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Introduction

One of the key components needed when working together to achieving a common goal is a shared understanding of the process and the requirements. This Guide was produced to help create a common knowledge base for the Development Community and the City Staff. The following document outlines the process for the development of commercial property under the Site Plan Ordinance. Commercial property includes commercial, industrial and multifamily uses. The information provided in this Guide is not intended supersede or replace City Specifications and Standards and development related ordinances and regulations. The intent is for this document to be used in conjunction with applicable local, state and federal requirements.

The purpose of these guidelines is to provide the City review staff, design consultants, property owners, developers and contractors with a concise document that explains the broad scope and details of the commercial site plan approval process with its design, construction and maintenance requirements for new development, infill or redevelopment. The Guide is designed to clarify the plan requirements and minimize the time and effort necessary to gain plan approval. Close adherence to the Checklists and Required Notes by the consultant, owner, developer, contractor and builder is essential for a successful project.

Commercial site plans are reviewed by the DSC staff for compliance with City ordinances, regulations, procedures, standards and policies and to help insure that the proposed construction will not have a detrimental effect on the surrounding properties, neighborhoods and environment.

These guidelines include reference to and excerpts from the governing ordinances, specifications and other documents. For more detailed information, it is suggested that the user refer directly to the referenced document. Many of these documents are located on the City’s Internet website. The DSC staff is constantly reviewing and updating old forms and creating new forms in a “fillable form” format for use by our customers. These forms are posted on the DSC website (www.vbgov.com/dsc). In addition, periodic DSC Information Notices are also a good source for changes involving the development process.
1. **Pre-Application/Submittal Conference:** The developer/owner/contract purchaser and/or representative/consultant contacts the Planning Department/Current Planning at (757) 385-4621 or Planning/Development Services Center (DSC) at (757) 385-8277, for a pre-application/submittal meeting to discuss the proposed development. This is an excellent opportunity to ask questions, discuss concerns and identify needed variances from Boards, City Council and staff. In order to properly evaluate the site, the staff must be provided with ten (10) copies of a survey, map or other scaled drawing showing the existing improvements and the proposed project. A narrative that includes a summary of the project parameters, variances requested or previously granted, previous City Council or Board action, proffers, prior agreements (written or verbal), and any other items which will help determine the appropriate review action required for the project is also helpful. This information must be provided at least five (5) working days before the pre-application/submittal meeting. This will give staff the opportunity to research the site and prepare written answers to the questions and provide guidance for required processes (Examples: rezoning, conditional use permit, variances and development plan review).

(Back to flowchart)

2. **City Council/Boards/Staff Action/Variance Needed?** Does the project require approval by the City Council, Board of Zoning Appeals (BZA), Chesapeake Bay Preservation Area (CBPA) Board, Wetlands Board, Historical Review Board and/or City agencies? Staff will determine if City Council/Board/Staff actions or variances are needed and provide guidance regarding the steps needed to accomplish the developer’s goal. The site plan may be reviewed at the owner’s risk during the City Council and/or Board hearing process. This may reduce the overall review time, if the conditions of the City Council/Board approval do not require substantial changes to the site plan. The variance and/or appeal processes must be completed and approval granted before the DSC staff will approve the site plan. (Back to flowchart)

3. **Submits Appropriate Application for City Council/Board/Staff Approval Process:** If City Council/Board/Staff action is not required, go to step #5. The applicant must submit the appropriate application requirements and fees. Application package forms are posted on the Planning website. Planning staff is also available to assist the applicant through the various processes. The Current Planning Division coordinates most City Council and Board application processes. Once the application and conceptual plans are submitted, they are routed to the appropriate agencies for review and comment. The staff responses, preferably via e-mail within ten working days, are used to create the staff reports in the agendas. (Back to flowchart)

4. **Council/Board/Staff Approval Obtained?** City Council/Boards/Staff takes action on the application. If the request is denied, the applicant must work with staff to revise the plan or redesign the plan to meet current requirements. Once the request is approved, a site plan may be prepared and submitted for review. (Back to flowchart)

5. **Site Plan Preparation:** A qualified licensed professional prepares the site plan in accordance with the City Council/Board and City Code requirements and all applicable specifications, standards and procedures. The following items are submitted to the DSC for review and approval:
   - Review fee (see Planning/DSC website for latest fee schedule – VBgov.com)
   - Completed DSC submittal package checklist
   - Sixteen (16) folded copies of the complete site plan (including E&S plan)
Commercial Site Development Process

- One (1) copy of the transmittal letter
- Thirteen (13) copies of the project narrative
- Three (3) copies of E&S Control/Stormwater Management Plan narrative
- Stormwater Management Certification shown on the plan and signed
- Two (2) copies of the CBPA calculations (if applicable)
- Two (2) copies of the hydraulic grade line (HGL) calculations
- Two (2) copies of the drainage/hydrology study calculations
- Two (2) copies of the drainage area map
- Two (2) copies of the complete soil report (CBR) for the Stormwater Management Facility (SWMF) and pavement design
- Two (2) copies of the Stormwater Management Facility (SWMF) engineer’s cost estimate
- Two (2) copies of the engineer’s right-of-way cost estimate
- Two (2) copies of the pavement open-cut request (if applicable)
- Three (3) copies of the water and sewer calculations
- Four (4) copies of the fire flow calculations
- Three (3) copies of the water resources recovery fee computation sheet (DFU)
- Three (3) copies of the Pump Station calculations (if applicable)
- One (1) copy of the Dominion Virginia Power Letter (if new streetlights are required)
- One (1) copy of the Phase I/Phase II Environmental Site Assessment (reference DSC Notice #113 and #130)
- Two (2) copies of the administrative variance request (if known)
- Three (3) copies of the building elevations (if identified in the City Council/Board conditions or proffers)

*Note: This list is subject to change. Please reference the most up-to-date Checklist for Site Plan Package Submittal. (Back to flowchart)*

6. **Site Plan Intake Process and Site Plan Distribution:** The DSC Intake Technician checks the submittal package for completeness. The consultant is contacted if the submittal package is incomplete and is given a list of the missing items. Incomplete submittal packages are not processed for review. The DSC Intake Technician takes the complete submittal package and enters the project into the tracking system, creates a file folder, prints aerial photo, prints GIS topo map and researches previous projects on or adjacent to the site and past City Council/Board action. The site plans are then distributed to appropriate review staff/agencies for review and comment. The final distribution is based on many factors, e.g., site location, City Council/Board action, proposed use, public services provided, etc. The following is a typical routing schedule for site plans:

**Civil Inspections**
- One (1) copy of the site plan
- One (1) copy of the project narrative

**Current Planning**
- One (1) copy of the site plan
- One (1) copy of the project narrative
- Three (3) copies of the building elevations (if required)

**DSC Utility Engineer**
- One (1) copy of the site plan
Commercial Site Development Process

- One (1) copy of the project narrative
- One (1) copy of the fire flow calculations
- One (1) copy of the water resources recovery fee computation sheet (DFU)
- One (1) copy of the water and sewer calculations
- One (1) copy of the Pump Station calculations (if applicable)
- One (1) copy of Public Utilities variance request (if applicable)

DSC Engineer
- One (1) copy of the site plan
- One (1) copy of the project narrative
- One (1) copy of the pavement open-cut request (if applicable)
- One (1) copy of the drainage/hydrology calculations
- One (1) copy of the hydraulic grade line (HGL) calculations
- One (1) copy of the CBPA calculations (if applicable)
- One (1) copy of the SWMF engineer’s cost estimate
- One (1) copy drainage area map
- One (1) copy of the soil report

Fire Marshall’s Office
- One (1) copy of the site plan
- One (1) copy of the project narrative
- One (1) copy of the fire flow calculations

Management & Support
- One (1) copy of the site plan
- One (1) copy of the project narrative

Police/CPTED
- One (1) copy of the site plan
- One (1) copy of the project narrative

Public Utilities/Engineering
- One (1) copy of the site plan
- One (1) copy of the project narrative
- One (1) copy of the fire flow calculations
- One (1) copy of the resources recovery fee computation sheet (DFU)
- One (1) copy of the water and sewer calculations
- One (1) copy of the Pump Station calculations (if applicable)
- One (1) copy of Public Utilities variance request (if applicable)

Public Works/Traffic Engineering
- One (1) copy of the site plan
- One (1) copy of the project narrative

Dominion Virginia Power
- One (1) copy of the site plan
- One (1) copy of the project narrative
- One (1) copy of the Virginia Power Letter

Environmental Management
7. **Site Plan Review:** Each member of the review staff reviews the site plan for compliance within their discipline or area of expertise. They have fifteen (15) working days from the submittal date to forward their comments and recommendations for approval to the DSC Project Coordinator (10 working days for resubmitted site plans). *(Back to flowchart)*

8. **Site Plan Approved?** The DSC Technician enters the review comments into the tracking system as they are received, files the comments in the appropriate file and forwards the file to the DSC Project Coordinator for coordination. The DSC Project Coordinator compiles the comments, works through conflicting or unclear comments, determines the approval status of the site plan and prepares the approval/disapproval letter within the five (5) working days after the review agencies comments are due. *(Back to flowchart)*

9. **Disapproval Letter:** The disapproval letter is sent to the applicant’s consultant (via fax only). Copies of the disapproval letter will be sent to the applicant by mail or fax upon request and to the reviewing agencies by email only. The consultant makes the necessary revisions and resubmits the plans for review. *Resubmitted site plans will continue in this review loop until approval is granted.* The consultant may wish to begin work on an engineer’s cost estimate, if needed, to determine surety amounts. The re-submittal package typically consist of the following:

