= 0.56 ac	Curve number	= 70
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18.6 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Total Volume = 2,038 cuft

Hydrograph Discharge Table

Time -- Outflow (min cfs)		Time -- Outflow (min cfs)		Time -- Outflow (min cfs)	
694	0.01	1014	0.02	1334	0.01
704	0.04	1024	0.02	1344	0.01
714	0.23	1034	0.02	1354	0.01
724	0.59	1044	0.02	1364	0.01
734	0.43	1054	0.02	1374	0.01
744	0.18	1064	0.02	1384	0.01
754	0.12	1074	0.02	1394	0.01
764	0.09	1084	0.02	1404	0.01
774	0.08	1094	0.02	1414	0.01
784	0.07	1104	0.02	1424	0.01
794	0.06	1114	0.02	1434	0.01
804	0.06	1124	0.02	1444	0.01
814	0.05	1134	0.02		
824	0.05	1144	0.02		
834	0.05	1154	0.02	*...End*	
844	0.04	1164	0.02		
854	0.04	1174	0.02		
864	0.04	1184	0.02		
874	0.04	1194	0.02		
884	0.04	1204	0.02		
894	0.03	1214	0.02		
904	0.03	1224	0.02		
914	0.03	1234	0.02		
924	0.03	1244	0.02		
934	0.03	1254	0.01		
944	0.03	1264	0.01		
954	0.03	1274	0.01		
964	0.03	1284	0.01		
974	0.03	1294	0.01		
984	0.03	1304	0.01		
994	0.02	1314	0.01		
1004	0.02	1324	0.01		

Hydrograph Report

English

Hyd. No. 2

10YR-PRE

Hydrograph type	= SCS Runoff	Peak discharge	= 1.70 cfs
Storm frequency	= 10 yrs	Time interval	= 2 min
Drainage area	= 0.56 ac	Curve number	= 70
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18.6 min
Total precip.	= 5.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Total Volume = 5,353 cuft

Hydrograph Discharge Table

Time (min	Outflow cfs)	Time (min	Outflow cfs)	Time (min	Outflow cfs)
630	0.02	950	0.06	1270	0.03
640	0.02	960	0.06	1280	0.03
650	0.03	970	0.06	1290	0.03
660	0.03	980	0.06	1300	0.03
670	0.04	990	0.05	1310	0.03
680	0.06	1000	0.05	1320	0.03
690	0.08	1010	0.05	1330	0.03
700	0.15	1020	0.05	1340	0.03
710	0.50	1030	0.05	1350	0.03
720	1.47	1040	0.05	1360	0.03
730	1.45	1050	0.05	1370	0.03
740	0.67	1060	0.05	1380	0.03
750	0.31	1070	0.05	1390	0.03
760	0.23	1080	0.05	1400	0.03
770	0.19	1090	0.04	1410	0.03
780	0.17	1100	0.04	1420	0.03
790	0.15	1110	0.04	1430	0.03
800	0.13	1120	0.04	1440	0.03
810	0.12	1130	0.04	1450	0.02
820	0.11	1140	0.04		
830	0.11	1150	0.04		
840	0.10	1160	0.04	*...End*	
850	0.09	1170	0.04		
860	0.09	1180	0.04		
870	0.08	1190	0.04		
880	0.08	1200	0.03		
890	0.08	1210	0.03		
900	0.08	1220	0.03		
910	0.07	1230	0.03		
920	0.07	1240	0.03		
930	0.07	1250	0.03		
940	0.07	1260	0.03		

Hydrograph Report

English

Hyd. No. 3

2YR-POST

Hydrograph type	= SCS Runoff	Peak discharge	= 2.16 cfs
Storm frequency	= 2 yrs	Time interval	= 2 min
Drainage area	= 0.71 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10 min
Total precip.	= 3.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Total Volume = 5,604 cuft

Hydrograph Discharge Table

Time (min	Outflow cfs)	Time (min	Outflow cfs)	Time (min	Outflow cfs)
584	0.02	904	0.07	1224	0.03
594	0.03	914	0.07	1234	0.03
604	0.03	924	0.06	1244	0.03
614	0.03	934	0.06	1254	0.03
624	0.04	944	0.06	1264	0.03
634	0.04	954	0.06	1274	0.03
644	0.05	964	0.05	1284	0.03
654	0.06	974	0.05	1294	0.03
664	0.07	984	0.05	1304	0.03
674	0.09	994	0.05	1314	0.03
684	0.11	1004	0.05	1324	0.03
694	0.15	1014	0.05	1334	0.03
704	0.47	1024	0.05	1344	0.03
714	1.42	1034	0.05	1354	0.03
724	1.92	1044	0.04	1364	0.03
734	0.56	1054	0.04	1374	0.03
744	0.30	1064	0.04	1384	0.03
754	0.23	1074	0.04	1394	0.03
764	0.18	1084	0.04	1404	0.03
774	0.16	1094	0.04	1414	0.03
784	0.14	1104	0.04	1424	0.03
794	0.13	1114	0.04	1434	0.03
804	0.12	1124	0.04	1444	0.02
814	0.11	1134	0.04		
824	0.10	1144	0.04		
834	0.09	1154	0.03	*...End*	
844	0.09	1164	0.03		
854	0.08	1174	0.03		
864	0.08	1184	0.03		
874	0.08	1194	0.03		
884	0.07	1204	0.03		
894	0.07	1214	0.03		

Hydrograph Report

English

Hyd. No. 4

10YR-POST

Hydrograph type	= SCS Runoff	Peak discharge	= 4.23 cfs
Storm frequency	= 10 yrs	Time interval	= 2 min
Drainage area	= 0.71 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10 min
Total precip.	= 5.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Total Volume = 11,269 cuft

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
516	0.04	836	0.16	1156	0.06
526	0.05	846	0.15	1166	0.06
536	0.05	856	0.14	1176	0.06
546	0.06	866	0.14	1186	0.06
556	0.06	876	0.14	1196	0.05
566	0.06	886	0.13	1206	0.05
576	0.07	896	0.13	1216	0.05
586	0.07	906	0.12	1226	0.05
596	0.08	916	0.12	1236	0.05
606	0.09	926	0.11	1246	0.05
616	0.10	936	0.11	1256	0.05
626	0.11	946	0.10	1266	0.05
636	0.12	956	0.10	1276	0.05
646	0.14	966	0.09	1286	0.05
656	0.16	976	0.09	1296	0.05
666	0.18	986	0.09	1306	0.05
676	0.22	996	0.09	1316	0.05
686	0.28	1006	0.09	1326	0.05
696	0.43	1016	0.08	1336	0.05
706	1.29	1026	0.08	1346	0.05
716	3.51	1036	0.08	1356	0.05
726	3.11	1046	0.08	1366	0.05
736	0.80	1056	0.08	1376	0.05
746	0.53	1066	0.08	1386	0.05
756	0.39	1076	0.07	1396	0.05
766	0.32	1086	0.07	1406	0.05
776	0.29	1096	0.07	1416	0.05
786	0.25	1106	0.07	1426	0.05
796	0.23	1116	0.07	1436	0.05
806	0.21	1126	0.07		
816	0.19	1136	0.06		
826	0.18	1146	0.06	*...End*	

Hydrograph Report

English

Hyd. No. 5

100YR-POST

Hydrograph type	= SCS Runoff	Peak discharge	= 6.22 cfs
Storm frequency	= 100 yrs	Time interval	= 2 min
Drainage area	= 0.71 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 10 min
Total precip.	= 8.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Total Volume = 16,908 cuft

Hydrograph Discharge Table

Time -- Outflow (min cfs)		Time -- Outflow (min cfs)		Time -- Outflow (min cfs)		Time -- Outflow (min cfs)	
486	0.06	806	0.30	1126	0.09		
496	0.07	816	0.27	1136	0.09		
506	0.07	826	0.25	1146	0.09	*...End*	
516	0.08	836	0.23	1156	0.09		
526	0.09	846	0.22	1166	0.08		
536	0.10	856	0.21	1176	0.08		
546	0.11	866	0.20	1186	0.08		
556	0.11	876	0.19	1196	0.08		
566	0.11	886	0.19	1206	0.08		
576	0.12	896	0.18	1216	0.07		
586	0.12	906	0.17	1226	0.07		
596	0.14	916	0.17	1236	0.07		
606	0.15	926	0.16	1246	0.07		
616	0.17	936	0.15	1256	0.07		
626	0.19	946	0.15	1266	0.07		
636	0.21	956	0.14	1276	0.07		
646	0.24	966	0.13	1286	0.07		
656	0.27	976	0.13	1296	0.07		
666	0.29	986	0.13	1306	0.07		
676	0.36	996	0.12	1316	0.07		
686	0.45	1006	0.12	1326	0.07		
696	0.67	1016	0.12	1336	0.07		
706	1.99	1026	0.12	1346	0.07		
716	5.21	1036	0.12	1356	0.07		
726	4.52	1046	0.11	1366	0.07		
736	1.15	1056	0.11	1376	0.07		
746	0.77	1066	0.11	1386	0.07		
756	0.56	1076	0.11	1396	0.07		
766	0.46	1086	0.10	1406	0.07		
776	0.41	1096	0.10	1416	0.06		
786	0.36	1106	0.10	1426	0.06		
796	0.33	1116	0.10	1436	0.06		

Hydrograph Report

English

Hyd. No. 6

2yr-route

Hydrograph type	= Reservoir	Peak discharge	= 0.24 cfs
Storm frequency	= 2 yrs	Time interval	= 2 min
Inflow hyd. No.	= 3	Reservoir name	= SEDIMENT BASIN/
Max. Elevation	= 76.01 ft	Max. Storage	= 2,690 cuft

Storage Indication method used.

Total Volume = 5,604 cuft

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
510	0.01	73.53	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00
520	0.01	73.54	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00
530	0.01	73.55	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00
540	0.01	73.56	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
550	0.02	73.56	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
560	0.02	73.57	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
570	0.02	73.58	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
580	0.02	73.59	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
590	0.02	73.60	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
600	0.03	73.61	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
610	0.03	73.62	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
620	0.04	73.63	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
630	0.04	73.65	1.20	0.03	-----	-----	-----	-----	-----	-----	0.03
640	0.05	73.66	1.21	0.03	-----	-----	-----	-----	-----	-----	0.03
650	0.06	73.69	1.21	0.03	-----	-----	-----	-----	-----	-----	0.03
660	0.07	73.71	1.22	0.04	-----	-----	-----	-----	-----	-----	0.04
670	0.08	73.74	1.22	0.04	-----	-----	-----	-----	-----	-----	0.04
680	0.10	73.79	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
690	0.13	73.86	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
700	0.29	73.99	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
710	0.91	74.29	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
720	2.16 <<	75.15	1.46	0.13	-----	-----	-----	-----	-----	-----	0.13
730	1.01	75.79	1.56	0.16	-----	-----	-----	-----	-----	-----	0.16
740	0.33	75.96	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
750	0.26	76.01	1.59	0.16	-----	-----	0.07	-----	-----	-----	0.23
760	0.19	76.00	1.59	0.16	-----	-----	0.04	-----	-----	-----	0.21
770	0.17	76.00	1.59	0.16	-----	-----	0.01	-----	-----	-----	0.17
780	0.15	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
790	0.13	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
800	0.12	75.97	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
810	0.11	75.95	1.58	0.16	-----	-----	-----	-----	-----	-----	0.16
820	0.10	75.93	1.58	0.16	-----	-----	-----	-----	-----	-----	0.16
830	0.10	75.91	1.58	0.16	-----	-----	-----	-----	-----	-----	0.16
840	0.09	75.88	1.57	0.16	-----	-----	-----	-----	-----	-----	0.16
850	0.08	75.85	1.57	0.16	-----	-----	-----	-----	-----	-----	0.16
860	0.08	75.82	1.56	0.16	-----	-----	-----	-----	-----	-----	0.16

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
870	0.08	75.78	1.56	0.16	----	----	----	----	----	----	0.16
880	0.07	75.75	1.55	0.15	----	----	----	----	----	----	0.15
890	0.07	75.72	1.55	0.15	----	----	----	----	----	----	0.15
900	0.07	75.68	1.54	0.15	----	----	----	----	----	----	0.15
910	0.07	75.65	1.54	0.15	----	----	----	----	----	----	0.15
920	0.06	75.61	1.53	0.15	----	----	----	----	----	----	0.15
930	0.06	75.58	1.53	0.15	----	----	----	----	----	----	0.15
940	0.06	75.54	1.52	0.15	----	----	----	----	----	----	0.15
950	0.06	75.50	1.52	0.15	----	----	----	----	----	----	0.15
960	0.05	75.47	1.51	0.14	----	----	----	----	----	----	0.14
970	0.05	75.43	1.51	0.14	----	----	----	----	----	----	0.14
980	0.05	75.39	1.50	0.14	----	----	----	----	----	----	0.14
990	0.05	75.35	1.49	0.14	----	----	----	----	----	----	0.14
1000	0.05	75.32	1.49	0.14	----	----	----	----	----	----	0.14
1010	0.05	75.28	1.48	0.14	----	----	----	----	----	----	0.14
1020	0.05	75.24	1.48	0.14	----	----	----	----	----	----	0.14
1030	0.05	75.21	1.47	0.13	----	----	----	----	----	----	0.13
1040	0.05	75.17	1.47	0.13	----	----	----	----	----	----	0.13
1050	0.04	75.13	1.46	0.13	----	----	----	----	----	----	0.13
1060	0.04	75.10	1.45	0.13	----	----	----	----	----	----	0.13
1070	0.04	75.06	1.45	0.13	----	----	----	----	----	----	0.13
1080	0.04	75.03	1.44	0.13	----	----	----	----	----	----	0.13
1090	0.04	74.99	1.44	0.12	----	----	----	----	----	----	0.12
1100	0.04	74.94	1.43	0.12	----	----	----	----	----	----	0.12
1110	0.04	74.88	1.42	0.12	----	----	----	----	----	----	0.12
1120	0.04	74.83	1.41	0.12	----	----	----	----	----	----	0.12
1130	0.04	74.78	1.40	0.11	----	----	----	----	----	----	0.11
1140	0.04	74.73	1.40	0.11	----	----	----	----	----	----	0.11
1150	0.04	74.68	1.39	0.11	----	----	----	----	----	----	0.11
1160	0.03	74.64	1.38	0.11	----	----	----	----	----	----	0.11
1170	0.03	74.59	1.37	0.11	----	----	----	----	----	----	0.11
1180	0.03	74.54	1.36	0.10	----	----	----	----	----	----	0.10
1190	0.03	74.50	1.36	0.10	----	----	----	----	----	----	0.10
1200	0.03	74.46	1.35	0.10	----	----	----	----	----	----	0.10
1210	0.03	74.41	1.34	0.10	----	----	----	----	----	----	0.10
1220	0.03	74.37	1.34	0.09	----	----	----	----	----	----	0.09
1230	0.03	74.33	1.33	0.09	----	----	----	----	----	----	0.09
1240	0.03	74.29	1.32	0.09	----	----	----	----	----	----	0.09
1250	0.03	74.26	1.32	0.09	----	----	----	----	----	----	0.09
1260	0.03	74.22	1.31	0.08	----	----	----	----	----	----	0.08
1270	0.03	74.19	1.30	0.08	----	----	----	----	----	----	0.08
1280	0.03	74.15	1.30	0.08	----	----	----	----	----	----	0.08
1290	0.03	74.12	1.29	0.08	----	----	----	----	----	----	0.08
1300	0.03	74.09	1.29	0.07	----	----	----	----	----	----	0.07
1310	0.03	74.06	1.28	0.07	----	----	----	----	----	----	0.07
1320	0.03	74.03	1.28	0.07	----	----	----	----	----	----	0.07
1330	0.03	74.01	1.27	0.07	----	----	----	----	----	----	0.07
1340	0.03	73.97	1.26	0.07	----	----	----	----	----	----	0.07
1350	0.03	73.93	1.26	0.06	----	----	----	----	----	----	0.06

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1360	0.03	73.90	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
1370	0.03	73.87	1.24	0.06	-----	-----	-----	-----	-----	-----	0.06
1380	0.03	73.84	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
1390	0.03	73.81	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
1400	0.03	73.79	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
1410	0.03	73.77	1.23	0.04	-----	-----	-----	-----	-----	-----	0.04
1420	0.03	73.75	1.22	0.04	-----	-----	-----	-----	-----	-----	0.04
1430	0.03	73.73	1.22	0.04	-----	-----	-----	-----	-----	-----	0.04
1440	0.03	73.72	1.22	0.04	-----	-----	-----	-----	-----	-----	0.04
1450	0.01	73.70	1.21	0.04	-----	-----	-----	-----	-----	-----	0.04
1460	0.00	73.67	1.21	0.03	-----	-----	-----	-----	-----	-----	0.03
1470	0.00	73.64	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
1480	0.00	73.62	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
1490	0.00	73.60	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
1500	0.00	73.58	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
1510	0.00	73.57	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
1520	0.00	73.56	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
1530	0.00	73.56	1.19	0.01	-----	-----	-----	-----	-----	-----	0.01
1540	0.00	73.55	1.19	0.00	-----	-----	-----	-----	-----	-----	0.00
1550	0.00	73.55	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00
1560	0.00	73.54	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00
1570	0.00	73.54	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00
1580	0.00	73.54	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00
1590	0.00	73.53	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00
1600	0.00	73.53	1.18	0.00	-----	-----	-----	-----	-----	-----	0.00

...End

Hydrograph Report

English

Hyd. No. 7

10yr-route

Hydrograph type	= Reservoir	Peak discharge	= 1.69 cfs
Storm frequency	= 10 yrs	Time interval	= 2 min
Inflow hyd. No.	= 4	Reservoir name	= SEDIMENT BASIN/
Max. Elevation	= 76.73 ft	Max. Storage	= 4,117 cuft

Storage Indication method used.

Total Volume = 11,269 cuft

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
450	0.02	73.61	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
460	0.03	73.62	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
470	0.03	73.62	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
480	0.03	73.63	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
490	0.03	73.64	1.20	0.02	-----	-----	-----	-----	-----	-----	0.02
500	0.04	73.65	1.20	0.03	-----	-----	-----	-----	-----	-----	0.03
510	0.04	73.66	1.21	0.03	-----	-----	-----	-----	-----	-----	0.03
520	0.04	73.67	1.21	0.03	-----	-----	-----	-----	-----	-----	0.03
530	0.05	73.69	1.21	0.03	-----	-----	-----	-----	-----	-----	0.03
540	0.05	73.70	1.21	0.04	-----	-----	-----	-----	-----	-----	0.04
550	0.06	73.72	1.22	0.04	-----	-----	-----	-----	-----	-----	0.04
560	0.06	73.74	1.22	0.04	-----	-----	-----	-----	-----	-----	0.04
570	0.06	73.76	1.23	0.04	-----	-----	-----	-----	-----	-----	0.04
580	0.07	73.78	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
590	0.07	73.81	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
600	0.08	73.84	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
610	0.09	73.87	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
620	0.10	73.91	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
630	0.12	73.96	1.26	0.06	-----	-----	-----	-----	-----	-----	0.06
640	0.13	74.01	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
650	0.15	74.06	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
660	0.17	74.11	1.29	0.08	-----	-----	-----	-----	-----	-----	0.08
670	0.19	74.17	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
680	0.25	74.26	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
690	0.31	74.38	1.34	0.09	-----	-----	-----	-----	-----	-----	0.09
700	0.67	74.59	1.37	0.11	-----	-----	-----	-----	-----	-----	0.11
710	1.94	75.19	1.47	0.13	-----	-----	-----	-----	-----	-----	0.13
720	4.23 <<	76.23	1.62	0.09	-----	-----	4.44	-----	-----	-----	1.62
730	1.91	76.73 <<	1.69	-----	-----	-----	24.19	-----	-----	-----	1.69 <<
740	0.62	76.53	1.67	-----	-----	-----	15.21	-----	-----	-----	1.67
750	0.48	76.20	1.62	0.13	-----	-----	3.51	-----	-----	-----	1.62
760	0.36	76.02	1.59	0.16	-----	-----	0.29	-----	-----	-----	0.45
770	0.31	76.01	1.59	0.16	-----	-----	0.15	-----	-----	-----	0.32
780	0.27	76.01	1.59	0.16	-----	-----	0.12	-----	-----	-----	0.28
790	0.24	76.01	1.59	0.16	-----	-----	0.09	-----	-----	-----	0.25
800	0.22	76.01	1.59	0.16	-----	-----	0.06	-----	-----	-----	0.23

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
810	0.20	76.00	1.59	0.16	----	----	0.04	----	----	----	0.21
820	0.19	76.00	1.59	0.16	----	----	0.03	----	----	----	0.19
830	0.17	76.00	1.59	0.16	----	----	0.01	----	----	----	0.18
840	0.16	76.00	1.59	0.16	----	----	----	----	----	----	0.16
850	0.15	76.00	1.59	0.16	----	----	----	----	----	----	0.16
860	0.14	75.99	1.59	0.16	----	----	----	----	----	----	0.16
870	0.14	75.98	1.59	0.16	----	----	----	----	----	----	0.16
880	0.13	75.97	1.59	0.16	----	----	----	----	----	----	0.16
890	0.13	75.96	1.58	0.16	----	----	----	----	----	----	0.16
900	0.12	75.94	1.58	0.16	----	----	----	----	----	----	0.16
910	0.12	75.93	1.58	0.16	----	----	----	----	----	----	0.16
920	0.12	75.91	1.58	0.16	----	----	----	----	----	----	0.16
930	0.11	75.89	1.57	0.16	----	----	----	----	----	----	0.16
940	0.11	75.87	1.57	0.16	----	----	----	----	----	----	0.16
950	0.10	75.84	1.57	0.16	----	----	----	----	----	----	0.16
960	0.10	75.82	1.57	0.16	----	----	----	----	----	----	0.16
970	0.09	75.79	1.56	0.16	----	----	----	----	----	----	0.16
980	0.09	75.77	1.56	0.16	----	----	----	----	----	----	0.16
990	0.09	75.74	1.55	0.15	----	----	----	----	----	----	0.15
1000	0.09	75.71	1.55	0.15	----	----	----	----	----	----	0.15
1010	0.09	75.69	1.55	0.15	----	----	----	----	----	----	0.15
1020	0.08	75.66	1.54	0.15	----	----	----	----	----	----	0.15
1030	0.08	75.63	1.54	0.15	----	----	----	----	----	----	0.15
1040	0.08	75.60	1.53	0.15	----	----	----	----	----	----	0.15
1050	0.08	75.57	1.53	0.15	----	----	----	----	----	----	0.15
1060	0.08	75.55	1.52	0.15	----	----	----	----	----	----	0.15
1070	0.08	75.52	1.52	0.15	----	----	----	----	----	----	0.15
1080	0.07	75.49	1.52	0.14	----	----	----	----	----	----	0.14
1090	0.07	75.46	1.51	0.14	----	----	----	----	----	----	0.14
1100	0.07	75.43	1.51	0.14	----	----	----	----	----	----	0.14
1110	0.07	75.40	1.50	0.14	----	----	----	----	----	----	0.14
1120	0.07	75.37	1.50	0.14	----	----	----	----	----	----	0.14
1130	0.07	75.34	1.49	0.14	----	----	----	----	----	----	0.14
1140	0.06	75.31	1.49	0.14	----	----	----	----	----	----	0.14
1150	0.06	75.28	1.48	0.14	----	----	----	----	----	----	0.14
1160	0.06	75.25	1.48	0.14	----	----	----	----	----	----	0.14
1170	0.06	75.22	1.47	0.13	----	----	----	----	----	----	0.13
1180	0.06	75.18	1.47	0.13	----	----	----	----	----	----	0.13
1190	0.06	75.15	1.46	0.13	----	----	----	----	----	----	0.13
1200	0.05	75.12	1.46	0.13	----	----	----	----	----	----	0.13
1210	0.05	75.09	1.45	0.13	----	----	----	----	----	----	0.13
1220	0.05	75.06	1.45	0.13	----	----	----	----	----	----	0.13
1230	0.05	75.03	1.44	0.13	----	----	----	----	----	----	0.13
1240	0.05	75.00	1.44	0.12	----	----	----	----	----	----	0.12
1250	0.05	74.95	1.43	0.12	----	----	----	----	----	----	0.12
1260	0.05	74.91	1.42	0.12	----	----	----	----	----	----	0.12
1270	0.05	74.86	1.42	0.12	----	----	----	----	----	----	0.12
1280	0.05	74.82	1.41	0.12	----	----	----	----	----	----	0.12
1290	0.05	74.78	1.40	0.11	----	----	----	----	----	----	0.11

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1300	0.05	74.74	1.40	0.11	----	----	----	----	----	----	0.11
1310	0.05	74.70	1.39	0.11	----	----	----	----	----	----	0.11
1320	0.05	74.66	1.38	0.11	----	----	----	----	----	----	0.11
1330	0.05	74.62	1.38	0.11	----	----	----	----	----	----	0.11
1340	0.05	74.58	1.37	0.11	----	----	----	----	----	----	0.11
1350	0.05	74.55	1.37	0.10	----	----	----	----	----	----	0.10
1360	0.05	74.51	1.36	0.10	----	----	----	----	----	----	0.10
1370	0.05	74.48	1.35	0.10	----	----	----	----	----	----	0.10
1380	0.05	74.45	1.35	0.10	----	----	----	----	----	----	0.10
1390	0.05	74.42	1.34	0.10	----	----	----	----	----	----	0.10
1400	0.05	74.39	1.34	0.09	----	----	----	----	----	----	0.09
1410	0.05	74.36	1.33	0.09	----	----	----	----	----	----	0.09
1420	0.05	74.33	1.33	0.09	----	----	----	----	----	----	0.09
1430	0.05	74.30	1.32	0.09	----	----	----	----	----	----	0.09
1440	0.05	74.27	1.32	0.09	----	----	----	----	----	----	0.09
1450	0.02	74.24	1.31	0.08	----	----	----	----	----	----	0.08
1460	0.00	74.19	1.30	0.08	----	----	----	----	----	----	0.08
1470	0.00	74.14	1.29	0.08	----	----	----	----	----	----	0.08
1480	0.00	74.09	1.29	0.07	----	----	----	----	----	----	0.07
1490	0.00	74.04	1.28	0.07	----	----	----	----	----	----	0.07
1500	0.00	74.00	1.27	0.07	----	----	----	----	----	----	0.07
1510	0.00	73.93	1.26	0.06	----	----	----	----	----	----	0.06
1520	0.00	73.87	1.25	0.06	----	----	----	----	----	----	0.06
1530	0.00	73.81	1.24	0.05	----	----	----	----	----	----	0.05
1540	0.00	73.76	1.23	0.04	----	----	----	----	----	----	0.04
1550	0.00	73.72	1.22	0.04	----	----	----	----	----	----	0.04
1560	0.00	73.68	1.21	0.03	----	----	----	----	----	----	0.03
1570	0.00	73.65	1.20	0.03	----	----	----	----	----	----	0.03
1580	0.00	73.63	1.20	0.02	----	----	----	----	----	----	0.02

...End

Hydrograph Report

English

Hyd. No. 8

100yr-route

Hydrograph type	= Reservoir		Peak discharge	= 4.78 cfs
Storm frequency	= 100 yrs		Time interval	= 2 min
Inflow hyd. No.	= 5		Reservoir name	= SEDIMENT BASIN/
Max. Elevation	= 77.25 ft	OHW	Max. Storage	= 5,288 cuft

Storage indication method used.

Total Volume = 16,908 cuft

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
494	0.07	73.79	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
496	0.07	73.80	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
498	0.07	73.80	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
500	0.07	73.80	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
502	0.07	73.81	1.23	0.05	-----	-----	-----	-----	-----	-----	0.05
504	0.07	73.81	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
506	0.07	73.82	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
508	0.08	73.82	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
510	0.08	73.83	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
512	0.08	73.83	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
514	0.08	73.84	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
516	0.08	73.85	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
518	0.08	73.85	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
520	0.08	73.86	1.24	0.05	-----	-----	-----	-----	-----	-----	0.05
522	0.09	73.86	1.24	0.06	-----	-----	-----	-----	-----	-----	0.06
524	0.09	73.87	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
526	0.09	73.88	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
528	0.09	73.88	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
530	0.09	73.89	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
532	0.09	73.90	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
534	0.10	73.91	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
536	0.10	73.91	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
538	0.10	73.92	1.25	0.06	-----	-----	-----	-----	-----	-----	0.06
540	0.10	73.93	1.26	0.06	-----	-----	-----	-----	-----	-----	0.06
542	0.10	73.94	1.26	0.06	-----	-----	-----	-----	-----	-----	0.06
544	0.10	73.95	1.26	0.06	-----	-----	-----	-----	-----	-----	0.06
546	0.11	73.95	1.26	0.06	-----	-----	-----	-----	-----	-----	0.06
548	0.11	73.96	1.26	0.06	-----	-----	-----	-----	-----	-----	0.06
550	0.11	73.97	1.26	0.07	-----	-----	-----	-----	-----	-----	0.07
552	0.11	73.98	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
554	0.11	73.99	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
556	0.11	74.00	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
558	0.11	74.00	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
560	0.11	74.01	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
562	0.11	74.01	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
564	0.11	74.02	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
566	0.11	74.03	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
568	0.11	74.03	1.27	0.07	-----	-----	-----	-----	-----	-----	0.07
570	0.11	74.04	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
572	0.11	74.04	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
574	0.11	74.05	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
576	0.12	74.05	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
578	0.12	74.06	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
580	0.12	74.06	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
582	0.12	74.07	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
584	0.12	74.08	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
586	0.12	74.08	1.28	0.07	-----	-----	-----	-----	-----	-----	0.07
588	0.13	74.09	1.29	0.07	-----	-----	-----	-----	-----	-----	0.07
590	0.13	74.10	1.29	0.08	-----	-----	-----	-----	-----	-----	0.08
592	0.13	74.10	1.29	0.08	-----	-----	-----	-----	-----	-----	0.08
594	0.13	74.11	1.29	0.08	-----	-----	-----	-----	-----	-----	0.08
596	0.14	74.12	1.29	0.08	-----	-----	-----	-----	-----	-----	0.08
598	0.14	74.13	1.29	0.08	-----	-----	-----	-----	-----	-----	0.08
600	0.14	74.13	1.29	0.08	-----	-----	-----	-----	-----	-----	0.08
602	0.14	74.14	1.29	0.08	-----	-----	-----	-----	-----	-----	0.08
604	0.15	74.15	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
606	0.15	74.16	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
608	0.15	74.17	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
610	0.16	74.18	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
612	0.16	74.19	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
614	0.16	74.20	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
616	0.17	74.21	1.31	0.08	-----	-----	-----	-----	-----	-----	0.08
618	0.17	74.22	1.31	0.08	-----	-----	-----	-----	-----	-----	0.08
620	0.18	74.23	1.31	0.08	-----	-----	-----	-----	-----	-----	0.08
622	0.18	74.24	1.31	0.09	-----	-----	-----	-----	-----	-----	0.09
624	0.18	74.26	1.31	0.09	-----	-----	-----	-----	-----	-----	0.09
626	0.19	74.27	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
628	0.19	74.28	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
630	0.20	74.29	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
632	0.20	74.31	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
634	0.20	74.32	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
636	0.21	74.34	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
638	0.21	74.35	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
640	0.22	74.37	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
642	0.22	74.38	1.34	0.09	-----	-----	-----	-----	-----	-----	0.09
644	0.23	74.40	1.34	0.09	-----	-----	-----	-----	-----	-----	0.09
646	0.24	74.42	1.34	0.10	-----	-----	-----	-----	-----	-----	0.10
648	0.24	74.44	1.35	0.10	-----	-----	-----	-----	-----	-----	0.10
650	0.25	74.46	1.35	0.10	-----	-----	-----	-----	-----	-----	0.10
652	0.26	74.48	1.35	0.10	-----	-----	-----	-----	-----	-----	0.10
654	0.26	74.50	1.36	0.10	-----	-----	-----	-----	-----	-----	0.10
656	0.27	74.52	1.36	0.10	-----	-----	-----	-----	-----	-----	0.10
658	0.28	74.54	1.36	0.10	-----	-----	-----	-----	-----	-----	0.10
660	0.28	74.56	1.37	0.10	-----	-----	-----	-----	-----	-----	0.10
662	0.28	74.58	1.37	0.11	-----	-----	-----	-----	-----	-----	0.11

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
664	0.29	74.61	1.38	0.11	----	----	----	----	----	----	0.11
666	0.29	74.63	1.38	0.11	----	----	----	----	----	----	0.11
668	0.29	74.65	1.38	0.11	----	----	----	----	----	----	0.11
670	0.31	74.68	1.39	0.11	----	----	----	----	----	----	0.11
672	0.32	74.70	1.39	0.11	----	----	----	----	----	----	0.11
674	0.34	74.73	1.40	0.11	----	----	----	----	----	----	0.11
676	0.36	74.76	1.40	0.11	----	----	----	----	----	----	0.11
678	0.38	74.80	1.41	0.12	----	----	----	----	----	----	0.12
680	0.40	74.83	1.41	0.12	----	----	----	----	----	----	0.12
682	0.42	74.87	1.42	0.12	----	----	----	----	----	----	0.12
684	0.43	74.91	1.42	0.12	----	----	----	----	----	----	0.12
686	0.45	74.95	1.43	0.12	----	----	----	----	----	----	0.12
688	0.47	74.99	1.44	0.12	----	----	----	----	----	----	0.12
690	0.49	75.02	1.44	0.13	----	----	----	----	----	----	0.13
692	0.52	75.05	1.45	0.13	----	----	----	----	----	----	0.13
694	0.57	75.09	1.45	0.13	----	----	----	----	----	----	0.13
696	0.67	75.13	1.46	0.13	----	----	----	----	----	----	0.13
698	0.83	75.18	1.47	0.13	----	----	----	----	----	----	0.13
700	1.04	75.25	1.48	0.14	----	----	----	----	----	----	0.14
702	1.31	75.33	1.49	0.14	----	----	----	----	----	----	0.14
704	1.63	75.44	1.51	0.14	----	----	----	----	----	----	0.14
706	1.99	75.58	1.53	0.15	----	----	----	----	----	----	0.15
708	2.42	75.75	1.55	0.15	----	----	----	----	----	----	0.15
710	2.94	75.96	1.59	0.16	----	----	----	----	----	----	0.16
712	3.58	76.12	1.61	0.16	----	----	1.66	----	----	----	1.44
714	4.37	76.27	1.63	0.04	----	----	5.44	----	----	----	1.63
716	5.21	76.46	1.66	----	----	----	12.14	----	----	----	1.66
718	5.90	76.69	1.69	----	----	----	22.52	----	----	----	1.69
720	6.22 <<	76.96	1.72	----	----	----	36.55	----	----	----	1.72
722	6.04	77.14	1.75	----	----	----	47.65	1.35	----	----	3.10
724	5.40	77.23	1.76	----	----	----	53.44	2.75	----	----	4.51
726	4.52	77.25 <<	1.76	----	----	----	54.43	3.02	----	----	4.78 <<
728	3.60	77.22	1.76	----	----	----	52.87	2.59	----	----	4.35
730	2.77	77.19	1.75	----	----	----	50.33	1.94	----	----	3.70
732	2.06	77.14	1.75	----	----	----	47.48	1.31	----	----	3.06
734	1.51	77.09	1.74	----	----	----	44.62	0.71	----	----	2.46
736	1.15	77.05	1.74	----	----	----	41.93	0.37	----	----	2.11
738	0.97	77.01	1.73	----	----	----	39.42	0.05	----	----	1.78
740	0.89	76.96	1.72	----	----	----	36.66	----	----	----	1.72
742	0.85	76.91	1.72	----	----	----	33.73	----	----	----	1.72
744	0.81	76.85	1.71	----	----	----	30.81	----	----	----	1.71
746	0.77	76.80	1.70	----	----	----	27.81	----	----	----	1.70
748	0.72	76.74	1.69	----	----	----	24.88	----	----	----	1.69
750	0.68	76.68	1.69	----	----	----	21.91	----	----	----	1.69
752	0.64	76.62	1.68	----	----	----	18.99	----	----	----	1.68
754	0.60	76.55	1.67	----	----	----	16.15	----	----	----	1.67
756	0.56	76.49	1.66	----	----	----	13.35	----	----	----	1.66
758	0.53	76.42	1.65	----	----	----	10.72	----	----	----	1.65
760	0.51	76.35	1.64	----	----	----	8.26	----	----	----	1.64

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
762	0.49	76.28	1.63	0.02	----	----	5.96	----	----	----	1.63
764	0.47	76.22	1.62	0.11	----	----	3.93	----	----	----	1.62
766	0.46	76.15	1.61	0.15	----	----	2.33	----	----	----	1.51
768	0.45	76.09	1.60	0.17	----	----	1.12	----	----	----	1.29
770	0.44	76.05	1.60	0.17	----	----	0.66	----	----	----	0.83
772	0.43	76.04	1.60	0.16	----	----	0.45	----	----	----	0.61
774	0.42	76.03	1.60	0.16	----	----	0.34	----	----	----	0.51
776	0.41	76.02	1.59	0.16	----	----	0.29	----	----	----	0.46
778	0.40	76.02	1.59	0.16	----	----	0.26	----	----	----	0.43
780	0.39	76.02	1.59	0.16	----	----	0.24	----	----	----	0.41
782	0.38	76.02	1.59	0.16	----	----	0.23	----	----	----	0.40
784	0.37	76.02	1.59	0.16	----	----	0.22	----	----	----	0.38
786	0.36	76.02	1.59	0.16	----	----	0.21	----	----	----	0.37
788	0.35	76.02	1.59	0.16	----	----	0.20	----	----	----	0.36
790	0.35	76.02	1.59	0.16	----	----	0.19	----	----	----	0.36
792	0.34	76.01	1.59	0.16	----	----	0.18	----	----	----	0.35
794	0.33	76.01	1.59	0.16	----	----	0.18	----	----	----	0.34
796	0.33	76.01	1.59	0.16	----	----	0.17	----	----	----	0.34
798	0.32	76.01	1.59	0.16	----	----	0.17	----	----	----	0.33
800	0.32	76.01	1.59	0.16	----	----	0.16	----	----	----	0.32
802	0.31	76.01	1.59	0.16	----	----	0.15	----	----	----	0.32
804	0.31	76.01	1.59	0.16	----	----	0.15	----	----	----	0.31
806	0.30	76.01	1.59	0.16	----	----	0.14	----	----	----	0.31
808	0.30	76.01	1.59	0.16	----	----	0.14	----	----	----	0.30
810	0.29	76.01	1.59	0.16	----	----	0.13	----	----	----	0.30
812	0.28	76.01	1.59	0.16	----	----	0.13	----	----	----	0.29
814	0.28	76.01	1.59	0.16	----	----	0.12	----	----	----	0.29
816	0.27	76.01	1.59	0.16	----	----	0.12	----	----	----	0.28
818	0.27	76.01	1.59	0.16	----	----	0.11	----	----	----	0.28
820	0.27	76.01	1.59	0.16	----	----	0.11	----	----	----	0.27
822	0.26	76.01	1.59	0.16	----	----	0.10	----	----	----	0.27
824	0.26	76.01	1.59	0.16	----	----	0.10	----	----	----	0.26
826	0.25	76.01	1.59	0.16	----	----	0.10	----	----	----	0.26
828	0.25	76.01	1.59	0.16	----	----	0.09	----	----	----	0.25
830	0.25	76.01	1.59	0.16	----	----	0.09	----	----	----	0.25
832	0.24	76.01	1.59	0.16	----	----	0.08	----	----	----	0.25
834	0.24	76.01	1.59	0.16	----	----	0.08	----	----	----	0.24
836	0.23	76.01	1.59	0.16	----	----	0.08	----	----	----	0.24
838	0.23	76.01	1.59	0.16	----	----	0.07	----	----	----	0.24
840	0.23	76.01	1.59	0.16	----	----	0.07	----	----	----	0.23
842	0.22	76.01	1.59	0.16	----	----	0.06	----	----	----	0.23
844	0.22	76.00	1.59	0.16	----	----	0.06	----	----	----	0.22
846	0.22	76.00	1.59	0.16	----	----	0.06	----	----	----	0.22
848	0.21	76.00	1.59	0.16	----	----	0.05	----	----	----	0.22
850	0.21	76.00	1.59	0.16	----	----	0.05	----	----	----	0.21
852	0.21	76.00	1.59	0.16	----	----	0.05	----	----	----	0.21
854	0.21	76.00	1.59	0.16	----	----	0.05	----	----	----	0.21
856	0.21	76.00	1.59	0.16	----	----	0.04	----	----	----	0.21
858	0.20	76.00	1.59	0.16	----	----	0.04	----	----	----	0.21

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
860	0.20	76.00	1.59	0.16	-----	-----	0.04	-----	-----	-----	0.20
862	0.20	76.00	1.59	0.16	-----	-----	0.04	-----	-----	-----	0.20
864	0.20	76.00	1.59	0.16	-----	-----	0.04	-----	-----	-----	0.20
866	0.20	76.00	1.59	0.16	-----	-----	0.04	-----	-----	-----	0.20
868	0.20	76.00	1.59	0.16	-----	-----	0.04	-----	-----	-----	0.20
870	0.20	76.00	1.59	0.16	-----	-----	0.03	-----	-----	-----	0.20
872	0.20	76.00	1.59	0.16	-----	-----	0.03	-----	-----	-----	0.20
874	0.19	76.00	1.59	0.16	-----	-----	0.03	-----	-----	-----	0.20
876	0.19	76.00	1.59	0.16	-----	-----	0.03	-----	-----	-----	0.19
878	0.19	76.00	1.59	0.16	-----	-----	0.03	-----	-----	-----	0.19
880	0.19	76.00	1.59	0.16	-----	-----	0.03	-----	-----	-----	0.19
882	0.19	76.00	1.59	0.16	-----	-----	0.03	-----	-----	-----	0.19
884	0.19	76.00	1.59	0.16	-----	-----	0.03	-----	-----	-----	0.19
886	0.19	76.00	1.59	0.16	-----	-----	0.02	-----	-----	-----	0.19
888	0.18	76.00	1.59	0.16	-----	-----	0.02	-----	-----	-----	0.19
890	0.18	76.00	1.59	0.16	-----	-----	0.02	-----	-----	-----	0.19
892	0.18	76.00	1.59	0.16	-----	-----	0.02	-----	-----	-----	0.18
894	0.18	76.00	1.59	0.16	-----	-----	0.02	-----	-----	-----	0.18
896	0.18	76.00	1.59	0.16	-----	-----	0.02	-----	-----	-----	0.18
898	0.18	76.00	1.59	0.16	-----	-----	0.02	-----	-----	-----	0.18
900	0.18	76.00	1.59	0.16	-----	-----	0.02	-----	-----	-----	0.18
902	0.18	76.00	1.59	0.16	-----	-----	0.01	-----	-----	-----	0.18
904	0.17	76.00	1.59	0.16	-----	-----	0.01	-----	-----	-----	0.18
906	0.17	76.00	1.59	0.16	-----	-----	0.01	-----	-----	-----	0.17
908	0.17	76.00	1.59	0.16	-----	-----	0.01	-----	-----	-----	0.17
910	0.17	76.00	1.59	0.16	-----	-----	0.01	-----	-----	-----	0.17
912	0.17	76.00	1.59	0.16	-----	-----	0.01	-----	-----	-----	0.17
914	0.17	76.00	1.59	0.16	-----	-----	0.01	-----	-----	-----	0.17
916	0.17	76.00	1.59	0.16	-----	-----	0.00	-----	-----	-----	0.17
918	0.16	76.00	1.59	0.16	-----	-----	0.00	-----	-----	-----	0.17
920	0.16	76.00	1.59	0.16	-----	-----	0.00	-----	-----	-----	0.17
922	0.16	76.00	1.59	0.16	-----	-----	0.00	-----	-----	-----	0.16
924	0.16	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
926	0.16	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
928	0.16	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
930	0.16	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
932	0.16	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
934	0.15	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
936	0.15	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
938	0.15	76.00	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
940	0.15	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
942	0.15	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
944	0.15	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
946	0.15	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
948	0.15	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
950	0.14	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
952	0.14	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
954	0.14	75.99	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16
956	0.14	75.98	1.59	0.16	-----	-----	-----	-----	-----	-----	0.16

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
958	0.14	75.98	1.59	0.16	----	----	----	----	----	----	0.16
960	0.14	75.98	1.59	0.16	----	----	----	----	----	----	0.16
962	0.14	75.98	1.59	0.16	----	----	----	----	----	----	0.16
964	0.13	75.97	1.59	0.16	----	----	----	----	----	----	0.16
966	0.13	75.97	1.59	0.16	----	----	----	----	----	----	0.16
968	0.13	75.97	1.59	0.16	----	----	----	----	----	----	0.16
970	0.13	75.97	1.59	0.16	----	----	----	----	----	----	0.16
972	0.13	75.97	1.59	0.16	----	----	----	----	----	----	0.16
974	0.13	75.96	1.59	0.16	----	----	----	----	----	----	0.16
976	0.13	75.96	1.59	0.16	----	----	----	----	----	----	0.16
978	0.13	75.96	1.59	0.16	----	----	----	----	----	----	0.16
980	0.13	75.95	1.58	0.16	----	----	----	----	----	----	0.16
982	0.13	75.95	1.58	0.16	----	----	----	----	----	----	0.16
984	0.13	75.95	1.58	0.16	----	----	----	----	----	----	0.16
986	0.13	75.95	1.58	0.16	----	----	----	----	----	----	0.16
988	0.13	75.94	1.58	0.16	----	----	----	----	----	----	0.16
990	0.13	75.94	1.58	0.16	----	----	----	----	----	----	0.16
992	0.13	75.94	1.58	0.16	----	----	----	----	----	----	0.16
994	0.13	75.93	1.58	0.16	----	----	----	----	----	----	0.16
996	0.12	75.93	1.58	0.16	----	----	----	----	----	----	0.16
998	0.12	75.93	1.58	0.16	----	----	----	----	----	----	0.16
1000	0.12	75.93	1.58	0.16	----	----	----	----	----	----	0.16
1002	0.12	75.92	1.58	0.16	----	----	----	----	----	----	0.16
1004	0.12	75.92	1.58	0.16	----	----	----	----	----	----	0.16
1006	0.12	75.92	1.58	0.16	----	----	----	----	----	----	0.16
1008	0.12	75.91	1.58	0.16	----	----	----	----	----	----	0.16
1010	0.12	75.91	1.58	0.16	----	----	----	----	----	----	0.16
1012	0.12	75.91	1.58	0.16	----	----	----	----	----	----	0.16
1014	0.12	75.90	1.58	0.16	----	----	----	----	----	----	0.16
1016	0.12	75.90	1.58	0.16	----	----	----	----	----	----	0.16
1018	0.12	75.90	1.58	0.16	----	----	----	----	----	----	0.16
1020	0.12	75.89	1.58	0.16	----	----	----	----	----	----	0.16
1022	0.12	75.89	1.58	0.16	----	----	----	----	----	----	0.16
1024	0.12	75.89	1.57	0.16	----	----	----	----	----	----	0.16
1026	0.12	75.88	1.57	0.16	----	----	----	----	----	----	0.16
1028	0.12	75.88	1.57	0.16	----	----	----	----	----	----	0.16
1030	0.12	75.88	1.57	0.16	----	----	----	----	----	----	0.16
1032	0.12	75.87	1.57	0.16	----	----	----	----	----	----	0.16
1034	0.12	75.87	1.57	0.16	----	----	----	----	----	----	0.16
1036	0.12	75.87	1.57	0.16	----	----	----	----	----	----	0.16
1038	0.12	75.86	1.57	0.16	----	----	----	----	----	----	0.16
1040	0.11	75.86	1.57	0.16	----	----	----	----	----	----	0.16
1042	0.11	75.86	1.57	0.16	----	----	----	----	----	----	0.16
1044	0.11	75.85	1.57	0.16	----	----	----	----	----	----	0.16
1046	0.11	75.85	1.57	0.16	----	----	----	----	----	----	0.16
1048	0.11	75.84	1.57	0.16	----	----	----	----	----	----	0.16
1050	0.11	75.84	1.57	0.16	----	----	----	----	----	----	0.16
1052	0.11	75.84	1.57	0.16	----	----	----	----	----	----	0.16
1054	0.11	75.83	1.57	0.16	----	----	----	----	----	----	0.16

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1056	0.11	75.83	1.57	0.16	----	----	----	----	----	----	0.16
1058	0.11	75.82	1.57	0.16	----	----	----	----	----	----	0.16
1060	0.11	75.82	1.57	0.16	----	----	----	----	----	----	0.16
1062	0.11	75.82	1.56	0.16	----	----	----	----	----	----	0.16
1064	0.11	75.81	1.56	0.16	----	----	----	----	----	----	0.16
1066	0.11	75.81	1.56	0.16	----	----	----	----	----	----	0.16
1068	0.11	75.81	1.56	0.16	----	----	----	----	----	----	0.16
1070	0.11	75.80	1.56	0.16	----	----	----	----	----	----	0.16
1072	0.11	75.80	1.56	0.16	----	----	----	----	----	----	0.16
1074	0.11	75.79	1.56	0.16	----	----	----	----	----	----	0.16
1076	0.11	75.79	1.56	0.16	----	----	----	----	----	----	0.16
1078	0.11	75.78	1.56	0.16	----	----	----	----	----	----	0.16
1080	0.11	75.78	1.56	0.16	----	----	----	----	----	----	0.16
1082	0.10	75.78	1.56	0.16	----	----	----	----	----	----	0.16
1084	0.10	75.77	1.56	0.16	----	----	----	----	----	----	0.16
1086	0.10	75.77	1.56	0.16	----	----	----	----	----	----	0.16
1088	0.10	75.76	1.56	0.16	----	----	----	----	----	----	0.16
1090	0.10	75.76	1.56	0.15	----	----	----	----	----	----	0.15
1092	0.10	75.75	1.56	0.15	----	----	----	----	----	----	0.15
1094	0.10	75.75	1.55	0.15	----	----	----	----	----	----	0.15
1096	0.10	75.75	1.55	0.15	----	----	----	----	----	----	0.15
1098	0.10	75.74	1.55	0.15	----	----	----	----	----	----	0.15
1100	0.10	75.74	1.55	0.15	----	----	----	----	----	----	0.15
1102	0.10	75.73	1.55	0.15	----	----	----	----	----	----	0.15
1104	0.10	75.73	1.55	0.15	----	----	----	----	----	----	0.15
1106	0.10	75.72	1.55	0.15	----	----	----	----	----	----	0.15
1108	0.10	75.72	1.55	0.15	----	----	----	----	----	----	0.15
1110	0.10	75.71	1.55	0.15	----	----	----	----	----	----	0.15
1112	0.10	75.71	1.55	0.15	----	----	----	----	----	----	0.15
1114	0.10	75.71	1.55	0.15	----	----	----	----	----	----	0.15
1116	0.10	75.70	1.55	0.15	----	----	----	----	----	----	0.15
1118	0.10	75.70	1.55	0.15	----	----	----	----	----	----	0.15
1120	0.10	75.69	1.55	0.15	----	----	----	----	----	----	0.15
1122	0.10	75.69	1.55	0.15	----	----	----	----	----	----	0.15
1124	0.09	75.68	1.54	0.15	----	----	----	----	----	----	0.15
1126	0.09	75.68	1.54	0.15	----	----	----	----	----	----	0.15
1128	0.09	75.67	1.54	0.15	----	----	----	----	----	----	0.15
1130	0.09	75.67	1.54	0.15	----	----	----	----	----	----	0.15
1132	0.09	75.66	1.54	0.15	----	----	----	----	----	----	0.15
1134	0.09	75.66	1.54	0.15	----	----	----	----	----	----	0.15
1136	0.09	75.65	1.54	0.15	----	----	----	----	----	----	0.15
1138	0.09	75.65	1.54	0.15	----	----	----	----	----	----	0.15
1140	0.09	75.64	1.54	0.15	----	----	----	----	----	----	0.15
1142	0.09	75.64	1.54	0.15	----	----	----	----	----	----	0.15
1144	0.09	75.63	1.54	0.15	----	----	----	----	----	----	0.15
1146	0.09	75.63	1.54	0.15	----	----	----	----	----	----	0.15
1148	0.09	75.62	1.54	0.15	----	----	----	----	----	----	0.15
1150	0.09	75.62	1.54	0.15	----	----	----	----	----	----	0.15
1152	0.09	75.61	1.53	0.15	----	----	----	----	----	----	0.15

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1154	0.09	75.61	1.53	0.15	----	----	----	----	----	----	0.15
1156	0.09	75.60	1.53	0.15	----	----	----	----	----	----	0.15
1158	0.09	75.60	1.53	0.15	----	----	----	----	----	----	0.15
1160	0.09	75.59	1.53	0.15	----	----	----	----	----	----	0.15
1162	0.09	75.59	1.53	0.15	----	----	----	----	----	----	0.15
1164	0.09	75.58	1.53	0.15	----	----	----	----	----	----	0.15
1166	0.08	75.58	1.53	0.15	----	----	----	----	----	----	0.15
1168	0.08	75.57	1.53	0.15	----	----	----	----	----	----	0.15
1170	0.08	75.57	1.53	0.15	----	----	----	----	----	----	0.15
1172	0.08	75.56	1.53	0.15	----	----	----	----	----	----	0.15
1174	0.08	75.56	1.53	0.15	----	----	----	----	----	----	0.15
1176	0.08	75.55	1.52	0.15	----	----	----	----	----	----	0.15
1178	0.08	75.54	1.52	0.15	----	----	----	----	----	----	0.15
1180	0.08	75.54	1.52	0.15	----	----	----	----	----	----	0.15
1182	0.08	75.53	1.52	0.15	----	----	----	----	----	----	0.15
1184	0.08	75.53	1.52	0.15	----	----	----	----	----	----	0.15
1186	0.08	75.52	1.52	0.15	----	----	----	----	----	----	0.15
1188	0.08	75.52	1.52	0.15	----	----	----	----	----	----	0.15
1190	0.08	75.51	1.52	0.15	----	----	----	----	----	----	0.15
1192	0.08	75.51	1.52	0.15	----	----	----	----	----	----	0.15
1194	0.08	75.50	1.52	0.15	----	----	----	----	----	----	0.15
1196	0.08	75.50	1.52	0.15	----	----	----	----	----	----	0.15
1198	0.08	75.49	1.52	0.15	----	----	----	----	----	----	0.15
1200	0.08	75.48	1.51	0.14	----	----	----	----	----	----	0.14
1202	0.08	75.48	1.51	0.14	----	----	----	----	----	----	0.14
1204	0.08	75.47	1.51	0.14	----	----	----	----	----	----	0.14
1206	0.08	75.47	1.51	0.14	----	----	----	----	----	----	0.14
1208	0.08	75.46	1.51	0.14	----	----	----	----	----	----	0.14
1210	0.07	75.46	1.51	0.14	----	----	----	----	----	----	0.14
1212	0.07	75.45	1.51	0.14	----	----	----	----	----	----	0.14
1214	0.07	75.44	1.51	0.14	----	----	----	----	----	----	0.14
1216	0.07	75.44	1.51	0.14	----	----	----	----	----	----	0.14
1218	0.07	75.43	1.51	0.14	----	----	----	----	----	----	0.14
1220	0.07	75.43	1.51	0.14	----	----	----	----	----	----	0.14
1222	0.07	75.42	1.51	0.14	----	----	----	----	----	----	0.14
1224	0.07	75.42	1.50	0.14	----	----	----	----	----	----	0.14
1226	0.07	75.41	1.50	0.14	----	----	----	----	----	----	0.14
1228	0.07	75.40	1.50	0.14	----	----	----	----	----	----	0.14
1230	0.07	75.40	1.50	0.14	----	----	----	----	----	----	0.14
1232	0.07	75.39	1.50	0.14	----	----	----	----	----	----	0.14
1234	0.07	75.39	1.50	0.14	----	----	----	----	----	----	0.14
1236	0.07	75.38	1.50	0.14	----	----	----	----	----	----	0.14
1238	0.07	75.38	1.50	0.14	----	----	----	----	----	----	0.14
1240	0.07	75.37	1.50	0.14	----	----	----	----	----	----	0.14
1242	0.07	75.37	1.50	0.14	----	----	----	----	----	----	0.14
1244	0.07	75.36	1.50	0.14	----	----	----	----	----	----	0.14
1246	0.07	75.35	1.49	0.14	----	----	----	----	----	----	0.14
1248	0.07	75.35	1.49	0.14	----	----	----	----	----	----	0.14
1250	0.07	75.34	1.49	0.14	----	----	----	----	----	----	0.14

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1252	0.07	75.34	1.49	0.14	----	----	----	----	----	----	0.14
1254	0.07	75.33	1.49	0.14	----	----	----	----	----	----	0.14
1256	0.07	75.33	1.49	0.14	----	----	----	----	----	----	0.14
1258	0.07	75.32	1.49	0.14	----	----	----	----	----	----	0.14
1260	0.07	75.32	1.49	0.14	----	----	----	----	----	----	0.14
1262	0.07	75.31	1.49	0.14	----	----	----	----	----	----	0.14
1264	0.07	75.30	1.49	0.14	----	----	----	----	----	----	0.14
1266	0.07	75.30	1.49	0.14	----	----	----	----	----	----	0.14
1268	0.07	75.29	1.49	0.14	----	----	----	----	----	----	0.14
1270	0.07	75.29	1.48	0.14	----	----	----	----	----	----	0.14
1272	0.07	75.28	1.48	0.14	----	----	----	----	----	----	0.14
1274	0.07	75.28	1.48	0.14	----	----	----	----	----	----	0.14
1276	0.07	75.27	1.48	0.14	----	----	----	----	----	----	0.14
1278	0.07	75.27	1.48	0.14	----	----	----	----	----	----	0.14
1280	0.07	75.26	1.48	0.14	----	----	----	----	----	----	0.14
1282	0.07	75.26	1.48	0.14	----	----	----	----	----	----	0.14
1284	0.07	75.25	1.48	0.14	----	----	----	----	----	----	0.14
1286	0.07	75.25	1.48	0.14	----	----	----	----	----	----	0.14
1288	0.07	75.24	1.48	0.14	----	----	----	----	----	----	0.14
1290	0.07	75.23	1.48	0.13	----	----	----	----	----	----	0.13
1292	0.07	75.23	1.48	0.13	----	----	----	----	----	----	0.13
1294	0.07	75.22	1.47	0.13	----	----	----	----	----	----	0.13
1296	0.07	75.22	1.47	0.13	----	----	----	----	----	----	0.13
1298	0.07	75.21	1.47	0.13	----	----	----	----	----	----	0.13
1300	0.07	75.21	1.47	0.13	----	----	----	----	----	----	0.13
1302	0.07	75.20	1.47	0.13	----	----	----	----	----	----	0.13
1304	0.07	75.20	1.47	0.13	----	----	----	----	----	----	0.13
1306	0.07	75.19	1.47	0.13	----	----	----	----	----	----	0.13
1308	0.07	75.19	1.47	0.13	----	----	----	----	----	----	0.13
1310	0.07	75.18	1.47	0.13	----	----	----	----	----	----	0.13
1312	0.07	75.18	1.47	0.13	----	----	----	----	----	----	0.13
1314	0.07	75.17	1.47	0.13	----	----	----	----	----	----	0.13
1316	0.07	75.17	1.47	0.13	----	----	----	----	----	----	0.13
1318	0.07	75.16	1.46	0.13	----	----	----	----	----	----	0.13
1320	0.07	75.16	1.46	0.13	----	----	----	----	----	----	0.13
1322	0.07	75.15	1.46	0.13	----	----	----	----	----	----	0.13
1324	0.07	75.15	1.46	0.13	----	----	----	----	----	----	0.13
1326	0.07	75.14	1.46	0.13	----	----	----	----	----	----	0.13
1328	0.07	75.14	1.46	0.13	----	----	----	----	----	----	0.13
1330	0.07	75.13	1.46	0.13	----	----	----	----	----	----	0.13
1332	0.07	75.13	1.46	0.13	----	----	----	----	----	----	0.13
1334	0.07	75.12	1.46	0.13	----	----	----	----	----	----	0.13
1336	0.07	75.12	1.46	0.13	----	----	----	----	----	----	0.13
1338	0.07	75.11	1.46	0.13	----	----	----	----	----	----	0.13
1340	0.07	75.11	1.46	0.13	----	----	----	----	----	----	0.13
1342	0.07	75.10	1.46	0.13	----	----	----	----	----	----	0.13
1344	0.07	75.10	1.45	0.13	----	----	----	----	----	----	0.13
1346	0.07	75.09	1.45	0.13	----	----	----	----	----	----	0.13
1348	0.07	75.08	1.45	0.13	----	----	----	----	----	----	0.13

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1350	0.07	75.08	1.45	0.13	----	----	----	----	----	----	0.13
1352	0.07	75.07	1.45	0.13	----	----	----	----	----	----	0.13
1354	0.07	75.07	1.45	0.13	----	----	----	----	----	----	0.13
1356	0.07	75.06	1.45	0.13	----	----	----	----	----	----	0.13
1358	0.07	75.06	1.45	0.13	----	----	----	----	----	----	0.13
1360	0.07	75.06	1.45	0.13	----	----	----	----	----	----	0.13
1362	0.07	75.05	1.45	0.13	----	----	----	----	----	----	0.13
1364	0.07	75.05	1.45	0.13	----	----	----	----	----	----	0.13
1366	0.07	75.04	1.45	0.13	----	----	----	----	----	----	0.13
1368	0.07	75.04	1.44	0.13	----	----	----	----	----	----	0.13
1370	0.07	75.03	1.44	0.13	----	----	----	----	----	----	0.13
1372	0.07	75.03	1.44	0.13	----	----	----	----	----	----	0.13
1374	0.07	75.02	1.44	0.13	----	----	----	----	----	----	0.13
1376	0.07	75.02	1.44	0.13	----	----	----	----	----	----	0.13
1378	0.07	75.01	1.44	0.13	----	----	----	----	----	----	0.13
1380	0.07	75.01	1.44	0.13	----	----	----	----	----	----	0.13
1382	0.07	75.00	1.44	0.13	----	----	----	----	----	----	0.13
1384	0.07	74.99	1.44	0.12	----	----	----	----	----	----	0.12
1386	0.07	74.99	1.44	0.12	----	----	----	----	----	----	0.12
1388	0.07	74.98	1.44	0.12	----	----	----	----	----	----	0.12
1390	0.07	74.97	1.43	0.12	----	----	----	----	----	----	0.12
1392	0.07	74.96	1.43	0.12	----	----	----	----	----	----	0.12
1394	0.07	74.96	1.43	0.12	----	----	----	----	----	----	0.12
1396	0.07	74.95	1.43	0.12	----	----	----	----	----	----	0.12
1398	0.07	74.94	1.43	0.12	----	----	----	----	----	----	0.12
1400	0.07	74.94	1.43	0.12	----	----	----	----	----	----	0.12
1402	0.07	74.93	1.43	0.12	----	----	----	----	----	----	0.12
1404	0.07	74.92	1.43	0.12	----	----	----	----	----	----	0.12
1406	0.07	74.91	1.43	0.12	----	----	----	----	----	----	0.12
1408	0.07	74.91	1.42	0.12	----	----	----	----	----	----	0.12
1410	0.07	74.90	1.42	0.12	----	----	----	----	----	----	0.12
1412	0.07	74.89	1.42	0.12	----	----	----	----	----	----	0.12
1414	0.06	74.89	1.42	0.12	----	----	----	----	----	----	0.12
1416	0.06	74.88	1.42	0.12	----	----	----	----	----	----	0.12
1418	0.06	74.87	1.42	0.12	----	----	----	----	----	----	0.12
1420	0.06	74.86	1.42	0.12	----	----	----	----	----	----	0.12
1422	0.06	74.86	1.42	0.12	----	----	----	----	----	----	0.12
1424	0.06	74.85	1.42	0.12	----	----	----	----	----	----	0.12
1426	0.06	74.84	1.41	0.12	----	----	----	----	----	----	0.12
1428	0.06	74.84	1.41	0.12	----	----	----	----	----	----	0.12
1430	0.06	74.83	1.41	0.12	----	----	----	----	----	----	0.12
1432	0.06	74.82	1.41	0.12	----	----	----	----	----	----	0.12
1434	0.06	74.82	1.41	0.12	----	----	----	----	----	----	0.12
1436	0.06	74.81	1.41	0.12	----	----	----	----	----	----	0.12
1438	0.06	74.80	1.41	0.12	----	----	----	----	----	----	0.12
1440	0.06	74.80	1.41	0.12	----	----	----	----	----	----	0.12
1442	0.06	74.79	1.41	0.12	----	----	----	----	----	----	0.12
1444	0.05	74.78	1.40	0.12	----	----	----	----	----	----	0.12
1446	0.05	74.77	1.40	0.11	----	----	----	----	----	----	0.11

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1448	0.03	74.77	1.40	0.11	-----	-----	-----	-----	-----	-----	0.11
1450	0.02	74.75	1.40	0.11	-----	-----	-----	-----	-----	-----	0.11
1452	0.02	74.74	1.40	0.11	-----	-----	-----	-----	-----	-----	0.11
1454	0.01	74.73	1.40	0.11	-----	-----	-----	-----	-----	-----	0.11
1456	0.00	74.72	1.39	0.11	-----	-----	-----	-----	-----	-----	0.11
1458	0.00	74.70	1.39	0.11	-----	-----	-----	-----	-----	-----	0.11
1460	0.00	74.69	1.39	0.11	-----	-----	-----	-----	-----	-----	0.11
1462	0.00	74.68	1.39	0.11	-----	-----	-----	-----	-----	-----	0.11
1464	0.00	74.66	1.38	0.11	-----	-----	-----	-----	-----	-----	0.11
1466	0.00	74.65	1.38	0.11	-----	-----	-----	-----	-----	-----	0.11
1468	0.00	74.63	1.38	0.11	-----	-----	-----	-----	-----	-----	0.11
1470	0.00	74.62	1.38	0.11	-----	-----	-----	-----	-----	-----	0.11
1472	0.00	74.61	1.37	0.11	-----	-----	-----	-----	-----	-----	0.11
1474	0.00	74.59	1.37	0.11	-----	-----	-----	-----	-----	-----	0.11
1476	0.00	74.58	1.37	0.10	-----	-----	-----	-----	-----	-----	0.10
1478	0.00	74.57	1.37	0.10	-----	-----	-----	-----	-----	-----	0.10
1480	0.00	74.55	1.37	0.10	-----	-----	-----	-----	-----	-----	0.10
1482	0.00	74.54	1.36	0.10	-----	-----	-----	-----	-----	-----	0.10
1484	0.00	74.53	1.36	0.10	-----	-----	-----	-----	-----	-----	0.10
1486	0.00	74.51	1.36	0.10	-----	-----	-----	-----	-----	-----	0.10
1488	0.00	74.50	1.36	0.10	-----	-----	-----	-----	-----	-----	0.10
1490	0.00	74.49	1.35	0.10	-----	-----	-----	-----	-----	-----	0.10
1492	0.00	74.48	1.35	0.10	-----	-----	-----	-----	-----	-----	0.10
1494	0.00	74.46	1.35	0.10	-----	-----	-----	-----	-----	-----	0.10
1496	0.00	74.45	1.35	0.10	-----	-----	-----	-----	-----	-----	0.10
1498	0.00	74.44	1.35	0.10	-----	-----	-----	-----	-----	-----	0.10
1500	0.00	74.43	1.34	0.10	-----	-----	-----	-----	-----	-----	0.10
1502	0.00	74.41	1.34	0.10	-----	-----	-----	-----	-----	-----	0.10
1504	0.00	74.40	1.34	0.09	-----	-----	-----	-----	-----	-----	0.09
1506	0.00	74.39	1.34	0.09	-----	-----	-----	-----	-----	-----	0.09
1508	0.00	74.38	1.34	0.09	-----	-----	-----	-----	-----	-----	0.09
1510	0.00	74.37	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
1512	0.00	74.35	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
1514	0.00	74.34	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
1516	0.00	74.33	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
1518	0.00	74.32	1.33	0.09	-----	-----	-----	-----	-----	-----	0.09
1520	0.00	74.31	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
1522	0.00	74.30	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
1524	0.00	74.28	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
1526	0.00	74.27	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
1528	0.00	74.26	1.32	0.09	-----	-----	-----	-----	-----	-----	0.09
1530	0.00	74.25	1.31	0.09	-----	-----	-----	-----	-----	-----	0.09
1532	0.00	74.24	1.31	0.09	-----	-----	-----	-----	-----	-----	0.09
1534	0.00	74.23	1.31	0.08	-----	-----	-----	-----	-----	-----	0.08
1536	0.00	74.22	1.31	0.08	-----	-----	-----	-----	-----	-----	0.08
1538	0.00	74.21	1.31	0.08	-----	-----	-----	-----	-----	-----	0.08
1540	0.00	74.20	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
1542	0.00	74.19	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08
1544	0.00	74.18	1.30	0.08	-----	-----	-----	-----	-----	-----	0.08

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1546	0.00	74.17	1.30	0.08	----	----	----	----	----	----	0.08
1548	0.00	74.16	1.30	0.08	----	----	----	----	----	----	0.08
1550	0.00	74.15	1.30	0.08	----	----	----	----	----	----	0.08
1552	0.00	74.14	1.29	0.08	----	----	----	----	----	----	0.08
1554	0.00	74.13	1.29	0.08	----	----	----	----	----	----	0.08
1556	0.00	74.12	1.29	0.08	----	----	----	----	----	----	0.08
1558	0.00	74.11	1.29	0.08	----	----	----	----	----	----	0.08
1560	0.00	74.10	1.29	0.08	----	----	----	----	----	----	0.08
1562	0.00	74.09	1.29	0.07	----	----	----	----	----	----	0.07
1564	0.00	74.08	1.28	0.07	----	----	----	----	----	----	0.07
1566	0.00	74.07	1.28	0.07	----	----	----	----	----	----	0.07
1568	0.00	74.06	1.28	0.07	----	----	----	----	----	----	0.07
1570	0.00	74.05	1.28	0.07	----	----	----	----	----	----	0.07
1572	0.00	74.04	1.28	0.07	----	----	----	----	----	----	0.07
1574	0.00	74.03	1.28	0.07	----	----	----	----	----	----	0.07
1576	0.00	74.02	1.27	0.07	----	----	----	----	----	----	0.07
1578	0.00	74.01	1.27	0.07	----	----	----	----	----	----	0.07
1580	0.00	74.01	1.27	0.07	----	----	----	----	----	----	0.07
1582	0.00	74.00	1.27	0.07	----	----	----	----	----	----	0.07
1584	0.00	73.98	1.27	0.07	----	----	----	----	----	----	0.07
1586	0.00	73.97	1.26	0.07	----	----	----	----	----	----	0.07
1588	0.00	73.95	1.26	0.06	----	----	----	----	----	----	0.06
1590	0.00	73.94	1.26	0.06	----	----	----	----	----	----	0.06
1592	0.00	73.93	1.26	0.06	----	----	----	----	----	----	0.06
1594	0.00	73.92	1.25	0.06	----	----	----	----	----	----	0.06
1596	0.00	73.90	1.25	0.06	----	----	----	----	----	----	0.06
1598	0.00	73.89	1.25	0.06	----	----	----	----	----	----	0.06
1600	0.00	73.88	1.25	0.06	----	----	----	----	----	----	0.06
1602	0.00	73.87	1.25	0.06	----	----	----	----	----	----	0.06
1604	0.00	73.86	1.24	0.05	----	----	----	----	----	----	0.05
1606	0.00	73.84	1.24	0.05	----	----	----	----	----	----	0.05
1608	0.00	73.83	1.24	0.05	----	----	----	----	----	----	0.05
1610	0.00	73.82	1.24	0.05	----	----	----	----	----	----	0.05
1612	0.00	73.81	1.23	0.05	----	----	----	----	----	----	0.05
1614	0.00	73.80	1.23	0.05	----	----	----	----	----	----	0.05
1616	0.00	73.79	1.23	0.05	----	----	----	----	----	----	0.05

...End

Reservoir Report

English

Reservoir No. 2 - E&S CONDITION

Pond Data

Pond storage is based on known contour areas

Stage / Storage Table

Stage ft	Elevation ft	Contour area sqft	Incr. Storage cuft	Total storage cuft
0.00	73.50	457	0	0
0.50	74.00	694	288	288
1.50	75.00	1,189	942	1,229
2.50	76.00	1,708	1,449	2,678
3.50	77.00	2,252	1,980	4,658
4.50	78.00	2,822	2,537	7,195
5.50	79.00	3,417	3,120	10,314

Culvert / Orifice Structures

		[A]	[B]	[C]	[D]
Rise in	=	6.0	2.0	0.0	0.0
Span in	=	6.0	2.0	0.0	0.0
No. Barrels	=	1	1	0	0
Invert El. ft	=	70.50	75.00	0.00	0.00
Length ft	=	50.0	2.0	0.0	0.0
Slope %	=	1.00	0.50	0.00	0.00
N-Value	=	.013	.013	.000	.000
Orif. Coeff.	=	0.60	0.60	0.00	0.00
Multi-Stage	=	-----	Yes	No	No

Weir Structures

		[A]	[B]	[C]	[D]
Crest Len ft	=	12.7	8.0	0.0	0.0
Crest El. ft	=	76.00	77.00	0.00	0.00
Weir Coeff.	=	3.08	3.00	0.00	0.00
Eqn. Exp.	=	1.50	1.50	0.00	0.00
Multi-Stage	=	Yes	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Discharge cfs
0.00	0	73.50	1.18	0.00	---	---	0.00	0.00	---	---	0.00
0.50	288	74.00	1.27	0.00	---	---	0.00	0.00	---	---	0.00
1.50	1,229	75.00	1.44	0.00	---	---	0.00	0.00	---	---	0.00
2.50	2,678	76.00	1.59	0.10	---	---	0.00	0.00	---	---	0.10
3.50	4,658	77.00	1.73	0.00	---	---	38.99	0.00	---	---	1.73
4.50	7,195	78.00	1.86	0.00	---	---	110.29	24.00	---	---	25.86
5.50	10,314	79.00	1.98	0.00	---	---	202.61	67.88	---	---	69.86

Hydrograph Report

English

Hyd. No. 9

2yr-E&Sroute

Hydrograph type	= Reservoir	Peak discharge	= 1.54 cfs
Storm frequency	= 2 yrs	Time interval	= 2 min
Inflow hyd. No.	= 3	Reservoir name	= E&S CONDITION
Max. Elevation	= 76.17 ft	Max. Storage	= 3,019 cuft

Storage Indication method used.