- Sixteen (16) folded copies of the revised site plan
- One (1) copy of the SWMF engineer’s cost estimate, if revised
- Three (3) copies of the fire flow calculations, if revised
- Three (3) copies of the water and sewer calculations, if revised
- Three (3) copies of the Pump Station calculations, if revised
- Two (2) copies of drainage/hydrology study calculations, if revised
- Eight (8) copies of a letter addressing the City’s comments and identifying all of the revisions made including the sheet number and location of the change
- Any previously omitted documentation

**If City Council/Board action and/or administrative (staff) variances are needed, the site plan review process must stop until the appropriate approvals are granted by returning to steps #3 or #4.** *(Back to flowchart)*

10. **Approval Letter Sent to Consultant with “Holds”:** The DSC Project Coordinator completes, signs and dates the approval and Zoning stamp section in the City Approval Area located at the top right hand corner on the site plan Cover Sheet. The approval letter may identify the need for an engineer’s cost estimate for improvements in public easements and rights-of-way to determine proper surety amounts. Erosion and sediment control and/or SWMF surety amount is provided in the letter for use in satisfying one of the “holds” on site plan release. The following “holds” may be placed on the release of the approved site plan:

- Submittal of the Responsible Land Disturber (RLD) information and certificate, if applicable
- Proof of receipt of payment into the Lynnhaven Oyster Fund, if applicable;
- Post Erosion and Sediment Control and/or SWMF performance surety and obtain a Land Disturbing Activity (LDA) Permit, if applicable;
11. **Site Receives Street Address:** The DSC Project Coordinator contacts Planning/Management and Support to obtain the address(es) on eight (8) copies of the site plan. The site plans are addressed before the site plans are available for release and distribution to review agencies. *(Back to flowchart)*

12. **Distribution of Approved Site Plans to Review Agencies:** Upon approval (not release) of the site plan, copies of the approved site plan are distributed with a copy of the approval letter to the following review agencies:
   - **Public Utilities/Engineering:** one (1) copy of the approved site plan
   - **Civil Inspections:** one (1) copy of the approved site plan
   - **Public Utilities/Inspections:** two (2) copies of the approved site plan
   - **Planning/Management & Support/Address:** one (1) copy of the approved site plan
   - **Planning/Current Planning/Zoning:** one (1) copy of the approved site plan
   - **Public Works Stormwater:** one (1) copy of the approved site plan
   - **Fire Prevention:** one (1) copy of the approved site plan
   - **Public Works Traffic Engineering:** one (1) copy of the approved site plan
   - **Virginia Power:** one (1) copy of the approved site plan
   - **DSC File:** one (1) copy of the approved site plan, including approved drainage calculations (if not on plans), RLD information and all other correspondence pertaining to the site. *(Back to flowchart)*

13. **Engineer’s Cost Estimate Submitted for Review:** The DSC Surety Technician creates a surety file for the engineer’s cost estimate and required sureties. All projects will have a land disturbing activity (erosion and sediment control) surety requirement. Some projects will also require a right-of-way surety. An engineer’s cost estimate is needed for reviewed by appropriate staff to determine the surety amount. The staff review is completed within ten (10) working days of submittal. The Surety Technician transmits the final surety amount to the consultant. **Acceptable sureties are: letters of credit, cash or bonds.** *(Back to flowchart)*

14. **Land Disturbing Activity and/or Right-of-Way Permit Issuance:** Land Disturbing Activity and Right-of-Way sureties, fees and permits must be posted, paid and issued prior to the release of the site plan. *(Back to flowchart)*

15. **Site Plan Release:** Upon satisfaction of all of the “holds,” the site plans are released to the owner/developer and the following number of approved site plans are distributed to:
   - **Owner/Developer:** one (1) copy of the approved site plan and Erosion and Sediment Control Permit and Right-of-Way Permit (if required)
   - **Permits and Inspections:** two (2) copies of the approved site plan
   - **Civil Inspections:** second copy of the approved site plan (marked Civil Inspections #2), including copies of all sureties, permits and the RLD information and certificate, if applicable. *(Back to flowchart)*

16. **Request for Surety Release:** The developer completes all of the work associated with the
Commercial Site Development Process

17. **Performance Surety Inspection:** The appropriate inspection staffs inspect the work and provide a punchlist of the incomplete or incorrect items. *(Back to flowchart)*

18. **All Work Completed?** The Surety Technician compiles all of the inspection reports and determines if the surety may be released. A letter is sent to the developer informing them of the release of the surety or the outstanding discrepancies. A copy of the inspection report or punchlist is forwarded to the developer for their use in making the needed corrections. *(Back to flowchart)*

19. **Punchlist Items Sent to Developer and Developer Corrects Discrepancies:** The developer makes the necessary corrections and makes another request for surety release. *Surety release requests will continue in this inspection loop until approval is granted.* *(Back to flowchart)*

20. **Defect Surety Required?** Once all corrections are made and the work is approved, the performance surety may be released. If a defect surety is required, the surety must be posted before the performance surety may be released. If a defect surety is not required, the performance surety is released. A defect surety covers workmanship and materials for a one or two-year period, depending on the type of work or improvement. Typically, an open cut would only need a one-year surety while a turn lane or street extension would need a two-year surety. *(Back to flowchart)*

21. **Defect Surety Not Needed:** When a defect surety is not needed the performance surety may be released and the process has ended. The DSC Surety Technician notifies the bank or bond company that the requirements are satisfied and the surety is released. In the case of cash, the Surety Technician notifies the Treasurer’s Office to refund the cash surety. The process is complete. *(Back to flowchart)*

22. **Defect Surety Posting:** The defect surety must be posted prior to the release of the performance surety. The surety amount is equal to 10% of the total construction costs of the work or improvements covered under the original performance surety. *(Back to flowchart)*

23. **Request for Defect Surety Release:** The developer corrects all of the work associated with the original performance surety and calls the DSC for a defect surety release inspection. The Surety Technician routes the request to the appropriate agencies for inspection. *(Back to flowchart)*

24. **Defect Surety Inspection:** The appropriate inspection staffs inspect the work and provide a punchlist of the defective items that need to be corrected. *(Back to flowchart)*

25. **Defects Present?** The Surety Technician compiles all of the inspection reports and determines if the defect surety may be released. A letter is sent to the developer informing them of the release of the surety or the outstanding discrepancies. A copy of the inspection report or punchlist is forwarded to the developer for their use in making the needed corrections. *(Back to flowchart)*

26. **Punchlist Items Sent to Developer and Developer Corrects Discrepancies:** The developer makes the necessary corrections and makes another request for surety release. *Surety release requests will continue in this inspection loop until approval is granted.* *(Back to flowchart)*

27. **Surety Released/End of Process:** Once all corrections are made and the work is approved, the defect surety may be released. The DSC Surety Technician notifies the bank or bond
company that the requirements are satisfied and the surety is released. In the case of cash, the Surety Technician notifies the Treasurer’s Office to refund the cash surety. The process is complete. *(Back to flowchart)*

**Plan Sheet Requirements**

**Cover Sheet**  
The following information must be included on the cover sheet:

- **Basic Information**
  - Project Title
  - Certification of Compliance with the Stormwater Management Plan (DSC Notice #48)
  - Consultant’s permission note to allow the City to use the plans for construction purposes (DSC Notice #72)
  - Developer Information (name, address, phone number, and fax number)
  - Sheet Index
  - Vicinity Map with Scale
  - Conditions and/or approved proffers associated with City Council, Board of Zoning Appeals (BZA), Wetlands Board and/or Historical Board actions and the date of the approval (if space is not available, this item may be placed on a Note Sheet)

**City Approval Notes or Certification Area (Notes and Certifications Provided by the DSC)**  
A blank area must be available on the plans for City approval certifications and notes. The top or bottom right hand corner of the cover sheet, located to the right of the plan fold line (minimum 7” x 9”), must be left blank (open) for the DSC Project Coordinator to affix the approval certifications and notes. The area must be blank to avoid covering important site or plan information with the opaque approval note stickers.

**Advisory Notes (Information to be Provided on the plan coversheet by the Design Consultant)**

- After obtaining the land disturbing permit and at least 48 hours prior to any land disturbing activity, the contractor shall contact Planning/Civil Inspections at 385-4558 to schedule a pre-construction meeting. Failure to contact Planning/Civil Inspections prior to any land disturbing activity may result in a stop work order or other legal action.
- City refuse collection will not be provided to this site.
- Right-of-way dedications (yes/no)
- This site lies within aircraft Accident Potential Zone _______ and/or the Clear Zone and/or Noise Zone(s) _______ db Ldn and may be subject to aircraft accidents and/or above average noise levels due to its proximity to airport operations. Noise zone attenuation measures for new construction are required in accordance with the Airport Noise Attenuation and Safety Ordinance and height restrictions have been imposed in accordance with Section 202 (b) of the City Zoning Ordinance.
- The property does/does not fall in “Floodplains subject to Special Restrictions” (refer to Site Plan Ordinance, Section 5B.5[c])
- Flood Plain Elevations and FEMA note
Commercial Site Development Process

- The lowest floor elevation, including basements and attached garages, is at least one foot above the one-hundred year base flood elevation as adopted by the City of Virginia Beach.
- Horizontal Datum: This (plat, plan, drawing, survey, etc.) is based on the Virginia State Plane Coordinate System, South Zone, NAD 1983/1993 (HARN). Coordinate values shown are expressed in U.S. Survey Feet.
- Vertical Control: This (survey, drawing, etc.) is based on NAVD, 1988.
- All excavated material shall be disposed of in a lawful manner.
- Any and all materials or debris tracked onto a public or private road surface will be removed at the end of each day. Sediment will be removed from the roads by shoveling or sweeping and will be transported to a sediment controlled disposal area.
- The certifying design professional is responsible and liable for the design and the contents of this approved plan.