Total Volume = 5,601 cuft

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
658	0.07	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
660	0.07	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
662	0.07	75.16	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
664	0.07	75.16	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
666	0.07	75.16	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
668	0.07	75.17	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
670	0.08	75.17	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
672	0.08	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
674	0.09	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
676	0.09	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
678	0.10	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
680	0.10	75.20	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
682	0.11	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
684	0.11	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
686	0.12	75.22	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
688	0.12	75.23	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
690	0.13	75.24	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
692	0.14	75.25	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
694	0.15	75.25	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
696	0.18	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
698	0.23	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
700	0.29	75.30	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
702	0.37	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
704	0.47	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
706	0.59	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
708	0.73	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
710	0.91	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
712	1.14	75.58	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
714	1.42	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
716	1.74	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
718	2.01	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
720	2.16 <<	76.06	1.60	0.10	-----	-----	0.77	-----	-----	-----	0.88
722	2.12	76.12	1.61	0.11	-----	-----	1.75	-----	-----	-----	1.40
724	1.92	76.16	1.61	0.11	-----	-----	2.53	-----	-----	-----	1.50
726	1.62	76.17 <<	1.62	0.11	-----	-----	2.86	-----	-----	-----	1.54 <<
728	1.30	76.17	1.62	0.11	-----	-----	2.76	-----	-----	-----	1.53

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
730	1.01	76.15	1.61	0.11	-----	-----	2.29	-----	-----	-----	1.47
732	0.76	76.11	1.61	0.11	-----	-----	1.55	-----	-----	-----	1.38
734	0.56	76.08	1.60	0.10	-----	-----	0.98	-----	-----	-----	1.08
736	0.43	76.05	1.60	0.10	-----	-----	0.66	-----	-----	-----	0.76
738	0.36	76.04	1.60	0.10	-----	-----	0.46	-----	-----	-----	0.56
740	0.33	76.03	1.60	0.10	-----	-----	0.34	-----	-----	-----	0.45
742	0.32	76.02	1.59	0.10	-----	-----	0.28	-----	-----	-----	0.38
744	0.30	76.02	1.59	0.10	-----	-----	0.24	-----	-----	-----	0.34
746	0.29	76.02	1.59	0.10	-----	-----	0.22	-----	-----	-----	0.32
748	0.27	76.02	1.59	0.10	-----	-----	0.20	-----	-----	-----	0.30
750	0.26	76.01	1.59	0.10	-----	-----	0.18	-----	-----	-----	0.28
752	0.24	76.01	1.59	0.10	-----	-----	0.16	-----	-----	-----	0.26
754	0.23	76.01	1.59	0.10	-----	-----	0.15	-----	-----	-----	0.25
756	0.21	76.01	1.59	0.10	-----	-----	0.13	-----	-----	-----	0.23
758	0.20	76.01	1.59	0.10	-----	-----	0.12	-----	-----	-----	0.22
760	0.19	76.01	1.59	0.10	-----	-----	0.11	-----	-----	-----	0.21
762	0.19	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
764	0.18	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
766	0.17	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
768	0.17	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
770	0.17	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
772	0.16	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
774	0.16	76.01	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
776	0.16	76.00	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
778	0.15	76.00	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
780	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
782	0.14	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
784	0.14	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
786	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
788	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
790	0.13	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
792	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
794	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
796	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
798	0.12	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
800	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
802	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
804	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
806	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
808	0.11	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
810	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
812	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
814	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
816	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
818	0.10	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
820	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
822	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
824	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
826	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
828	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
830	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
832	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
834	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
836	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
838	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
840	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
842	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
844	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
846	0.08	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
848	0.08	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
850	0.08	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
852	0.08	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
854	0.08	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
856	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
858	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
860	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
862	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
864	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
866	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
868	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
870	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
872	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
874	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
876	0.07	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
878	0.07	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
880	0.07	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
882	0.07	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
884	0.07	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
886	0.07	75.96	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
888	0.07	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
890	0.07	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
892	0.07	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
894	0.07	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
896	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
898	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
900	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
902	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
904	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
906	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
908	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
910	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
912	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
914	0.07	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
916	0.06	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
918	0.06	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
920	0.06	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
922	0.06	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
924	0.06	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
926	0.06	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
928	0.06	75.90	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
930	0.06	75.90	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
932	0.06	75.90	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
934	0.06	75.90	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
936	0.06	75.89	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
938	0.06	75.89	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
940	0.06	75.89	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
942	0.06	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
944	0.06	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
946	0.06	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
948	0.06	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
950	0.06	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
952	0.06	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
954	0.06	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
956	0.05	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
958	0.05	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
960	0.05	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
962	0.05	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
964	0.05	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
966	0.05	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
968	0.05	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
970	0.05	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
972	0.05	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
974	0.05	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
976	0.05	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
978	0.05	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
980	0.05	75.82	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
982	0.05	75.82	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
984	0.05	75.82	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
986	0.05	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
988	0.05	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
990	0.05	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
992	0.05	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
994	0.05	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
996	0.05	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
998	0.05	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1000	0.05	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1002	0.05	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1004	0.05	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1006	0.05	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1008	0.05	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1010	0.05	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1012	0.05	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1014	0.05	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1016	0.05	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1018	0.05	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1020	0.05	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
1022	0.05	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1024	0.05	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
1026	0.05	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
1028	0.05	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
1030	0.05	75.74	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
1032	0.05	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1034	0.05	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1036	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1038	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1040	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1042	0.04	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1044	0.04	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1046	0.04	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1048	0.04	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1050	0.04	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1052	0.04	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1054	0.04	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1056	0.04	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1058	0.04	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1060	0.04	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1062	0.04	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1064	0.04	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1066	0.04	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1068	0.04	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1070	0.04	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1072	0.04	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1074	0.04	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1076	0.04	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1078	0.04	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1080	0.04	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1082	0.04	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1084	0.04	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1086	0.04	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1088	0.04	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1090	0.04	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1092	0.04	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1094	0.04	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1096	0.04	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1098	0.04	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1100	0.04	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1102	0.04	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1104	0.04	75.62	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1106	0.04	75.62	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1108	0.04	75.62	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1110	0.04	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1112	0.04	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1114	0.04	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1116	0.04	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1118	0.04	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1120	0.04	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1024	0.05	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
1026	0.05	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
1028	0.05	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
1030	0.05	75.74	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
1032	0.05	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1034	0.05	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1036	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1038	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1040	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1042	0.04	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1044	0.04	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1046	0.04	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1048	0.04	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1050	0.04	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1052	0.04	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1054	0.04	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1056	0.04	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1058	0.04	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1060	0.04	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1062	0.04	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1064	0.04	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
1066	0.04	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1068	0.04	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1070	0.04	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1072	0.04	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1074	0.04	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1076	0.04	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1078	0.04	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1080	0.04	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1082	0.04	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1084	0.04	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1086	0.04	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1088	0.04	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1090	0.04	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1092	0.04	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1094	0.04	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1096	0.04	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1098	0.04	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1100	0.04	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1102	0.04	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1104	0.04	75.62	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1106	0.04	75.62	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
1108	0.04	75.62	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1110	0.04	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1112	0.04	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1114	0.04	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1116	0.04	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1118	0.04	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1120	0.04	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1122	0.04	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
1124	0.04	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1126	0.04	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1128	0.04	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1130	0.04	75.58	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1132	0.04	75.58	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1134	0.04	75.58	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1136	0.04	75.57	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1138	0.04	75.57	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1140	0.04	75.57	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1142	0.04	75.57	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1144	0.04	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1146	0.04	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1148	0.04	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1150	0.04	75.55	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
1152	0.03	75.55	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1154	0.03	75.55	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1156	0.03	75.54	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1158	0.03	75.54	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1160	0.03	75.54	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1162	0.03	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1164	0.03	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1166	0.03	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1168	0.03	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1170	0.03	75.52	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1172	0.03	75.52	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1174	0.03	75.52	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1176	0.03	75.51	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1178	0.03	75.51	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1180	0.03	75.51	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1182	0.03	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1184	0.03	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1186	0.03	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1188	0.03	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1190	0.03	75.49	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1192	0.03	75.49	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1194	0.03	75.49	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
1196	0.03	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
1198	0.03	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
1200	0.03	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
1202	0.03	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
1204	0.03	75.47	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
1206	0.03	75.47	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1208	0.03	75.47	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1210	0.03	75.46	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1212	0.03	75.46	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1214	0.03	75.46	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1216	0.03	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1218	0.03	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1220	0.03	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1222	0.03	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1224	0.03	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1226	0.03	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1228	0.03	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1230	0.03	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1232	0.03	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1234	0.03	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1236	0.03	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1238	0.03	75.42	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1240	0.03	75.42	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
1242	0.03	75.42	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1244	0.03	75.42	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1246	0.03	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1248	0.03	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1250	0.03	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1252	0.03	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1254	0.03	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1256	0.03	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1258	0.03	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1260	0.03	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1262	0.03	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1264	0.03	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1266	0.03	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1268	0.03	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1270	0.03	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1272	0.03	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1274	0.03	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1276	0.03	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1278	0.03	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1280	0.03	75.37	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
1282	0.03	75.37	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
1284	0.03	75.37	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
1286	0.03	75.37	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
1288	0.03	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
1290	0.03	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
1292	0.03	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
1294	0.03	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
1296	0.03	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
1298	0.03	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1300	0.03	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1302	0.03	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1304	0.03	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1306	0.03	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1308	0.03	75.34	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1310	0.03	75.34	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1312	0.03	75.34	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1314	0.03	75.34	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1316	0.03	75.34	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1318	0.03	75.34	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1320	0.03	75.33	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1322	0.03	75.33	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1324	0.03	75.33	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1326	0.03	75.33	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1328	0.03	75.33	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1330	0.03	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1332	0.03	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1334	0.03	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1336	0.03	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1338	0.03	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1340	0.03	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1342	0.03	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1344	0.03	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1346	0.03	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1348	0.03	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1350	0.03	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1352	0.03	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1354	0.03	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1356	0.03	75.30	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1358	0.03	75.30	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1360	0.03	75.30	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
1362	0.03	75.30	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
1364	0.03	75.30	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
1366	0.03	75.30	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
1368	0.03	75.29	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
1370	0.03	75.29	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
1372	0.03	75.29	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
1374	0.03	75.29	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
1376	0.03	75.29	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1378	0.03	75.29	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1380	0.03	75.29	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1382	0.03	75.29	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1384	0.03	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1386	0.03	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1388	0.03	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1390	0.03	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1392	0.03	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1394	0.03	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1396	0.03	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1398	0.03	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1400	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1402	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1404	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1406	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1408	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1410	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1412	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1414	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1416	0.03	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1418	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1420	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1422	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1424	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1426	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1428	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1430	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1432	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1434	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1436	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1438	0.03	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1440	0.03	75.25	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1442	0.02	75.25	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1444	0.02	75.25	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1446	0.02	75.25	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
1448	0.01	75.25	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1450	0.01	75.25	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1452	0.01	75.25	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1454	0.00	75.24	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1456	0.00	75.24	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1458	0.00	75.24	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1460	0.00	75.24	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1462	0.00	75.23	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1464	0.00	75.23	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1466	0.00	75.23	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
1468	0.00	75.23	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1470	0.00	75.22	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1472	0.00	75.22	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1474	0.00	75.22	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1476	0.00	75.22	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1478	0.00	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1480	0.00	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1482	0.00	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1484	0.00	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1486	0.00	75.20	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1488	0.00	75.20	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
1490	0.00	75.20	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1492	0.00	75.20	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1494	0.00	75.20	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1496	0.00	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1498	0.00	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1500	0.00	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1502	0.00	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1504	0.00	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1506	0.00	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1508	0.00	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1510	0.00	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1512	0.00	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02

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Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1514	0.00	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1516	0.00	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1518	0.00	75.17	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1520	0.00	75.17	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1522	0.00	75.17	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1524	0.00	75.17	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1526	0.00	75.17	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1528	0.00	75.17	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1530	0.00	75.16	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1532	0.00	75.16	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
1534	0.00	75.16	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1536	0.00	75.16	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1538	0.00	75.16	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1540	0.00	75.16	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1542	0.00	75.16	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1544	0.00	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1546	0.00	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1548	0.00	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1550	0.00	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1552	0.00	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1554	0.00	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1556	0.00	75.15	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02
1558	0.00	75.14	1.46	0.02	-----	-----	-----	-----	-----	-----	0.02

...End

Hydrograph Report

English

Hyd. No. 12

25yr-E&Sroute

Hydrograph type	= Reservoir	Peak discharge	= 2.11 cfs
Storm frequency	= 25 yrs	Time interval	= 5 min
Inflow hyd. No.	= 11	Reservoir name	= E&S CONDITION
Max. Elevation	= 77.05 ft	Max. Storage	= 4,784 cuft

Storage Indication method used.

Total Volume = 11,630 cuft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
8.92	0.06	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
9.00	0.06	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
9.08	0.06	75.20	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
9.17	0.06	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
9.25	0.07	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
9.33	0.07	75.22	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
9.42	0.07	75.23	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
9.50	0.07	75.24	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
9.58	0.07	75.25	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
9.67	0.07	75.25	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
9.75	0.08	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
9.83	0.08	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
9.92	0.08	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
10.00	0.09	75.29	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
10.08	0.09	75.30	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
10.17	0.10	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
10.25	0.10	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
10.33	0.11	75.33	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
10.42	0.12	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
10.50	0.12	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
10.58	0.13	75.37	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
10.67	0.14	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
10.75	0.15	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
10.83	0.16	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
10.92	0.17	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
11.00	0.18	75.47	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
11.08	0.19	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
11.17	0.20	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
11.25	0.23	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
11.33	0.26	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
11.42	0.29	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
11.50	0.32	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
11.58	0.42	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
11.67	0.71	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
11.75	1.21	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
11.83	2.02	76.13	1.61	0.11	-----	-----	1.90	-----	-----	-----	1.42

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
11.92	3.33	76.30	1.63	-----	-----	-----	6.54	-----	-----	-----	1.63
12.00	4.18 <<	76.62	1.68	-----	-----	-----	19.17	-----	-----	-----	1.68
12.08	3.42	76.94	1.72	-----	-----	-----	35.59	-----	-----	-----	1.72
12.17	2.04	77.05 <<	1.74	-----	-----	-----	41.97	0.38	-----	-----	2.11 <<
12.25	1.01	77.00	1.73	-----	-----	-----	39.11	0.02	-----	-----	1.75
12.33	0.63	76.87	1.71	-----	-----	-----	31.42	-----	-----	-----	1.71
12.42	0.56	76.70	1.69	-----	-----	-----	22.75	-----	-----	-----	1.69
12.50	0.49	76.52	1.67	-----	-----	-----	14.79	-----	-----	-----	1.67
12.58	0.42	76.34	1.64	-----	-----	-----	7.83	-----	-----	-----	1.64
12.67	0.36	76.16	1.61	0.11	-----	-----	2.62	-----	-----	-----	1.51
12.75	0.33	76.05	1.60	0.10	-----	-----	0.59	-----	-----	-----	0.69
12.83	0.31	76.02	1.59	0.10	-----	-----	0.23	-----	-----	-----	0.33
12.92	0.29	76.02	1.59	0.10	-----	-----	0.20	-----	-----	-----	0.30
13.00	0.28	76.01	1.59	0.10	-----	-----	0.18	-----	-----	-----	0.29
13.08	0.26	76.01	1.59	0.10	-----	-----	0.17	-----	-----	-----	0.27
13.17	0.25	76.01	1.59	0.10	-----	-----	0.15	-----	-----	-----	0.25
13.25	0.24	76.01	1.59	0.10	-----	-----	0.14	-----	-----	-----	0.24
13.33	0.23	76.01	1.59	0.10	-----	-----	0.13	-----	-----	-----	0.23
13.42	0.22	76.01	1.59	0.10	-----	-----	0.12	-----	-----	-----	0.22
13.50	0.21	76.01	1.59	0.10	-----	-----	0.11	-----	-----	-----	0.21
13.58	0.20	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
13.67	0.19	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
13.75	0.18	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
13.83	0.18	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
13.92	0.17	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
14.00	0.16	76.01	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.17
14.08	0.16	76.00	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
14.17	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
14.25	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
14.33	0.14	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
14.42	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
14.50	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
14.58	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
14.67	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
14.75	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
14.83	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
14.92	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
15.00	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
15.08	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.13
15.17	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
15.25	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
15.33	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
15.42	0.11	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
15.50	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
15.58	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
15.67	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
15.75	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
15.83	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
15.92	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
16.00	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.08	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.17	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.25	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.33	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.42	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.50	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.58	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.67	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.75	0.09	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.83	0.09	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
16.92	0.09	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
17.00	0.09	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
17.08	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
17.17	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
17.25	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
17.33	0.08	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
17.42	0.08	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
17.50	0.08	75.96	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
17.58	0.08	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
17.67	0.08	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
17.75	0.08	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
17.83	0.08	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
17.92	0.08	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
18.00	0.08	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
18.08	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
18.17	0.07	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
18.25	0.07	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
18.33	0.07	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
18.42	0.07	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
18.50	0.07	75.90	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
18.58	0.07	75.90	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
18.67	0.07	75.89	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
18.75	0.07	75.89	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
18.83	0.07	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
18.92	0.07	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.00	0.07	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.08	0.06	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.17	0.06	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.25	0.06	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.33	0.06	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.42	0.06	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.50	0.06	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.58	0.06	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.67	0.06	75.82	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
19.75	0.06	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
19.83	0.06	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
19.92	0.06	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
20.00	0.05	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
20.08	0.05	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
20.17	0.05	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
20.25	0.05	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
20.33	0.05	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
20.42	0.05	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
20.50	0.05	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
20.58	0.05	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
20.67	0.05	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
20.75	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
20.83	0.05	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
20.92	0.05	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
21.00	0.05	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
21.08	0.05	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
21.17	0.05	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
21.25	0.05	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
21.33	0.05	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
21.42	0.05	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
21.50	0.05	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
21.58	0.05	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
21.67	0.05	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
21.75	0.05	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
21.83	0.05	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
21.92	0.05	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
22.00	0.05	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
22.08	0.05	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
22.17	0.05	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
22.25	0.05	75.62	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
22.33	0.05	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
22.42	0.05	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
22.50	0.05	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
22.58	0.05	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
22.67	0.05	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
22.75	0.05	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
22.83	0.05	75.58	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
22.92	0.05	75.58	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
23.00	0.05	75.57	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
23.08	0.05	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
23.17	0.05	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
23.25	0.05	75.55	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
23.33	0.05	75.55	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
23.42	0.05	75.54	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
23.50	0.05	75.54	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
23.58	0.05	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
23.67	0.05	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
23.75	0.05	75.52	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
23.83	0.05	75.52	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
23.92	0.05	75.51	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
24.00	0.05	75.51	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
24.08	0.04	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
24.17	0.02	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
24.25	0.01	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
24.33	0.00	75.47	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
24.42	0.00	75.46	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
24.50	0.00	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
24.58	0.00	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
24.67	0.00	75.42	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
24.75	0.00	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
24.83	0.00	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
24.92	0.00	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
25.00	0.00	75.37	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
25.08	0.00	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
25.17	0.00	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
25.25	0.00	75.34	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
25.33	0.00	75.33	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
25.42	0.00	75.32	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
25.50	0.00	75.31	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05
25.58	0.00	75.30	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
25.67	0.00	75.29	1.49	0.04	-----	-----	-----	-----	-----	-----	0.04
25.75	0.00	75.28	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
25.83	0.00	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
25.92	0.00	75.27	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
26.00	0.00	75.26	1.48	0.04	-----	-----	-----	-----	-----	-----	0.04
26.08	0.00	75.25	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
26.17	0.00	75.24	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
26.25	0.00	75.24	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
26.33	0.00	75.23	1.48	0.03	-----	-----	-----	-----	-----	-----	0.03
26.42	0.00	75.22	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
26.50	0.00	75.22	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
26.58	0.00	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
26.67	0.00	75.21	1.47	0.03	-----	-----	-----	-----	-----	-----	0.03
26.75	0.00	75.20	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
26.83	0.00	75.20	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
26.92	0.00	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
27.00	0.00	75.19	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02
27.08	0.00	75.18	1.47	0.02	-----	-----	-----	-----	-----	-----	0.02

...End

Hydrograph Report

English

Hyd. No. 13

100yr-E&Sroute

Hydrograph type	= Reservoir	Peak discharge	= 5.20 cfs
Storm frequency	= 100 yrs	Time interval	= 2 min
Inflow hyd. No.	= 5	Reservoir name	= E&S CONDITION
Max. Elevation	= 77.27 ft	Max. Storage	= 5,348 cuft

Storage Indication method used.

Total Volume = 16,904 cuft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
9.27	0.11	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
9.30	0.11	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
9.33	0.11	75.37	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
9.37	0.11	75.37	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
9.40	0.11	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.43	0.11	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.47	0.11	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.50	0.11	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.53	0.11	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.57	0.11	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.60	0.12	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.63	0.12	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.67	0.12	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.70	0.12	75.42	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
9.73	0.12	75.42	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
9.77	0.12	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
9.80	0.13	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
9.83	0.13	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
9.87	0.13	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
9.90	0.13	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
9.93	0.14	75.46	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
9.97	0.14	75.46	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
10.00	0.14	75.47	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
10.03	0.14	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
10.07	0.15	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
10.10	0.15	75.49	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.13	0.15	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.17	0.16	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.20	0.16	75.51	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.23	0.16	75.52	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.27	0.17	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.30	0.17	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.33	0.18	75.54	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.37	0.18	75.55	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
10.40	0.18	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
10.43	0.19	75.57	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
10.47	0.19	75.58	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
10.50	0.20	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
10.53	0.20	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
10.57	0.20	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
10.60	0.21	75.62	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
10.63	0.21	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
10.67	0.22	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
10.70	0.22	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
10.73	0.23	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
10.77	0.24	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
10.80	0.24	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
10.83	0.25	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
10.87	0.26	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
10.90	0.26	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
10.93	0.27	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
10.97	0.28	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
11.00	0.28	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
11.03	0.28	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
11.07	0.29	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
11.10	0.29	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
11.13	0.29	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
11.17	0.31	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
11.20	0.32	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
11.23	0.34	75.90	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
11.27	0.36	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
11.30	0.38	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
11.33	0.40	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
11.37	0.42	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
11.40	0.43	76.01	1.59	0.10	-----	-----	0.15	-----	-----	-----	0.25
11.43	0.45	76.02	1.59	0.10	-----	-----	0.26	-----	-----	-----	0.36
11.47	0.47	76.03	1.59	0.10	-----	-----	0.31	-----	-----	-----	0.41
11.50	0.49	76.03	1.60	0.10	-----	-----	0.35	-----	-----	-----	0.45
11.53	0.52	76.03	1.60	0.10	-----	-----	0.37	-----	-----	-----	0.48
11.57	0.57	76.03	1.60	0.10	-----	-----	0.41	-----	-----	-----	0.51
11.60	0.67	76.04	1.60	0.10	-----	-----	0.47	-----	-----	-----	0.57
11.63	0.83	76.05	1.60	0.10	-----	-----	0.57	-----	-----	-----	0.67
11.67	1.04	76.06	1.60	0.10	-----	-----	0.71	-----	-----	-----	0.81
11.70	1.31	76.07	1.60	0.10	-----	-----	0.91	-----	-----	-----	1.01
11.73	1.63	76.09	1.60	0.11	-----	-----	1.15	-----	-----	-----	1.26
11.77	1.99	76.12	1.61	0.11	-----	-----	1.74	-----	-----	-----	1.40
11.80	2.42	76.17	1.62	0.11	-----	-----	2.75	-----	-----	-----	1.53
11.83	2.94	76.23	1.62	0.07	-----	-----	4.48	-----	-----	-----	1.62
11.87	3.58	76.33	1.64	-----	-----	-----	7.54	-----	-----	-----	1.64
11.90	4.37	76.47	1.66	-----	-----	-----	12.76	-----	-----	-----	1.66
11.93	5.21	76.66	1.68	-----	-----	-----	21.10	-----	-----	-----	1.68
11.97	5.90	76.90	1.72	-----	-----	-----	33.12	-----	-----	-----	1.72
12.00	6.22 <<	77.10	1.74	-----	-----	-----	45.28	0.82	-----	-----	2.57
12.03	6.04	77.23	1.76	-----	-----	-----	53.16	2.67	-----	-----	4.43
12.07	5.40	77.27 <<	1.77	-----	-----	-----	55.96	3.44	-----	-----	5.20 <<

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
12.10	4.52	77.26	1.76	-----	-----	-----	55.44	3.30	-----	-----	5.06
12.13	3.60	77.23	1.76	-----	-----	-----	53.28	2.70	-----	-----	4.46
12.17	2.77	77.19	1.75	-----	-----	-----	50.49	1.98	-----	-----	3.73
12.20	2.06	77.14	1.75	-----	-----	-----	47.56	1.33	-----	-----	3.08
12.23	1.51	77.09	1.74	-----	-----	-----	44.67	0.72	-----	-----	2.46
12.27	1.15	77.05	1.74	-----	-----	-----	41.96	0.38	-----	-----	2.11
12.30	0.97	77.01	1.73	-----	-----	-----	39.44	0.06	-----	-----	1.79
12.33	0.89	76.96	1.72	-----	-----	-----	36.69	-----	-----	-----	1.72
12.37	0.85	76.91	1.72	-----	-----	-----	33.75	-----	-----	-----	1.72
12.40	0.81	76.85	1.71	-----	-----	-----	30.83	-----	-----	-----	1.71
12.43	0.77	76.80	1.70	-----	-----	-----	27.83	-----	-----	-----	1.70
12.47	0.72	76.74	1.69	-----	-----	-----	24.90	-----	-----	-----	1.69
12.50	0.68	76.68	1.69	-----	-----	-----	21.93	-----	-----	-----	1.69
12.53	0.64	76.62	1.68	-----	-----	-----	19.01	-----	-----	-----	1.68
12.57	0.60	76.55	1.67	-----	-----	-----	16.17	-----	-----	-----	1.67
12.60	0.56	76.49	1.66	-----	-----	-----	13.36	-----	-----	-----	1.66
12.63	0.53	76.42	1.65	-----	-----	-----	10.73	-----	-----	-----	1.65
12.67	0.51	76.35	1.64	-----	-----	-----	8.27	-----	-----	-----	1.64
12.70	0.49	76.28	1.63	0.02	-----	-----	5.97	-----	-----	-----	1.63
12.73	0.47	76.22	1.62	0.09	-----	-----	3.94	-----	-----	-----	1.62
12.77	0.46	76.15	1.61	0.11	-----	-----	2.35	-----	-----	-----	1.48
12.80	0.45	76.09	1.60	0.11	-----	-----	1.16	-----	-----	-----	1.26
12.83	0.44	76.06	1.60	0.10	-----	-----	0.71	-----	-----	-----	0.82
12.87	0.43	76.04	1.60	0.10	-----	-----	0.50	-----	-----	-----	0.61
12.90	0.42	76.03	1.60	0.10	-----	-----	0.40	-----	-----	-----	0.51
12.93	0.41	76.03	1.60	0.10	-----	-----	0.35	-----	-----	-----	0.46
12.97	0.40	76.03	1.60	0.10	-----	-----	0.32	-----	-----	-----	0.43
13.00	0.39	76.02	1.59	0.10	-----	-----	0.31	-----	-----	-----	0.41
13.03	0.38	76.02	1.59	0.10	-----	-----	0.29	-----	-----	-----	0.39
13.07	0.37	76.02	1.59	0.10	-----	-----	0.28	-----	-----	-----	0.38
13.10	0.36	76.02	1.59	0.10	-----	-----	0.27	-----	-----	-----	0.37
13.13	0.35	76.02	1.59	0.10	-----	-----	0.26	-----	-----	-----	0.36
13.17	0.35	76.02	1.59	0.10	-----	-----	0.25	-----	-----	-----	0.36
13.20	0.34	76.02	1.59	0.10	-----	-----	0.25	-----	-----	-----	0.35
13.23	0.33	76.02	1.59	0.10	-----	-----	0.24	-----	-----	-----	0.34
13.27	0.33	76.02	1.59	0.10	-----	-----	0.23	-----	-----	-----	0.34
13.30	0.32	76.02	1.59	0.10	-----	-----	0.23	-----	-----	-----	0.33
13.33	0.32	76.02	1.59	0.10	-----	-----	0.22	-----	-----	-----	0.32
13.37	0.31	76.02	1.59	0.10	-----	-----	0.22	-----	-----	-----	0.32
13.40	0.31	76.02	1.59	0.10	-----	-----	0.21	-----	-----	-----	0.31
13.43	0.30	76.02	1.59	0.10	-----	-----	0.21	-----	-----	-----	0.31
13.47	0.30	76.02	1.59	0.10	-----	-----	0.20	-----	-----	-----	0.30
13.50	0.29	76.02	1.59	0.10	-----	-----	0.20	-----	-----	-----	0.30
13.53	0.28	76.02	1.59	0.10	-----	-----	0.19	-----	-----	-----	0.29
13.57	0.28	76.02	1.59	0.10	-----	-----	0.19	-----	-----	-----	0.29
13.60	0.27	76.01	1.59	0.10	-----	-----	0.18	-----	-----	-----	0.28
13.63	0.27	76.01	1.59	0.10	-----	-----	0.18	-----	-----	-----	0.28
13.67	0.27	76.01	1.59	0.10	-----	-----	0.17	-----	-----	-----	0.27
13.70	0.26	76.01	1.59	0.10	-----	-----	0.17	-----	-----	-----	0.27

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
13.73	0.26	76.01	1.59	0.10	-----	-----	0.16	-----	-----	-----	0.26
13.77	0.25	76.01	1.59	0.10	-----	-----	0.16	-----	-----	-----	0.26
13.80	0.25	76.01	1.59	0.10	-----	-----	0.15	-----	-----	-----	0.25
13.83	0.25	76.01	1.59	0.10	-----	-----	0.15	-----	-----	-----	0.25
13.87	0.24	76.01	1.59	0.10	-----	-----	0.15	-----	-----	-----	0.25
13.90	0.24	76.01	1.59	0.10	-----	-----	0.14	-----	-----	-----	0.24
13.93	0.23	76.01	1.59	0.10	-----	-----	0.14	-----	-----	-----	0.24
13.97	0.23	76.01	1.59	0.10	-----	-----	0.13	-----	-----	-----	0.24
14.00	0.23	76.01	1.59	0.10	-----	-----	0.13	-----	-----	-----	0.23
14.03	0.22	76.01	1.59	0.10	-----	-----	0.13	-----	-----	-----	0.23
14.07	0.22	76.01	1.59	0.10	-----	-----	0.12	-----	-----	-----	0.22
14.10	0.22	76.01	1.59	0.10	-----	-----	0.12	-----	-----	-----	0.22
14.13	0.21	76.01	1.59	0.10	-----	-----	0.12	-----	-----	-----	0.22
14.17	0.21	76.01	1.59	0.10	-----	-----	0.11	-----	-----	-----	0.21
14.20	0.21	76.01	1.59	0.10	-----	-----	0.11	-----	-----	-----	0.21
14.23	0.21	76.01	1.59	0.10	-----	-----	0.11	-----	-----	-----	0.21
14.27	0.21	76.01	1.59	0.10	-----	-----	0.11	-----	-----	-----	0.21
14.30	0.20	76.01	1.59	0.10	-----	-----	0.11	-----	-----	-----	0.21
14.33	0.20	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
14.37	0.20	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
14.40	0.20	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
14.43	0.20	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
14.47	0.20	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
14.50	0.20	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
14.53	0.20	76.01	1.59	0.10	-----	-----	0.10	-----	-----	-----	0.20
14.57	0.19	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.20
14.60	0.19	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
14.63	0.19	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
14.67	0.19	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
14.70	0.19	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
14.73	0.19	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
14.77	0.19	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
14.80	0.18	76.01	1.59	0.10	-----	-----	0.09	-----	-----	-----	0.19
14.83	0.18	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.19
14.87	0.18	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
14.90	0.18	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
14.93	0.18	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
14.97	0.18	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
15.00	0.18	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
15.03	0.18	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
15.07	0.17	76.01	1.59	0.10	-----	-----	0.08	-----	-----	-----	0.18
15.10	0.17	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
15.13	0.17	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
15.17	0.17	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
15.20	0.17	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
15.23	0.17	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
15.27	0.17	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
15.30	0.16	76.01	1.59	0.10	-----	-----	0.07	-----	-----	-----	0.17
15.33	0.16	76.01	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.17

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
15.37	0.16	76.01	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
15.40	0.16	76.01	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
15.43	0.16	76.00	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
15.47	0.16	76.00	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
15.50	0.16	76.00	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
15.53	0.16	76.00	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
15.57	0.15	76.00	1.59	0.10	-----	-----	0.06	-----	-----	-----	0.16
15.60	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
15.63	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
15.67	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
15.70	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
15.73	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
15.77	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
15.80	0.15	76.00	1.59	0.10	-----	-----	0.05	-----	-----	-----	0.15
15.83	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.15
15.87	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
15.90	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
15.93	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
15.97	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
16.00	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
16.03	0.14	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
16.07	0.13	76.00	1.59	0.10	-----	-----	0.04	-----	-----	-----	0.14
16.10	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.14
16.13	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.17	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.20	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.23	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.27	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.30	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.33	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.37	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.40	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.43	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.47	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.50	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.53	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.57	0.13	76.00	1.59	0.10	-----	-----	0.03	-----	-----	-----	0.13
16.60	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.13
16.63	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.13
16.67	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.70	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.73	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.77	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.80	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.83	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.87	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.90	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.93	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
16.97	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
17.00	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.03	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.07	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.10	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.13	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.17	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.20	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.23	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.27	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.30	0.12	76.00	1.59	0.10	-----	-----	0.02	-----	-----	-----	0.12
17.33	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.12
17.37	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.40	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.43	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.47	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.50	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.53	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.57	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.60	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.63	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.67	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.70	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.73	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.77	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.80	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.83	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.87	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.90	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.93	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
17.97	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
18.00	0.11	76.00	1.59	0.10	-----	-----	0.01	-----	-----	-----	0.11
18.03	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.11
18.07	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.10	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.13	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.17	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.20	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.23	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.27	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.30	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.33	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.37	0.10	76.00	1.59	0.10	-----	-----	0.00	-----	-----	-----	0.10
18.40	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.43	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.47	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.50	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.53	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.57	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.60	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
18.63	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.67	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.70	0.10	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.73	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.77	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.80	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.83	0.09	76.00	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.87	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.90	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.93	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
18.97	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.00	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.03	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.07	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.10	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.13	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.17	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.20	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.23	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.27	0.09	75.99	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.30	0.09	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.33	0.09	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.37	0.09	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.40	0.09	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.43	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.47	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.50	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.53	0.08	75.98	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.57	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.60	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.63	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.67	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.70	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.73	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.77	0.08	75.97	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.80	0.08	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.83	0.08	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.87	0.08	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.90	0.08	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.93	0.08	75.96	1.59	0.10	-----	-----	-----	-----	-----	-----	0.10
19.97	0.08	75.96	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.00	0.08	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.03	0.08	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.07	0.08	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.10	0.08	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.13	0.08	75.95	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.17	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.20	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.23	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
20.27	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.30	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.33	0.07	75.94	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.37	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.40	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.43	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.47	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.50	0.07	75.93	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.53	0.07	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.57	0.07	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.60	0.07	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.63	0.07	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.67	0.07	75.92	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.70	0.07	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.73	0.07	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.77	0.07	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.80	0.07	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.83	0.07	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.87	0.07	75.91	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.90	0.07	75.90	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.93	0.07	75.90	1.58	0.10	-----	-----	-----	-----	-----	-----	0.10
20.97	0.07	75.90	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
21.00	0.07	75.90	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
21.03	0.07	75.90	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
21.07	0.07	75.89	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
21.10	0.07	75.89	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
21.13	0.07	75.89	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
21.17	0.07	75.89	1.58	0.09	-----	-----	-----	-----	-----	-----	0.09
21.20	0.07	75.89	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.23	0.07	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.27	0.07	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.30	0.07	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.33	0.07	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.37	0.07	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.40	0.07	75.88	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.43	0.07	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.47	0.07	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.50	0.07	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.53	0.07	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.57	0.07	75.87	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.60	0.07	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.63	0.07	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.67	0.07	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.70	0.07	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.73	0.07	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.77	0.07	75.86	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.80	0.07	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.83	0.07	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.87	0.07	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
21.90	0.07	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.93	0.07	75.85	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
21.97	0.07	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.00	0.07	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.03	0.07	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.07	0.07	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.10	0.07	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.13	0.07	75.84	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.17	0.07	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.20	0.07	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.23	0.07	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.27	0.07	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.30	0.07	75.83	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.33	0.07	75.82	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.37	0.07	75.82	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.40	0.07	75.82	1.57	0.09	-----	-----	-----	-----	-----	-----	0.09
22.43	0.07	75.82	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.47	0.07	75.82	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.50	0.07	75.82	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.53	0.07	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.57	0.07	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.60	0.07	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.63	0.07	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.67	0.07	75.81	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.70	0.07	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.73	0.07	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.77	0.07	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.80	0.07	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.83	0.07	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.87	0.07	75.80	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.90	0.07	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.93	0.07	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
22.97	0.07	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.00	0.07	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.03	0.07	75.79	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.07	0.07	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.10	0.07	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.13	0.07	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.17	0.07	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.20	0.07	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.23	0.07	75.78	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.27	0.07	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.30	0.07	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.33	0.07	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.37	0.07	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.40	0.07	75.77	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.43	0.07	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.47	0.07	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.50	0.07	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
23.53	0.07	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.57	0.06	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.60	0.06	75.76	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.63	0.06	75.75	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.67	0.06	75.75	1.56	0.09	-----	-----	-----	-----	-----	-----	0.09
23.70	0.06	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
23.73	0.06	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
23.77	0.06	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
23.80	0.06	75.75	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
23.83	0.06	75.74	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
23.87	0.06	75.74	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
23.90	0.06	75.74	1.55	0.09	-----	-----	-----	-----	-----	-----	0.09
23.93	0.06	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
23.97	0.06	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.00	0.06	75.74	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.03	0.06	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.07	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.10	0.05	75.73	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.13	0.03	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.17	0.02	75.72	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.20	0.02	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.23	0.01	75.71	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.27	0.00	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.30	0.00	75.70	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.33	0.00	75.69	1.55	0.08	-----	-----	-----	-----	-----	-----	0.08
24.37	0.00	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.40	0.00	75.68	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.43	0.00	75.67	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.47	0.00	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.50	0.00	75.66	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.53	0.00	75.65	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.57	0.00	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.60	0.00	75.64	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.63	0.00	75.63	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.67	0.00	75.62	1.54	0.08	-----	-----	-----	-----	-----	-----	0.08
24.70	0.00	75.62	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
24.73	0.00	75.61	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
24.77	0.00	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
24.80	0.00	75.60	1.53	0.08	-----	-----	-----	-----	-----	-----	0.08
24.83	0.00	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
24.87	0.00	75.59	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
24.90	0.00	75.58	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
24.93	0.00	75.57	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
24.97	0.00	75.57	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
25.00	0.00	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
25.03	0.00	75.56	1.53	0.07	-----	-----	-----	-----	-----	-----	0.07
25.07	0.00	75.55	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.10	0.00	75.54	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.13	0.00	75.54	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
25.17	0.00	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.20	0.00	75.53	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.23	0.00	75.52	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.27	0.00	75.51	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.30	0.00	75.51	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.33	0.00	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.37	0.00	75.50	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.40	0.00	75.49	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.43	0.00	75.49	1.52	0.07	-----	-----	-----	-----	-----	-----	0.07
25.47	0.00	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
25.50	0.00	75.48	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
25.53	0.00	75.47	1.51	0.07	-----	-----	-----	-----	-----	-----	0.07
25.57	0.00	75.46	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.60	0.00	75.46	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.63	0.00	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.67	0.00	75.45	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.70	0.00	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.73	0.00	75.44	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.77	0.00	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.80	0.00	75.43	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.83	0.00	75.42	1.51	0.06	-----	-----	-----	-----	-----	-----	0.06
25.87	0.00	75.42	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
25.90	0.00	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
25.93	0.00	75.41	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
25.97	0.00	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
26.00	0.00	75.40	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
26.03	0.00	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
26.07	0.00	75.39	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
26.10	0.00	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
26.13	0.00	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
26.17	0.00	75.38	1.50	0.06	-----	-----	-----	-----	-----	-----	0.06
26.20	0.00	75.37	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
26.23	0.00	75.37	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
26.27	0.00	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
26.30	0.00	75.36	1.50	0.05	-----	-----	-----	-----	-----	-----	0.05
26.33	0.00	75.35	1.49	0.05	-----	-----	-----	-----	-----	-----	0.05