**Site Data:** *(Information to be Provided on the plan coversheet by the Design Consultant)*

- Legal References (Map Book, Deed Book, Instrument Number etc.)
- Bench Mark
- Geographical Parcel Identification Number (GPIN)
- Zoning
- Zoning History (Zoning of Property When the Pump Station was Designed)
- Watershed (Chesapeake Bay, Southern, Owls Creek, Atlantic Ocean)
- Joint Permit Application (JPA)/Wetlands Required (Yes or No)
- Soil Type Certified by a Soil Scientist or Professional Engineer (P.E.)
- Proposed Use
- Existing Use
- Site Area (square footage, acreage & percentage)
  - Total Site Area
  - Disturbed Area
  - Existing Impervious Area
  - Proposed Impervious Area
- Total Area Above Tidal Wetlands, Water, Marsh, or Floodway
- Equivalent Residential Unit (ERU)
  - Existing
  - Proposed
  - Credit
  - Adjusted
- Number of Units
- Uses
  - Existing (square footage)
  - Proposed (square footage)
- Building Area (Type of Building)
  - Total (square footage)
  - Proposed (square footage)
  - Existing (square footage)
  - Height
- Parking Spaces
  - Required
Commercial Site Development Process

- Provided
- Loading Spaces
- Existing

- **Existing Sewage Flow**
  - Average
  - Peak

- **Anticipated Sewage Demand**
  - Pump Station Area Number
  - Average
  - Peak
  - Grinder Pump Station
  - Peak Discharge
  - Total Dynamic Head (TDH)

- **Anticipated Water Demand**
  - Peak
  - Design

- **Drainage Fixture Unit (DFU) (Resource Recovery Fee Sheet)**
  - Existing
  - Proposed

- **DFU American Water Works Association (AWWA)**
  - Existing
  - Proposed

- **Needed Fire flow**

- **Utility Services Provided:**
  - Electric
  - Telephone
  - Gas
  - Cable TV

**Plan Sheets**
The following information is the minimum needed and must be included on the plan sheets. Some of the sheets may be combined.

1. **All Plan Sheets**
   - Phase Lines
   - All Easements (Public & Private)
   - North Arrow
   - Graphic and Written Scale
   - Standard font size (one tenth inch)
   - Standard plan size (24”x 36”)
   - Title Block
   - Seals - Certified
   - Project name
   - Sheet Number
   - Match lines
   - Revision Block
2. **Index Sheet (Overall Sheet Layout Index for Large Developments for Multiple Matching Sheets)**

3. **Existing Topographic Survey (Including Off-Site) and Site Conditions**
   - Boundary Survey
   - Distance to Nearest Street Intersection

4. **Erosion Control/Demolition**
   - Sequence of Construction
   - Boundary Survey
   - Legend
   - Narrative

5. **Site Layout (Parking & Building)**
   - Boundary Survey
   - Overall Site
   - Index Sheet
   - Perimeter Curbing
   - Distance to Nearest Street Intersection
   - Distance to Nearest Fire Hydrant
   - Stormwater Management Facility

6. **Grading and Utility (Public, Private and Stormwater)**
   - Boundary Survey
   - Perimeter Curbing
   - Elevations, Grades & Slopes (Expressed in Percent) on the Entrances
   - Stormwater Management Facilities
   - Distance to Nearest Fire Hydrant

7. **Profiles (In Public Right-of-Way and Easements)**
   - Water
   - Sanitary Sewer
   - Stormwater Management

8. **Landscaping**
   - Stormwater Management Facility
   - Boundary Survey
   - Overall Site
   - Index Sheet
   - Perimeter Curbing
   - Distance to Nearest Street Intersection
   - Distance to Nearest Fire Hydrant

**Detail and Note Sheet**

1. All Applicable Details
2. Stormwater Management Summary Form (DSC Website Forms)
3. Conditions and/or approved proffers associated with City Council, Board of Zoning Appeals (BZA), Chesapeake Bay Preservation Area (CBPA) Board, Wetlands Board and/or Historical Board actions and the date of the approval (if space was not available on the Cover Sheet)
4. Administrative Variances/Waivers/Encroachments
City of Virginia Beach Subdivision and Site Development General Notes Criteria
(Rev. 8-30-2013)

Development & Compliance Criteria

1. Development in the City of Virginia Beach shall conform to the latest edition of: the City of Virginia Beach, Public Works Specifications and Standards Manual, the City of Virginia Beach Department of Public Utilities Design Standards Manual, the City of Virginia Beach Department of Public Utilities Standard Details, the Virginia Erosion and Sediment Control Regulations, the Virginia Erosion and Sediment Control Handbook, the Virginia Stormwater Management Handbook, the Virginia Department of Transportation Road and Bridge Specifications, the Virginia Department of Transportation Road and Bridge Standards, the American Standard For Nursery Stock and the Landscaping Guide City of Virginia Beach, and all other applicable ordinances and regulations unless otherwise noted.

2. An erosion and sediment control surety and/or stormwater management surety will be posted with the Development Services Center (DSC) and before the issuance of any permits, following plan approval, in the appropriate amount, to be determined during plan review.

3. The owner/developer/contractor will obtain a right-of-way permit from the DSC, City of Virginia Beach, Virginia, prior to construction within any existing public right-of-way or public easement. A copy of the approved traffic control plan must be submitted with the right-of-way permit application.

4. The owner/developer/contractor/responsible land disturber (RLD) will contact each appropriate inspections bureau to schedule an on-site pre-construction meeting and/or inspection activity 48 hours prior to the commencement of any land disturbance or construction activity.

5. The stormwater management facility (SWMF) shall not be excavated beyond the typical section(s) as shown on the approved plan unless written approval is obtained from the DSC. Site materials excavated beyond the typical section(s) shall not be used or sold off-site unless the owner/developer/contractor complies with the current City ordinances pertaining to the operation of borrow pits. Excavation materials from the SWMF that are proposed as backfill must be certified for that purpose, and approval is required by the DSC’s Engineer prior to use. Backfill materials may be stockpiled and will not interfere with existing drainage in accordance with the PWSS Section 15.7

6. Horizontal Datum: This (plat, plan, drawing, survey, etc.) is based on the Virginia State Plane Coordinate System, South Zone, NAD 1983/1993 (HARN). Coordinate values shown are expressed in U.S. Survey Feet.

Vertical Control: This (survey, drawing, etc.) is based on NAVD, 1988.

7. The City of Virginia Beach shall assume no responsibilities or liabilities for the damage or injury that may be incurred as a result of any encroachment into a public easement or right-of-way. Since an encroachment is considered to be temporary in nature, the current
owner(s) are required to remove the encroachment at their expense when deemed necessary by the City of Virginia Beach. As the easement runs with the land, the owner(s) will give notification to the heirs, assigns, successors in title or lessee of the existence of any encroachment and the rights of the City of Virginia Beach.

8. The owner/developer/contractor will be responsible for driveways, walks, curbs, pavement markings, etc., that must be cut, removed, or damaged during construction.

9. Caution: Wetlands may be involved within the boundary of development. The owner/developer/contractor/RLD must comply with the exact limits of construction. Permits may be required from federal, state, and local agencies.

**Erosion & Sediment Control (ESC) and Tree Protection Notes**

1. Unless otherwise indicated, all vegetative and structural erosion and sediment control and tree protection practices shall be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook (VESCH) and the Virginia Erosion and Sediment Control Regulations (4VAC50-30 et seq), Chapter 30 and Appendix E (Tree Planting, Preservation and Replacement) and any other applicable sections of the Code of the City of Virginia Beach and the Planning Department’s Landscaping Guide.

2. The contractor shall exercise every reasonable precaution, including the application of temporary and/or permanent measures deemed necessary before, during, and after construction to control erosion and prevent or minimize sediment runoff and protect trees and vegetation. The Planning Department/Permits and Inspections Division shall enforce these requirements. The City Inspector reserves the right to require other measures not specifically described herein to correct any erosion, siltation or tree protection condition.

3. Non-compliance with any ESC regulation or policy may result in a Notice to Comply, Stop Work Order (SWO) or other legal action.

4. A copy of the erosion and sediment control plan approved by Planning Department/Development Services Center (DSC) shall be kept at the site at all times.

5. After obtaining the Land Disturbing Permit and at least 48-hours prior to any land disturbing activity, the contractor shall contact Planning/Civil Inspections at (757) 385-4558 to schedule a pre-construction meeting. Failure to contact Planning/Civil Inspections prior to any land disturbing activity may result in a Notice to Comply, Stop Work Order or other legal action.

6. The contractor shall contact the Landscape Management Division, Department of Parks and Recreation at (757) 385-4461 at least three (3) days prior to damaging, trimming, pruning or removing trees or other vegetation in the City right of way or in City Easements or on City owned property and again immediately after completion of the work.

7. All erosion and sediment control and tree protection measures shall be installed with the first stage of construction and will remain in place until all disturbed areas are stabilized and their removal is directed by the Civil Inspector. All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved. The measures shown on the plan are the minimum necessary. The addition, deletion or modification of erosion and sediment control and tree protection measures will be at the direction of the Civil Inspector. The Civil Inspector may determine when a plan revision is to be submitted to the DSC for review and approval.
8. Trapped sediment and the disturbed soil areas resulting from the removal of erosion and sediment control and tree protection measures at the end of construction shall be permanently stabilized to prevent further erosion and sedimentation. The original soil grade within any protected tree’s drip line shall be preserved and maintained and shall not be disturbed by regrading.

9. The Responsible Land Disturber (RLD) shall inspect:
   a. during or immediately following initial installation of erosion and sediment controls,
   b. at least once in every two-week period,
   c. within 48 hours following any runoff producing storm event, and
   d. at the completion of the project.
   In addition, the RLD shall maintain written monitoring reports on-site and provide to the Civil Inspector upon request.

10. Stabilization measures shall be applied to earthen structures dams, dikes, diversions, side slopes of sediment traps and basins immediately after installation.

11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

12. Sediment basins shall be maintained as specified and not converted to permanent stormwater management facilities during land disturbance. Conversion to a permanent stormwater management facility should only occur after permanent stabilization of disturbed areas draining to the basin has occurred.

13. All borrow material shall be excavated from a lawfully permitted site and all excavated material shall be disposed of at a lawfully permitted site. Prior to commencing land disturbing activities in areas other than indicated on these plans a separate Erosion and Sediment Control Plan approval and permit will be required for these off-site areas, if not already approved and permitted.

14. Dewatering and well point discharge shall be pumped into an approved filtering device that provides appropriate erosion and sediment control measures. The measures must be approved by the Civil Inspector prior to the commencement of discharge operations. Failure to comply may result in a Notice to Comply, Stop Work Order or other legal action.

15. The contractor shall construct and maintain a temporary construction entrance at each point of ingress/egress per VESCH Std & Spec 3.02. Sites with significant construction traffic may be required to install a larger width and/or longer length construction entrance as deemed necessary by the DSC Engineer or the Civil Inspector. A wash rack may be deemed necessary and required by the Civil Inspector.

16. The contractor shall construct, install, and maintain sufficient erosion and sediment control devices to prevent soil from being eroded and placed on streets, in drainage systems and watercourses. Devices will be clear of mud, debris, and eroded material during all stages of construction. Devices are subject to inspections after a storm event and as required by the Civil Inspector.

17. Any and all material or debris tracked onto a public or private road surface shall be removed thoroughly at the end of each day or as directed by the Civil Inspector. Sediment shall be removed from roads by shoveling or sweeping and be transported to a legally permitted disposal facility.
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18. The contractor shall be responsible for preventing surface and air movement of dust from exposed soils which may present health hazards, traffic safety problems, or harm animal or plant life. The contractor shall monitor and take precautions to control dust, by, including but not limited to, the use of water or chemical dust palliative, by limiting the number of vehicles allowed on-site, and minimizing the operating speed of all vehicles.

19. Silt fence fabric shall be constructed of standard 36” filter fabric, staked with 2” x 2” hardwood stakes placed a maximum of 6-foot on center and entrenched in accordance with the VESCH Std & Spec 3.05.

20. The use of straw bales is prohibited for erosion and sediment control in Virginia Beach unless otherwise approved by the Civil Inspector.

21. Due to local experience, some commercially available manufactured ESC devices have been deemed not appropriate or approved in Virginia Beach. Check with the Civil Inspector for approval prior to installing manufactured devices.

22. Prior to any clearing, grading, or construction, tree protection shall be placed around all trees to be retained. The tree protection shall be in accordance with the VESCH Std & Spec 3.38 and the Planning Department Landscaping Guide. Tree Protection shall be installed in the locations shown on the approved plan.

23. No items, including but not limited to, boards, wires, or signage, shall be nailed or attached to trees to be retained.

24. No stockpiling, placement of materials or equipment, or parking of vehicles shall occur within the tree protection area.

25. The contractor shall immediately notify the City Arborist of damage to trees located in City rights of way and public easements. Damaged tree limbs shall be cut back to the next lateral branch or parent stem at the branch collar. Care for serious injury should be prescribed by the City Arborist.

26. Trees located in City rights of way and public easements that are to be retained, but are destroyed during construction shall be replaced with species, sizes and quantities to be determined upon tree value assessment by the City Arborist. Replacement trees shall conform to the latest edition of The American Standard For Nursery Stock and Planning Department’s Landscaping Guide.

27. Trees on private property that are to be retained, but are destroyed during construction shall be replaced with species, sizes and quantities to be determined through a plan revision to be submitted to, reviewed and approved by the Planning Department/Development Services Center. Replacement trees shall conform to the latest edition of The American Standard For Nursery Stock and Planning Department’s Landscaping Guide.

**Stormwater Management**

1. As-built plans must be prepared by a professional engineer or land surveyor licensed in the Commonwealth of Virginia and must be submitted to and approved by the DSC for all SWMF, prior to the release of erosion and sediment control (E&S) and SWMF surety bonds posted with the DSC.

2. A test pit in the location of the infiltration SWMF is required prior to the construction of the SWMF. Contact the Planning Civil Inspector for the appropriate meeting. Exfiltration tests are required for all volume control infiltration SWMF’s in accordance with PWSS. Excavation volumes and limits of excavation can only be determined during the actual field
construction and must be approved by the Planning Civil Inspector in the location of the SWMF prior to the construction.

3. The owner/developer/contractor/RLD must contact the Planning Civil Inspector at (757-385-4558), prior to any construction. A minimum of five (5) inspections are required for infiltration structures. Failure to contact the Planning Civil Inspector, as directed, could result in removal and reconstruction of structures. The Planning Civil Inspector must be notified 48 hours prior to the beginning of construction.

4. If subgrade soils have been determined to be suitable for infiltration use based on soil information/evaluation, this information must be certified by a professional engineer and submitted to the DSC’s Engineer for approval prior to the use for the project.

5. The City of Virginia Beach will not be responsible for the design, functioning, maintenance, and/or repair of SWMF’s, excluding those areas and/or improvements located within dedicated City drainage easements and right-of-way.

6. The owners will give notifications to their heirs, assigns, successors in title, or lessee of the SWMF, utilized with this development and of the above stated disclaimer (Note 5) by the City of Virginia Beach.

7. All on-site SWMF’s will be protected by silt fence or other approved devices at the direction of the Civil Inspector during all stages of construction to ensure optimum efficiency upon completion and to minimize erosion and sediment from entering into the structure during construction.

8. Public or private utility facilities will not conflict with the structural prism of the proposed SWMF’s as shown on the approved plans. If a conflict occurs, the owner/developer/contractor/RLD must immediately contact Planning/Civil Inspections.

9. Exfiltration tests for volume control SWMF or infiltration SWMF’s will be performed at each trench location, in accordance with Planning/Civil Inspections policy, prior to the acceptance by the Planning Civil Inspector. Test results must show that the exfiltration trench is in accordance with the City of Virginia Beach performance criteria and approved certified soil report for infiltration SWMF’s.

10. All stone sizes for SWMF’s will be in accordance with Chapter 8, “Stormwater Management” of the PWSS.

11. All SWMF drainage structures will be protected with a minimum of four feet (4’) of sod around the structure and silt fencing will be installed surrounding the sod as required unless otherwise approved by the DSC’s Engineer and noted in the plan details.

12. All underground SWMF’s must be marked with a 5” x 5” x ¼” thick, or larger, steel plate at each corner or it must be marked with white metallic marking tape that is three inches (3”) wide and placed on top of the SWMF, not to extend one foot (1’) below the ground surface. In certain cases, at the option of the Planning Civil Inspector, it may be appropriate to use both.

13. All pipe joints and connections must be installed in accordance with the manufacturer, ASTM and VDOT provisions, specifications and standards so as to be soil tight and leak resistant.

14. All HDPE & PE pipe specified on the plans and delivered to the site shall be Type S pipe in no lengths less than ten (10) feet long and shall conform to AASHTO M252 and AASHTO M294 and ASTM F2306, for materials and installation with soil tight connections and/or gaskets conforming to ASTM F477. PVC ribbed pipe shall adhere to AASHTO M304 or ASTM F949.
15. All thermoplastic, HDPE, PE and non-concrete pipe must have minimum 2-feet of cover during all phases of construction.

16. Flexible connectors must be installed when connecting HDPE pipe to concrete or brick structures.

Utilities

1. Prior to construction or excavation, the contractor will be responsible for locating all underground utilities (public or private) that may exist and cross through the area of construction. “Miss Utility” of Virginia must be contacted a minimum of 72 hours prior to excavating at “811” or (1-800-552-7001). The contractor is responsible for repairing any existing utilities that are damaged during construction, at his own expense.

2. The relocation of any utilities (public or private) located within the City’s right-of-way, will be at the developer’s expense, and completed prior to the placement of any proposed roadway base material or pavement in conjunction with the site work. All new utility line installations must be underground (such as telephone, power, cable television, etc.).

3. Water meters and sewer cleanouts must be placed at the right-of-way or at the public utility easement line, (within the right-of-way/easement), outside of entrances and sidewalks.

4. Deflecting, offsetting, or relocating existing utility mains will not be allowed except under extreme circumstances, such exemptions will be submitted to the DSC’s Public Utilities Engineer for approval.

5. Type “K” soft drawn copper will be used for off-site water service lines, two-inch (2”) lines and under, in right-of-ways and public utility easements.

6. The owner/developer/contractor must contact Public Utility/Inspections at (757-385-4175) at least 48 hours prior to construction (public or private) located within the City’s right-of-way or easement.

Incidental Drainage

1. Temporary drainage during construction will be provided by the owner/developer/contractor to relieve areas that may cause damage to roadways and/or adjacent properties as directed by Planning/Civil Inspections.

2. The Planning/Civil Inspector will perform an on-site inspection of storm sewer pipe installation prior to any backfilling of the installed pipe.

3. If precast drainage structures are used, shop drawings will be submitted to the DSC’s Engineer by the owner/developer/contractor’s design consultant, along with the proper certifications, unless previously approved by the City Engineer’s Office.