...End

FILE: **2000187-SedTrap.xls**
Project: Laundry Facility at Kingsmill
Date: 20-Sep-00

LandMark Design Group
4029 Ironbound Rd., Suite 100
Williamsburg, Virginia 23188

SEDIMENT TRAP SIZING

TRAP NUMBER	PRE-CONSTRUCTION DRAINAGE AREA (AC)	POST CONSTRUCTION DRAINAGE AREA (AC)	VOLUME REQUIRED (134CY/AC)	WET DEPTH (FT)	WATER SURFACE DIMENSIONS LENGTH (FT)	WATER SURFACE DIMENSIONS WIDTH (FT)	AREA OF WATER SURFACE (SF)	DRY DEPTH (FT)	WET VOLUME PROVIDED (CY)	DRY VOLUME PROVIDED (CY)	TOTAL VOLUME PROVIDED (CY)	OK?
1	0.674	0.674	90.316 ✓	1.5	110	10	1100	1	51.94	49.93	101.87	YES
2	0	0	0	0	0	0	0	0	0.00	0.00	0.00	NO
									61.11	40.74	101.85	

OUTFALL SIZING

TRAP NUMBER	DRY DEPTH (FT)	H	Ho	W	L
1	1.0	2.0	1.0	2.0	4.044
2	0.0	1.0	0.0	#N/A	0

STANDARDS

H	Ho	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
2.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

LAUNDRY FACILITY AT KINGSMILL

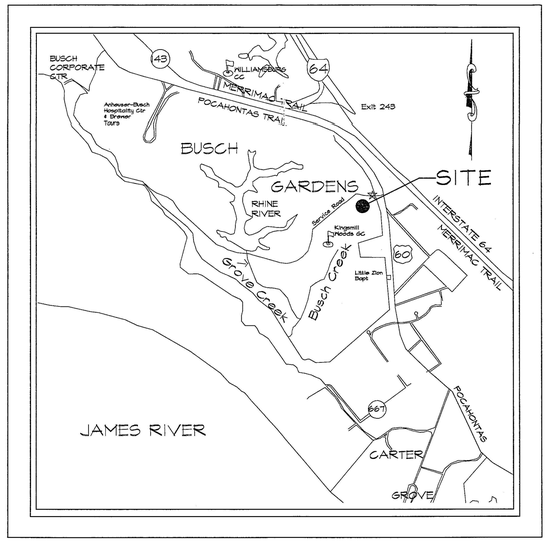
ROBERTS MAGISTERIAL DISTRICT
JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

SEPTEMBER 19, 2000
REV: NOVEMBER 20, 2000

LEGEND

EXISTING		PROPOSED
SAN	SANITARY SEWER	SAN
W	WATER	W
S	STORM SEWER	S
E	ELECTRIC LINE	E
T	TELEPHONE	T
G	GAS LINE	G
TV	CABLE TV LINE	TV
FM	FORCE MAIN	FM
OH	OVERHEAD CABLE	OH
	MANHOLE	
	CURB DROP INLET	
	YARD DROP INLET	
	CLEANOUT	
	FLARED END SECTION	
	VALVE	
	WATER METER	
	FIRE HYDRANT	
	POWER POLE	
	LIGHT POLE	
	TELEPHONE PEDESTAL	
	TELEPHONE POLE	
25.1	GROUND ELEVATION	25.10 T.C.
	CEMENT CONCRETE	
	BITUMINOUS CONCRETE	
	CONCRETE CURB	
	CG-6 CURB & GUTTER	
	CG-6(MOD) CURB & GUTTER	
	CURB TRANSITION CG-6 TO CG-6(MOD)	
	PROJECT LIMITS	
	CENTERLINE/BASELINE	
	PROPERTY LINE	
	DITCH SWALE LINE	
	DIRECTION OF FLOW	
	TREE LINE	
X	FENCE	X
	BORING	
	BENCH MARK	
	EASEMENT LINE	
	BLOW-OFF VALVE	
	DIVERSION DIKE	DD
	CONSTRUCTION ENTRANCE	CE
	SILT FENCE	SF
	CULVERT INLET PROTECTION	CIP
	TREE PROTECTION	TP

NOTE: SOME SYMBOLS SHOWN IN THIS LEGEND MAY NOT NECESSARILY BE USED FOR THIS PROJECT.



VICINITY MAP
ADC PERMIT USE NO. 20300759

SCALE: 1"=2000'

Miss Utility of Virginia
204 RIVERS BEND BOULEVARD
CHESTER, VIRGINIA 23831

48 HOURS BEFORE YOU DIG CALL MISS UTILITY OF VIRGINIA

BEFORE YOU DIG ANYWHERE IN VIRGINIA! CALL 1-800-552-7001

VA LAW REQUIRES 48 HOURS NOTICE BEFORE YOU EXCAVATE.

OWNER/DEVELOPER
KINGSMILL RESORTS
c/o JESSE C. YOUNG
1010 KINGSMILL ROAD
WILLIAMSBURG, VIRGINIA 23185
TEL. (757) 253-3931

SITE ENGINEER
LANDMARK DESIGN GROUP
4029 IRONBOUND ROAD, SUITE 100
WILLIAMSBURG VA, 23188
PHONE: (757) 253-2975
FAX: (757) 229-0049

SHEET INDEX

SHT. NO.	DESCRIPTION
C-1	COVER SHEET
C-2	SITE PLAN
C-2a	NARRATIVE AND OVERALL PLAN
C-3	WATER & FORCE MAIN PROFILES
C-4	SITE DETAILS & NOTES
C-5	EROSION CONTROL DETAILS & NOTES
C-6	LIFT STATION ELEVATIONS & SECTIONS
C-7	LIFT STATION NOTES
L-1	LANDSCAPE PLAN
L-2	LANDSCAPE DETAILS & NOTES
F-1	LIGHTING PLAN

NOTES:

1. PROPERTY IS TO BE SERVED BY PUBLIC WATER AND PUBLIC SANITARY SEWER.
2. STORM WATER MANAGEMENT IS PROVIDED ONSITE BY SEDIMENT TRAP INSTALLED BY DEVELOPER.
3. ALL STREETS AND PARKING AREAS WITHIN THE PROJECT SITE ARE PRIVATE PROPERTY.
4. ALL SIGNS REQUIRE AN APPROVED SIGN PERMIT AND MUST BE IN ACCORDANCE WITH ARTICLE II, DIVISION 3 OF THE ZONING ORDINANCE.
5. LIGHT POLES AND FIXTURES SHALL BE IDENTICAL TO THE TYPICAL KINGSMILL RESORT FIXTURES AT THE CONFERENCE CENTER AREA. ALL PARKING LOT LIGHTING SHALL BE IN ACCORDANCE WITH SECTION 24-57(c)(3) OF THE ZONING ORDINANCE.

SP-116-00

NOV 2000
RECEIVED
PLANNING DEPARTMENT

STATISTICAL DATA

DISTRICT:	ROBERTS MAG. DIST.
TAX MAP:	(52-3)(01-110)
ZONING:	M1
USE:	LAUNDRY FACILITY
TOTAL SITE AREA	286 ACRES (+/-)
IMPERVIOUS AREA:	0.42 ACRES
GROSS FLOOR AREA:	6,250 S.F.
PARKING REQUIRED: (PER ARTICLE 24-59(c) FOR 10 EMPLOYEES)	5 SPACES
PARKING (STD.) PROVIDED:	10 SPACES
DISABLED PARKING REQUIRED:	1 SPACES
DISABLED PARKING PROVIDED:	1 SPACES
TOTAL PARKING PROVIDED:	11 SPACES

COUNTY OF JAMES CITY
FINAL SITE PLAN

APPROVALS		DATE
Fire Dept	JOI/CMJ	12-4-00
Health Dept	GG/CMJ	9-27-00
VDOT	VEM/CMJ	10-3-00
Planning		12/6/00
Environ.	DEC/CMJ	11-28-00
Zoning Adm.		12/6/00
JCSA	KLL/CMJ	11-8-00
County Eng.	LWB/CMJ	10-3-00
REA	MS/CMJ	10-27-00
Other		

COMMONWEALTH OF VIRGINIA
11-20-00
STEPHEN A. ROMEO
No. 1448-B
LAND SURVEYOR

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel. (757) 253-2975
Fax. (757) 229-0049
Email: lmdg@landmarkdesgrp.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel. (757) 473-2000
Fax. (757) 473-2001
Email: lm_vbgroup@ix.netcom.com

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

No.	Date	Comment	By

REVISIONS:

DRAWING STATUS: Interdiv. Review / Client for Review / Pre Approval Bidding

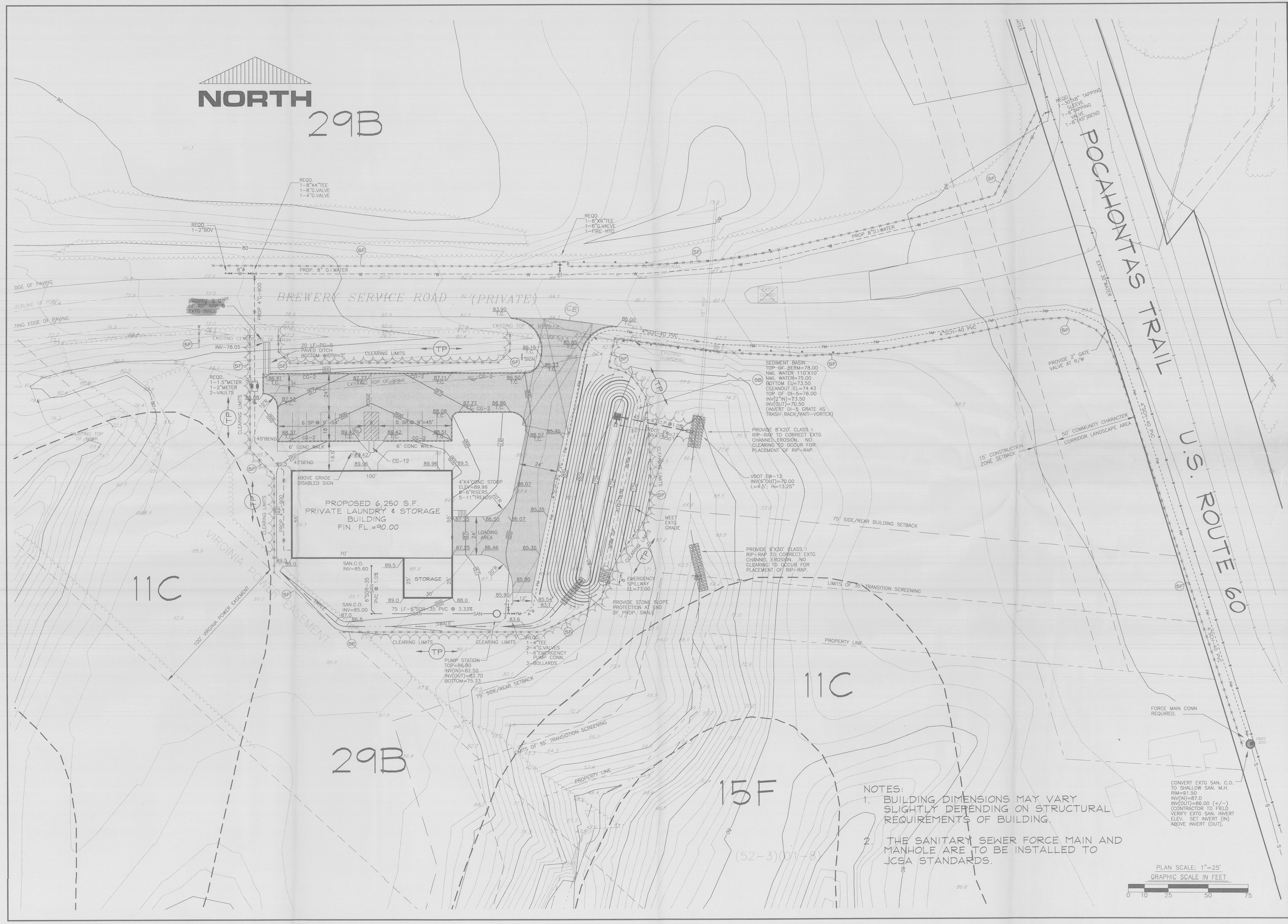
COUNTY APPROVAL: 1st Submittal / 2nd Submittal / 3rd Submittal / Approved

COVER SHEET
LAUNDRY FACILITY
AT
KINGSMILL
JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

Designed: MRG	Date: 09-19-00
Checked: SAR	Scale: 1"=25'
File Mgr./Drawn: MRG	CADD File name: Cover.dwg
Project Number: 2000186-000.03	Plot File: cover.plt
Drawing Number	C-1

1 OF 11

11821 W



NOTES:

1. BUILDING DIMENSIONS MAY VARY SLIGHTLY DEPENDING ON STRUCTURAL REQUIREMENTS OF BUILDING.
2. THE SANITARY SEWER FORCE MAIN AND MANHOLE ARE TO BE INSTALLED TO JCSA STANDARDS.

COMMONWEALTH OF VIRGINIA
11-20-00
STEPHEN A. ROMEO
No. 1448-B
LAND SURVEYOR

4029 Ironbound Road
Suite 200
Williamsburg, VA 23188
Tel. (757) 253-2975
Fax. (757) 253-2976
Email: info@landmarkdg.com

5544 Greenwich Road
Suite 205
Virginia Beach, VA 23462
Tel. (757) 473-2000
Fax. (757) 473-2001
Email: info@landmarkdg.com

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

REVISIONS			
No.	Date	Comment	By

DRAWING STATUS	COUNTY APPROVAL
Interoffice Review	1st Submittal
Client for Review	2nd Submittal
Pre Approval Bidding	3rd Submittal
	Approved

SITE PLAN

LAUNDRY FACILITY AT KINGSMILL

JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

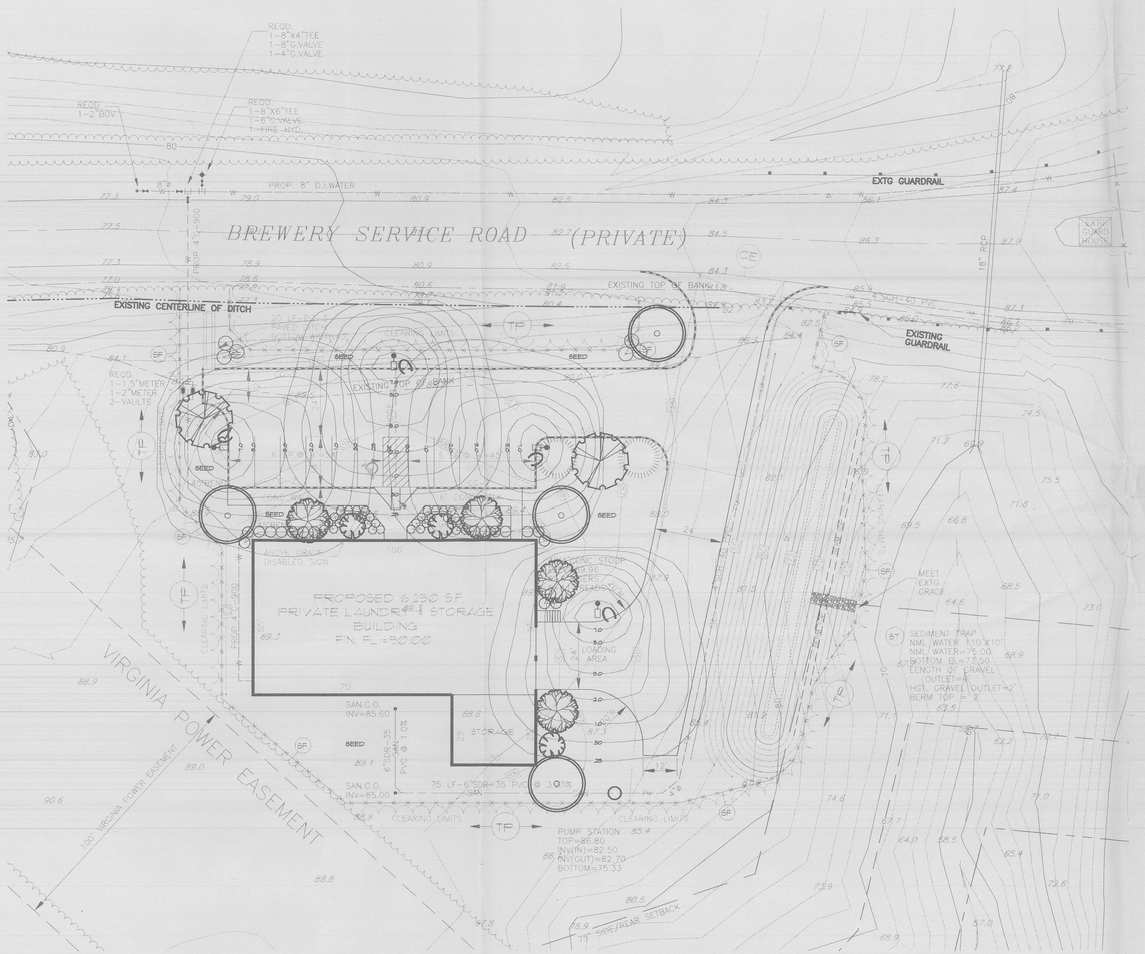
Designed: MRG	Date: 11/20/00
Checked: SAR	Scale: 1"=25'
File Mgr./Drawn: MRG	CADD File name: plan.dwg
Project Number: 2000188-000.03	Plot. File : plan.plt

Drawing Number C-2

3 OF 11

11820 W

NORTH



PLAN SCALE: 1"=25'
GRAPHIC SCALE IN FEET
0 10 25 50 75

LIGHTING NOTES

GENERAL

1. THIS DRAWING IS INTENDED SOLELY FOR THE PURPOSE OF DESIGNATING EXTERIOR LIGHTING FIXTURING AND FIXTURE LOCATIONS NECESSARY TO ACHIEVE ONE FOOTCANDLE AT PAVEMENT.

2. INSTALLATION OF POLES AND LIGHTING FIXTURES SHALL BE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

3. SOURCE OF ELECTRICAL POWER, CIRCUITRY, WIRE SIZE AND ANY OTHER ELECTRICAL REQUIREMENTS ARE TO BE RESOLVED BETWEEN THE OWNER AND THE CONTRACTOR.

SPECIFICATIONS

FIXTURE IDENTIFICATION: C

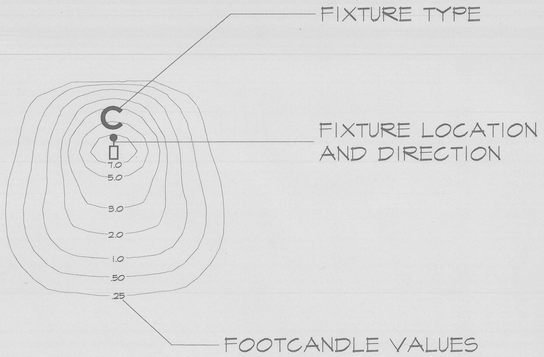
DESCRIPTION

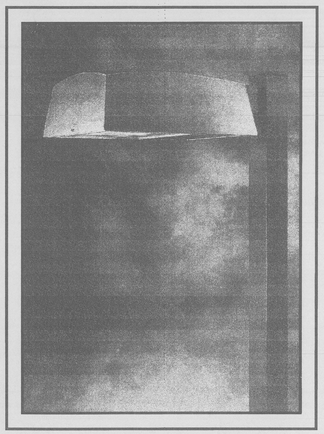
STERNER PARKDALE 250MH NEMA TYPE IV
ON 20 FT WHATLEY SMOOTH FIBERGLASS POLE

CATALOG NUMBER

PD30A10FN-250H-VND-BLK-
RADARM-E3025-12-54-S

LIGHTING LEGEND





STERNER
PARKDALE

COMMONWEALTH OF VIRGINIA
THEODORE RICHARD CALVER
NO. 000787
09/19/00
LICENSED LANDSCAPE ARCHITECT

4029 Ironbound Road
Suite 200
Williamsburg, VA 23188
Tel. (757) 253-2975
Fax. (757) 220-9049
Email: lmrg@landmarkdsgb.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel. (757) 473-2030
Fax. (757) 473-2031
Email: lmvb@landmarkdsg.com

LANDMARK DESIGN GROUP
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No.	Date	REVISIONS	By
		Comment	

DRAWING STATUS
- Interoffice Review
- Client for Review
- Pre Approval Bidding

COUNTY APPROVAL
- 09/19/00 1st Submittal
- 2nd Submittal
- 3rd Submittal
- Approved

LIGHTING PLAN
AT
LAUNDRY FACILITY
AT
KINGSMILL
JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

Designed: TRC	Date: 09/19/00
Checked: MRG	Scale: 1"=25'
File Mgr./Drawn: TRC	CADD File name: F-1.DWG
Project Number: 2000186-000.03	Dwg. File No.: 11812W
Drawing Number: F-1	

10 OF 10

11812W

DETENTION BASIN EMBANKMENT CONSTRUCTION

1. STRIP EMBANKMENT SUBGRADE OF ALL TOPSOIL, ORGANIC MATTER, AND SOFT AND LOOSE SOILS PRIOR TO PLACEMENT OF FILL MATERIALS.
2. PROOF ROLL SUBGRADE WITH A LOADED TANDEM DUMP TRUCK OR SIMILAR EQUIPMENT UNDER THE OBSERVATION OF THE ENGINEER.
3. UNDERCUT AREAS THAT EXHIBIT EXCESSIVE PUMPING OR WEAVING.
4. PLACE FILL IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND COMPACT TO AT LEAST 95% OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D-698, STANDARD PROCTOR. COMPACT FILL TO A MOISTURE CONTENT WITHIN 3% ABOVE AND 1% BELOW THE OPTIMUM MOISTURE CONTENT FOR THE MATERIAL.
5. EMBANKMENT FILL SHALL CONSIST OF UNIFIED SOIL CLASSIFICATION SYSTEM ASTM D-2487 MATERIALS, SM,SC,ML,MH, OR CL, FREE OF ALL ORGANIC MATERIALS.
6. SCARIFY TO 2 OR 3 INCHES IN DEPTH THE SURFACE OF EACH COMPLETED LIFT OF COMPACTED FILL PRIOR TO PLACING ADDITIONAL FILL TO LIMIT THE DEVELOPMENT OF HORIZONTAL SEEPAGE PLAINS.
7. COMPACT FILL IN HORIZONTAL LIFTS.
8. BENCH ALL SURFACES STEEPER THAN 4:1 SCHEDULED TO RECEIVE FILL. DO NOT EXCEED BENCH HEIGHTS OF 2 FEET.
9. PROVIDE SITE DRAINAGE TO MAINTAIN SUBGRADES FREE OF WATER AND TO AVOID SATURATION AND DISTURBANCE OF THE SUBGRADE SOILS PRIOR TO CONSTRUCTION OF FOUNDATIONS AND PLACING FILL. REMOVE ANY SOILS THAT HAVE BEEN WEAKENED DUE TO SATURATION AND DISTURBANCE AS RECOMMENDED BY THE ENGINEER. PROVIDE SITE DRAINAGE TO MAINTAIN ANY EXISTING BASE FLOW AS NECESSARY AND TEMPORARY EROSION AND SEDIMENT CONTROL AS NECESSARY DURING CONSTRUCTION.
10. DEWATER DAM FOUNDATION AREAS (WELL POINTING OR PUMPING FROM SUMPS), AND DELIVER SURFACE WATER AWAY FROM THE WORK AREA TO ALLOW PROPER EXECUTION OF THE CONSTRUCTION.
11. MAINTAIN THE DAM FOUNDATION FREE OF PONDED WATER, EXCESSIVELY MUDDY CONDITIONS AND IN DRAINABLE CONDITION AS NEEDED FOR PROPER EXECUTION OF THE CONSTRUCTION WORK.

DETENTION BASIN MAINTENANCE PLAN

THE OWNER, KINGSMILL RESORTS, SHALL BE RESPONSIBLE FOR DIRECTING AND OVERSEEING THE SCHEDULED MAINTENANCE OF THE ON-SITE EXTENDED DETENTION BASIN FACILITY. THE MAINTENANCE REQUIREMENTS ARE OUTLINED AS FOLLOWS:

ROUTINE MAINTENANCE:

A. MOWING – THE UPPER STAGE SIDE SLOPES SHALL BE MOWED TO DISCOURAGE WOODY GROWTH AND TO CONTROL WEEDS. THE FREQUENCY OF MOWING SHALL DEPEND ON VISUAL INSPECTIONS PERFORMED AT LEAST FOUR TIMES A YEAR.

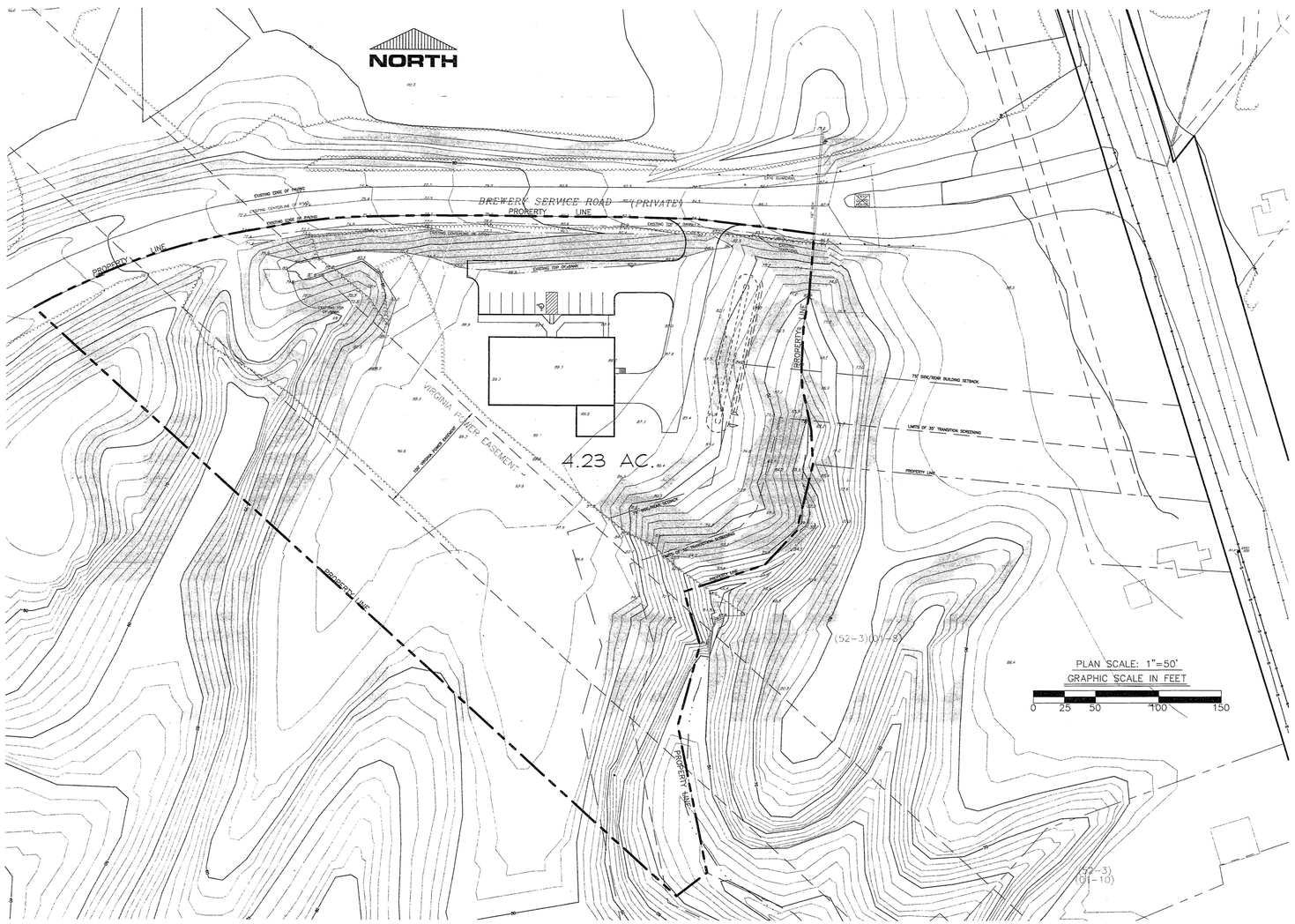
B. INSPECTIONS – THE ENTIRE DETENTION BASIN AREAS AND OUTLET CONTROL STRUCTURES SHALL BE INSPECTED ON AN ANNUAL BASIS. INSPECTION PRIORITIES SHALL INCLUDE CHECKING FOR SIDE SLOPE OR EMBANKMENT EROSION; TREE GROWTH; CONDITION OF THE OUTLET CONTROL STRUCTURE, AND THE ACCUMULATION OF SEDIMENT OR CLOGGING OF THE OUTLET CONTROL STRUCTURE.

C. DEBRIS AND LITTER REMOVAL – ANY ACCUMULATION OF DEBRIS AND LITTER NEAR THE OUTLET CONTROL STRUCTURES, PARTICULARLY FLOATABLE DEBRIS, SHALL BE REMOVED DURING SCHEDULED MOWING OPERATIONS OR AS NEEDED.

NON-ROUTINE MAINTENANCE:

A. STRUCTURAL REPAIRS AND REPLACEMENT – REPAIRS OR REPLACEMENT OF THE OUTLET CONTROL STRUCTURES SHALL BE PERFORMED ON AN AS-NEEDED BASIS TO INSURE PROPER OPERATION.

B. SEDIMENT REMOVAL – AFTER EACH SIGNIFICANT RAINFALL, THE BASIN AREAS SHALL BE INSPECTED FOR ACCUMULATION OF SEDIMENT OR DEBRIS WHICH MAY HINDER THE PERFORMANCE OF THE OUTLET CONTROL STRUCTURE.



OVERALL PLAN

SCALE: 1"=50'

EROSION AND SEDIMENT CONTROL NARRATIVE

GENERAL

PROJECT DESCRIPTION: THE PURPOSE OF THIS PROJECT IS TO PROVIDE EROSION AND SEDIMENT CONTROL FOR THE DEVELOPMENT AREA FOR A PROPOSED LAUNDRY FACILITY TO SERVE KINGSMILL RESORTS.

EXISTING SITE CONDITIONS: THIS SITE IS ALMOST ENTIRELY WOODED AND CONSISTS OF MODERATELY SLOPING LAND. IT IS BOUNDED ON THE NORTH BY THE BREWERY SERVICE ROAD, ON THE SOUTHWEST BY A VIRGINIA POWER EASEMENT, AND ON THE EAST BY A RAVINE WHICH DRAINS LAND OWNED BY BUSCH PROPERTIES INC. ON THE NORTH SIDE OF THE BREWERY SERVICE ROAD.

SOILS: PREDOMINANT SOILS WHICH WILL BE DISTURBED ARE THE SLAGLE SERIES. THE SLAGLE SERIES CONSISTS OF DEEP AND MODERATELY DRAINED SOILS. THEY ARE FORMED IN STRATIFIED LOAMY AND CLAYEY FLUVIAL AND MARINE SEDIMENTS. SLAGEL SOILS ARE ON UPLAND FLATS, IN SLIGHT DEPRESSIONS, AND ON SIDE SLOPES OF SMALL DRAINAGEWAYS. SLOPES GENERALLY RANGE FROM 0 TO 6 PERCENT. PERMEABILITY IS MODERATE IN THE UPPER PART OF THE SUBSOIL AND MODERATELY SLOW OR SLOW IN THE LOWER PART. tHE AVAILABLE WATER CAPACITY IS MODERATE AND SURFACE RUNOFF IS MEDIUM. THE EROSION HAZARD IS MODERATE. tHE SOILHAS MODERATE SHRINK-SWELL POTENTIAL. THIS SOIL IS LOW IN ORGANIC MATTER AND NATURAL FERTILITY.

CRITICAL EROSION AREAS: THE CRITICAL EROSION AREAS FOR THIS PROJECT WILL BE ANY SLOPES THAT ARE STEEPER THAN 3:1, WHICH WILL EXIST ALONG THE RAVINE ON THE EAST SIDE OF THE DISTURBED AREA. THERE ARE TWO ERODED AREAS IN THE CHANNEL OF THE EXISTING RAVINE. THESE ARE TO BE CORRECTED BY PLACEMENT OF CLASS I RIP-RAP. NO CLEARING IS TO OCCUR FOR PLACEMENT OF THIS RIP-RAP.

EROSION AND SEDIMENT CONTROL MEASURES: ALL VEGETATIVE STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHOWN ON THE DRAWINGS WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION AND THE JAMES CITY COUNTY EROSION AND SEDIMENT CONTROL NOTES, LATEST REVISION.

STRUCTURAL PRACTICES

1. TREE PROTECTION 3.38: TREE PROTECTION SHOULD BE INSTALLED PRIOR TO CLEARING OPERATIONS. IF THE ONSITE INSPECTOR DEEMS TREE PROTECTION NOT NECESSARY AT CERTAIN LOCATIONS IT MAY BE ELIMINATED.
2. TEMPORARY CONSTRUCTION ENTRANCE 3.02: THE TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE PROJECT CONNECTS TO THE BREWERY SERVICE ROAD.
3. SILT FENCE BARRIERS 3.05: SILT FENCE SHALL BE INSTALLED ALONG ALL TOES OF FILL AND IN AREAS WHICH DRAIN OFFSITE.
4. OUTLET PROTECTION 3.18: CLASS 1 RIP-RAP SHOULD BE INSTALLED AT ALL STORM DRAIN AND PAVED SWALE OUTFALLS.
5. TEMPORARY SEDIMENT TRAP 3.14: TEMPORARY SEDIMENT BASIN SHALL BE INSTALLED IN CONJUNCTION WITH THE CULVERT INLET PROTECTION.
6. PERMANENT SEEDING 3.32: PERMANENT SEEDING SHALL BE APPLIED TO ALL EXPOSED AREAS OF THE SITE ONCE FINAL GRADING HAS BEEN ESTABLISHED.
7. SOIL STABILIZATION MATTING (VDOT STANDARD): SOIL STABILIZATION MATTING SHALL BE APPLIED TO ALL SWALES AND DITCHES WHERE CALLED FOR ON THE PLANS AND AS NECESSARY WHERE SLOPES ARE LESS THAN 3:1. MATTING SHALL BE INSTALLED IN ACCORDANCE WITH VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, LATEST EDITION.
8. EC-2 MATTING: EC-2 MATTING SHOULD BE APPLIED TO ALL SLOPES STEEPER THAN 3:1 AS PERMANENT EROSION CONTROL MATTING TO ALLOW FOR A STABLE VEGETATIVE SLOPE FACE.

MANAGEMENT STATEGIES AND SEQUENCE OF CONTRUCTION

SITE PLAN

1. LIMITS OF CLEARING SHALL BE FLAGGED, TREE PROTECTION AND SILT FENCE SHALL BE INSTALLED.
2. THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED.
3. THE CONTRACTOR SHALL CLEAR ENOUGH OF THE SITE TO INSTALL THE SEDIMENT BASIN FIRST. THE RISER AND OUTFALL PIPE SHOULD BE INSTALLED NEXT. THE AREAS IN THE EXISTING CHANNEL ARE TO BE REPAIRED WITH RIP-RAP AFTER THE SEDIMENT BASIN AND RAVINE CHANNEL REPAIR ARE IN PLACE. THE REST OF THE SITE CAN BE CLEARED AND GRUBBED ONCE THE SEDIMENT BASIN IS INSTALLED.
4. THE SWALE ON THE SOUTH SIDE OF THE BUILDING IS TO BE CONSTRUCTED AS A FIRST MEASURE OF ROUGH GRADING THE SITE.
5. SITE GRADING AND BUILDING PAD TO BE CONSTRUCTED BEFORE UTILITIES AND SERVICES ARE BROUGHT TO THE SITE.
6. SITE TO BE TEMPORARY SEEDED WITHIN 7 DAYS OF ROUGH GRADING.

OFFSITE SANITARY SEWER

1. CONTRACTOR SHALL INSTALL NECESSARY TREE PROTECTION AND SILT FENCING SO ANY CLEARING FOR THE OFFSITE SANITARY SEWER FORCE MAIN CONSTRUCTION CAN OCCUR. STARTING AT THE EXISTING MANHOLE SHOWN ALONG ROUTE 60, THE FORCE MAIN CAN BE INSTALLED AND CAPPED AT THE LOCATION OF THE PROPOSED ON-SITE PUMPING STATION.
2. ONCE THE GRAVITY PORTION OF THE SITE SEWER SYSTEM IS INSTALLED, THE PUMPING STATION CAN BE INSTALLED.
3. UPON COMPLETION OF THE INSTALLATION OF THE SANITARY SEWER THE CONTRACTOR SHALL RESTORE THE SLOPES AND PERMANENTLY SEED ALL DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES ON THE PLANS.
4. CONTRACTOR MAY PERFORM THE SANITARY SEWER CONSTRUCTION CONCURRENTLY WITH THE CONSTRUCTION BEING UNDERTAKEN ON THE BUILDING SITE.

OFFSITE WATER MAIN AND SERVICE

1. CONTRACTOR SHALL INSTALL NECESSARY TREE PROTECTION AND SILT FENCING SO ANY CLEARING FOR THE OFFSITE WATER MAIN MAY OCCUR.
2. THE 8" MAIN SHALL BE INSTALLED AND THEN THE SERVICE LATERAL. AFTER INSPECTION, THE MAIN MAY BE TAPPED TO THE EXISTING 30" WATER NNWW MAIN AT ROUTE 60 BEFORE THE WATER METER IS SET.
3. UPON COMPLETION OF THE INSTALLATION OF THE WATER SERVICE THE CONTRACTOR SHALL RESTORE THE SLOPES AND PERMANENTLY SEED ALL DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES ON THE PLANS.
4. CONTRACTOR MAY PERFORM THE WATER SERVICE CONSTRUCTION CONCURRENTLY WITH THE CONSTRUCTION BEING UNDERTAKEN ON THE BUILDING SITE.

NOTES:

1. PROVIDE EC-2 MATTING ON ALL SLOPES STEEPER THAN 3:1.
2. FINAL SITE STABILIZATION SHALL BE IN ACCORDANCE WITH THE CURRENT VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (THIRD EDITION 1992).
3. THERE ARE NO TEMPORARY ONSITE SOIL STOCKPILES. ALL EXCAVATED MATERIAL SHALL BE HAULED OFFSITE. STAGING AND EQUIPMENT STORAGE SHALL BE LOCATED IN THE BUILDING PAD AREA DURING SITE WORK.
4. THERE ARE NOT OFFSITE LAND DISTURBING AREAS OTHER THAN THAT FOR THE INSTALLATION OF THE SANITARY FORCE MAIN AND WATER MAIN CONNECTION TO POCAHONTAS TRAIL (RTE. 60). EROSION CONTROL MEASURES HAVE BEEN SHOWN ON THE SITE PLAN FOR THE INSTALLATION OV THESE UTILITIES.
5. SHADED AREAS ON THIS PLAN DEPICT EXISTING SLOPES THAT ARE 25% OR GREATER. THERE ARE NO TIDAL WETLANDS, TIDAL SHORES, NON-TIDAL WETLANDS IN A RPA, RESOURCE PROTECTION AREAS OR NON-TIDAL WETLANDS IN A RMA WITHIN THIS SITE DEVELOPMENT AREA.

COMMONWEALTH OF VIRGINIA
11-20-00
STEPHEN A. ROMEO
No. 1448-B
LAND SURVEYOR

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel (757) 253-0040
Fax (757) 229-0049
Email: lmg@landmarkdpg.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel (757) 473-2000
Fax (757) 497-7933
Email: lmvb@landmarkdg.com

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

REVISIONS: No.	Date	Comment	By

DRAWING STATUS
- Interdiffice Review
- Client for Review
- Pre Approval Bidding

COUNTY APPROVAL
- 1st Submittal
- 2nd Submittal
- 3rd Submittal
- Approved

NARRATIVE AND OVERALL PLAN

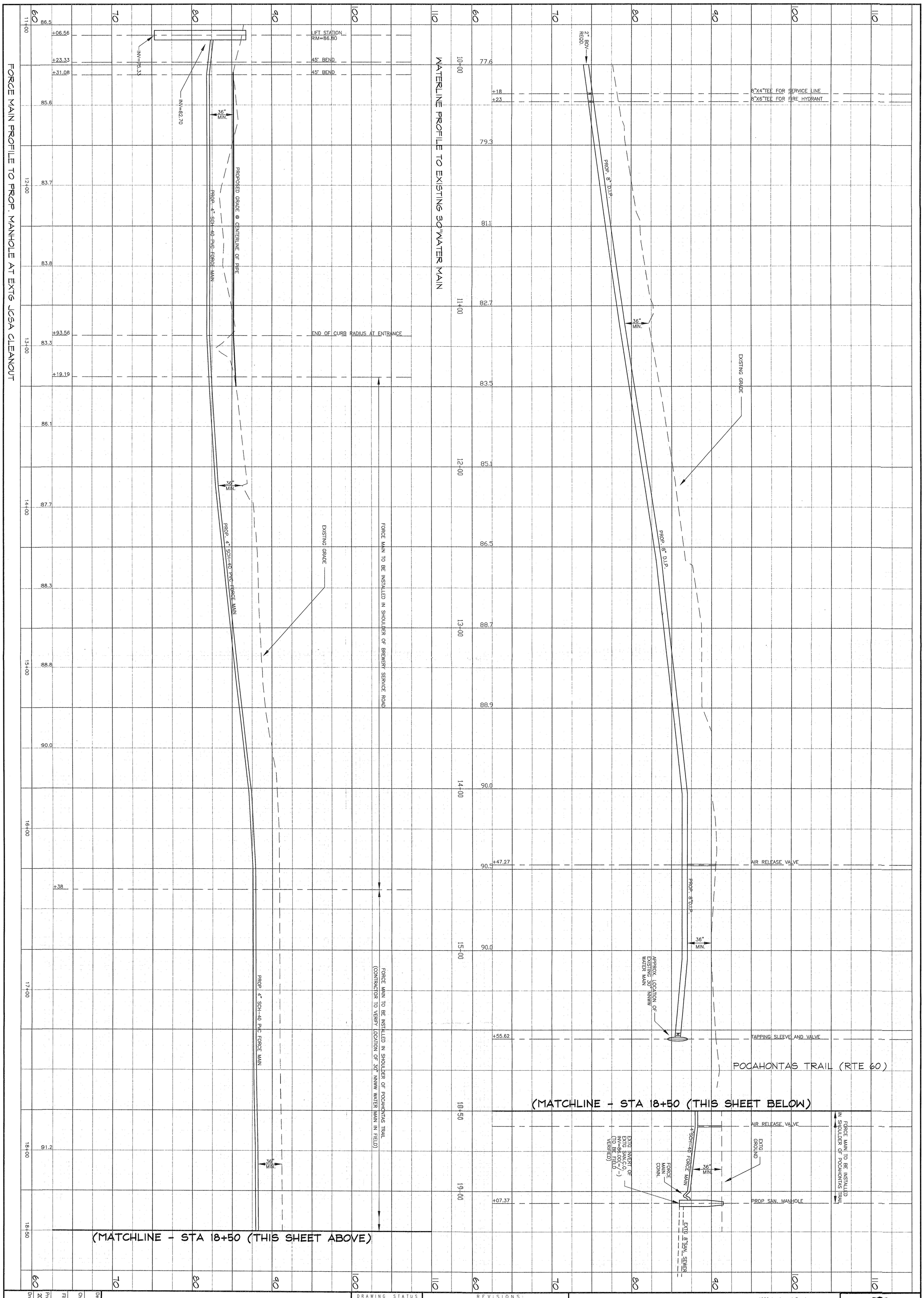
LAUNDRY FACILITY AT KINGSMILL
JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

Designed: MRG	Date: 11/20/00
Checked: SAR	Scale: 1"=50'
File Mgr./Drawn: MRG	CADD File name: overall.dwg
Project Number: 2000186-000.03	Plot. File : overall.plt

Drawing Number: C-2a

2 OF 11

11820a W



WATER & FORCE MAIN PROFILES

LAUNDRY FACILITY AT KINGSMILL

JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

Designed: MRG	Checked: SAR
Date: 11/20/00	Scale: 1"=25'
File Mgr./Drawn: MRG	CADD File name: profile.dwg
Project Number: 2000186-000.03	Plot File: profile.plt
Drawing Number C-3	3 OF 11

DRAWING STATUS
- Interoffice Review
- Client for Review
- Pre Approval Bidding

COUNTY APPROVAL
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- 3rd Submittal
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REVISIONS:

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LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel. (757) 253-2975
Fax (757) 229-0049
Email: lmdg@landmarkdgwb.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel. (757) 473-2000
Fax (757) 497-7933
Email: lmdg@landmarkdg.com

COMMONWEALTH OF VIRGINIA
11-20-00
STEPHEN A. ROMEO
No. 1448-B
LAND SURVEYOR

11819 M

GENERAL NOTES

1. ALL WORK TO BE IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION, "ROAD AND BRIDGE SPECIFICATIONS", DATED 1991, AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION, "ROAD AND BRIDGE STANDARDS" *1993, UNLESS OTHERWISE NOTED.*

2. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITTING AND POSTING EROSION AND SEDIMENT CONTROL BOND.

3. SELECT CLEARING AND GRUBBING TO CONSIST OF REMOVAL OF ALL TREES, ROOTS, STUMPS AND SNAGS EXCEPT THOSE TREES DESIGNATED BY OWNER TO REMAIN, ALL TREES SO DESIGNATED TO BE PROTECTED FROM DAMAGE TO THE TRUNK AND ROOT SYSTEM.

4. CONTRACTOR MUST OBTAIN BURNING PERMIT OR PERMISSION TO BURN FROM JCC.

5. ALL DRAINAGE STRUCTURES TO CONFORM TO VIRGINIA DEPARTMENT OF TRANSPORTATION, "ROAD AND BRIDGE STANDARDS", 1993, UNLESS OTHERWISE INDICATED. ALL INLET STRUCTURES TO INCORPORATE INLET SHAPING.

6. ALL LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. PRIOR TO COMMENCEMENT OF CONSTRUCTION, CONTRACTOR TO NOTIFY OWNERS OF ALL UTILITIES (VIRGINIA POWER, C&P, ETC.) OF PROPOSED CONSTRUCTION SO THAT THEY MAY LOCATE AND SAFEGUARD THEIR FACILITIES. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

7. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING EXCAVATION. VERIFICATION SHALL CONSIST OF EXPOSING THE UTILITY BY EXCAVATION AND ESTABLISHING THE EXACT HORIZONTAL AND VERTICAL LOCATION.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT TRUCKS LEAVING SITE ARE CLEANED SUFFICIENTLY SO AS NOT TO CREATE A ROADWAY NUISANCE OR HAZARD.

9. STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) CONFORMING TO ASTM C76, CLASS III, B-WALL THICKNESS, TONGUE AND GROOVE, UNLESS OTHERWISE NOTED.

10. ALL STOCKPILES (IMPORTED FILL MATERIAL, TOPSOIL) TO BE LOCATED ON SITE AT THE DIRECTION OF THE OWNER. SILT FENCE SHALL BE PLACED AT THE TOE OF THE STOCKPILE.

11. ALL WATER SYSTEM CONSTRUCTION, MATERIALS AND STRUCTURES TO BE IN ACCORDANCE WITH SPECIFICATIONS, STANDARDS AND DETAILS OF JAMES CITY SERVICE AUTHORITY.

12. ALL SITE CONCRETE SHALL BE CLASS A3-AE (AIR ENTRAINED) WITH A MINIMUM LABORATORY COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.

13. ALL SITE CONCRETE, INCLUDING DROP INLET TOPS, ENDWALLS ETC. SHALL HAVE AN EXPOSED AGGREGATE SURFACE.

14. BACKFILLING (PIPE TRENCHES): BACKFILLING SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

A. THE CONTRACTOR SHALL REFILL ALL EXCAVATIONS AS RAPIDLY AS PRACTICABLE AFTER INSPECTION OF THE PIPE. BACKFILL SHALL BE CAREFULLY PLACED AROUND AND OVER THE PIPE AND STRUCTURES AND SHALL NOT BE PERMITTED TO FALL DIRECTLY ON THE PIPE OR STRUCTURES FROM A HEIGHT WHICH WOULD CAUSE DAMAGE OR DISTURB THE PIPE OR STRUCTURES.

B. BACKFILL MATERIAL SHALL BE PLACED IN LAYERS OF NOT MORE THAN SIX (6) INCHES AND SIMULTANEOUSLY COMPACTED ON BOTH SIDES OF THE PIPE TO A POINT TWO (2) FEET ABOVE THE PIPE. EACH LAYER SHALL BE COMPACTED TO 95 PERCENT MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-698, PRIOR TO THE PLACEMENT OF THE NEXT SUCCESSIVE LAYER. SPECIAL CARE SHALL BE TAKEN TO THOROUGHLY COMPACT THE MATERIAL UNDER THE HAUNCHES OF THE PIPE BY USING A TAMPER HAVING A TAMPING FACE OF NOT MORE THAN 25 SQUARE INCHES. THE BACKFILL SHALL THEN BE CONTINUED IN SIX (6") INCH LIFTS AND MACHINE COMPACTED WITH ROLLERS OR TAMPERS WITHIN A TOLERANCE OF PLUS OR MINUS 2.0 PERCENT OF OPTIMUM TO A MINIMUM DENSITY OF NOT LESS THAN 95 PERCENT AS COMPARED TO THE THEORETICAL MAXIMUM DENSITY DETERMINED IN ACCORDANCE WITH ASTM D-698. BACKFILL SHALL BE WITHIN PLUS OR MINUS 3.0 PERCENT OF OPTIMUM MOISTURE PRIOR TO PLACEMENT.

C. NO ASHES, PUTREFACTIVE REFUSE, LARGE STONES, OR OTHER MATERIAL OF ANY UNSATISFACTORY CHARACTER SHALL BE USED AS EMBANKMENT OR BACKFILL. THE CONTRACTOR SHALL NOT PERMIT EXCAVATIONS TO BE USED AS A DUMPING GROUND FOR REFUSE.

D. AFTER COMPLETION OF BACKFILLING, ALL MATERIAL NOT USED THEREIN, INCLUDING SUCH EARTH AS THE ENGINEER SHALL DECIDE CANNOT BE PROPERLY USED TO REFILL THE EXCAVATION, SHALL BE REMOVED AND DISPOSED OF IN SUCH A MANNER AND AT SUCH POINT OR POINTS AS APPROVED OR DIRECTED. ALL ROADS, SIDEWALKS AND OTHER PLACES ON THE LINE OF THE WORK SHALL BE LEFT FREE, CLEAN AND IN GOOD ORDER, SAID CLEANING UP SHALL BE DONE BY THE CONTRACTOR.

15. THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER COMPACTION REPORTS ON ALL BACKFILL OF UTILITIES WITHIN SITE. SAID COMPACTION REPORTS SHALL BE BY A CERTIFIED MATERIALS TESTING COMPANY AS FOLLOWS:

A. ON ALL UTILITY AND STORM DRAIN TRENCHES WITHIN THE RIGHT-OF-WAY, COMPACTION SHALL BE TESTED EVERY FOUR (4) FEET VERTICALLY AND AT HORIZONTAL INTERVALS NOT TO EXCEED 100 FEET.

B. ON ALL FILL EMBANKMENTS, COMPACTION SHALL BE TESTED EVERY FOUR (4) FEET VERTICALLY AND AT HORIZONTAL INTERVALS NOT TO EXCEED 50 FEET.

C. ON SUBGRADE AND AGGREGATE BASE, COMPACTION SHALL BE TESTED EVERY 500 FEET. TEST TO BE AT CENTER OF LANES ON ALTERNATING BASIS.

D. CONTRACTOR SHALL CERTIFY TO ENGINEER THAT ALL COMPLETED WORK TESTED AS ABOVE MEETS OR EXCEEDS THE REQUIREMENTS OF THE SPECIFICATIONS, AND EACH TEST LOCATION IS INDICATED AND ANNOTATED ON A SITE DRAWING.

16. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH COMPLETION OF REQUIRED EARTHWORK. IF ADDITIONAL FILL MATERIAL IS REQUIRED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUCH AT NO ADDITIONAL EXPENSE TO THE OWNER.

17. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING CONSTRUCTION OF THE UTILITIES, ROADWAYS, OR SIDEWALKS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE THE UNSUITABLE MATERIAL AND REPLACE IT WITH SUITABLE MATERIAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING SELECT MATERIAL IF ON-SITE SUITABLE MATERIAL IS NOT AVAILABLE. THE CONTRACTOR WILL BE PERMITTED AND IS ENCOURAGED TO VISIT THE SITE IN ADVANCE OF THE BID DATE TO SAMPLE AND EVALUATE INSITU MATERIAL AS NECESSARY TO PREPARE HIS/HER BID AND AT HIS/HER EXPENSE.

18. THE CONTRACTOR SHALL PROVIDE THE ENGINEER ONE SET OF DEVELOPMENT PLANS WITH THE AS-BUILT LOCATIONS OF THE STORM SEWER SYSTEM. IN ADDITION, ALL LOCATIONS WHERE UNSUITABLE MATERIAL WAS ENCOUNTERED AND THE LIMITS OF UNDERCUT NECESSARY TO CONSTRUCT THIS PROJECT SHALL BE SHOWN ON THE AS-BUILT DRAWINGS.

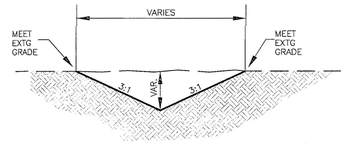
19. THE DEVELOPER/CONTRACTOR IS TO FURNISH AND INSTALL STOP SIGNS, NO PARKING SIGNS, AND ANY OTHER SIGNAGE AS REQUIRED. ALL ROADWAY SIGNS AND THEIR INSTALLATION WILL BE IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.

20. A MINIMUM OF 4" COMPACTED AGGREGATE BASE SHALL BE PLACED UNDER CURB AND GUTTER AND EXTENDED A MINIMUM OF 12" BEYOND BACK OF CURB.

21. ANY SUBSEQUENT REVISIONS, ADDITIONS, AND/OR DELETIONS SHALL REQUIRE SPECIFIC WRITTEN APPROVAL OF THE ENGINEER.

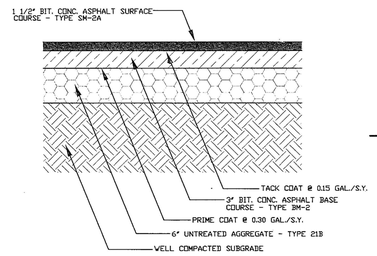
22. SELECT FILL: FILL AND OR BACKFILL MATERIAL UNDER PAVCEMENTS, WALKS, AND STRUCTURES SHALL HAVE LESS THAN 1 % ORGANIC MATERIAL BY WIEGHT AND SHALL BE FREE FROM DELETEROUS SUBSTANCES. FILL SHALL NOT CONTAIN ANY MATERIAL OVER 4 INCHES IN ITS GREATEST DIMENSION. MATERIALS HAVING DIMENSIONS GREATER THAN 2 INCHES SHOULD NOT BE USED FOR FILL OR BACKFILL IN THE UPPER 6 INCHES OF THE FILL. FILL MATERIAL SHALL BE CLASSIFIED SP-SM, SP OR SW BY THE UNIFIED SOILS CLASSIFICATION SYSTEM, WITH NO MORE THAN 12 % PASSING THE NO. 200 SIEVE. ALL MATERIALS USED SHALL BE TESTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT ON THE SITE. ALL FILL MATERIALS SHALL BE OBTAINED FROM THE ON-SITE STOCKPILE LOCATED ADJACENT TO THE OFFICE COMPLEX SITE AS SHOWN ON THE PLANS. FILL MATERIALS SHALL BE PLACED IN LAYERS NOT MORE THAN 6 TO 8 INCHES IN LOOSE DEPTH. BEFORE COMPACTION, MOISTEN OR AIRIATE EACH LAYER AS NECESSARY TO PROVIDE THE PROPER MOISTER CONTENT. COMPACT EACH LAYER TO REQUIRED PERCENTAGE OF MAXIMUM DENSITY FOR EACH AREA CLASSIFICATIONS. DO NOT PLACE FILL OR BACKFILL ON SURFACES THAT MUDDY, FROZEN, OR WHICH CONTAIN FROST OR ICE. PERFORM COMPACTION OF SOIL MATERIALS FOR FILLS USING SUITABLE SOIL COMPACTION EQUIPMENT FOR THE TYPE OF MATERIAL TO BE COMPACTED. SUBGRADE UNDER STRUCTURES, WALKWAYS, PAVEMENTS, SHALL BE PROOF ROLLED PRIOR TO PLACEMENT OF FILL. FILLS IN THESE AREAS SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH THE STANDARD PROCTOR COMPACTION TEST (ASTM D-698). COMPACTION OF MATERIALS IN NON-PAVED AREAS SHALL BE COMPACTED TO A MAXIMUM DRY DENSITY OF 85%.

23. THE CONTRACTOR SHALL FURNISH THE ENGINEER CBR TESTS ON SUBGRADE OF PAVEMENT AND BUILDING PADS AT INTERVALS NOT TO EXCEED 500 FEET. PROVIDE LOCATION PLAN FOR EACH TEST. (MINIMUM 2 (TWO) TESTS)



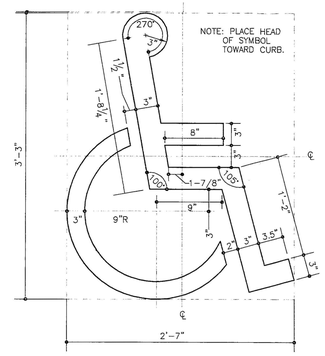
TYPICAL SWALE DETAIL

SCALE: NONE



TYP. PVMT. SECTION (ROADWAYS & PARKING)

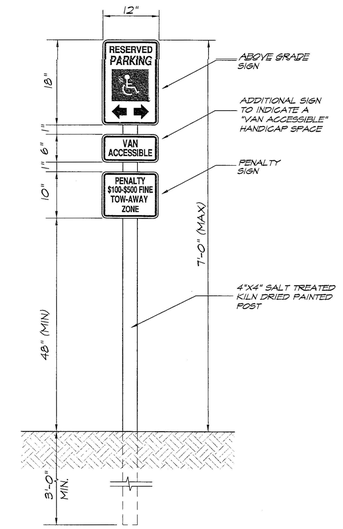
SCALE: NONE



STD. HANDICAPPED SYMBOL

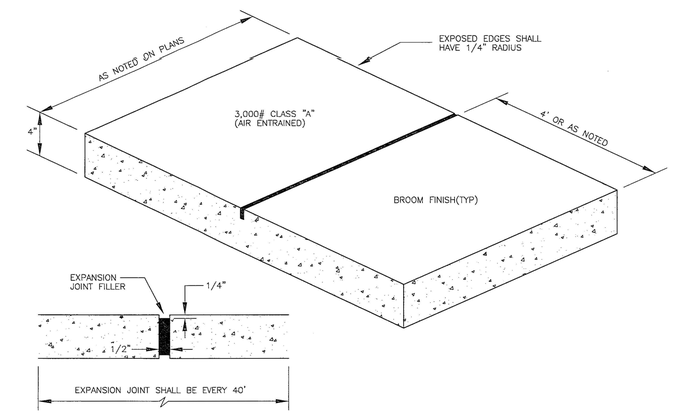
(TO BE PAINTED ON PAVEMENT)

SCALE: NONE



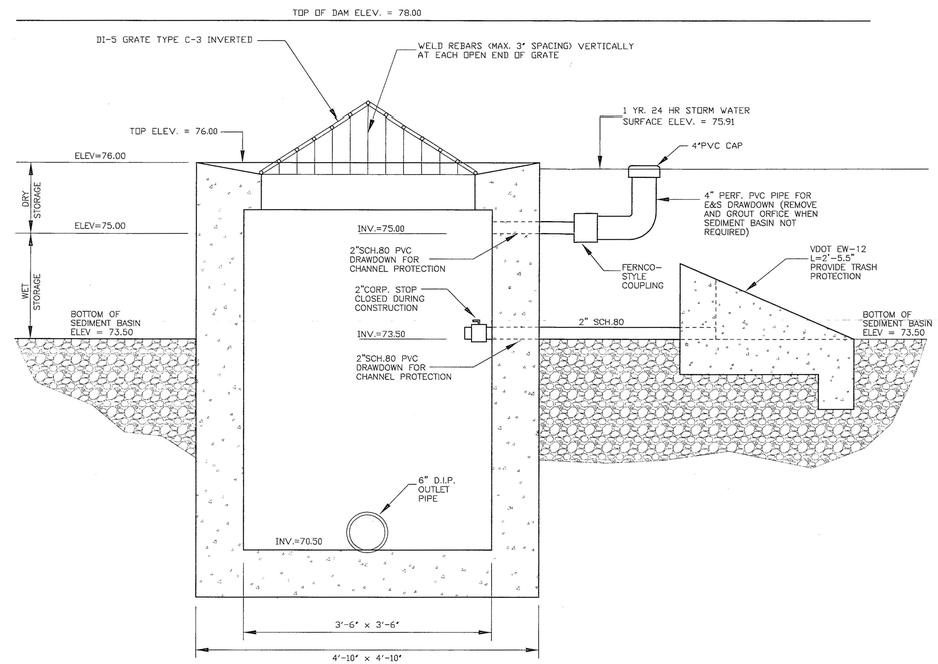
STD. DISABLED SIGN

N.T.S.



STD. CONCRETE SIDEWALK DETAIL

SCALE: NONE

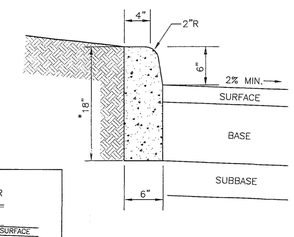


CONTRACTOR TO INSTALL AND MAINTAIN TEMPORARY RISER WHILE BMP IS FUNCTIONING AS A TEMPORARY SEDIMENT BASIN. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SEDIMENT CONTROL MEASURES BEFORE COMPLETION OF PERMANENT BMP.

MODIFIED VDOT DI-5 W/ TEMP. SEDIMENT CONTROL RISER

N.T.S.

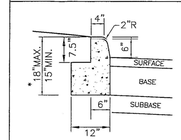
CG-2



NOTE:
COMB. CURB & GUTTER HAVING A RADIUS OF 300' OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL CURB & GUTTER.

THIS ITEM MAY BE PRECAST OR CAST IN PLACE.

* THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3"(15" DEPTH) OR INCREASED AS MUCH AS 3"(21" DEPTH) IN ORDER THAT THE BOTTOM OF THE CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE, THE DEPTH IS TO BE 18" AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.



ACCEPTABLE ALTERNATE IF CURB IS EXTRUDED

THIS CURB IS TO BE USED WHEN DESIGN SPEED IS 40 MPH OR LESS ON RURAL HIGHWAYS AND 45 MPH OR LESS IN DEVELOPED URBAN & SUBURBAN AREAS.

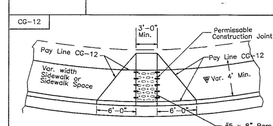
SPECIFICATION REFERENCE: 105, 502

STANDARD 6" CURB

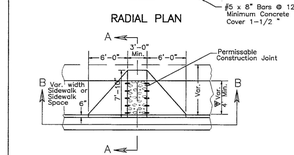
VIRGINIA DEPARTMENT OF TRANSPORTATION

201.01

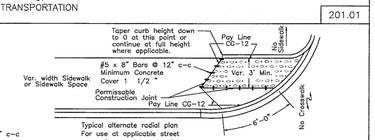
CG-12



RADIAL PLAN

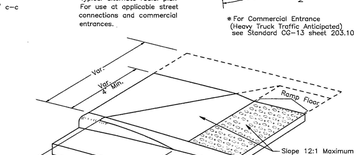


TANGENT PLAN



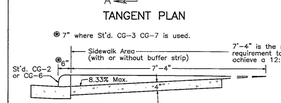
Typical alternate radial plan For use at applicable street connections and commercial entrances.

* For Commercial Entrance (Heavy Truck Traffic Anticipated) see Standard CG-13 sheet 203.10

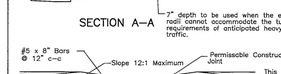


ISOMETRIC VIEW

⊛ 7" where St'd. CG-3 CG-7 is used.



SECTION A-A



This item may be precast or cast in place.

SECTION B-B

Limits of Exposed aggregate sidewalk

Treatment where width of sidewalk or sidewalk space is less than 7'-4"

⊛ Accessible route is defined as a continuous unobstructed, stable, firm and slip resistant path connecting all accessible elements of a facility that can be approached, entered and used by persons with mobility impairments.

NOTES :

Curb ramp floor to be class A-3 Concrete (class A-4 if precast) with slip-resistant integral detectable warning surface covering the entire width of the ramp floor (ramp floor may be precast or cast in place). The detectable warning shall be provided by an exposed aggregate finish. Ramp shall not exceed a maximum slope of 12:1.

Flared sides of curb ramp to be poured monolithically with ramp floor or by using permissable construction joint with required bars.

If ramp floor is precast, holes must be provided for dowel bars so that adjoining flared sides can be cast in place after placement of precast ramp floor. Precast concrete shall be class A-4.

Required bars are to be No. 5 x 8" placed 1' center to center along both sides of the ramp floor, mid-depth of ramp floor. Minimum concrete cover 1-1/2 ".

Curb ramps will be measured and paid for at the contract unit prices for Hydraulic Cement Concrete Sidewalk and Exposed aggregate sidewalk, complete-in-place.

Curb/curb and gutter slope transitions adjacent to curb ramps are included in payment for curb/curb and gutter.

When used in conjunction with Standard CG-3 or CG-7, the curb face on this Standard is to be adjusted to match the mountable curb configuration.

Curb Ramps are to be located as shown on the plans or as directed by the Engineer. They are to be provided at intersections wherever an accessible route within the right-of-way of a highway facility crosses a curb regardless of whether sidewalk is existing, proposed or nonexistant. They may be offset from pedestrian crosswalks as shown on plans or as directed by the Engineer, but should not be located behind vehicle stop lines. Existing light poles, fire hydrants, drop inlets, etc. will also affect placement.

203.09

CURB RAMP

(PERSONS WITH MOBILITY IMPAIRMENTS)

VIRGINIA DEPARTMENT OF TRANSPORTATION

THIS DRAWING FILE WAS ELECTRONICALLY REPRODUCED BY LANGLEY & McDONALD

SPECIFICATION REFERENCE: 502, 504

COMMONWEALTH OF VIRGINIA
11/20/00
STEPHEN A. ROMEO
No. 1448-B
LANDMARK DESIGN GROUP SURVEYOR

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel: (757) 253-2075
Fax (757) 229-0949
Email: lmdg@landmarkdesg.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel: (757) 473-2000
Fax (757) 497-7933
Email: lmdg@landmarkdesg.com

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

REVISIONS			
No.	Date	Comment	By

DRAWING STATUS: Interdiscipline Review; Client for Review; Pre Approval Bidding

COUNTY APPROVAL: 1st Submittal; 2nd Submittal; 3rd Submittal; Approved

SITE DETAILS & NOTES

LAUNDRY FACILITY AT KINGSMILL
JAMES CITY COUNTY, VIRGINIA FOR KINGSMILL RESORTS

Designed: MRG	Date: 11/20/00
Checked: SAR	Scale: 1"=25'
File Mgr./Drawn: MRG	CADD File name: dtl-site.dwg
Project Number: 2000186-000.03	Plot. File : dtl-site.plt

Drawing Number: C-4

5 OF 11

11818 W

JAMES CITY COUNTY
EROSION AND SEDIMENT CONTROL NOTES
REVISED 05/05/99

THE PURPOSE OF THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHALL BE TO PRECLUDE THE TRANSPORT OF ALL WATERBORNE SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES FROM ENTERING ONTO ADJACENT PROPERTIES OR STATE WATERS. IF FIELD INSPECTION REVEALS THE INADEQUACY OF THE PLAN TO CONFINE SEDIMENT TO THE PROJECT SITE, APPROPRIATE MODIFICATIONS WILL BE MADE TO CORRECT ANY PLAN DEFICIENCIES. IN ADDITION TO THESE NOTES, ALL PROVISIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS SHALL APPLY TO THIS PROJECT.

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK", CURRENT EDITION. THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL APPLICABLE MEASURES CONTAINED THEREIN WHICH MAY BE PERTINENT TO THIS PROJECT.

2. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD ONTO PUBLIC RIGHT–OF–WAYS. AN ENTRANCE PERMIT FROM VDOT IS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN STATE RIGHT–OF–WAYS. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE THOROUGHLY CLEANED AT THE END OF EACH DAY.

3. A PRECONSTRUCTION MEETING SHALL BE HELD ON–SITE BETWEEN THE COUNTY, THE DEVELOPER, THE PROJECT ENGINEER, AND THE CONTRACTOR PRIOR TO ISSUANCE OF THE LAND DISTURBING PERMIT. THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONSTRUCTION TO THE COUNTY FOR APPROVAL PRIOR TO THE PRECONSTRUCTION MEETING. THE CONTRACTOR WILL SUPPLY ENVIRONMENTAL DIVISION WITH THE NAME OF THE INDIVIDUAL WHO WILL BE RESPONSIBLE FOR ENSURING MAINTENANCE OF INSTALLED MEASURES ON A DAILY BASIS.

4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT ON–SITE MUST BE CONSTRUCTED AS A FIRST STEP IN GRADING AND BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER INSTALLATION. PERIODIC INSPECTIONS OF THE EROSION CONTROL MEASURES SHALL BE MADE TO ASSESS THEIR CONDITION. ANY NECESSARY MAINTENANCE OF THE MEASURES SHALL BE ACCOMPLISHED IMMEDIATELY UPON NOTIFICATION BY THE COUNTY AND SHALL INCLUDE THE REPAIR OF MEASURES DAMAGED BY ANY SUBCONTRACTOR INCLUDING THOSE OF THE PUBLIC UTILITY COMPANIES.

5. SURFACE FLOWS OVER CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRANSVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY LOWER WATER DOWNSLOPE WITHOUT CAUSING EROSION. A TEMPORARY FILL DIVERSION (STD. & SPEC. 3.10) SHALL BE INSTALLED PRIOR TO THE END OF EACH WORKING DAY.

6. SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT TIME OF CONSTRUCTION TO INSURE THEIR INTENDED PURPOSE IS ACCOMPLISHED. ENVIRONMENTAL DIVISION APPROVAL WILL BE REQUIRED FOR OTHER DEVIATIONS FROM THE APPROVED PLANS.

7. THE CONTRACTOR SHALL PLACE SOIL STOCKPILES AT THE LOCATIONS SHOWN ON THIS PLAN OR AS DIRECTED BY THE ENGINEER. SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. OFF–SITE WASTE OR BORROW AREAS SHALL BE APPROVED BY THE DIVISION OF ENVIRONMENTAL DIVISION PRIOR TO THE IMPORT OF ANY BORROW OR EXPORT OF ANY WASTE TO OR FROM THE PROJECT SITE.

8. THE CONTRACTOR SHALL COMPLETE DRAINAGE FACILITIES WITHIN 30 DAYS FOLLOWING COMPLETION OF ROUGH GRADING AT ANY POINT WITHIN THE PROJECT. THE INSTALLATION OF DRAINAGE FACILITIES SHALL TAKE PRECEDENCE OVER ALL UNDERGROUND UTILITIES. OUTFALL DITCHES FROM DRAINAGE STRUCTURES SHALL BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION OF SAME. THIS INCLUDES INSTALLATION OF EROSION CONTROL STONE OR PAVED DITCHES WHERE REQUIRED. ANY DRAINAGE OUTFALLS REQUIRED FOR A STREET MUST BE COMPLETED BEFORE STREET GRADING OR UTILITY INSTALLATION BEGINS.

9. PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO ALL DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST ALSO BE APPLIED TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. SOIL STABILIZATION MEASURES INCLUDE VEGETATIVE ESTABLISHMENT, MULCHING AND THE EARLY APPLICATION OF GRAVEL BASE MATERIAL ON AREAS TO BE PAVED.

10. NO MORE THAN 300 FEET OF SANITARY SEWER, STORM SEWER, WATERLINES, OR UNDERGROUND UTILITY LINES ARE TO BE OPEN AT ONE TIME. FOLLOWING INSTALLATION OF ANY PORTION OF THESE ITEMS, ALL DISTURBED AREAS ARE TO BE IMMEDIATELY STABILIZED (I.E., THE SAME DAY).

11. IF DISTURBED AREA STABILIZATION IS TO BE ACCOMPLISHED DURING THE MONTHS OF DECEMBER, JANUARY, OR FEBRUARY, STABILIZATION SHALL CONSIST OF MULCHING IN ACCORDANCE WITH SPECIFICATION 3.35. SEEDING WILL THEN TAKE PLACE AS SOON AS THE SEASON PERMITS.

12. THE TERM SEEDING, FINAL VEGETATIVE COVER OR STABILIZATION, ON THIS PLAN SHALL MEAN THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF A STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF SEED, LIME, AND FERTILIZER IN ACCORDANCE WITH SPECIFICATION 3.32, PERMANENT SEEDING. IRRIGATION SHALL BE REQUIRED AS NECESSARY TO ENSURE ESTABLISHMENT OF GRASS COVER.

13. ALL SLOPES STEEPER THAN 3:1 SHALL REQUIRE THE USE OF EROSION CONTROL BLANKETS SUCH AS EXCELSIOR BLANKETS TO AID IN THE ESTABLISHMENT OF A VEGETATIVE COVER. INSTALLATION SHALL BE IN ACCORDANCE WITH SPECIFICATION 3.35, MULCHING AND MANUFACTURER'S INSTRUCTIONS. NO SLOPES SHALL BE CREATED STEEPER THAN 2:1.

14. INLET PROTECTION IN ACCORDANCE WITH SPECIFICATION 3.07 SHALL BE PROVIDED FOR ALL STORM DRAIN INLETS AS SOON AS PRACTICAL FOLLOWING CONSTRUCTION OF SAME.

15. TEMPORARY LINERS, SUCH AS POLYETHYLENE SHEETS, SHALL BE PROVIDED FOR ALL PAVED DITCHES UNTIL THE PERMANENT CONCRETE LINER IS INSTALLED.