4. All proposed public storm drainage structures shall utilize inlet shaping with paved inverts, unless otherwise noted, on the plans for each structure.

5. Minimum final height of cover, for all storm sewer pipes, shall be two feet (2’) or manufacturer’s recommendation. See the PWSS, Section 2.2.7 “Pipe Cover”, for further requirements.

6. All concrete storm sewer pipes in the City right-of-ways and easements will be tongue and groove. Pipes subject to traffic loading will be reinforced concrete pipe and conform to the specifications for concrete storm sewer pipe, AASHTO designation M-170, with the modification that all pipes will be manufactured with 4,000-PSI concrete. All pipe joints
will be sealed in accordance with Section 302.03 of the Virginia Department of Transportation Road and Bridge Specifications.

7. All storm sewer pipe joints will be installed, silt free, or will be completely wrapped with two feet (2’) wide approved filter fabric, secured in place prior to backfilling.

8. All pipe culverts (water, sewer, and storm sewer), located within right-of-way excavation areas that are subject to traffic loads will be backfilled with select or granular materials and placed in six-inch (6”) layers and compacted to 95 percent theoretical AASHTO density in accordance with Section 302.03 of the Virginia Department of Transportation Road and Bridge Specifications.

9. All metal pipe culverts and storm sewers will be installed in accordance with drawings PB-1 of the Virginia Department of Transportation Road and Bridge Standards.

10. If metal pipe is used, the owner/developer/contactor will furnish pH certifications of the backfill material if the backfill material has not been previously tested.

11. All non-concrete storm sewer pipes placed in the City right-of-way or in City drainage easements will incorporate the use and installation of locator tape/wire to aid in future detection.

**Incidental Concrete**

1. All concrete will be Class “A-3” Air Entrained (3,000 PSI) in accordance with Section 217 of the Virginia Department of Transportation Road and Bridge Specifications unless otherwise specified.

2. Both curb and gutter will be constructed in sections of uniform lengths, approximately ten feet (10’) with no sections will be less than six feet (6’). Expansion joints will be formed at intervals of 100 feet using ½-inch premolded bituminous fiber joint filler. Construction joints are required as follows:
   a. Curb & Gutter 100’
   b. Five feet (5’) wide sidewalk 50’
   c. Ten feet (10’) wide multi-use path 50’

3. All entrances will be made of a minimum of seven inches (7”) thick concrete from the edge of pavement to the right-of-way line. The contractor shall provide expansion material where new concrete meets existing concrete.

4. All concrete work performed in the right-of-way will be inspected by the Planning Civil Inspector.

**Pavement and Open Cuts**

1. No open cuts of a public roadway will be allowed except under extreme circumstances. Open cutting of public roadways will be permitted with prior written permission by the DSC’s Engineer.

2. Minimum on-site (private property) pavement replacement and design will be 2-inches, SM-9.5A bituminous concrete surface, over a six-inch (6”) Type I or II aggregate base.

3. Pavement replacement and design in City right-of-ways will be in accordance with Section 5.13 “Pavement Replacement and Patching” of the PWSS.

4. The minimum pavement design with the right of way or easement will be 1 ½-inches SM-9.5A bituminous concrete surface asphalt concrete, over 3-inches BM-25.0A Base Mix
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asphalt concrete, over a 6-inches Type I No. 21A aggregate base material, over compacted subgrade in accordance with Section 5.13 of the Public Works Specifications and Standards.

5. Materials that are determined unsuitable for foundations, subgrades, or other roadway purposes within the limits of construction, will be excavated by the contactor, at his own expense, below the grade shown on the plans. Excavated areas will be backfilled with approved suitable materials. Excavated materials suitable for backfill will be stockpiled so as not to interfere with drainage. Unsuitable material will be removed from the site and shall be disposed of in a lawful manner.

6. The replacement of pavement will be in accordance with standard pavement patching detail standards drawings C-3a, “Flexible Pavement Patch for Local & Collector Streets”; or C-3b, “Flexible Pavement Patch for Major & Minor Arterials”; or C-4, “Rigid Pavement Patching” and Section 5.13 of the PWSS.

7. Certification of materials and the test results (e.g., CBR and Proctor, etc.) from each source of supply for select borrow and select material will be submitted to Planning/Civil Inspections by the contractor prior to installation.

8. Certification of materials and test results on the following items will be submitted to Planning/Civil Inspections by the contractor before any road construction is performed:
   a. The proctor test on the native subgrade materials.
   b. The optimum moisture content of the aggregate.
   c. The theoretical maximum density of the aggregate.

9. All City infrastructure to be removed, i.e. brick pavers, light poles, planters, etc., must be delivered to the City, or arrangements must be made for pick-up by the proper department.

10. No construction is allowed within the rights of way of Atlantic and Pacific Avenues and connecting numbered streets between Atlantic and Pacific avenues from Rudee Inlet to 44th Street between May 1 and October 1.

Traffic Maintenance, Control & Lighting

1. Type III barricades with public notice of street extension signs are required at the termination of streets, as directed by Public Works/Traffic Engineering.

2. Where parking areas will be illuminated, all sources of illumination must be shielded to prevent any direct reflection towards residential areas and City streets.

3. All striping in the public right-of-way must be of thermoplastic material for lane lines, STOP bars, crosswalks, etc. All legends and arrows must be of VDOT approved Type B, Class VI preformed pavement message marking material.

4. The City of Virginia Beach, Traffic Engineering Bureau is responsible for reviewing and approving all traffic maintenance and control plans and reviewing the sequence of construction plans essential to complete this project.

5. All traffic maintenance and control devices, methods and applications will conform to the following publications including all current editions and revisions:
   a. Manual on Uniform Traffic Control Devices for Street and Highways issued by the U.S. Department of Transportation, Federal Highway Administration. (MUTCD)
   b. Virginia Department of Transportation Road and Bridge Standards Vol. II.
   c. Virginia Department of Transportation Road and Bridge Specifications.
   e. City of Virginia Beach, Public Works Specifications and Standards Manual.
6. **Work Hours in Roadway Open to Traffic and/or Pedestrian area:**
   a. Monday through Saturday: Work will be completed between the hours of 9:00 a.m. and 4:00 p.m. only.
   b. Sundays and Holidays: No work may be completed in the roadway or pedestrian areas unless otherwise noted or approved in writing by the Owner.
   c. Additional restrictions may apply based on traffic conditions. Extended work hours and workdays may be requested with a written request to the Owner. This request must be submitted at least five (5) working days prior to the extended work periods. (Please note that if work is to be conducted in the resort area, certain restrictions apply from April to October. Please contact Traffic Engineering for these restrictions).

7. **Traffic Control Plans:**
   Traffic control plans are included in the construction plans for the referenced project; however, field conditions may require modifications. If the contractor feels that the traffic control plan(s) included with this project does not suit conditions at a work site, then the contractor shall submit to the Owner a revised plan to maintain traffic. The revised plan shall include site-specific traffic details and shall identify the sequence of construction. The contractor will submit the revised traffic control plan(s) a minimum of 10 calendar days prior to the start of work. The contractor will not disrupt traffic patterns until the Owner has approved the revised traffic control plan. The Owner reserves the right to modify any traffic control plan(s) as necessary in the interest of public safety or traffic efficiency. Prior to beginning work, it is the contractor’s responsibility to insure that all requirements have been met and that all traffic control devices have been installed according to the approved traffic control plan(s).

8. The contractor shall check all traffic maintenance and control devices and work zones before, during, and after each workday to ensure proper operation. On weekends, holidays, or any non-working day, the contractor shall be responsible for checking the traffic maintenance and control devices daily for proper operation.

9. Two-way traffic will be maintained at all times during construction unless Traffic Engineering has approved another alternative for traffic control, such as a lane closure or a temporary street closure. Resident and emergency access will be maintained at all times during construction regardless if a street closure is in effect or not.

10. If there is an approval from Traffic Engineering for a lane closure or a temporary street closure, all lanes of traffic will be reopened to traffic at the conclusion of each construction day, unless a 24-hour temporary street closure is approved and in effect.

11. In all cases in which existing or established traffic patterns will be disrupted, the contractor will notify all affected residents and/or businesses a minimum of 48 hours in advance of the anticipated disruption by distributing door-to-door notices. A copy of the notice shall be forwarded to Traffic Engineering for review and approval prior to beginning work.

12. At night or during non-construction hours, all excavated areas are to be backfilled or secured and protected by using approved safety devices or materials.

13. In accordance with the VIRGINIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS (construction industrial) 29 cfr, part 1929, 1989 edition, all contractor employees and subcontractor(s) employees exposed to vehicular traffic will be provided
with and required to wear warning vests marked with or made of reflectorized or high visibility materials.

14. For construction operations lasting more than 14 days, the contractor will install “ROAD WORK AHEAD” (W21-4, 48" x 48") and “END ROAD WORK” (G20-2a, 48" x 24") warning signs on 6" x 6" wooden ground mounted posts. These signs must be installed prior to beginning construction work and will be removed after completion of all construction activities.

15. For all approved construction/truck entrances, the contractor will install "TRUCKS ENTERING HIGHWAY" (48" x 48" orange and black) warning signs on 6" x 6" wooden ground mounted posts. These signs will be installed 500 feet in advance of all approved construction access/entrance points and be installed a minimum 72” above the finished grade from the bottom of the sign.

16. Any traffic control devices including but not limited to pavement markings, signs, and traffic control signal equipment damaged or destroyed by the contractor must be replaced at the contractor’s expense unless their removal or destruction is called for by the plans.

17. For any further information on traffic maintenance and control requirements, please contact the Traffic Engineering Bureau, 2405 Courthouse Drive, Virginia Beach, Virginia 23456-9031, (757) 385-4131 Fax: (757) 385-4913.

**Building & Foundation**

1. A permit for any sign or sign pole must be obtained from Planning/Permits and Inspections.

2. Only flood resistant material may be used below the 100-year flood elevation.

3. All structures must be properly anchored with adequate footing below the 100-year flood elevation.

4. No mechanical equipment, electrical equipment, or electrical lines will be installed or located below one foot (1’) above the 100-year flood elevation, except underground wiring or similar materials.

5. All buildings will be accessible in accordance with the American for Disabilities Act (ADA), (latest edition) standards.

6. Parking, ramps, and building access routes must be in accordance with the American for Disabilities Act (ADA), (latest edition) standards.

7. There will be no more than ½-inch difference between the finished floor and the exterior surface at the entrance door.

8. A permit to demolish any existing structure will be obtained from Planning/Permits and Inspections, prior to any demolition.
**DSC Engineering Review Checklist**

**General**

1. Plan certified by professional land surveyor (3B) or engineer licensed in the State of Virginia.
2. Location map, with the site delineated and to scale
3. North arrow with map book reference
4. Written scale
5. Graphic scale
6. Existing zoning
7. GPIN (Geographical Parcel Identification Number)
8. Total site acreage
9. Total disturbed area
10. Developer’s name, address, telephone and fax numbers
11. Existing ERU’s
12. Proposed ERU’s
13. ERU adjustment calculations
14. Distance and direction to the nearest street intersection
15. All property line information, including bearings and distances
16. All adjacent property owner information, including right of way references and widths.
17. Deed book and page number (instrument number) for all ingress and egress easements
18. All City of Virginia Beach development general notes.
19. Note on the plan: “Horizontal Datum: This (plat, plan, drawing, survey, etc.) is based on the Virginia State Plane Coordinate System, South Zone, NAD 1983/1993 (HARN). Coordinate values shown are expressed in U.S. Survey Feet. Vertical Control: This (survey, drawing, etc.) is based on NAVD, 1988.” (Effective date July 1, 2006)
20. Provide traffic control plan and notes
21. Note (a or b) on the plans:
   a. The proposed residential dwelling structure is not located in a special flood hazard area as determined from the National Flood Hazard Insurance Program Flood Insurance Rate Map (FIRM) Community-Panel No. _______ Dated _______.
   b. All or a portion of this site is located in a special flood hazard area as determined from the National Flood Hazard Insurance Program Flood Insurance Rate Map (FIRM) Community-Panel No._______ Dated _______.
22. In accordance with Planning/DSC Notice #48, dated March 8, 1996, the plans
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must be certified by the applicant or developer stating that all lot clearing, construction, development activity and drainage shall be performed in accordance with the storm water management plan.

23. In accordance with Planning/DSC Notice #72, dated October 7, 1999, the plans must be certified by the applicant or developer’s design engineer granting the city the right to use the plans in the event the developer defaults in his/her obligations to complete these facilities as required by City Code.

24. All applicable details must be shown on the plans

**Erosion & Sediment Control**

1. An E&S and Stormwater Management Facility (SWMF) bond must be posted prior to the release of the plan. The E&S portion of the bond will be $500 per acre. A SWMF cost estimate is required for bonding purposes. These two amounts will be combined into one bond at the time of plan approval.

2. An executed Stormwater Management Facility (SWMF) Maintenance Agreement is required for this site to be submitted to the DSC prior to plan approval.

3. Legend of symbols and abbreviations in accordance with the Virginia DCR Erosion and Sediment Control Handbook.

4. A detailed project narrative is required with the plan submission in accordance with the Virginia Erosion and Sediment Control regulations.

5. Note on the Cover Sheet of the plan: After obtaining the land disturbing permit, and at least 48-hours prior to any land disturbing activity, the contractor shall contact Planning/Civil Inspections at 757-385-4558 to schedule a pre-construction meeting. Failure to contact Planning/Civil Inspections prior to any land disturbing activity may result in a stop work order or other legal action.

6. Note on the plans in silt fence detail: “Silt fence fabric shall be 36” tall, staked with 2” x 2” hardwood stakes, 6-foot on centers.

7. “Trucks Entering Highway” signs need to be placed before the construction entrance (both directions)

8. Note on the plan: Any and all material or debris tracked onto a public or private road surface will be removed thoroughly at the end of each day. Sediment shall be removed from roads by shoveling or sweeping and be transported to a sediment controlled disposal area.

9. Note on the plan: All excavated material shall be disposed of in a lawful manner.

10. Detailed sequence of construction

11. Provide seeding specifications, as designated in the Virginia DCR Technical Bulletin No. 4, Table 3.31-B and Table 3.32-E, Dated: June 2003; found at [www.dcr.state.va.us/sw/e&s.htm#pubs](http://www.dcr.state.va.us/sw/e&s.htm#pubs).

12. A silt fence or other erosion and sediment control protective measure is required around the SWMF to protect it from sediment deposits during rainfall events.

13. Indicate the limits of fill (with elevations at the toe) and/or the limits of construction.

14. Provide sufficient topographic survey information on the adjacent properties to establish the existing drainage patterns and to ensure the proposed development does not adversely impact the adjacent properties.
15. Show a proposed temporary stockpile area and staging area on the plans, to be in conformance with the Public Works Specifications and Standards Section 15.7.

16. Show Construction Entrance

17. Show the method of stabilization of the bottom and the side slopes in the SWMF detail and the facility must be stabilized immediately after grading.

18. Note on the plans the method of stabilization of the swale and the swale must be stabilized immediately after grading.

19. Filter fabric must be shown under the proposed construction entrance in the detail.

20. Show well protection around existing and proposed well sites and well protection details

21. RLD (Responsible Land Disturber) Certification Information required

**Stormwater Management**

1. Show Chesapeake Bay and/or Southern Watershed features and buffers

2. Show location and identification of wetlands and floodplain on plan.

3. Water quality calculations and/or CBPA calculations and CBPA water quality assessment

4. Complete drainage calculations must be provided, including Drainage Area Map.

5. Note the method used for calculating detention storage

6. Provide hydraulic grade line calculations

7. Note on the plans, total design storage, and the storage provided on site (water quantity/water quality volumes)

8. Provide the date the existing on-site facility was constructed, installed, modified, or maintained

9. Stormwater management facility minimum setback distance in accordance with SWO, Section 9(t).

10. Typical ditch section must be shown on the plans

11. A minimum slope of 0.5% is required in the invert of the stormwater management basin.

12. A detail of the outfall structure is required to be included on the plans

13. Observation wells required in infiltration systems, (see PWSS Sec. 8-15)

14. Revise maintenance schedule, the observation wells should be checked every six months and maintenance scheduled at minimum twelve-month intervals.

15. Outfall pipes should be completely submerged below the normal top of water

16. Indicate the method of retaining the stormwater flows to pre-existing development

17. Spread calculations are required for the proposed and existing basins in the right of way

18. Note proposed riprap size, type, and amount; and grouted or ungrouted

19. Downstream drainage easements

20. Lakes - minimum 20-feet wide maintenance easement, (see PWSS Sec. 8-8)

21. Lakes - rip-rap protection

22. Flood plain - no filling in the 100-year flood plain

23. Haul routes required for material (in excess of 335 c.y.) removed from site; provide quantity, number of trips and route.

24. All lots must be graded to drain for the rear to front (Type A) at a minimum of
25. Positive drainage required along rear of proposed lots by concrete swales and/or pipe systems
26. Conflicts between storm drains and sewer mains
27. Southern Watershed Ordinance impacts 0
28. Two-foot curb cuts, with splash blocks (PWSS Detail B-24) in curb are recommenced
29. Show slope of proposed ditch work, with swale elevations no further than 100-feet apart
30. Ditches, 18-inches in depth or greater, must be piped.
31. Indicate the proposed ditch flows by arrows on all ditches
32. Provide an emergency overflow (100-year) for the detention pond
33. Show the size, slope, invert and rim elevations of all storm drainage structures and pipes

**Right-of-Way**
1. Entrances must have minimum tangent distance of 25-feet from curb return to entrance
2. Four inches aggregate is required under curb and gutter one foot behind the curb
3. Pavement widening is required
4. All proposed and existing curb ramps must comply with current VDOT/ADA requirements
5. Denote on the plans, proposed entrance minimum 7" Class A-3 concrete from the edge of pavement to the right of way line
6. Denote on the plans, minimum entrance width must be 30 feet
7. Indicate the proposed entrance type on the plans.
8. Commercial entrance should be VDOT CG-10A(mod), CG-11 or CG-13
9. Guardrail required adjacent to the right of way, to meet the minimum clear zone requirement
10. Pavement patch detail (PWSS Detail C-3 or C-4)
11. Coordinate project with VDOT, City of Chesapeake, Norfolk, and/or City Engineer’s Office
12. Proposed right of way pavement section must be designed in accordance with the Public Works Specifications and Standards, Section 5
13. Show both edge of pavement and the centerline of the existing roadway
14. Right of way improvements required, including pavement widening, curb and gutter, sidewalk, storm drainage, street lighting, and landscaping, etc.
15. Right of way dedication/reservation required and dedications/reservations must be recorded prior the plan approval
16. Minimum street centerline grade/top of curb must be at or above 100-year flood event elevation
17. Maximum slope on the entrance is eight percent
18. Pavement "open-cut" request required, written with justification
19. Concrete entrances required
20. Soil boring log and data required including the adjusted water table elevation
21. Pavement transitions lengths minimum of 50-feet
22. Indicate proposed top of curb grades at the entrances and proposed curb and gutter
23. Provide existing and proposed top of curb elevations in the area of the proposed entrance.
24. Sidewalk, street lighting, storm drainage, water, sewer, gas, power and landscaping is required on one master utility layout sheet
25. Right of way grades, minimum 1/4": 1’ cross slope and 0.30% longitudinal slope
26. Commercial entrance - maximum width of 40-feet with 15-foot radii
27. Capital Improvements Program (CIP) project requires 5-foot temporary construction easement
28. Access via City CIP projects will not be allowed until project is complete
29. Note on the plan: “All concrete color within the resort area shall be Grey Tint-0.75 lbs light gray pigment, Davis Colors per sack of cement”.
30. Right of way cost estimate is required for right of way and/or easement work.