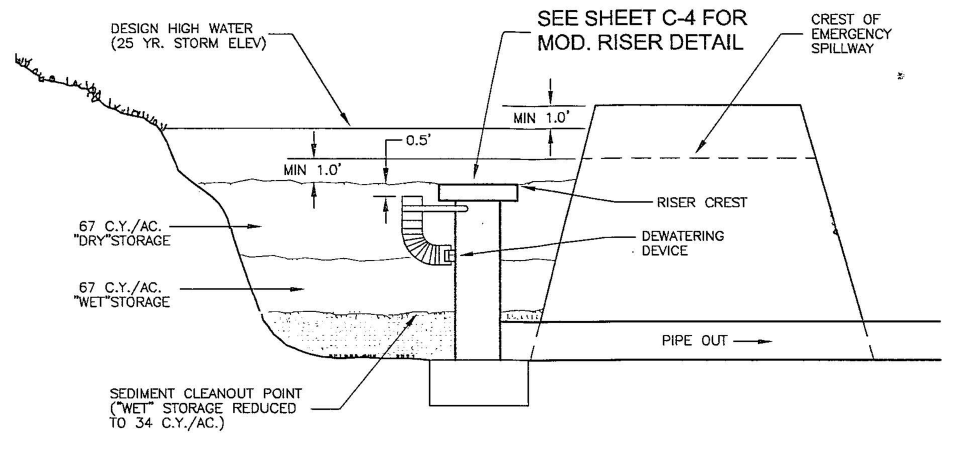
16. PAVED DITCHES SHALL BE REQUIRED WHEREVER EROSION IS EVIDENT. PARTICULAR ATTENTION SHALL BE PAID TO THOSE AREAS WHERE GRADES EXCEED 3 PERCENT.

17. TEMPORARY EROSION CONTROL MEASURES SUCH AS SILT FENCE ARE NOT TO BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. AFTER STABILIZATION IS COMPLETE, ALL MEASURES SHALL BE REMOVED WITHIN 30 DAYS. TRAPPED SEDIMENT SHALL BE SPREAD AND SEEDED.

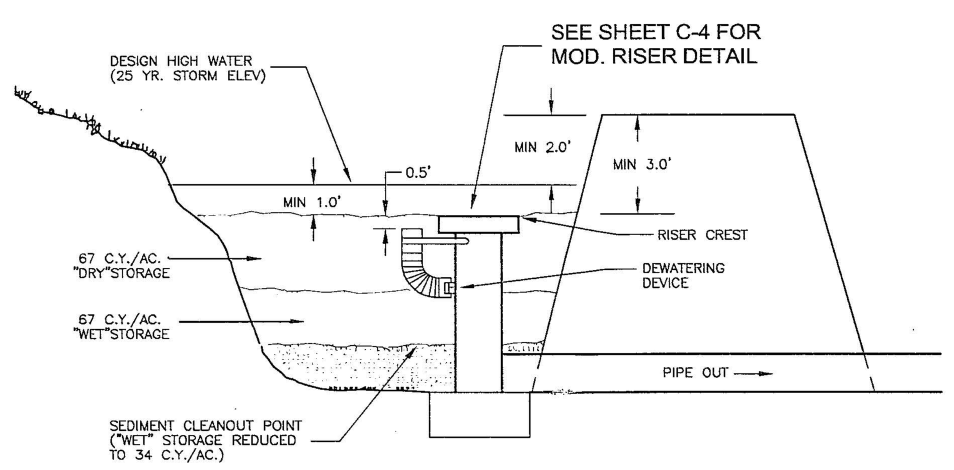
18. ALL SEDIMENT TRAPS ANS BASINS SHALL REMAIN IN PLACE UNTIL THE MAJORITY OF THE SINGLE–FAMILY HOUSES HAVE BEEN CONSTRUCTED AND SHALL NOT BE REMOVED WITHOUT AUTHORIZATION FROM THE JAMES CITY COUNTY ENVIRONMENTAL DIVISION.

19. AS–BUILT DRAWINGS MUST BE PROVIDED FOR ALL DETENTION/BMP FACILITIES. ALSO UPON COMPLETION, THE CONSTRUCTION OF ALL DETENTION/BMP FACILITIES SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER WHO INSPECTED THE STRUCTURE DURING CONSTRUCTION. THE CERTIFICATION SHALL STATE THAT, TO THE BEST OF HIS/HER JUDGEMENT, KNOWLEDGE, AND BELIEF, THE STRUCTURE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVAL PLANS AND SPECIFICATIONS.

SEDIMENT BASIN SCHEMATIC ELEVATIONS (SB)



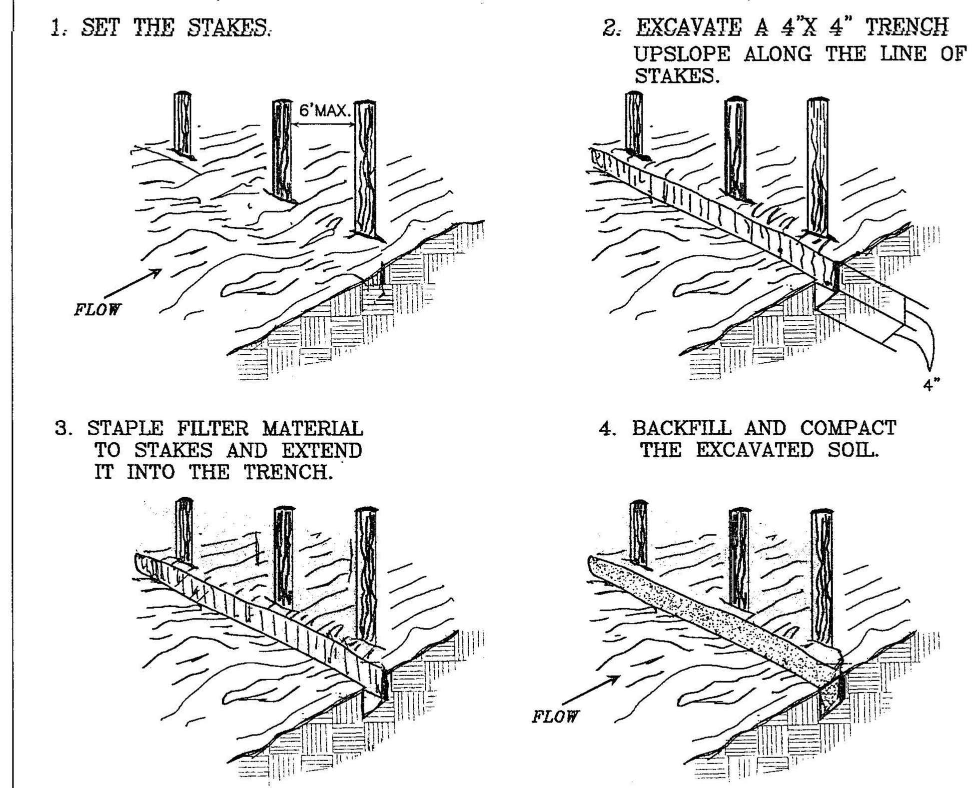
DESIGN ELEVATIONS WITH EMERGENCY SPILLWAY



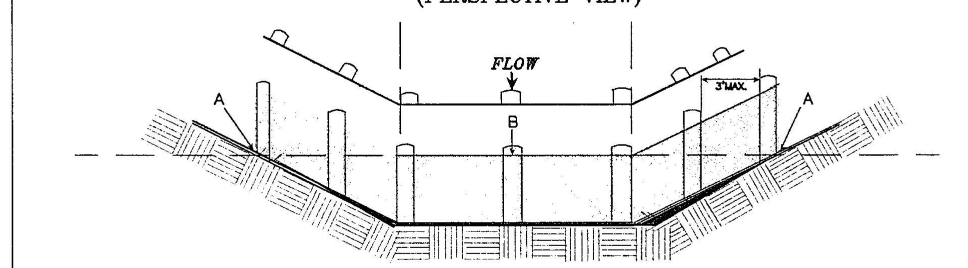
DESIGN ELEVATIONS WITHOUT EMERGENCY SPILLWAY
(RISER PASSES 25 YR. EVENT)

Plate 3.14-2

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT) (SF)



SHEET FLOW INSTALLATION
(PERSPECTIVE VIEW)



POINTS A SHOULD BE HIGHER THAN POINT B.

DRAINAGEWAY INSTALLATION
(FRONT ELEVATION)

PLATE. 3.05-2

STONE CONSTRUCTION ENTRANCE (CE)

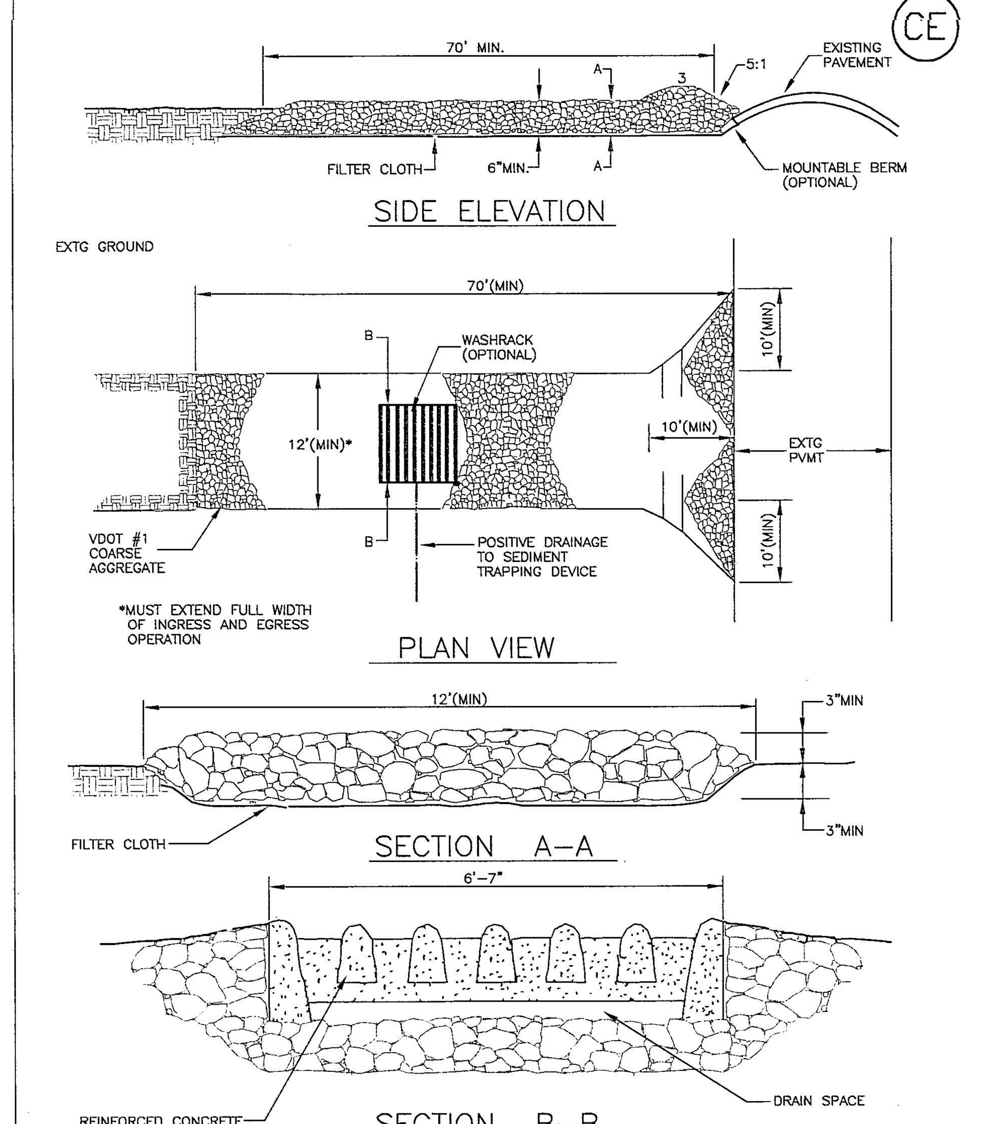
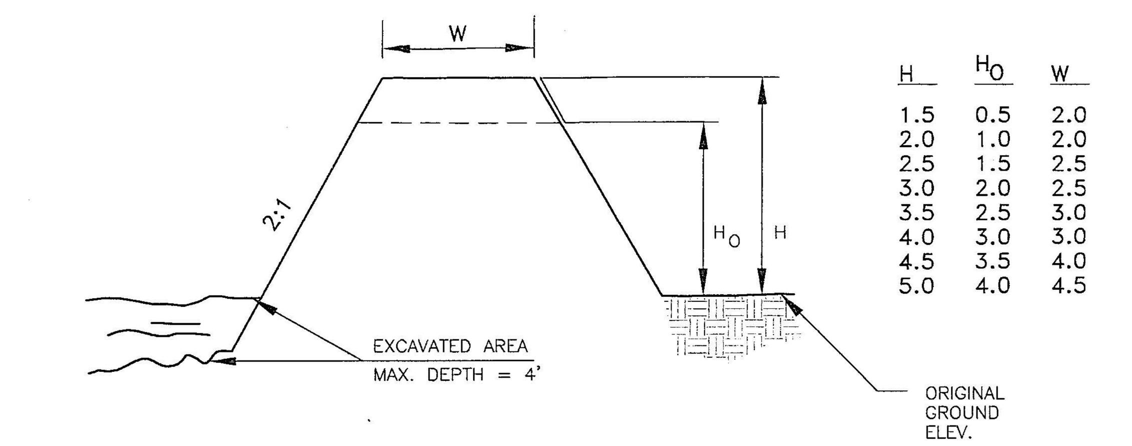


Plate 3.02-1

MINIMUM TOP WIDTH (W) REQUIRED FOR SEDIMENT TRAP EMBANKMENTS ACCORDING TO HEIGHT OF EMBANKMENT (FEET) (ST)

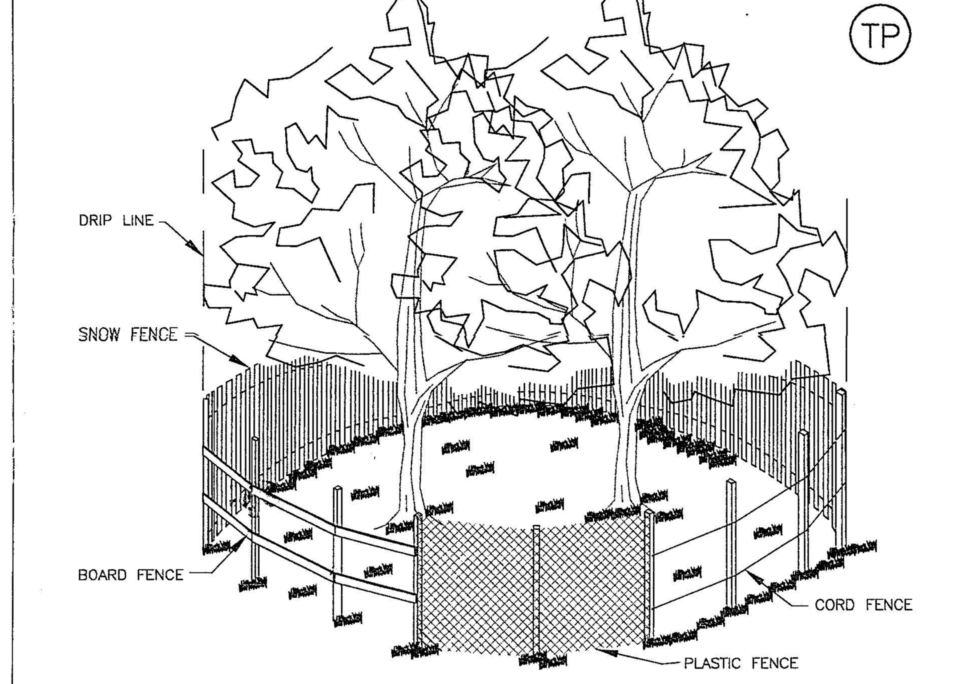


H	H_O	W
1.5	0.5	2.0
2.0	1.0	2.0
2.5	1.5	2.5
3.0	2.0	2.5
3.5	2.5	3.0
4.0	3.0	3.0
4.5	3.5	4.0
5.0	4.0	4.5

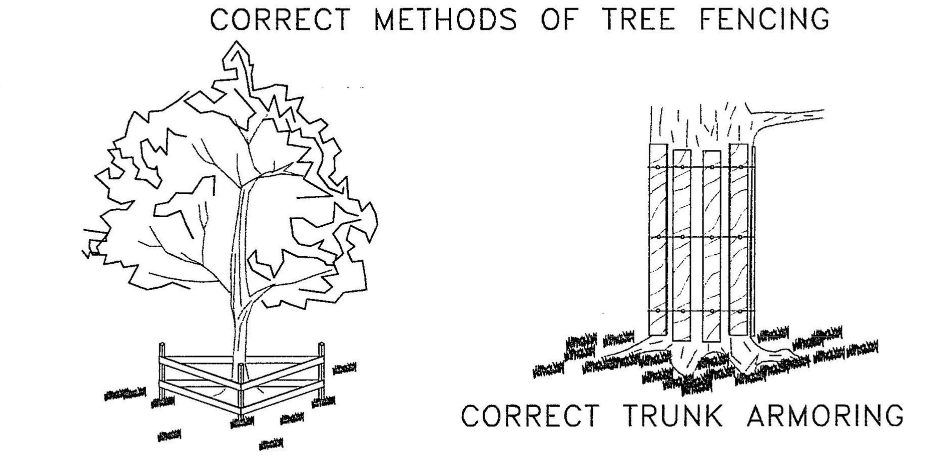
SOURCE: VA. DSWC

PLATE. 3.13-1

FENCING AND ARMORING (TP)



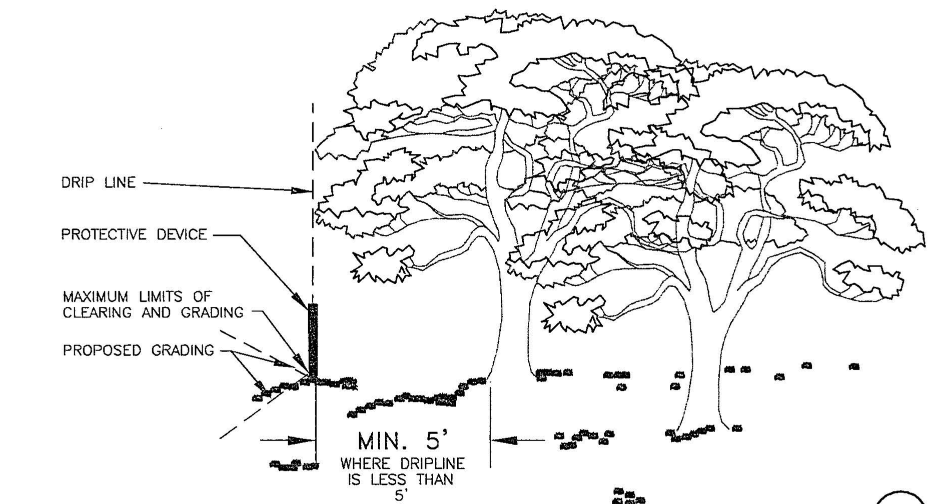
CORRECT METHODS OF TREE FENCING



TRIANGULAR BOARD FENCE

CORRECT TRUNK ARMORING

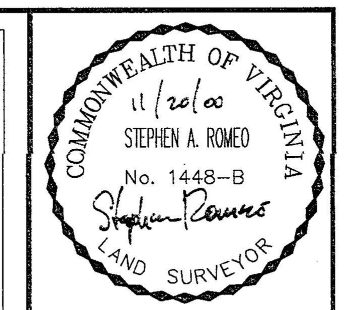
Plate 3.38-2



(TP)

CONSTRUCTION OPERATIONS RELATIVE TO THE LOCATION OF PROTECTED TREES

Plate 3.38-1



4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel. (757) 253–2975
Fax (757) 229–0049
Email: lmdg@landmarkdgwb.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel. (757) 473–2000
Fax (757) 497–7933
Email: lmdg@landmarkdg.com

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

REVISIONS: No. | Date | Comment | By

DRAWING STATUS: Interoffice Review; Client for Review; Pre Approval Bidding

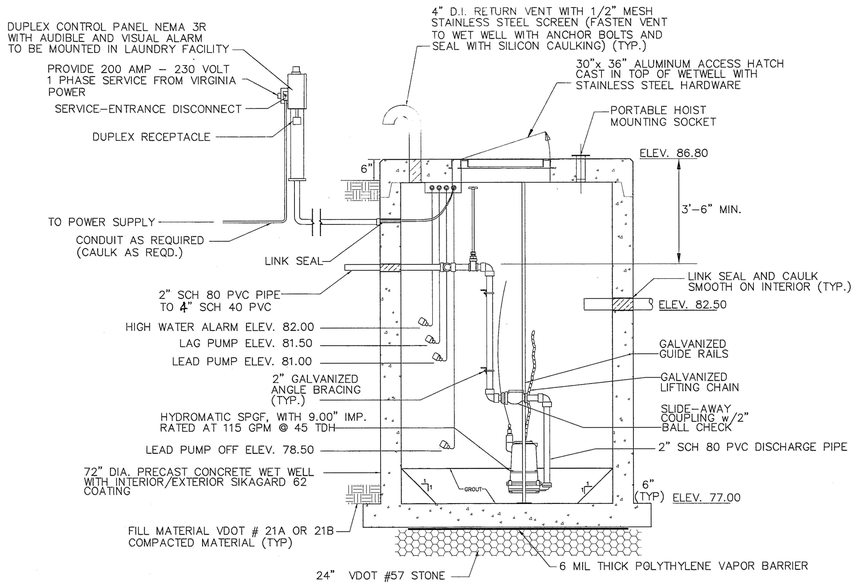
COUNTY APPROVAL: 1st Submittal; 2nd Submittal; 3rd Submittal; Approved

EROSION CONTROL DETAILS & NOTES

LAUNDRY FACILITY
AT
KINGSMILL
JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

Designed: MRG	Date: 11/20/00
Checked: SAR	Scale: 1"=25'
File Mgr./Drawn: MRG	CADD File name: dtl-ero.dwg
Project Number: 2000186-000.03	Plot. File : dtl-ero.plt
Drawing Number: C-5	6 OF 11

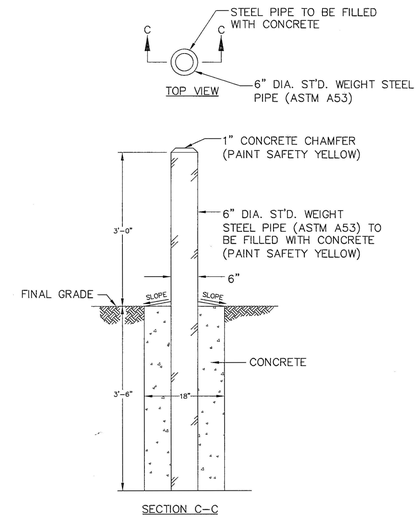
11817 W



NOTE:
PROVIDE MOISTURE RESISTANT INSULATION FOR ALL UNDER–GROUND CONDUITS.

SECTION

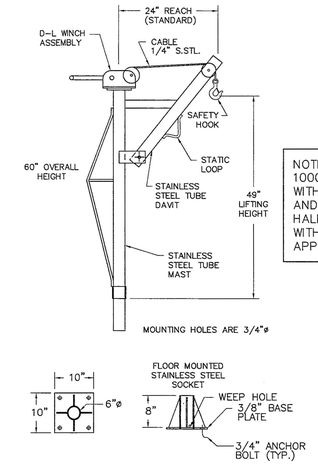
1/2" = 1'–0"



PIPE BOLLARD DETAIL

NOT TO SCALE

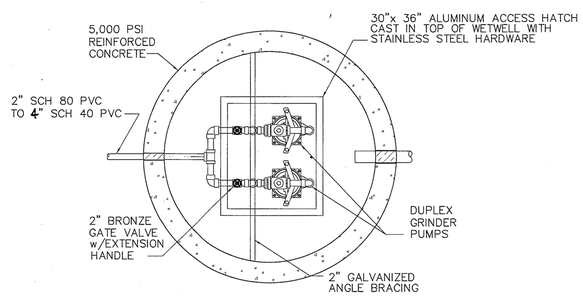
NOTE:
ALL METAL HARDWARE, STRAPS ETC. IN WET WELL SHALL BE STAINLESS STEEL UNLESS NOTED.



NOTE:
1000 LB. PORTABLE HOIST REG'D WITH MIN. 30 FEET S.S CABLE AND SAFETY HOOK. USE HALLIDAY MODEL NO. D2A24B WITH HAND WINCH OR APPROVED EQUAL

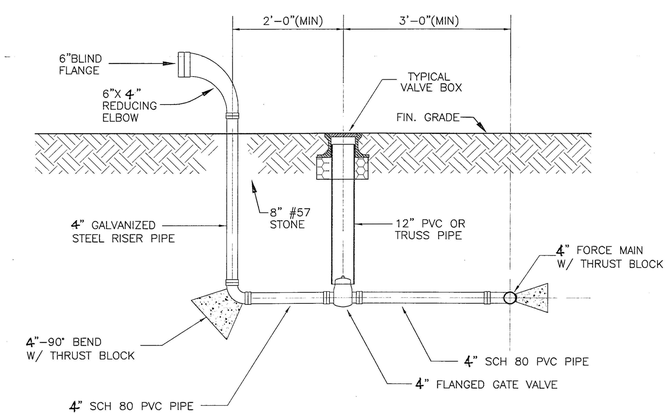
DAVIT HOIST DETAIL

NOT TO SCALE



PLAN

1/2" = 1'–0"



EMERGENCY PUMP CONNECTION DETAIL

NOT TO SCALE

COMMONWEALTH OF VIRGINIA
ARTHUR G. WEBB
No. 17777
8/20/00
PROFESSIONAL ENGINEER

4029 Ironbound Road
Suite 100
Williamsburg, VA. 23188
Ph. (757) 565-1677
Fax (757) 229-0949
Email: lmdg@landmarkdgwb.com

5544 Greenwich Road
Suite 200
Virginia Beach, Va. 23462
Ph. (757) 497-7000
Fax (757) 497-7933
Email: lmdg@landmarkdg.com

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

REVISIONS			
No.	Date	Comment	By

DRAWING STATUS
- Interoffice Review
- Client for Review
- Pre Approval Bidding

COUNTY APPROVAL
- 1st Submittal
- 2nd Submittal
- 3rd Submittal
- Approved

LIFT STATION ELEVATIONS AND SECTIONS

LAUNDRY FACILITY AT KINGSMILL
JAMES CITY COUNTY, VIRGINIA
FOR KINGSMILL RESORTS

Designed: CBN	Date: 09/19/00
Checked: AGW	Scale: 1/2"=1'-0"
File Mgr./Drawn: CBN	CADD File name: sht6.dwg
Project Number: 2000186-000.05	Dwg. File No.: XXXXX X

Drawing Number C-6

6 OF 10

11816 W

LIFT STATION NOTES AND STANDARDS

1. General: The contractor shall furnish all labor, materials, equipment and incidentals required to provide a non-clog submersible centrifugal sewage pump station as shown on these construction drawings and as specified in theses general notes and standards.

   A. The pump station shall be constructed and tested in accordance with Commonwealth of Virginia Department of Health (VDH) and Department of Environmental Quality (DEQ) Sewerage Regulationsand all applicable building codes.

   B. The Contractor shall not deviate from the VDH and DEQ approved plans without written approvals from the Owner, Engineer, VDH and DEQ. All approved deviations shall be noted on the Contractors "As-built" documents. The contractor will be required to submit the "As-built" documents to the Owner for review and approval prior to scheduling final pump station inspections and testing by the Engineer.

2. Pumps: Each pump shall be rated 5 HP, 230 volts, 3-phase, 60 Hz and 1750 RPM. The units shall produce 80 gpm at 33 TDH. The motors shall be non-overloading through out the entire performance curve. The pump and motor shall reserve a minimum service factor of 1.2. The performance curve submitted for approval shall state in addition to head and capacity performance, the pump efficiency, grinder capabilities, and reflect the motor service factor.

   A. The pump shall be equal to a Hydromatic Pump model SPGF, with a 7.75-inch impeller as manufactured by Hydromatic Pumps.

   B. The pump, floats and guide rail system shall meet Class 1 Division 1 Non-Explosion Proof and shall be supplied by the pump manufacturer.

   C. Hoist: Provide a stainless steel adjustable portable hoist with stainless steel construction, adjustable reach, 30 feet of stainless steel cable and safety hook, hand winch, floor mounted stainless steel socket, 1,000 lb. safe load as Manufactured by Halliday Products Series DB or approved equal.

3. Electrical: The station shall be controlled by a duplex control panel mounted on a pedestal adjacent to the station. The control panel shall be supplied by the pump manufacturer. The control panel enclosure shall be fiberglass enclosure meeting NEMA 4X with provisions for a pad lock and hinged door. All components of the control panel shall be sized to meet the National Electric Code requirements.

   A. The pump control panel shall be provided with the following:
      1. Hand-Off-Automatic Switch for each pump
      2. Pump run indication light for each pump
      3. Seal failure indication light for each pump
      4. Flashing alarm light and horn with silence and test switches
      5. High water alarm
      6. Pump failure alarm via thermal overload
      7. Power failure alarm sensor with automatic switch – over to a backup battery
      8. Time delay lag pump on power failure
      9. Anti condensation
      10. Battery backup with trickle charger
      11. Telephone dider located in the control panel with 8 channels. Automatic dider shall have a battery back-up and shall be capable of sending an alarm signal for the common alarms such as high water, pump fail for each pump, power fail, flow fail alarm for each pump and two (2) additional spare alarms.
      12. Seal failure indication
      13. Elapsed time meter for each pump
      14. Thermal overload protection
      15. Motor heat sensor
      16. IEC rated starters
      17. Dry alarm contacts for each pump
      18. Connections for float level controls
      19. Duplex pump controller with alternator
      20. Duplex receptacle.

   B. The Contractor is responsible for mounting the pump control panel, automatic transfer switch, Virginia Power meter connection and disconnect on a pedestal mounted panel. The Contractor is required to make all electrical control connection from the pump control panel to the motors, control floats, automatic transfer switch, Virginia Power, the generator, alarms, auto dialer and appurtenances. All electrical work shall conform to the National Electric Code and will require inspection and approvals from the City Codes enforcement agency.

5. Piping and Valves: The Contractor shall provide the following:

   A. PVC Pipe: Shall be either Schedule 80 or Shedule 40, type 1, PVC meeting ASTM D-1785 latest revision or Class 200, SDR-21 in accordance with ASTM D-2241 or as specified on the construction drawings.
      1. PVC pipe and fittings shall be listed in the NSF for potable water use. PVC fittings shall be Schedule 40 or SDR-21 and meet ASTM D-2464 or ASTM D-2467.
      2. All PVC pipe and fittings shall be manufactured having a minimum PVC resin cell class of 12454B or 12454C in accordance with ASTM D-1784 – latest revision.
      3. All joints shall be solvent welded using solvents in accordance with ASTM D-2564 – latest revision.

   B. Gate Valves: Gate valves larger than 3-inches in diameter shall be accordance with AWWA C509 with a design working pressure of 200 psig. Gate valves shall be supplied with an interior and exterior fusion-bonded epoxy coating of not less than 8 mil in accordance with AWWA C550 latest revision.
      1. Gate Valves less than 3-inches in diameter shall conform to the MSS SP-80 with screw bonnet, non-rising stem and solid wedge. Gate valve shall be suitable for 200 psi no-shock cold water, oil or gas (200 psi WOG)

   C. Check Valves: Swing check valve shall be in accordance with AWWA C508 latest revision. Seating type shall be resilient material to metal seat construction. Coating shall be the same as required for the gate valves. Joints shall be flanged Class 125.

6. Warranty: The Contractor shall provide a one (1) year warranty on all pump station equipment and appurtenances for components and workmanship. Warranty does not begin until the DEQ has issued the certificate to operate for the facility.

7. Force Main Testing: Testing in accordance with James City Service Authority (JCSA), Water Distribution Standards and Specifications. Testing of force main shall be the same as testing for water distribution piping. JCSA shall witness and approve force main pressure testing.

8. Wet Well: The Contractor shall furnish and install wet well using manhole sections manufactured according to ASTM C478, tongue and grove or O-ring gasket joints conforming to ASTM C443. Tongue and Groove joints will require a Butyl Mastic joint seal. All joints shall be grouted smooth. The size and dimensions of the wet well and vault shall be as shown on the construction drawings and as follows:

   A. Access Hatch: Access hatch shall be cast in the wet well cover. The access hatch shall be as manufactured by Halliday products, Inc of Orlando, Florida or approved equal. The size and dimensions shall be as shown on the construction drawings. The access hatch shall be a Series V1S with the following:
      1. Stainless steel compression spring assist
      2. Auto-Lock stainless steel hold open arm with release handle
      3. Stainless steel hinges and attaching hardware
      4. Stainless steel slam lock with removable key
      5. Channel frame
      6. Single leaf construction
      7. 300 lbs. per sq. ft. load rating

   B. Coating: Wet well shall have an interior/exterior high-build, protective, solvent-free, colored epoxy coating. Coating shall be a Sikagard 62 as manufactured by Sika. Coating shall be two (2) coats. First coat shall be red or gray in color. The final coat shall be tan in color. Surface preparation, application and required dry finish mils shall be in accordance with the manufacturers requirements for the use intended.

9. Operation and Maintenance Manuals: The Contractor shall provide to the Owner prior to acceptance seven (8) complete sets of Operation and Maintenance Manuals. These manuals shall include manufactured literature, site drawings, catalog data, and complete set of approved shop drawing submittals. The Operation and Maintenance Manuals shall be submitted as a three (3) binder with the following tabbed indexes:

   A. Title Page

   B. Shop Drawings & Manufacturers Literature:
      1. Pumps – including Model #, Pump Curves, Spare parts list
      2. Motors
      3. Controls
      4. Alarm system and reporting system
      5. Generator and Automatic Transfer switch
      6. Hoists
      7. Access Hatches
      8. Rail system
      9. AutoDial system
      10. Electrical "As-Built" drawings

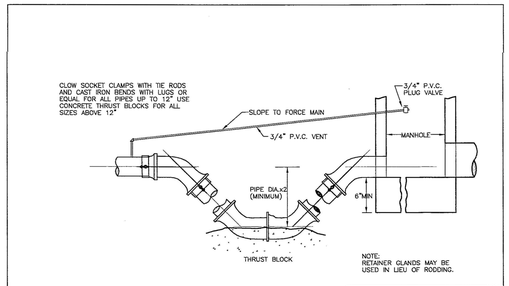
   C. Trouble Shooting Guide

   D. Routine Maintenance

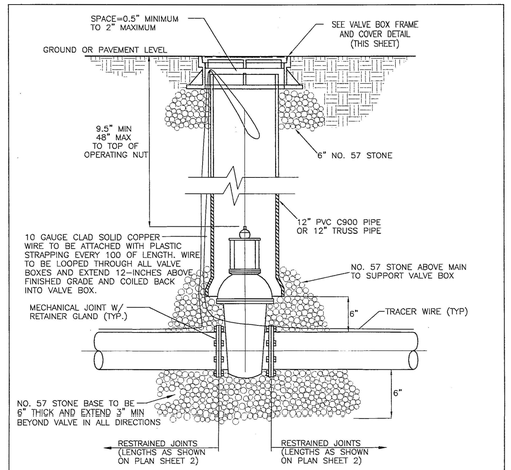
   E. List of Local Equipment suppliers

   F. List of Outside service/repair contacts

10. As-Built Drawings: The Contractor shall provide to the Owner prior to acceptance of the pump station and appurtenances the "As-Built" drawings. The "As-Built" drawings shall indicate all deviations from the approved plans and specifications. The "As-built drawings shall show the final elevations for the pump station and valve vault to include pump control settings, dimensions. And electrical as-built information in the form of a line diagram with the wiring nomenclature matching the field installation.



JAMES CITY SERVICE AUTHORITY	
FORCE MAIN TRAP DETAILS	
DWG. NO. S13.0	SCALE : NONE
DWN BY : EMG	DATE : 7/1/89



NOTES:
1 IF OPERATING NUT IS GREATER THAN 48" BELOW TOP OF VALVE BOX FRAME, A VALVE STEM EXTENSION SHALL BE INSTALLED. THE EXTENSION SHALL REPLACE OR BE SECURELY ATTACHED TO THE NORMAL 2 INCH SQUARE OPERATING NUT, SHALL BE AT LEAST AS STRONG AS THE VALVE STEM, AND SHALL BE COATED IN ACCORDANCE WITH AWWA C550.

JCSA JAMES CITY SERVICE AUTHORITY	
TYPICAL VALVE SETTING DETAIL	
PLATE: S11-0	SCALE: NONE
DWN BY: RED	DATE: 5/7/96

JAMES CITY SERVICE AUTHORITY

GENERAL NOTES – SANITARY SEWER FORCE MAIN

1. ALL MATERIALS AND CONSTRUCTION OF THE SEWAGE FORCE MAIN SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE JAMES CITY SERVICE AUTHORITY STANDARDS AND SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEMS. TESTING SHALL BE IN ACCORDANCE WITH SECTION 1.63 OF THE JAMES CITY SERVICE AUTHORITY STANDARDS AND SPECIFICATIONS FOR SANITARY SEWER SYSTEM.
2. THE DEVELOPER'S REPRESENTATIVE SHALL SUBMIT A LIST OF MATERIALS FOR APPROVAL TO THE JAMES CITY SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. FORCE MAINS SHALL BE INSTALLED AFTER GRADING TO 6-INCH OF FINAL GRADE AND PRIOR TO PLACEMENT OF BASE MATERIAL.
4. ALL APPROVED EROSION AND SEDIMENT CONTROL REQUIREMENTS SHALL BE OBSERVED DURING WATER MAIN CONSTRUCTION.
5. AFTER TESTING IS COMPLETE AND ALL COMPONENTS OF THE FORCE MAIN SYSTEM ARE ACCEPTABLE TO THE JAMES CITY SERVICE AUTHORITY, AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE SERVICE AUTHORITY. ANY DISCREPANCIES NOTED DURING THE AS-BUILT INSPECTION SHALL BE CORRECTED BY THE DEVELOPER'S REPRESENTATIVES WITHIN 30 DAYS.
6. ROUTINE PERIODIC INSPECTIONS DURING CONSTRUCTION WILL BE PROVIDED BY THE JAMES CITY SERVICE AUTHORITY. THESE INSPECTIONS DO NOT RELIEVE THE DEVELOPER FROM HIS OBLIGATION AND RESPONSIBILITY FOR CONSTRUCTING A WATER DISTRIBUTION SYSTEM IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE JAMES CITY SERVICE AUTHORITY.
7. ANY CHANGES TO THE FINAL PLANS SHALL BE APPROVED BY THE JAMES CITY SERVICE AUTHORITY AND SHALL BE ACCURATELY INDICATED ON THE AS-BUILT DRAWINGS.
8. ALL LOTS SHALL BE PROVIDED WITH SANITARY SEWER SERVICE CONNECTIONS. THE CONNECTIONS SHALL BE EXTENDED FROM THE MAIN TO THE PROPERTY LINE OR EASEMENT LINE, AND SHALL TERMINATE WITH A CONNECTION IN A METER BOX SET AT FINAL FINISHED GRADE.
9. THE DEVELOPER IS REQUIRED TO SUBMIT SEWER DATA SHEETS AND SHALL ACQUIRE A CERTIFICATE TO CONSTRUCT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
10. ANY REQUIRED EASEMENTS, PERMITS AND APPROVALS SHALL BE ACQUIRED BY THE DEVELOPER PRIOR TO COMMENCEMENT OF WATER MAIN CONSTRUCTION.
11. THE SEWER MAIN CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION. HE SHALL ERECT AND MAINTAIN, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR SAFETY AND PROTECTION. HE SHALL ALSO NOTIFY "MISS UTILITY" PRIOR TO PERFORMING ANY UNDERGROUND EXCAVATION.
12. MINIMUM SIZE FORCE MAINS SHALL BE NOT LESS THAN FOUR INCHES IN DIAMETER EXCEPT FOR GRINDER SYSTEMS.
13. AT PUMPING CAPACITY, A MINIMUM SELF-SCOURING VELOCITY OF TWO FEET PER SECOND SHALL BE MAINTAINED UNLESS FLUSHING FACILITIES ARE PROVIDED. A VELOCITY OF EIGHT FEET PER SECOND SHOULD NOT BE EXCEEDED.
14. FORCE MAINS SHALL BE SUFFICIENTLY ANCHORED WITHIN THE PUMP STATION AND THROUGHOUT THE LINE LENGTH. THE NUMBER OF BENDS SHALL BE AS FEW AS POSSIBLE. THRUST BLOCKS, RESTRAINED JOINTS AND/OR TIE RODS SHALL BE PROVIDED WHERE RESTRAINT IS NEEDED.
15. AIR RELEASE VALVES SHALL BE PLACE AT HIGH POINTS IN THE FORCE MAIN TO RELIEVE AIR LOCKING.

COMMONWEALTH OF VIRGINIA
4-20-00
STEPHEN A. ROMEO
No. 1448-B
LAND SURVEYOR

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants
4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel: (757) 565-1677
Fax: (757) 229-0649
Email: lmdg@landmarkdg.com
5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel: (757) 497-7928
Fax: (757) 497-7933
Email: lmdg@landmarkdg.com

REVISIONS:

No.	Date	Comment	By

DRAWING STATUS
- Interoffice Review
- Client for Review
- Pre Approval Bidding

COUNTY APPROVAL
- 1st Submittal
- 2nd Submittal
- 3rd Submittal
- Approved

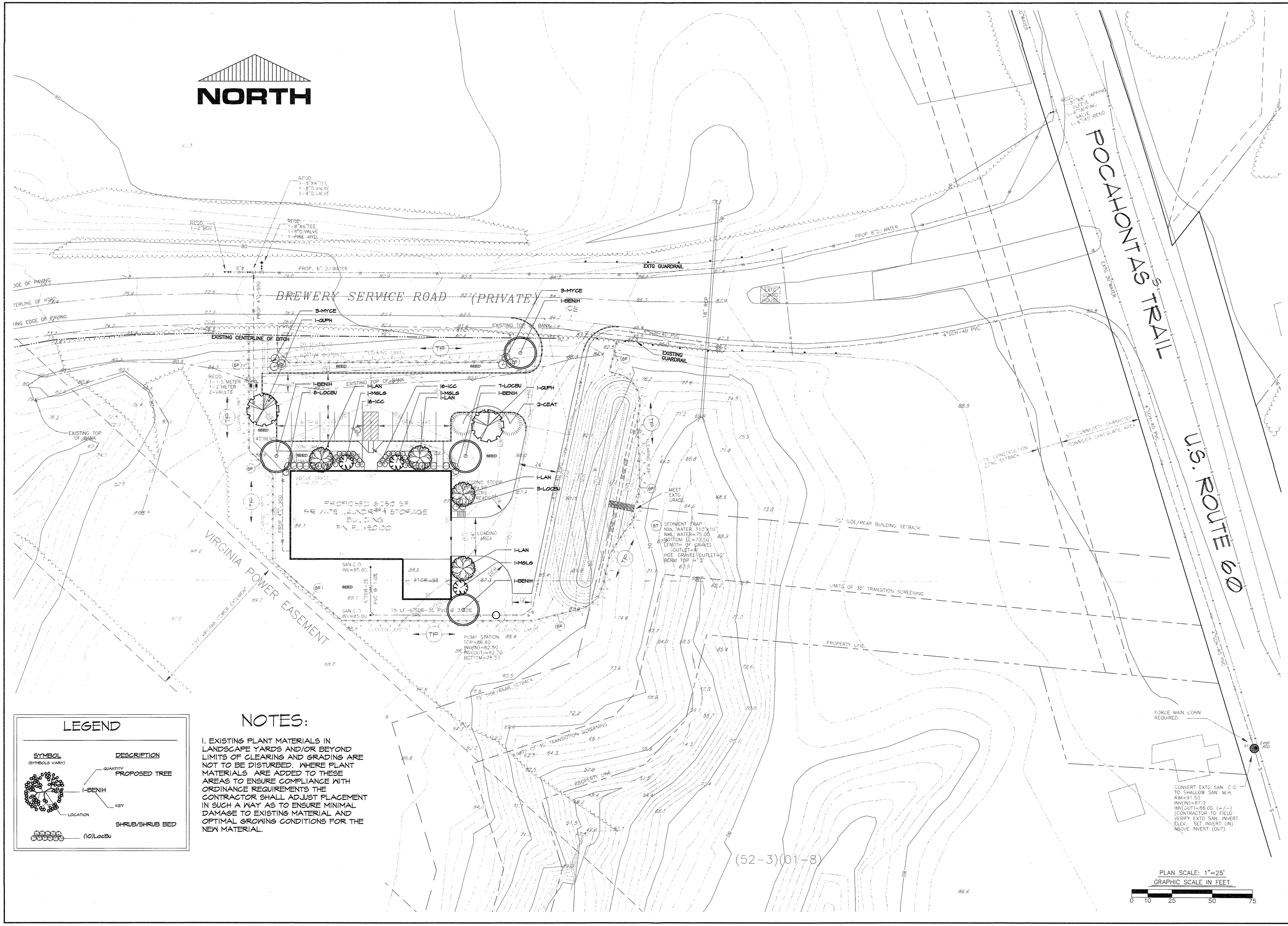
LIFT STATION AND JCSA NOTES

LAUNDRY FACILITY AT KINGSMILL
JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

Designed: CBN	Date: 11/20/00
Checked: AGW	Scale: NONE
File Mgr./Drawn: CBN	CADD File name: ps-notes.dwg
Project Number: 2000186-000.03	Plot. File : ps-notes.plt

Drawing Number C-7

11815 W



LEGEND

SYMBOL (SYMBOLS VARY)	DESCRIPTION
1-BENIH (QUANTITY, KEY, LOCATION)	PROPOSED TREE
(10)LocBu	SHRUB/SHRUB BED

NOTES:

1. EXISTING PLANT MATERIALS IN LANDSCAPE YARDS AND/OR BEYOND LIMITS OF CLEARING AND GRADING ARE NOT TO BE DISTURBED. WHERE PLANT MATERIALS ARE ADDED TO THESE AREAS TO ENSURE COMPLIANCE WITH ORDINANCE REQUIREMENTS THE CONTRACTOR SHALL ADJUST PLACEMENT IN SUCH A WAY AS TO ENSURE MINIMAL DAMAGE TO EXISTING MATERIAL AND OPTIMAL GROWING CONDITIONS FOR THE NEW MATERIAL.

COMMONWEALTH OF VIRGINIA
THEODORE RICHARD CALVER
NO. 000787
09/19/00
CERTIFIED LANDSCAPE ARCHITECT

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel: (757) 253-2975
Fax: (757) 229-0049
Email: lmsg@landmarkgrp.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel: (757) 473-2000
Fax: (757) 497-7933
Email: lmsg@landmarkvbg.com

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
LandscapeArchitects • Environmental Consultants

REVISIONS: No.	Date	Comment	By

DRAWING STATUS
- Interdiv. Review
- Ready for Review
- Pre Approval Bidding

COUNTY APPROVAL
- 1st Submittal
- 2nd Submittal
- 3rd Submittal
- Approved

LANDSCAPE PLAN
AT
LAUNDRY FACILITY
AT
KINGSMILL
JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

Designed: TRC	Date: 09/19/00
Checked: MRG	Scale: 1"=25'
File Mgr./Drawn: TRC	CADD File name: L-1.dwg
Project Number: 2000186-000.03	Plot. File : 11B14W
Drawing Number	L-1

8 OF 10

11B14 W

PLANTING NOTES:

THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, ETC. NECESSARY TO COMPLETE ALL PLANTING AS SHOWN ON THIS DRAWING, AS SPECIFIED HEREIN OR IN SUPPLEMENTAL SPECIFICATIONS, AND/OR AS REQUIRED BY JOB CONDITIONS. THE WORK IN GENERAL INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

(1) SOIL TESTING
(2) TOPSOIL;
(3) PLANTING AREA PREPARATION;
(4) PLANTING PIT EXCAVATION AND SOIL AMENDMENT;
(5) PLANT MATERIAL AND MULCH;
(6) FERTILIZING;
(7) STAKING; (WHEN REQUIRED)
(8) CHEMICAL APPLICATION; (WHEN REQUIRED)
(9) MAINTENANCE AND GUARANTEE;
(10) ALL OTHER ITEMS NECESSARY TO MAKE WORK COMPLETE;
(11) SEEDING.

THE PLANTING CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH THE IRRIGATION CONTRACTOR AND OTHER CONTRACTORS. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE OR NON-EXISTENCE OF ANY UTILITIES. PRIOR TO ANY CONSTRUCTION, EXCAVATION, OR ROTO-TILLING THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF VERIFYING THE LOCATIONS OF ALL UTILITIES, ABOVE AND/OR BELOW GROUND, PUBLIC AND/OR PRIVATE THAT MAY EXIST AND CROSS THROUGH THE AREAS OF CONSTRUCTION.

(1) SOIL TESTING

(1.1) THE CONTRACTOR IS RESPONSIBLE FOR SOILS TESTING AND ANALYSIS FOR SUITABILITY FOR PLANTING AND LANDSCAPE TREATMENTS REQUIRED IN THIS CONTRACT. EXISTING TOPSOIL SHALL BE UTILIZED TO THE GREATEST EXTENT POSSIBLE THROUGHOUT THE PROJECT. A MINIMUM OF 3 SOIL SAMPLES SHALL BE TAKEN TO REPRESENT THE FULL RANGE OF SITE CONDITIONS. SOIL SAMPLES SHALL BE TAKEN TO A DEPTH OF AT LEAST 6" BELOW THE LARGEST ROOT BALLS SPECIFIED ON THE PROJECT. WHERE HARD PAN EXISTS, DEEPER SAMPLING MAY BE REQUIRED.

(1.2) SOIL ANALYSIS SHALL BE BY CERTIFIED LABORATORY AND SHALL INCLUDE SOIL TEXTURE, COMPOSITION, ORGANIC MATTER CONTENT, PH, SALINITY, AND FERTILITY (AVAILABLE NUTRIENTS). FOR SOILS NOT MEETING TOPSOIL SPECIFICATIONS BELOW, THE REPORT SHALL INCLUDE RECOMMENDATIONS FOR AMENDING THE SOILS TO BRING THEM INTO COMPLIANCE WITH THESE SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE COSTS OF SOILS TESTING, AND SHALL SUBMIT 3 COPIES OF THE SOILS REPORT TO THE OWNER.

(2) TOPSOIL

(2.1) NECESSARY QUANTITIES OF TOPSOIL SHALL BE SUPPLIED BY THE CONTRACTOR AND APPROVED BY THE OWNER OR HIS REPRESENTATIVE. THE CONTRACTOR SHALL APPLY TOPSOIL ONLY AFTER SECURING SOIL TEST, AS SPECIFIED ABOVE, APPLYING RECOMMENDED TREATMENT THEREOF, AND SUBMITTING FOR APPROVAL.

(2.2) TOPSOIL REQUIREMENTS MAY BE MET IN ANY OF THE FOLLOWING WAYS:
A. ON-SITE TOPSOIL MEETING SPECIFICATIONS MAY BE STRIPPED AND STOCKPILED ON SITE.
B. ON-SITE TOPSOIL NOT MEETING SPECIFICATIONS MAY BE STRIPPED, STOCKPILED AND AMENDED ON SITE, TO MEET SPECIFICATIONS.
C. OFF-SITE TOPSOIL MEETING SPECIFICATIONS AND FROM AN APPROVED SOURCE MAY BE PROVIDED.

(2.3) TOPSOIL STOCKPILED FOR LATER USE SHALL BE STORED WITHIN THE RIGHT-OF-WAY, AND AT LOCATIONS APPROVED BY THE OWNER, UNLESS THE WORKING AREA IS SUCH THAT THE PRESENCE OF THE MATERIAL WOULD INTERFERE WITH ORDERLY PROSECUTION OF THE WORK. STOCKPILE AREAS OUTSIDE OF THE RIGHT-OF-WAY SHALL BE LOCATED BY THE CONTRACTOR AT HIS EXPENSE.

(2.4) STRIPPING TOPSOIL SHALL BE CONFINED TO THE AREA OVER WHICH THE EXCAVATION IS TO BE ACTIVELY PROSECUTED WITHIN 15 DAYS FOLLOWING THE STRIPPING OPERATION. EXCAVATION AND EMBANKMENT CONSTRUCTION SHALL BE CONFINED TO THE MINIMUM AREA NECESSARY TO ACCOMMODATE THE CONTRACTOR'S EQUIPMENT AND WORK FORCE ENGAGED IN THE EARTH MOVING WORK.

(2.5) TOPSOIL, EITHER ON-SITE OR OFF-SITE, SHALL BE THE ORIGINAL TOP LAYER OF A SOIL PROFILE FORMED UNDER NATURAL CONDITIONS, TECHNICALLY DEFINED AS THE "A" HORIZON BY THE SOIL SOCIETY OF AMERICA. IT SHALL CONSIST OF NATURAL, FRIABLE, LOAMY SOIL WITHOUT ADMIXTURES OF SUBSOIL. OR OTHER FOREIGN MATERIALS, AND SHALL BE REASONABLY FREE FROM STUMPS, ROOTS, HARD LUMPS, STIFF CLAY, STONE, NOXIOUS WEEDS, BRUSH, OR OTHER LITTER. IT SHALL HAVE DEMONSTRATED BY EVIDENCE OF HEALTHY VEGETATION GROWING, OR HAVING GROWN ON IT PRIOR TO STRIPPING, THAT IT IS REASONABLY WELL DRAINED AND DOES NOT CONTAIN SUBSTANCES TOXIC TO PLANTS.

(2.5.1) "A" HORIZON: "A" HORIZONS SHALL BE MINERAL HORIZONS CONSISTING OF (1) HORIZONS OR ORGANIC MATTER ACCUMULATION FORMED OR FORMING AT OR ADJACENT TO THE SURFACE; (2) HORIZONS THAT HAVE LOST CLAY, IRON, OR ALUMINUM, WITH RESULTANT CONCENTRATIONS OF QUARTZ OR OTHER RESISTANT MINERALS OF SAND OR SILT SIZE; OR (3) HORIZONS DOMINATED BY 1 OR 2 ABOVE BUT TRANSITIONAL TO AN UNDERLYING B OR C.

(2.5.2) "A" HORIZON SUBDIVISIONS: A1 HORIZONS SHALL BE MINERAL HORIZONS, FORMED OR FORMING AT OR ADJACENT TO THE SURFACE, IN WHICH THE FEATURE EMPHASIZED IS AN ACCUMULATION OF HUMIDIFIED ORGANIC MATTER INTIMATELY ASSOCIATED WITH THE MINERAL FRACTION. THE SOIL IS A DARK OR DARKER THAN UNDERLYING HORIZONS BECAUSE OF THE PRESENCE OF ORGANIC MATTER. THE ORGANIC MATERIAL IS ASSUMED TO BE DERIVED FROM PLANT AND ANIMAL REMAINS DEPOSITED ON THE SURFACE OF THE SOIL OR DEPOSITED WITHIN THE HORIZON WITHOUT APPRECIABLE TRANSLOCATION. A2 HORIZONS SHALL BE MINERAL HORIZONS IN WHICH THE FEATURE EMPHASIZED IS LOSS OF CLAY, IRON OR ALUMINUM, WITH RESULTANT CONCENTRATION OF QUARTZ OR OTHER RESISTANT MINERALS IN SAND AND SILT SIZES.

(2.5.3) "A" HORIZON TOPSOIL CONTENT: "A" HORIZON TOPSOIL SHALL BE IN ACCORDANCE WITH THE FOLLOWING MATERIALS BY PERCENTAGE OF VOLUME:

SILT	42-58%
SAND	15-20%
CLAY	15-20%
ORGANIC MATERIAL	12-18%

(2.6) TOPSOIL SHALL HAVE A PH IN THE RANGE OF 5.8 TO 7.0 PRIOR TO MIXING WITH AMENDMENTS.

(3) PLANTING AREA PREPARATION

(3.1) PLANTING AREAS. BECAUSE OF SOIL COMPACTION DURING CONSTRUCTION, ALL PLANTING AREAS SHALL BE LOOSENED BY ROTO-TILLING AS SPECIFIED BELOW. AREAS UNDER THE DRIP LINE OF TREES OR SHRUBS TO REMAIN IN PLACE SHALL NOT BE ROTO-TILLED. A PLANTING AREA IS ANY AREA IN WHICH NEW PLANTING OCCURS.

(3.2) PRIOR TO EXCAVATION OF INDIVIDUAL TREE AND SHRUB PITS, A DIAMETER EQUAL TO TEN TIMES THE DIAMETER OF THE ROOT BALL SHALL BE ROTO-TILLED TO A DEPTH EQUAL TO THE DEPTH OF THE ROOT BALL FOR PLANTS HAVING ROOT BALLS NO DEEPER THAN 12". FOR PLANTS HAVING ROOT BALLS OVER 12" DEEP, THE ROTO-TILLED AREA SHALL BE 12". UNDER NO CIRCUMSTANCES SHALL THE ROTO-TILLED DEPTH BE GREATER THAN THE DEPTH OF THE ROOT BALL.

(3.3) IN CONTINUOUS SHRUB AND GROUND COVER BEDS, THE ROTO-TILLED PERIMETER SHOULD EXTEND TO A DISTANCE OF 5 TIMES THE DIAMETER OF A SINGLE ROOTBALL OF THE PERIMETER PLANTS. DEPTH OF TILLAGE FOR SHRUBS SHALL BE AS SPECIFIED ABOVE.

(4) PLANTING PIT EXCAVATION AND SOIL AMENDMENT

(4.1) TREE AND SHRUB PITS SHALL BE 3 TIMES THE WIDTH OF THE ROOTBALL, AND SHALL BE DUG SO THAT THE BOTTOM OF THE ROOT BALL WILL REST ON UNDISTURBED SOIL, AND THE TOP OF THE ROOT BALL WILL BE 2" ABOVE FINISH GRADE.

(4.2) GROUNDCOVER, ANNUAL AND PERENNIAL BEDS SHALL BE TILLED TO A DEPTH OF 12", OR IF SOIL AMENDMENTS ARE REQUIRED, EXCAVATED TO A DEPTH OF 12", UNLESS OTHERWISE NOTED ON THE PLANS. PLANTS SHALL BE EVENLY SPACED WITHIN THE TILLED PLANTING AREA AND SET TO MAINTAIN THE ORIGINAL GROWING DEPTH WHILE ALLOWING FOR A 2" TOP DRESSING OF MULCH.

(4.3) WHENEVER POSSIBLE, THE EXCAVATED SOIL SHOULD BE USED OR AMENDED TO BE USED AS BACKFILL MATERIAL IN ORDER TO ELIMINATE OR MINIMIZE THE OCCURRENCE OF HYDROLOGIC DISCONTINUITIES, AND/OR SOIL INTERFACE PROBLEMS COMMON TO PLANTING BEDS CONTAINING SOILS OF DIFFERENT TEXTURE.

(4.4) WHERE SOILS TESTING OR SUBSEQUENT OBSERVATION INDICATES THAT THE TEXTURE OF THE EXISTING SOIL IS UNDESIRABLE FOR THE PLANT SPECIES BEING PLANTED (I.E. HEAVY CLAY, PURE SAND) THE ON-SITE SOIL SHALL BE AMENDED AS RECOMMENDED WITHIN THE SOILS REPORT TO PROVIDE SUITABLE TEXTURE. WHERE SOILS TESTS DO NOT REVEAL TEXTURAL DEFICIENCIES, YET SUBSEQUENT EXCAVATIONS DO, THE BACKFILL MIXTURE SHALL BE 66% EXISTING SOIL AND 33% TOPSOIL AS DEFINED ABOVE.

(4.5) WHERE SOILS TESTS INDICATE THAT THE PH, SALINITY OR CHEMICAL COMPOSITION IS UNDESIRABLE FOR THE PLANT SPECIES BEING PLANTED, THE SOIL SHALL BE AMENDED AS RECOMMENDED WITHIN THE SOILS REPORT TO ACHIEVE SUITABLE CHEMICAL PROPERTIES. AFTER AMENDING, PLANTING SOIL FOR DECIDUOUS PLANTS SHALL HAVE A PH VALUE BETWEEN 6.0 AND 7.0, AND FOR EVERGREEN OR SEMI-EVERGREEN PLANTS SHALL HAVE A PH VALUE BETWEEN 5.0 AND 6.0. A REPRESENTATIVE SAMPLE FROM THE EXCAVATED SOIL SHALL BE FIELD TESTED FOR PH UTILIZING A RELIABLE SOIL PH METER OR SOIL PH TEST KIT. THE PH VALUE OF THE NATURAL SOIL BACKFILL MIXTURE MAY BE AMENDED BY ADDING LIMESTONE OR ALUMINUM SULFATE AS NEEDED.

(4.6) WHERE SOILS TESTING OR SUBSEQUENT EXCAVATION INDICATE THE EXISTING SOIL IS UNSUITABLE FOR USE AS BACKFILL MATERIAL, BECAUSE OF THE PRESENCE OF DEBRIS OR OTHER DELETERIOUS MATERIAL, THE BACKFILL MATERIAL SHALL BE 66% TOPSOIL, AS DEFINED ABOVE, AND 33% CLEAN SAND.

(4.7) AMENDED BACKFILL SOIL REPLACES ONLY THE SOIL EXCAVATED FROM THE TREE AND SHRUB PIT (3 TIMES THE WIDTH OF THE ROOT BALL), NOT THE ENTIRE ROTO-TILLED AREA.

(4.8) FOR TREES IN POORLY DRAINED SOILS, A VERTICAL PIPE SHALL BE INSTALLED AT THE EDGE OF THE PLANT PIT EXCAVATION, EXTENDING TO A LEVEL EQUAL TO THE TOP OF THE MULCH. THE PIPE END SHALL BE THREADED AND FITTED WITH A THREADED CAP.

(5) PLANT MATERIAL AND MULCH

(5.1) THE NAMES OF PLANTS REQUIRED UNDER THIS CONTRACT CONFORM TO THOSE GIVEN IN L.H. BAILEY'S HORTUS THIRD, 1976 EDITION. NAMES OF VARIETIES NOT INCLUDED THEREIN CONFORM GENERALLY WITH NAMES ACCEPTED IN THE NURSERY TRADE. ALL PLANTS SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL FOR THEIR SPECIES AND THEY SHALL BE SOUND, HEALTHY AND VIGOROUS, WITH WELL DEVELOPED ROOT SYSTEMS. ALL PLANT MATERIAL SHALL BE FREE FROM INSECT PESTS, PLANT DISEASES, AND INJURIES. ALL PLANTS SHALL EQUAL OR EXCEED THE MEASUREMENTS SPECIFIED IN THE PLANT LIST, WHICH ARE MINIMUM ACCEPTABLE SIZES. TREES SHALL HAVE SINGLE TRUNKS EXCEPT AS NOTED. ALL SHRUBS SHALL BE HEALTHY, VIGOROUS, AND OF GOOD COLOR. ONLY DAMAGED OR BROKEN BRANCHES OF PLANT MATERIAL MAY BE PRUNED AND ANY NECESSARY PRUNING SHALL BE DONE AT THE TIME OF PLANTING. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THE CENTRAL LEADER OF A PLANT BE PRUNED. BALLING AND BURLAPPING OF PLANTS SHALL FOLLOW THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE AMERICAN STANDARD FOR NURSERY STOCK.

(5.2) ALL TAGS, STRINGS OR ANY OTHER MATERIAL ATTACHED TO THE PLANTS SHALL BE REMOVED AT THE TIME OF THE PLANTING. LABEL AT LEAST ONE TREE, SHRUB AND GROUNDCOVER OF EACH VARIETY WITH A SECURELY ATTACHED WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF BOTANICAL NAME AND THE SIZE AS SPECIFIED IN THE PLANT LIST OF REQUIRED PLANTS. LABELS SHALL BE SECURELY ATTACHED TO PLANTS AND SHALL BE LEGIBLE FOR 60 DAYS AFTER DELIVERY TO THE PLANTING SITE. WIRE IDENTIFICATION TAGS SHALL NOT BE USED.

(5.3) SUBSTITUTIONS WILL BE PERMITTED ONLY UPON SUBMISSION OF PROOF THAT ANY PLANT IS NOT OBTAINABLE. ALL SUBSTITUTIONS MUST BE AUTHORIZED BY THE OWNER OR THE OWNER'S REPRESENTATIVE IN WRITING PROVIDING FOR USE OF THE NEAREST EQUIVALENT OBTAINABLE SIZE OR VARIETY OF PLANT HAVING THE SAME ESSENTIAL CHARACTERISTICS AS THE ORIGINAL VARIETY WITH AN EQUITABLE ADJUSTMENT OF CONTRACT PRICE.

(5.4) BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. BALLS SHALL BE FIRMLY WRAPPED WITH BURLAP OR SIMILAR MATERIAL AND BOUND WITH TWINE OR CORD. BURLAP SHALL NOT BE PULLED OUT FROM UNDER BALLS DURING PLANTING OPERATIONS. B&B PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY ON DELIVERY SHALL BE COVERED WITH MOIST SOIL, MULCH, OR OTHER MATERIAL TO PROVIDE PROTECTION FROM DRYING WINDS AND SUN.

(5.5) PLANTS NOTED "CONTAINER" ON THE PLANT LIST MUST BE CONTAINER GROWN WITH WELL ESTABLISHED ROOT SYSTEMS. LOOSE CONTAINERIZED PLANT MATERIAL WILL NOT BE ACCEPTED. ALL PLANTS INJURED AND PLANTS WITH ROOT BALLS BROKEN DURING TRANSPORT OR PLANTING OPERATIONS WILL BE REJECTED. BARE-ROOTED PLANTS (BR) SHALL BE PLANTED OR HEELED-IN IMMEDIATELY UPON DELIVERY. ALL PLANTS SHALL BE WATERED AS NECESSARY UNTIL PLANTED.

(5.6) NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON THE PLAN EXCEPT WHERE OBSTRUCTIONS BELOW GROUND ARE ENCOUNTERED OR WHERE CHANGES HAVE BEEN MADE IN THE PROPOSED CONSTRUCTION. NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE. REASONABLE CARE SHALL BE EXERCISED TO HAVE PLANTING PITS DUG AND SOIL PREPARED PRIOR TO MOVING PLANTS TO THEIR RESPECTIVE LOCATIONS TO ENSURE THAT THEY WILL NOT BE UNNECESSARILY EXPOSED TO DRYING OR PHYSICAL DAMAGE.

(5.7) A LIST OF PLANTS, INCLUDING SIZES, QUANTITIES AND OTHER REQUIREMENTS, IS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE QUANTITIES AS SHOWN ON THE DRAWINGS. IF DISCREPANCIES OCCUR IN THE QUANTITIES SHOWN, THE PLANTING PLANS SHALL GOVERN.

(5.8) THE PLANTING CONTRACTOR WILL BE NOTIFIED BY THE GENERAL CONTRACTOR WHEN OTHER DIVISIONS OF THE WORK HAVE PROGRESSED SUFFICIENTLY TO COMMENCE WORK ON THE PLANTING OPERATION. THEREAFTER, PLANTING OPERATIONS SHALL BE CONDUCTED UNDER FAVORABLE WEATHER CONDITIONS DURING THE NEXT SEASON OR SEASONS WHICH ARE NORMAL FOR SUCH WORK. REMOVAL OF ROCK OR OTHER UNDERGROUND OBSTRUCTIONS, RELOCATIONS TO AVOID OBSTRUCTIONS, AND PROVISION OF DRAINAGE FOR PLANTING AREAS SHALL BE DONE ONLY AS APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

(5.9) ALL PLANTS SHALL BE PLANTED UPRIGHT AND FACED TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO ADJACENT STRUCTURES. ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY. PLANTS WITH CIRCLING ROOTS SHALL NOT BE ACCEPTED. BURLAP TWINE AND OTHER FASTENING MATERIAL SHALL BE CUT AND PUSHED TO THE BOTTOM OF THE PLANT PIT PRIOR TO BACKFILL MATERIAL BEING PLACED. THE PLANT SHALL NOT BE ROCKED BACK AND FOURTH TO ENTIRELY REMOVE THE WRAPPING MATERIAL NOR SHALL ANY OTHER PRACTICE BE PERFORMED WHICH COULD CAUSE THE ROOT BALL TO BREAK APART. WHEN WIRE BASKETS ARE USED ON THE ROOT BALL OF PLANTS THE WIRE SHALL BE REMOVED TO AT LEAST 12" BELOW THE TOP OF THE ROOT BALL.

(5.10) AT THE TIME OF PLANTING, AND AS MANY TIMES LATER AS SEASONAL CONDITIONS REQUIRE, EACH PLANT AND THE SOIL AROUND IT SHALL BE THOROUGHLY WATERED. CARE SHOULD BE EXERCISED WHEN WATERING TO AVOID FLOODING OF PLANTS AND BEDS, DISPLACEMENT OF MULCH MATERIAL AND EROSION OF SOIL. AVOID USE OF HIGH PRESSURE HOSES. THE CONTRACTOR SHALL MAKE, AT HIS EXPENSE, WHATEVER ARRANGEMENTS MAY BE NECESSARY TO ENSURE AN ADEQUATE SUPPLY OF WATER TO MEET THE NEEDS OF THIS CONTRACT DURING INSTALLATION. THE CONTRACTOR SHALL ALSO FURNISH ALL NECESSARY HOSE, EQUIPMENT ATTACHMENTS AND ACCESSORIES FOR THE ADEQUATE WATERING OF PLANTED AREAS AS MAY BE REQUIRED UNTIL ACCEPTANCE BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

(5.11) MULCH SHALL BE CLEAN, GROUND OR SHREDDED BARK OR HARDWOOD MULCH. IN PLANTING AREAS WHERE SLOPES EXCEED 3:1 AND AT DRAINAGE DISPERSION POINTS OR ALONG NATURAL WATER WAYS WHERE CONCENTRATIONS OF SURFACE WATER EMPTY FROM CULVERTS OR PAVED DITCHES, HEAVY JUTE MESH SHALL BE INSTALLED. SHREDDED HARDWOOD OR BARK MULCH SHALL HAVE BEEN COMPOSTED FOR AT LEAST TWO MONTHS PRIOR TO APPLICATION. FRESHLY GROUND MULCH WILL NOT BE ACCEPTED. FINELY GROUND MULCH WHICH INHIBITS DRAINAGE, ENCOURAGES WEED GROWTH OR BECOMES WATERLOGGED WILL NOT BE ACCEPTED. MULCH SHALL BE COMPOSED OF SIMILAR SIZED FRAGMENTS AND SHALL NOT CONTAIN STICKS, CONES, LEAVES, UNSHREDDED PIECES, OR OTHER DELETERIOUS MATTER. ALL AZALEA AND CAMELLIA PLANTING BEDS SHALL HAVE 1" OF PINE STRAW MULCH UNDER 2" OF BARK OR SHREDDED HARDWOOD MULCH.

(5.12) ALL PLANTS SHALL BE MULCHED IMMEDIATELY AFTER PLANTING. GROUND COVERS SHALL BE MULCHED WITH A 3" LAYER OF SHREDDED HARDWOOD OR BARK MULCH. ALL OTHER PLANTING BEDS, SHRUBS AND TREE PLANTINGS SHALL BE MULCHED WITH A 3" MINIMUM LAYER OF MULCH. THIS MULCH SHALL ENTIRELY COVER THE AREA OF THE PLANTING PIT, BED, OR EARTH BERM AROUND EACH PLANT WITH THE EXCEPTION OF THE AREA IMMEDIATELY ADJACENT TO THE PLANT TRUNK OR TRUNKS. THE AREA IMMEDIATELY ADJACENT TO THE PLANT TRUNK OR TRUNKS SHALL BE LEFT FREE OF ANY MULCH.

(6) FERTILIZING

(6.1) THE FERTILIZER SHOULD BE A DRY SLOW RELEASE FORM OF FERTILIZER. IT SHOULD CONTAIN AT LEAST 25-50% WATER INSOLUBLE NITROGEN. THE FERTILIZER SELECTED SHOULD ALSO HAVE A LOW ADJUSTED SALT INDEX TO PREVENT BURNING. THE N-P-K RATIO SHOULD NOT EXCEED 3-1-2 UNLESS THE SOIL TEST REVEALS THAT ADDITIONAL LEVELS OF P AND K ARE NECESSARY.

(6.2) FOR DECIDUOUS TREES, USE OSMOCOTE (18-6-12) AT THE RATE EQUIVALENT TO 4 LBS ACTUAL N/1000 SQ FT OF ROOT ZONE AREA/YEAR. FOR EVERGREEN TREES USE 2 LBS ACTUAL N/1000 SQ FT OF ROOT ZONE AREA/YEAR.

(6.3) MIX THE FERTILIZER INTO THE BACKFILL SOIL OF THE TREE PITS. FOR SHRUB BEDS, MIX THE FERTILIZER INTO THE AREA THAT HAS BEEN ROTO-TILLED FOR THE PLANTS.

(6.4) THE FERTILIZER RATE FOR CONTINUOUS GROUND COVER AND SHRUB BEDS SHOULD BE DERIVED BY CALCULATING THE ENTIRE ROOT ZONE AREA. THE ROOT ZONE AREA IS FOUND BY MEASURING THE AREA CONTAINING THE MULTIPLE PLANT ROOTS. USE OSMOCOTE (18-6-12) AT A RATE EQUIVALENT TO 2 LBS OF N /1000 SQ FT OF ROOT ZONE AREA. THE FERTILIZER SHOULD BE EVENLY DISTRIBUTED WITHIN THE SHRUB BED SOIL.

(6.5) ALWAYS BE SURE THAT ADEQUATE MOISTURE IS AVAILABLE WHEN FERTILIZING SO THAT THE FERTILIZER WILL BE DISSOLVED INTO THE SOIL SOLUTION FOR ROOT UPTAKE AND TO AVOID BURNING THE ROOTS.

(7) STAKING

(7.1) TREES REQUIRING SUPPORT WILL BE INDICATED IN THE COMMENTS SECTION OF THE PLANTING SCHEDULE. ALL TREES REQUIRING SUPPORT SHALL BE STAKED ACCORDING TO THE DETAILS PROVIDED.

(7.2) TWO STAKES SHALL BE REQUIRED PER TREE. THE STAKES SHALL BE DRIVEN VERTICALLY INTO THE GROUND TO A DEPTH OF 2 1/2' TO 3', ON OPPOSITE SIDES OF THE TREE, IN SUCH A MANNER AS NOT TO INJURE THE ROOT BALL OR ROOTS. STAKES FOR SUPPORTING TREES SHALL BE 2" SQUARE OR ROUND, BY 8'. THE STAKES SHOULD BE SOUND WOOD TREATED WITH A SUITABLE WOOD PRESERVATIVE. A SINGLE BURLAP LOOP SHALL BE PLACED AROUND THE TRUNK, ABOVE THE FIRST MAJOR BRANCH, AND TACKED TO ONE OF THE WOODEN STAKES. ANOTHER SINGLE BURLAP LOOP SHALL ALSO BE PLACED AROUND THE TRUNK, ABOVE THE FIRST MAJOR BRANCH, AND TACKED TO THE OTHER WOODEN STAKE. THE BURLAP SHOULD BE TAUT.

(7.3) WOODEN STAKES AND BURLAP TIES SHOULD BE REMOVED AFTER ONE YEAR.