On-Site
1. Perimeter curb is required unless deferred or waived by Permits and Inspections
2. Paving is required, unless deferred or waived by Permits and Inspections
3. Indicate number of parking spaces and dimensions.
4. Parking area pavement must be at or above 10-year stormwater elevation
5. Positive grading is required to achieve proper drainage
6. Show location, type and size of all existing and proposed curb, sidewalk, driveway, fences, retaining walls, parking space areas and the layout, with dimensions
7. Indicate the type of curbing
8. Vehicle stacking for minimum of ten (10) vehicles (total per site) is required at drive thru, without blocking required parking.
9. Note on the plans: “The City of Virginia Beach does not review retaining walls for structural integrity. The owner/developer agrees to hold the City of Virginia Beach harmless in the event of failure.”
10. Note on the plans: “The City of Virginia Beach does not review pipes under foundations or building floors for structural integrity or recommend the installation of said pipes and the City is not responsible to maintain said pipes as functional. The owner and/or developer hereby agree to hold the City of Virginia Beach harmless in the event of failure or blockage. The owner is responsible and required to keep drainage pipes operational at all times.”

Miscellaneous
1. Norfolk City raw water line, concrete slab required over line in accordance with PWSS Detail C-6.
2. Dumpster pads are required with commercial development
3. Note on plan: NO CITY REFUSE COLLECTION WILL BE PROVIDED TO THIS SITE.
4. Canal No. 2 encroachment into the city easement or right of way must be
approved by Public Works and/or City Council.

5. City easement required for the proposed canal.

6. Canals - maintain 3:1 side slopes (maximum) and provide a 20-foot maintenance easement (at a maximum cross slope of 15:1) on both sides of the canal outside the top of bank area

7. Indicate the minimum finished floor elevation minimum one foot above the 100-year floodplain.

8. Show finished floor proposed elevations and ground elevations at the structure corners.

9. Show the location and identification of existing cemetery and objects or structures marking burial sites.

AICUZ

1. The following completed note must be placed on all site plans:
   This site lies within Aircraft Accident Potential Zone ____ and/or the Clear Zone and/or Noise Zone ____ db Ldn and may be subject to aircraft accidents and above average noise levels due to its proximity to airport operations. Noise attenuation measures for new construction may be required in accordance with the Airport Noise Attenuation and Safety Ordinance and height restrictions have been imposed in accordance with Section 202(b) of the City Zoning Ordinance.

2. The following information, comments and notes are provided for sites located in AICUZ areas:
   
   Plans for Residential Sites ¹
   
   All new residential uses are prohibited within the APZ-I and/or Clear Zone. All new development plans showing residential uses in these zones are rejected and are not allowed to enter the full development plan review process, unless the project is considered to be vested.
   
   All development plans for proposed residential uses located within an APZ-I, APZ-II, Clear Zone, DNL Noise Zones greater than 70dB and/or Navy easement are to be routed to Ray Firenze, NAS Oceana Community Planning Liaison Officer. The plans will be placed in the NAS Oceana mail pickup box.
   
   The first review letter and approval letter for all development plans for proposed residential uses located within an APZ-I, APZ-II, Clear Zone, DNL Noise Zones greater than 70dB and/or Navy easement are to be copied to Ray Firenze, NAS Oceana Community Planning Liaison Officer.
   
   Proposed residential development sites located within DNL Noise Zones less than 70dB do not need any special action, routing, review or comments.

   Plans for Commercial and Industrial Sites ²

¹ Residential development is defined in the AICUZ instructions as being single family detached or semidetached, attached/townhouse, duplex, multi-family, mobile home, hotel, motel, group home and transient lodging units/facilities. Residential development plans include duplex site plans, preliminary subdivision plats, subdivision construction plans, land management drainage plans, multi-lot residential site plans, single family site plans (RPA), single family site plans and final subdivision plats.
All development plans for proposed commercial/industrial uses on sites located within a Clear Zone and/or APZ-I are to be routed to Current Planning. The following comment must be placed in the review letter sent to the consultant and developer/owner: “This property is located within an APZ-I and/or Clear Zone. Unless a development plan was previously approved for a specific use, all future uses located in an APZ-I and/or Clear Zone must comply with the compatible uses found in Table 2 – Air Installation Compatible Use Zones Land Use Compatibility in Accident Potential Zones of Section 1804 of the City Zoning Ordinance (CZO). For further information regarding allowable uses, please contact Karen Lasley, Zoning Administrator, in Current Planning (385-4621).

The following notes are to be placed on the development plan, when appropriate:

- “The following uses are allowed based on previous approvals: (The consultant references the specific approval and also provides a list of parcels or sites with the previously approved use for each parcel or site.)”
- “All future uses located in an APZ-I and/or Clear Zone must comply with the compatible uses found in Table 2 – Air Installation Compatible Use Zones Land Use Compatibility in Accident Potential Zones of Section 1804 of the City Zoning Ordinance (CZO). For further information regarding allowable uses, please contact Karen Lasley, Zoning Administrator, in Current Planning (385-4621).”

Sites within Navy Easements

All development plans for proposed residential and commercial/industrial uses located within a Navy easement, as shown on the Easement Map provided by the Center for Geospatial Information Services (CGIS), are to be routed to LANTDIV Real Estate section (Patty Hankins) for information and review. The plans will be placed in the NAS Oceana mail pickup box.

The City does not enforce conditions and restrictions of Navy easements.

Public Utility Review Checklist

General

1. Any extension of a water or sewer main must have a profile on the plans.
2. Make sure that all proposed easements have been executed and recorded prior to release of the approved plan.
3. Show the existing water and sanitary sewer service lines, cleanouts, and meters for the existing lot. Call out existing water meter identification number and size on the plan. Water meter id number may be obtained from the water meter lid.
4. Abandon the existing water and sewer services at the main.
5. Show existing water and sanitary sewer main in the right-of-way fronting site. Indicate size and type of pipe material.
6. Provide water and sewer calculations.

2 Commercial/industrial development plans include preliminary subdivision plats, subdivision construction plans and site plans
Commercial Site Development Process

7. Provide the water model (looped systems).
8. Provide pump station calculations (for proposed peak flows over five (5) gallons per minute (gpm)).
9. Make sure all storm drains and utilities are shown in the profile at crossings.
10. A minimum 10’ private utility easement is required.
11. Provide the location and the size of the proposed jacking and receiving pits.
12. Advisory: Virginia Department of Health approval is needed for the private well and septic systems.
14. Place the following note on the plans:
   a. The City will install water taps and meters and sewer laterals at the Developer’s Expense. (Duplex/Single Family)
   b. Contractor must notify Public Utilities Construction Representative seven (7) calendar days prior to any nighttime shutdown of the water main.
   c. The DSC does not review private pump stations. You must consult with the Virginia Beach Department of Public Health (VDH) and City of Virginia Beach Permits and Inspections on this matter.

Sanitary Sewer

1. Gravity sanitary sewers shall be located in publicly owned rights-of-way in the center of streets avoiding the wheel path, if practical. (Sect. 02000 1.1.1.1)
2. Gravity sewer laterals shall normally be limited to one (1) service per site (duplexes are allowed two (2)) unless otherwise directed by the Department of Public Utilities. (Sect. 02000 1.1.2) Each unit or home must have its own separate sanitary sewer connection according to the City Code of Virginia Beach.
3. Duplexes and Single Families: Delete the detail for the sanitary sewer cleanout. City forces will install services; therefore the detail is not necessary for the contractor.
4. The minimum size of a gravity sewer lateral is four inches (4") in diameter.
5. The existing sewer lateral must be plugged at the manhole.
6. The existing sanitary sewer lateral must be removed and capped at the main.
7. Terminal or mainline cleanouts or end of line manholes shall have a maximum depth of 4.5 feet and a maximum pipe length of one hundred fifty feet (150’). (Sect. 02000 5.6)
8. Avoid installing cleanouts in existing or proposed sidewalks, driveways, paved areas or drainage ways. (Sec. 02000 1.1.4)
9. Minimum cover for gravity sewers shall be twenty-four inches (24”) for ductile iron pipe and thirty-six inches (36”) for other pipe. (Sec. 02000 1.1.5).
10. Provide an inside drop connection within the manhole where the influent pipe is two feet (2’) or greater than the effluent pipe.
11. Provide ductile iron pipe for the sewer main, twelve feet (12’) and deeper.
12. The maximum distance between sanitary manholes shall be four hundred feet (400’).
13. A tenth (0.1) of a foot drop minimum is required in sewer manholes from influent to effluent inverts.
14. Sanitary sewer lines in easements shall be ductile iron pipe.
15. Sanitary sewer manholes deeper than twelve feet (12’) shall be a minimum of five feet (5’) in diameter.