(8) CHEMICAL APPLICATION

(8.1) ALL PESTICIDES SHALL BE PRODUCTS OF RECOGNIZED COMMERCIAL MANUFACTURERS, AND SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL PESTICIDE LAWS. PESTICIDES SHALL BE APPLIED WITH CALIBRATED EQUIPMENT ACCORDING TO EPA LABEL RESTRICTIONS AND REGULATIONS BY A CERTIFIED APPLICATOR. ANY DAMAGE INCURRED TO THE SITE, ADJACENT PROPERTIES, OR APPLICATOR DURING PESTICIDE APPLICATIONS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

(8.2) PESTICIDES SHOULD BE USED ONLY WHEN NECESSARY TO TREAT AN OUTBREAK OF A HARMFUL PEST OR DISEASE PROBLEM. THE OWNER OR THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS PRIOR TO THE APPLICATION OF ANY PESTICIDE.

(9) MAINTENANCE AND GUARANTEE

(9.1) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HIS WORK FOR THE PERIOD OF ONE YEAR AFTER ACCEPTANCE BY THE OWNER OR THE OWNER'S REPRESENTATIVE. MAINTENANCE SHALL INCLUDE MOWING, WATERING, WEEDING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RESETTING OF PLANTS TO PROPER GRADES OR UPRIGHT POSITIONS, RESTORATION OF EARTH BERMS, AND OTHER NECESSARY OPERATIONS. ADEQUATE PROTECTION FOR LAWN AREAS AGAINST TRESPASSING DURING PLANTING OPERATIONS AND AGAINST DAMAGE OF ANY KIND SHALL BE PROVIDED. NOTHING IN THESE NOTES IS INTENDED TO RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO REPAIR EXISTING LAWN AREAS DAMAGED BY WORKMEN ENGAGED IN THE COMPLETION OF THIS PROJECT.

(9.2) INSPECTION OF THE WORK TO DETERMINE COMPLETION OF THE CONTRACT EXCLUSIVE OF THE POSSIBLE REPLACEMENT OF PLANTINGS, WILL BE MADE BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE CONCLUSION OF THE INSTALLATION PERIOD UPON WRITTEN NOTICE REQUESTING SUCH INSPECTION. REQUEST SHALL BE SUBMITTED BY CONTRACTOR AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED DATE FOR INSPECTION. AFTER INSPECTION, THE CONTRACTOR WILL BE NOTIFIED IN WRITING BY THE OWNER OR THE OWNER'S REPRESENTATIVE OF ACCEPTANCE OF THE WORK, EXCLUSIVE OF THE POSSIBLE REPLACEMENT OF PLANTS SUBJECT TO GUARANTEE; OR, IF THERE ARE ANY DEFICIENCIES, THE CONTRACTOR WILL BE NOTIFIED OF THE REQUIREMENTS NECESSARY FOR COMPLETION OF THE WORK. PLANTINGS SHALL NOT BE CONSIDERED ACCEPTED UNTIL ALL DEFICIENCIES HAVE BEEN CORRECTED AND APPROVED IN WRITING.

(9.3) NURSERY STOCK SHALL BE FULLY GUARANTEED FOR ONE FULL YEAR. ALL PLANTS THAT FAIL TO MAKE NEW GROWTH FROM A DORMANT CONDITION OR THAT DIE DURING THE FIRST YEAR AFTER PLANTING SHALL BE REPLACED. ALL REPLACEMENTS SHALL CONFORM WITH THE ORIGINAL SPECIFICATIONS AS TO SIZE AND TYPE. ALL COSTS OF REPLACEMENTS SHALL BE BORNE BY THE CONTRACTOR.

(10) ALL OTHER ITEMS NECESSARY TO MAKE WORK COMPLETE

(10.1) ANY PLANT MATERIAL NOT PLANTED SHALL BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNUSED RUBBISH AND DEBRIS FROM THE SITE UPON COMPLETION OF HIS WORK.

(11) SEEDING

(11.1) THIS SECTION INCLUDES, BUT IS NOT LIMITED TO: TILLAGE, pH BALANCING, FERTILIZING, WATERING, SEEDING, MAINTENANCE MOWING, AND MULCHING OF ALL DISTURBED AREAS WITHIN THE CONTRACT LIMIT LINES NOT OCCUPIED BY STRUCTURES, PAVEMENT, BMPS, OR PLANTING BEDS.

(11.2) QUALITY ASSURANCE: SEEDING WORK SHALL BE PERFORMED BY A SINGLE FIRM SPECIALIZING AND EXPERIENCED IN LANDSCAPE WORK.

(11.2.1) SHIP MATERIALS WITH CERTIFICATES OF INSPECTION REQUIRED BY GOVERNING AUTHORITIES. COMPLY WITH REGULATIONS APPLICABLE TO LANDSCAPE MATERIALS.

(11.2.2) TOPSOIL ANALYSIS: PROVIDE FOR THE SERVICES OF A TESTING AGENCY TO PERFORM AN ANALYSIS OF TOPSOIL TO BE USED, AND A DETERMINATION OF NUTRITIONAL REQUIREMENTS OF SOIL FOR ESTABLISHMENT OF LAWNS AS SPECIFIED BELOW.

(11.3) SUBMITTALS: SUBMIT SEED VENDOR'S CERTIFIED STATEMENT FOR EACH GRASS SEED MIXTURE REQUIRED, STATING BOTANICAL AND COMMON NAME, PERCENTAGE BY WEIGHT, AND PERCENTAGES OF PURITY, GERMINATION, AND WEED SEED FOR EACH GRASS SEED SPECIES.

(11.4) DELIVERY, STORAGE, AND HANDLING: FERTILIZER, SOIL AMENDMENTS, AND SEED SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL, UNOPENED CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS, NAME, TRADEMARK, AND STATEMENT OF CONFORMANCE TO STATE AND FEDERAL LAWS. IN LIEU OF CONTAINERS, FERTILIZER AND SOIL AMENDMENTS MAY BE FURNISHED IN BULK WITH A MANUFACTURER'S CERTIFICATE INDICATING THE ABOVE INFORMATION ACCOMPANYING EACH DELIVERY. DURING DELIVERY, SEED, FERTILIZER AND SOIL AMENDMENTS SHALL BE KEPT IN DRY STORAGE AWAY FROM CONTAMINANTS. PRECAUTIONS SHALL BE TAKEN TO PROTECT CONTAINERS FROM RUPTURE PRIOR TO USE.

(11.5) JOB CONDITIONS:

(11.5.1) PRIOR TO BEGINNING THE WORK OF THIS SECTION, VERIFY THAT THE SITE WORK CONTRACTOR HAS COMPLETED THE FINISH GRADING. AT THIS POINT, 4" OF TOPSOIL SHALL BE IN PLACE AND ROUGH GRADE LEVELS SHALL BE AT THE FINISH GRADE LEVEL, IN ALL LANDSCAPE AREAS, INCLUDING AREAS TO BE ESTABLISHED IN TURF.

(11.5.2) PRIOR TO TOPSOIL PLACEMENT ALL AREAS TO RECEIVE TOPSOIL SHALL BE CLEARED OF ALL DEBRIS. ANY DEBRIS SHALL BE REMOVED FROM THE SITE. TO CREATE A TRANSITION ZONE BETWEEN UNDERLYING SOIL AND NEW SOIL, TOPSOIL SHALL BE PLACED IN TWO (2) TWO INCH (2") LAYERS. THE FIRST LAYER SHALL BE PLACED AND THOROUGHLY TILLED IN PRIOR TO PLACEMENT OF SECOND LAYER.

(11.5.3) THE LANDSCAPE CONTRACTOR SHALL PLACE A FOUR INCH (4") COMPACTED LAYER OF TOPSOIL OVER ALL AREAS TO BE ESTABLISHED IN TURF. THE TOPSOIL LAYER SHALL BRING ALL TURF AREAS AND SHRUB BEDS TO FINISH GRADE.

(11.5.4) DETERMINE LOCATIONS OF ALL UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID DAMAGE. ALL UTILITIES ARE NOT NECESSARILY SHOWN ON DRAWINGS AND CONTRACTOR SHALL ASSUME RESPONSIBILITY OF DETERMINING EXISTENCE OR NON-EXISTENCE OF ALL UTILITIES. MAINTAIN GRADE STAKES SET BY OTHERS UNTIL REMOVAL IS MUTUALLY AGREED UPON BY PARTIES CONCERNED.

(11.5.5) WHEN CONDITIONS DETRIMENTAL TO LAWN ESTABLISHMENT, GROWTH AND MAINTENANCE ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS OR OBSTRUCTIONS, NOTIFY THE OWNER'S REPRESENTATIVE BEFORE BEGINNING WORK.

(11.6) WARRANTY LAWNS: THE ESTABLISHMENT PERIOD FOR LAWN AREAS SHALL BE FROM THE TIME OF INSTALLATION UNTIL THE THIRD CUTTING OF AN ESTABLISHED LAWN. AN ESTABLISHED STAND SHALL BE UNIFORM IN COVERAGE AND OF THE SPECIFIED MIXTURE. NO INDIVIDUAL LAWN AREA SHALL HAVE UNACCEPTABLE PORTIONS IN EXCESS OF ONE PERCENT OF THE INDIVIDUAL LAWN AREA. ALL REPLACEMENTS SHALL BE SUBJECT TO THE WARRANTY REQUIREMENTS AS THE ORIGINAL STOCK. ANY DAMAGE DONE DURING REPLACEMENT OPERATIONS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.

(11.7) SOIL AMENDMENTS:

(11.7.1) LIME: TO pH BALANCE SOIL, NATURAL DOLOMITIC LIMESTONE CONTAINING NOT LESS THAN 95% OF TOTAL CARBONATES WITH A MINIMUM OF 30% MAGNESIUM CARBONATES, GROUND SO THAT NOT LESS THAN 98% PASSES A 20-MESH SIEVE AND NOT LESS THAN 50% PASSES A 100-MESH SIEVE.

(11.7.2) ALUMINUM SULFATE: TO pH BALANCE SOIL, COMMERICAL GRADE IN DRY POWDER FORM.

(11.7.3) SUPERPHOSPHATE: SOLUBLE MIXTURE OF TREATED MINERALS; 20% AVAILABLE PHOSPHORIC ACID.

(11.8) FERTILIZER: GRANULAR OR PELLET FORM, HORTICULTURAL GRADE COMPLETE FORMULAS, DRY AND FREE-FLOWING, UNIFORM IN COMPOSITION, AND SUITABLE FOR APPLICATION BY APPROVED EQUIPMENT. THE FERTILIZER SHALL CONFORM TO THE APPLIABLE STATE FERTILIZER LAWS.

(11.9) SEED: STATE-CERTIFIED SEED OF THE LATEST SEASON'S CROP COMMON TO THE SITE LOCATION. PROVIDE FRESH, CLEAN, NEW-CROP SEED COMPLYING WITH ESTABLISHED TOLERANCES FOR GERMINATION AND PURITY IN ACCORDANCE WITH THE U.S. DEPARTMENT OF AGRICULTURE RULES AND REGULATIONS UNDER THE LATEST EDITION OF THE FEDERAL SEED ACT. SEED SHALL BE MIXED BY THE DEALER AND SHALL BE DELIVERED TO THE SITE IN SEALED CONTAINERS WHICH SHALL BEAR THE DEALER'S GUARANTEED ANALYSIS. SEED THAT HAS BECOME WET, MOLDY, OR OTHERWISE DAMAGED WILL NOT BE ACCEPTABLE. SEEDING:

ATHLETIC FIELD MIXTURE
RATE: 6 LBS/1000 SF
SOWING DATES: 4/1-5/31 OR 8/16-12/30

MIXTURE CONTAINS:

% BY DESCRIPTION	% PURITY	GERMINATION RATE
FESTUCA ARUNDINACEA 'REBEL 3D' - 'REBEL 3D' TALL FESCUE		
80%	90-97%	7-12 DAYS
LOLIUM PERENNE 'PALMER II' - 'PALMER II' PERENNIAL RYEGRASS		
10%	90-98%	3-7 DAYS
POA PRATENSIS - KENTUCKY BLUEGRASS		
10%	80-85%	10-21 DAYS

(11.10) STRAW MULCH: STRAW SHALL BE STALKS FROM OATS, WHEAT, RYE, BARLEY OR RICE THAT ARE FREE FROM NOXIOUS WEEDS, CHEMICALS, MOLD OR OTHER OBJECTIONABLE MATERIALS WITH A MULCH TACKIFIER. STRAW SHALL BE IN AN AIR-DRY CONDITION SUITABLE FOR PLACING. STRAW SUPPLIED FOR MECHANICAL APPLICATION SHALL BE CHOPPED.

(11.11) WOOD CELLULOSE MULCH:

(11.11.1) MULCH SUPPLIED FOR USE WITH HYDRAULIC APPLICATION OF GRASS SEED AND FERTILIZER SHALL CONSIST OF SILVA-FIBER MULCH BY WEYERHAEUER COMPANY, TACOMA, WA (800)443-9174 OR EQUAL. WOOD CELLULOSE FIBER SHALL NOT BE UTILIZED HOWEVER FROM 6/1 TO 8/15. DURING THIS TIME, STRAW MULCH SHALL BE UTILIZED.

(11.11.2) PROCESSING OF WOOD CELLULOSE FIBER SHALL BE IN SUCH A MANNER THAT IT WILL NOT CONTAIN GERMINATION OR GROWTH INHIBITING ELEMENTS.

(11.11.3) WOOD CELLULOSE FIBER SHALL BE DYED AN APPROPRIATE COLOR TO ALLOW VISUAL METERING OF ITS APPLICATION.

(11.11.4) WOOD CELLULOSE FIBER SHALL HAVE THE PROPERTY OF BECOMING EVENLY DISPERSED AND SUSPENDED WHEN AGITATED IN WATER. WHEN SPRAYED UNIFORMLY ON THE SURFACE OF THE SOIL, THE FIBERS SHALL FORM A BLOTTER-LIKE GROUND COVER WHICH READILY ABSORBS WATER AND ALLOWS INFILTRATION TO THE UNDERLYING SOIL.

(11.11.5) WEIGHT SPECIFICATIONS FROM SUPPLIERS FOR APPLICATIONS SHALL REFER TO AIR-DRY WEIGHT OF THE FIBER, A STANDARD EQUIVALENT TO 10 PERCENT MOISTURE.

(11.12) THE LANDSCAPE CONTRACTOR SHALL CAREFULLY CORRELATE HIS WORK WITH THAT OF OTHER SITE DEVELOPERS. THE LANDSCAPE CONTRACTOR IS REQUIRED TO INSTALL AND MAINTAIN HIS FINISHED WORK AT HIS EXPENSE.

(11.13) SEED BED PREPARATION

(11.13.1) SEEDING SHALL NOT BE DONE WHEN THE GROUND IS FROZEN, SNOW COVERED, SATURATED, OR IN ANY OTHER CONDITION WHICH WOULD MAKE ESTABLISHMENT AND SURVIVAL OF LAWNS UNLIKELY.

(11.13.2) AT THE TIME OF BEGINNING SEED BED PREPARATION, TOPSOIL SHALL BE IN A LOOSE, FRIABLE CONDITION, FREE FROM STONES IN ANY DIMENSION, STICKS, ROOTS AND OTHER EXTRANEOUS MATTER. IF TOPSOIL HAS BECOME CRUSTY, HARDENED OR ERODED SINCE BEING SPREAD, IT SHALL BE A PART OF THIS WORK TO RESTORE THE SOIL TO THE LOOSE CONDITION DESCRIBED ABOVE.

(11.13.3) SPREAD FERTILIZER AT THE RATE OF 4 LBS./1000 SF 4 TIMES PER YEAR. ADD pH BALANCING AGENTS AT RATES RECOMMENDED BY THE SOIL TEST REPORT TO ACHIEVE A pH OF 5.5 TO 6.8. BLEND ADDITIVES THOROUGHLY INTO UPPER 4" OF TOPSOIL. REMOVE ANY ROCK OR OTHER DEBRIS WHICH MAY SURFACE. TILL AREAS UNTIL SOIL IS LOOSE AND FRIABLE AND ALL SOIL AMENDMENTS ARE UNIFORMLY DISTRUBUTED.

(11.13.4) WORK ALL AREAS TO A SMOOTH EVEN SURFACE FREE FROM IRREGULARITIES, RIDGES, OR DEPRESSIONS. PREPARED AREAS SHALL MEET REQUIRED FINISH GRADE ELEVATIONS AND SHALL DRAIN ADEQUATELY. REPAIR ALL WASHED AND ERODED PORTIONS.

(11.13.5) MOISTEN PREPARED AREAS IF SOIL IS DRY. WATER THOROUGHLY, THEN ALLOW SURFACE MOISTURE TO EVAPORATE. DO NOT CREATE MUDDY SOIL CONDITIONS.

(11.13.6) SOW SEED USING A SPREADER OR SEEDING MACHINE AT THE RATE OF 6 LBS/1000 SF. DO NOT SEED WHEN WIND VELOCITY EXCEEDS 5 MI. PER HOUR. DISTRUBUTE SEED EVENLY OVER ENTIRE AREA BY SOWING EQUAL QUANTITY IN 2 DIRECTIONS AT RIGHT ANGLES TO EACH OTHER. OVERSEED EVERY YEAR AT A RATE OF 8 LBS/1000 SF.

(11.13.7) RAKE SEED LIGHTLY INTO TOP 1/4" OF SOIL, FIRM ENTIRE AREA WITH A ROLLER NOT EXCEEDING 90 LBS. PER FOOR OF ROLLER WIDTH, AND WATER WITH A FINE SPRAY.

(11.13.8) UNLESS INDICATED OTHERWISE ON THE DRAWINGS, PROTECT NEWLY SEEDED AREAS BY SPREADING MULCH TO A UNIFORM AND CONTINUOUS DEPTH OF 1-1/2" LOOSE MEASUREMENT (70-90 LBS/1000 SF.)

(11.14) MAINTENANCE DURING ESTABLISHMENT PERIOD:

(11.14.1) IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WATER APPLICATION RATES.

(11.14.2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE DURING THE ESTABLISHMENT PERIOD AND UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER SEEDING AND SHALL INCLUDE WATERING, FERTILIZING, REMOVAL OF STRAW MULCH, WEED ERADICATION, MOWING, TRIMMING, CLIPPING REMOVAL, THE RECONSTRUCTION OF ALL AREAS DAMAGED BY EROSION OR OTHER OCCURENCE.

(11.14.3) STANDS IN LAWN AREAS SHALL BE MOWED WHENEVER THE AVERAGE HEIGHT REACHES 3-1/2 INCHES. MOWING HEIGHT SHALL BE 2-1/2 INCHES.

(11.14.4) WASTE MATERIAL SHALL BE REMOVED FROM THE SITE DAILY.

(11.15) CLEAN-UP AND PROTECTION

(11.15.1) KEEP PAVEMENTS CLEAN AND WORK AREA IN AN ORDERLY CONDITION.

(11.15.2) PROTECT SEEDED AREAS AND MATERIALS FROM DAMAGE DUE TO OPERATIONS BY OTHER CONTRACTORS, TRADES, AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND UNTIL FINAL ACCEPTANCE. TREAT, REPAIR OR REPLACE DAMAGED SEEDED AREAS AS DIRECTED.

(11.16) COMPLETION AND ACCEPTANCE

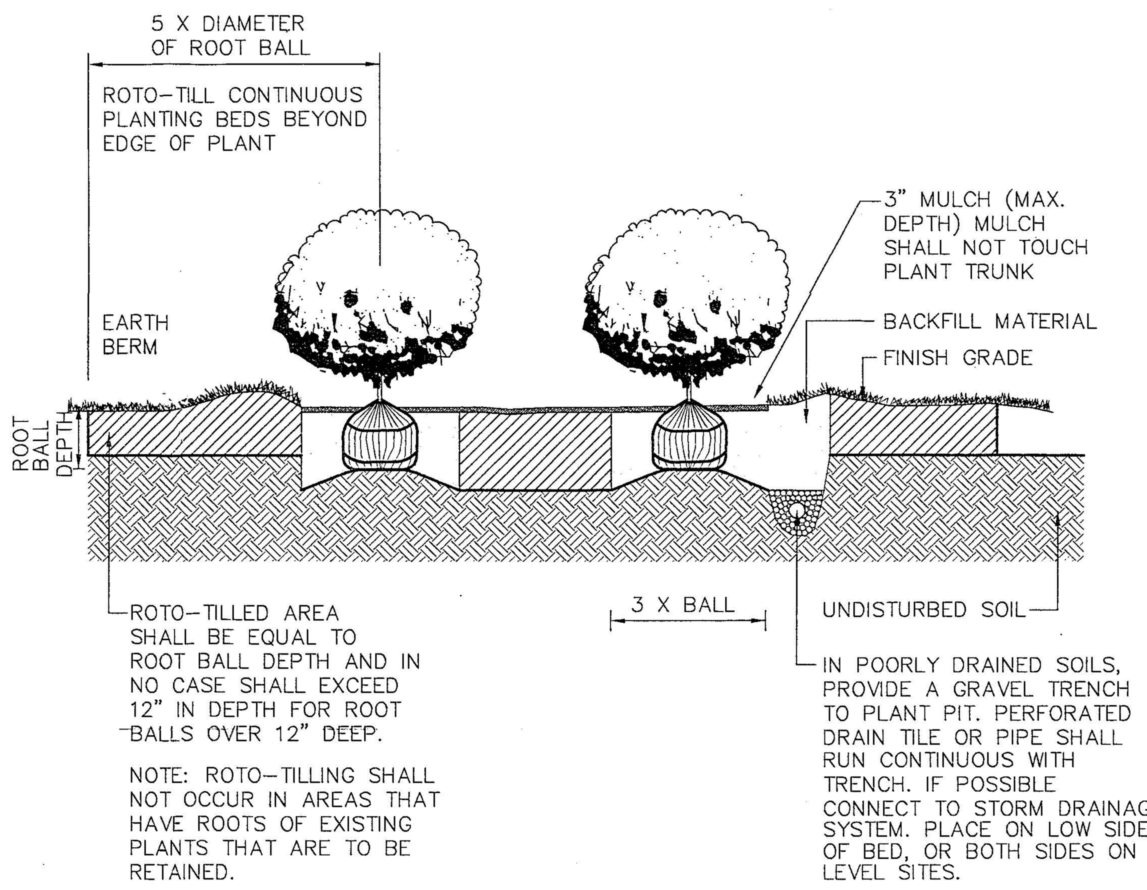
(11.16.1) THE COMPLETION OF THE CONTRACT WILL BE ACCEPTED AND NOTICE OF COMPLETION RECORDED ONLY WHEN THE ENTIRE CONTRACT IS COMPLETED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

(11.16.2) WITHIN TEN (10) DAYS OF THE GENERAL CONTRACTOR'S NOTIFICATION THAT THE INSTALLATION IS COMPLETE, THE OWNER'S REPRESENTATIVE WILL INSPECT THE INSTALLATION AND, IF FINAL ACCEPTANCE IS NOT GIVEN, WILL PREPARE A "PUNCH LIST".

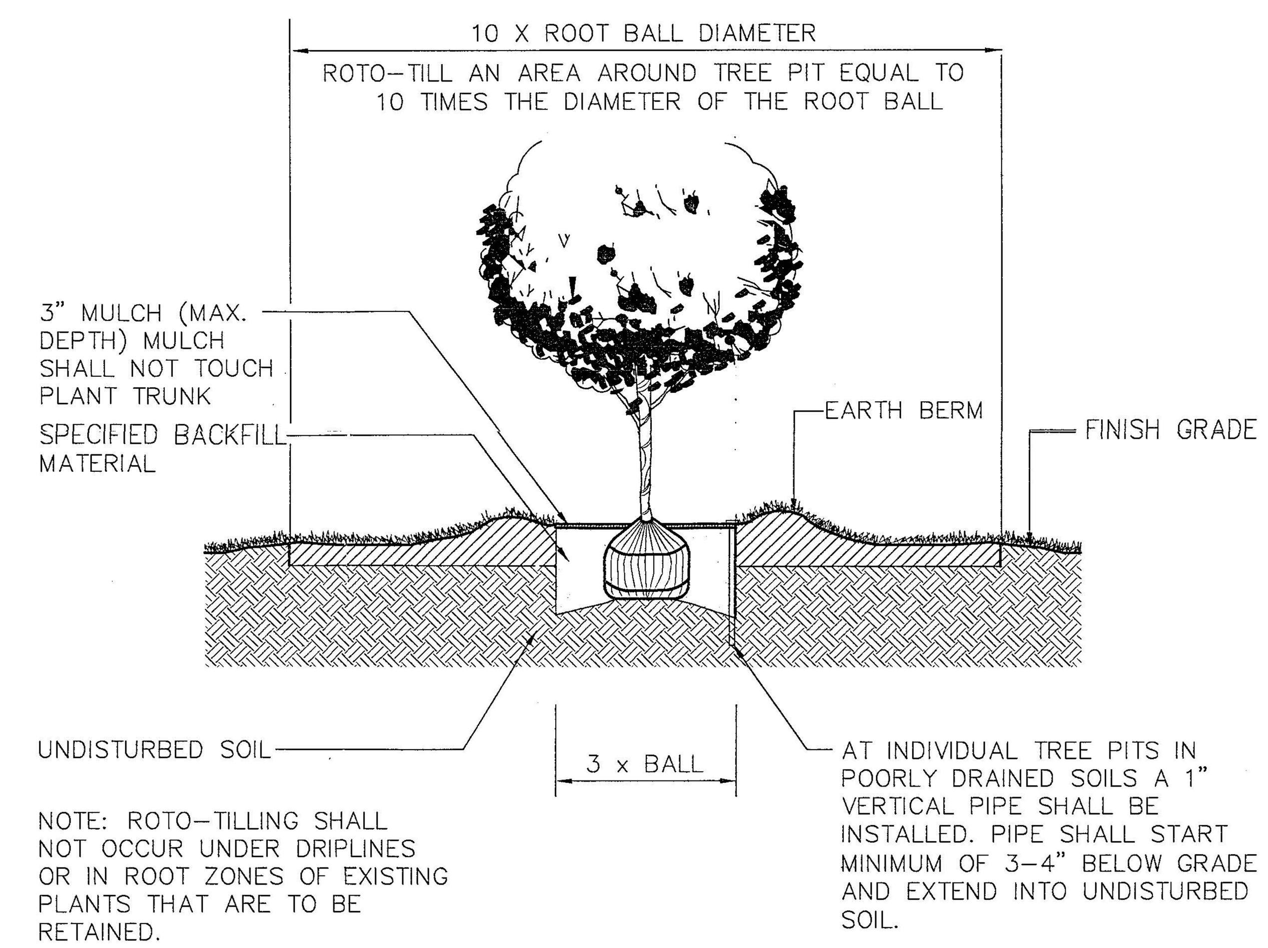
(11.16.3) FINAL ACCEPTANCE WILL BE GIVEN BY THE OWNER'S REPRESENTATIVE UPON SATISFACTORY COMPLETION OF ALL WORK INCLUDING "PUNCH LIST" ITEMS.

PLANT SCHEDULE

ITEM NUMBER	KEY	QTY.	SCIENTIFIC NAME	COMMON NAME	INITIAL SIZE HEIGHT	INITIAL SIZE WIDTH	INITIAL SIZE CALIPER	SPACING	ROOT	COMMENTS
			TREES							
1	BENIH	4	Betula nigra "Heritage"	Heritage River Birch	10-12'			AS SHOWN	B&B/CONT.	
2	CEAT	2	Cedrus atlantica 'Glauca'	Blue Atlas Cedar	8'			AS SHOWN	B&B/CONT.	
3	LAN	4	Lagerstroemia x fauriei 'Natchez'	Natchez Crapemyrtle	10-12'			AS SHOWN	B&B/CONT.	MULTI-STEM 3-5 CANES ONLY
4	MGLG	3	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	8'			AS SHOWN	B&B/CONT.	
5	QUPH	2	Quercus phellos	Willow Oak			2.5" Cal	AS SHOWN	B&B/CONT.	6' MINIMUM BRANCH HEIGHT
			SHRUBS							
6	ICC	32	Ilex cornuta 'Carissa'	Carissa Holly		#3 (18-21")		3' O.C.	CONTAINER	
7	LOCBU	18	Loropetalum chinense 'Burgundy'	Burgundy Fringe-flower	#3 (18-21")			4' O.C.	CONTAINER	
8	Myce	6	Myrica cerifera	Southern Waxmyrtle	30"			5' O.C.	CONTAINER	



SHRUB PLANTING
NOT TO SCALE



TREE PLANTING
NOT TO SCALE

LANDSCAPE MATERIALS SUMMARY

	TOTAL REQUIRED	MIXTURE		TOTAL PROVIDED	MIXTURE	
BUILDING LANDSCAPE AREA (4,000 SQ FT)						
1 PLANTING UNIT* PER 200 SQ FT	20			20 (20 PU'S= 10 TREES AND 50 SHRUBS)		
PARKING (11 SPACES) (10,518.6 SQ FT)						
TREES @ 1 PER 5 SPACES (2.5" CAL. MINIMUM)	3	DECIDUOUS @ ≥ 50%	2	5	DECIDUOUS @ ≥ 50%	3
		EVERGREEN @ ≥ 35%	N/A		EVERGREEN @ ≥ 35%	2
SHRUBS @ 2 PER 5 SPACES	6	EVERGREEN @ ≥ 50%	3	6	EVERGREEN @ ≥ 50%	6
		OTHER	REMAINDER		OTHER	0
PERCENTAGE OF LANDSCAPE AREA WITHIN LOT(S)	10%			56% (5959 SQ FT) **		

* 1 PLANTING UNIT (PU) = 1 ORNAMENTAL TREE OR 5 SHRUBS PER 200 SQUARE FEET.
** INCLUDES 10' STRIP ADJACENT TO PARKING AND NOT PART OF ANY OTHER LANDSCAPE AREAS.

COMMONWEALTH OF VIRGINIA
THEODORE RICHARD CALVER
NO. 000787
09/19/00
CERTIFIED LANDSCAPE ARCHITECT

LANDMARK DESIGN GROUP
Engineers • Planners • Surveyors
Landscape Architects • Environmental Consultants

4029 Ironbound Road
Suite 100
Williamsburg, VA 23188
Tel. (757) 253-2975
Fax (757) 229-0049
Email: lmdg@landmarkdgwb.com

5544 Greenwich Road
Suite 200
Virginia Beach, VA 23462
Tel. (757) 473-2000
Fax (757) 497-7933
Email: lmdg@landmarkdg.com

REVISIONS:

No.	Date	Comment	By

DRAWING STATUS
Interoffice Review
Client for Review
Pre Approval Bidding

COUNTY APPROVAL
09/19/00 1st Submittal
2nd Submittal
3rd Submittal
Approved

LANDSCAPE DETAILS & NOTES

LAUNDRY FACILITY AT KINGSMILL
JAMES CITY COUNTY, VIRGINIA
FOR
KINGSMILL RESORTS

Designed: TRC	Date: 09/19/00
Checked: TRC	Scale: N.T.S.
File Mgr./Drawn: TRC	CADD File name: L-2.DWG
Project Number: 2000186-000.03	Dwg. File No.: 11813W
Drawing Number	L-2

11813 W

JR051

000 022313

DECLARATION OF COVENANTS

INSPECTION/MAINTENANCE OF DRAINAGE SYSTEM

THIS DECLARATION, made this 27 day of November, 2000, between Busch Properties, Inc and all successors in interest, hereinafter referred to as the "COVENANTOR(S)," owner(s) of the following property: Real Estate Tax Map # (52-3) (01-110) KINGSMILL LAUNDRY BUILDING, Deed Book 714, Page No. 469 or Instrument No. _____, and James City County, Virginia, hereinafter referred to as the "COUNTY."

WITNESSETH:

We, the COVENANTOR(S), with full authority to execute deeds, mortgages, other covenants, and all rights, titles and interests in the property described above, do hereby covenant with the COUNTY as follows:

1. The COVENANTOR(S) shall provide maintenance for the drainage system including any runoff control facilities, conveyance systems and associated easements, hereinafter referred to as the "SYSTEM," located on and serving the above-described property to ensure that the SYSTEM is and remains in proper working condition in accordance with approved design standards, and with the law and applicable executive regulations. The SYSTEM shall not include any elements located within any Virginia Department of Transportation rights-of-way.

2. If necessary, the COVENANTOR(S) shall levy regular or special assessments against all present or subsequent owners of property served by the SYSTEM to ensure that the SYSTEM is properly maintained.

3. The COVENANTOR(S) shall provide and maintain perpetual access from public right-of-ways to the SYSTEM for the COUNTY, its agent and its contractor.

4. The COVENANTOR(S) shall grant the COUNTY, its agent and its contractor a right of entry to the SYSTEM for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the SYSTEM.

5. If, after reasonable notice by the COUNTY, the COVENANTOR(S) shall fail to maintain the SYSTEM in accordance with the approved design standards and with the law and applicable executive regulations, the COUNTY may perform all necessary repair or maintenance work, and the COUNTY may assess the COVENANTOR(S) and/or all property served by the SYSTEM for the cost of the work and any applicable penalties.

6. The COVENANTOR(S) shall indemnify and save the COUNTY harmless from any and all claims for damages to persons or property arising from the installation, construction, maintenance, repair, operation or use of the SYSTEM.

7. The COVENANTOR(s) shall promptly notify the COUNTY when the COVENANTOR(S) legally transfers any of the COVENANTOR(S)' responsibilities for the SYSTEM. The COVENANTOR(S)' shall supply the COUNTY with a copy of any document of transfer, executed by both parties.

8. The covenants contained herein shall run with the land and shall bind the COVENANTOR(S) and the COVENANTOR(S)' heirs, executors, administrators, successors and assignees, and shall bind all present and subsequent owners of property served by the SYSTEM.

9. This COVENANT shall be recorded in the County Land Records.

NOV 29 00 0296

IN WITNESS WHEREOF, the COVENANTOR(S) have executed this DECLARATION OF COVENANTS as of this 27 day of November, ~~19~~ 2000

COVENANTOR(S)

Terri A Haack

ATTEST:

_____

COVENANTOR(S)

_____

ATTEST:

_____

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF James City

I hereby certify that on this 27 day of November, ~~19~~ 2000, before the subscribed, a Notary Public of the State of Virginia, and for the County of James City, aforesaid personally appeared Terri A. Haack and did acknowledge the aforegoing instrument to be their Act.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 27 day of November, ~~19~~ 2000.

Allison M Hayes
Notary Public

My Commission expires: April 30, 2002

Approved as to form:

County Attorney

This Declaration of Covenants prepared by:

Jesse Young
(Print Name)

Director of Community Affairs and Project Development
(Title)

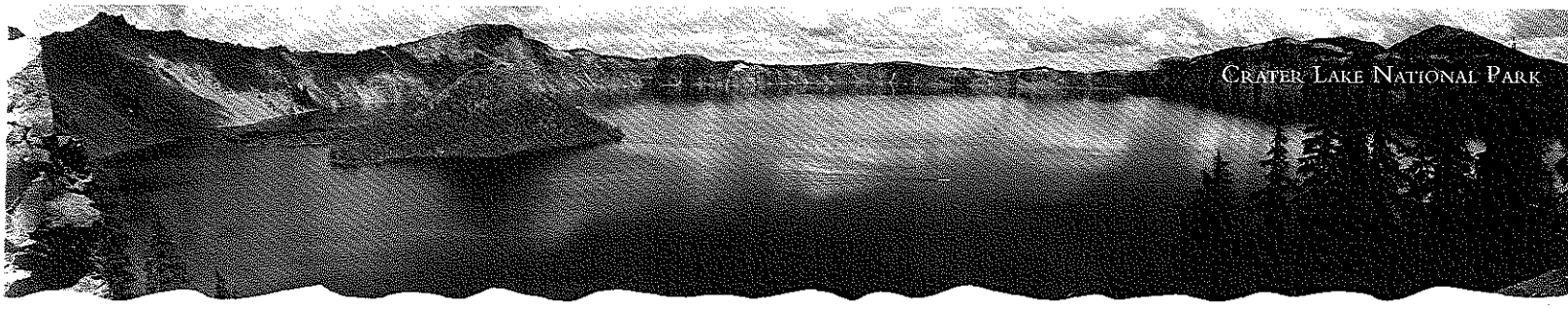
1010 Kingsmill Rd.
(Address)

Williamsburg VA 23185
(City) (State) (Zip)

Virginia: City of Williamsburg and County of James City, to-wit:
This Covenants was presented with certificate annexed and admitted to record on 29 Nov, 2000, at 3:25 PM in the Clerk's Office of the Circuit Court of the City of Williamsburg and County of James City.
TESTE: BETSY B. WOOLRIDGE, CLERK
By Betsy B. Woolridge Deputy Clerk

NOV 29 00 0297

drainage.pre
Revised 2/97



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Stormwater Division

August 16, 2010

James City County
Stormwater Division
287 McLaws Circle, Suite 1
Williamsburg, VA 23188

Re: Kingsmill Drainage System Declarations

To Whom it May Concern:

On July 31, 2010, Busch Properties, Inc. ("Busch") sold the Kingsmill Resort & Spa located in Williamsburg, VA (the "Resort") to Xanterra Kingsmill, LLC, a Delaware limited liability company ("Xanterra"). On September 7, 2000 and November 27, 2000, Busch executed and recorded in the James City County real property records two documents entitled "Declaration of Covenants, Inspection/Maintenance of Drainage System," copies of which are enclosed herewith (the "Declarations").

As a successor to Busch in the ownership of the Resort, Xanterra hereby provides notice to the County of the legal transfer of the Resort by Busch to Xanterra pursuant to Section 7 of both Declarations. Also pursuant to Section 7 of the Declarations, please find enclosed herewith a copy of that warranty deed recorded in James City County evidencing the legal transfer of the Resort.

To the extent you have any questions or need any additional information regarding the transfer of the Resort, please feel free to contact me directly at (303) 600-3422.

Sincerely,

Shane Harvey, Director of Business Development & Legal Affairs

w/Enclosures

6312 S. Fiddlers Green Circle, Suite 600 North • Greenwood Village, CO 80111 • Phone 303-600-3400 • Fax 300-600-3600 • xanterra.com

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