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16. Drop manholes shall have inside drop connections, and must be a minimum of five feet (5’)
in diameter.
17. Sewer manholes receiving flows from a sanitary force main shall be adequately protected
against hydrogen sulfide attack by coating the structure interior (refer to website).
18. The maximum depth for collection manholes serving sewage-pumping stations is sixteen
feet (16’).
19. Sewer laterals must have a minimum of six-inch (6”) vertical clearance between curbs,
gutters, sidewalks, driveways, and ramps.
20. The minimum depth of cover at ditch crossings must be twelve inches (12”) from the
lowest likely ditch invert.
21. Service laterals shall not be in excess of seventy-five feet (75’) in length in the right-of-
way.
22. The maximum number of service laterals entering a manhole shall be four (4), except for
inside drop connections, where the maximum shall be two (2).
23. All connections to existing sanitary sewer manholes must be core drilled.
24. Show the proposed invert elevation at the connection of the existing sanitary sewer
manhole.
25. Call out the proposed sanitary sewer lateral in the right-of-way along with the material
type.
26. In the profile view, show the minimum cover for the sanitary sewer line.
27. The minimum vertical separation between water and sewer mains shall be eighteen inches
(18”).
28. Provide the anticipated average and peak sanitary sewer flows in gallons per minute (gpm)
on the cover sheet of the plan. Provide sewer calculations in accordance with the Virginia
Department of Health regulations.
29. Sanitary Sewer laterals shall be the same material as main.

Sanitary Pump Stations
1. Provide pump station calculations to verify capacity (for proposed peak flows over five (5)
gpm).

Force Mains
1. Use two (2) forty-five degree (45) bends instead of a ninety degree (90) bend for the sewer
force main.
2. Provide tracer wire for non-metal sanitary force main.
3. Sewage force mains discharging into gravity sewer systems shall have a saxophone
connection and shall discharge into a manhole.
4. Sewage force mains shall be laid on a continuous grade with air release valves located at
the high points. Minimize or avoid vertical offsets.

Water Pumping Stations - Water Distribution
1. Provide a VDH General Permit Project Approval report (for all installation of four inch
water lines or greater in the right-of-way).
2. Existing commercial sites where existing structures are being demolished, will have existing meters removed. Taps can be reused later for new construction. Fees will have to be paid for new meters. There will be no more commercial relocations.

3. A variance is required to use a combination meter. Please submit a variance request stating why a combination meter is required along with a copy of the utility plan and details. The process may take up to four (4) weeks for approval.

4. Place the existing and proposed DFU grand totals from the City’s Water Resource Recovery Fee Sheet on the cover sheet of the plan.

5. Submit the Resource Recovery Fee Sheet to assess the utility fees for the site.

6. Provide fire flow calculations using the Insurance Services Office (ISO) method.

7. Minimize the amount landscaping around the existing water meter and detector check. They must be easily accessible to read and perform maintenance.

8. Provide an eighteen-inch (18”) vertical separation between the storm drains, water and gas mains.

9. Water mains must be located in publicly owned right-of-ways on north and east sides no closer than five feet (5’) from the right-of-way lines.

10. Provide a note on the plans to obtain test pits for the existing lines where the water will be crossing. The consultant engineer should be notified if any discrepancies exist.

11. All proposed pipe sizes, tees, air vents/blow-off valves, valves, and reducer must be called out on the plans.

12. The minimum pipe size for a water main is six inches (6”) on a looped system. Four-inch (4”) may be used on the last five hundred feet (500’) of pipe located beyond the last hydrant on the cul-de-sac or street that cannot be extended.

13. All service lines that are 1½” and 2” in size must connect with a tapping saddle and valve at the main. Service lines larger than two inches (2”) in size must connect with a tapping sleeve and a valve.

14. A one-inch (1”) corporation stop must be called out on the plans at the water line connection.

15. Valves are needed on the service line at a water main connection.

16. Valves are required at all water main intersections.

17. Valves for distribution mains shall be located at intervals of not more than 1,000 feet.

18. Valves for transmission mains shall be located at intervals of not more than 3,000 feet.

19. One (1) water service is allowed per lot, except that duplexes may have two (2) service connections.

20. Water meters shall be placed at the right-of-way line.

21. Avoid placement of water meters in driveways, sidewalks, paved areas, drainage swales, or stormwater management facilities.

22. Service taps are not permitted on water transmission mains, unless approved by the Public Utilities Department.


24. The maximum distance between fire hydrants shall be one thousand feet (1,000’).

25. For properties zoned multi-family residential, commercial, or industrial, the maximum distance between fire hydrants shall be eight hundred feet (800’).

26. A fire hydrant must be located within five hundred feet (500’) of the end of a cul-de-sac.
27. Fire hydrants not located at intersections shall be placed in line with the property boundary between adjacent properties.

28. For road section of four lanes or more, the fire hydrant spacing for each side of the street shall be independent of the other.

29. At major intersections, fire hydrants must be located on opposite diagonal corners.

30. Water distribution systems shall be designed to provide adequate flow and pressure for both domestic supply and fire flow, based on sound hydraulic system modeling and AWWA Manual 31.

31. A Hazen-Williams coefficient of friction (c) equal to 120 shall be used for purposes of design for new pipes.

32. The maximum allowable velocity is five (5) fps for domestic design and nine (9) fps for fire flow.

33. Average daily water consumption rates shall be as indicated in the Virginia Waterworks Regulations, except that two hundred twenty-five (225) gallons/unit/day shall be used for single family residential.

34. An unlooped water distribution system shall not be designed to accommodate fire flow greater than 1750 GPM @ 20 PSI residual pressure. Alternative fire protection (sprinkling, tanks, etc.) may be required on dead end mains where water quality may be jeopardized by mains sized for high fire flow.

35. Maximum flow per fire hydrant shall be 1500 GPM @ 40 PSI. An additional hydrant shall be provided for flows in excess of 1500 GPM.

36. The minimum fire flow from any individual fire hydrant shall be 750 GPM @ 20 PSI residual pressure.

37. The minimum size water line used for fire protection shall be six-inch (6”) diameter for looped systems and eight-inch (8”) diameter for unlooped systems.

38. The minimum cover for a water main is thirty-six inches (36”). Show the minimum depth notation on the profile.

39. Provide a note that all fire hydrant valves must be within three feet (3’) of the main.

40. Provide a valve on the smaller side of the reducer.

41. Show the proposed tees and valves for the water main on the profile.

42. Water service lines two-inch (2”) or less within the right of way and/or public utility easement shall be Type “K” copper.

43. Provide a fifteen (15) foot by fifteen (15) foot public utility easement for the water meter/detector check. Do not place any landscaping within the easement.

44. The water main within the right-of-way or easement must be ductile iron.

45. The water main must be at least three feet (3’) away from the edge of the gutter pan.

46. All water valves must be located outside of the gutter pan.

47. Provide restrained joint lengths at all tees, bends, and reducers.

48. Delete all thrust blocks shown on the plans. Thrust blocks are no longer an acceptable method of restraint on water mains. Show and call out restraint joint lengths directly on the profile. Charts and tables showing the restraint joint lengths for corresponding bend angles are not acceptable.

49. Butterfly valves must be used in mains twelve-inch (12”) and larger.

50. The detector check must be the same size as the fire line.

51. An air release valve must be located at all high points in the water line where fire hydrants do not exist.
52. The jacking and receiving pit limits must be shown on the plans. Only pipes six inches (6”) and larger need the encasement along with the detail as found in the Public Utilities Standards and Specifications. Typically four-inch (4”) and larger pipes are jack and bored and those below are pushed through.

53. A two-inch (2”) blow-off valve shall be provided at the end of all dead-end lines.

54. The fire department connection must be within fifty feet (50’) of the existing or proposed fire hydrant and must be on the same side of the roadway.

55. Valves and kicker joints used for future extension of the main shall be retained.

56. Use eight-inch (8”) stubs for out parcels so that proper pressure for fire protection is given on-site for on-site fire lines.

57. Proposed public fire hydrants must have their own separate tap at the water main.

Glossary Terms

**ADA** – Americans with Disabilities Act

**All Weather Surface** – Examples of weather surfaces are pavement consisting of concrete, asphalt or approved pavers.

**BZA** – Board of Zoning Appeals. City Council appointed Board that hears and decides on appeals or variances to requirements or decisions made by staff regarding the City Zoning Ordinance (CZO).

**CBPA** – Chesapeake Bay Preservation Area. The Chesapeake Bay watershed is the CBPA for the City of Virginia Beach.

**CIP** – Capital Improvement Program. The City’s program for coordinating and construction of major capital projects.

**CUP** – Conditional Use Permit

**DEQ** – Virginia Department of Environmental Quality

**DCR** – Virginia Department of Conservation and Recreation

**DFU** – Drainage Fixture Unit

**DSC** – Development Services Center. A division of the Planning Department responsible for the coordination of the review of development plans, surety administration and the issuance of Land Disturbing Activity, Hauling and Right-of-Way permits.

**ERU** – Equivalent Residential Unit. The equivalent impervious area of an average single family residential dwelling unit. One ERU is equal to 2269 square feet of impervious surface area.

**Field Change** – A change to an approved plan precipitated by a conflict discovered in the field during construction. Construction related to the field change will not be allowed without DSC approval.

**GPIN** - Geographical Parcel Identification Number. A unique number assigned to every parcel of property within the city by the Center for Geospatial Information Services.

**Grading** – Any stripping, cutting, filling, stockpiling or combination thereof, including the land in its cut and filled condition resulting in a final ground elevation.

**Horizontal Datum** – The City of Virginia Beach uses and requires the use of the Virginia State Plane Coordinate System, South Zone, NAD 1983/1993 (HARN), utilizing U.S. Survey Foot.

**ITA** – Interfacility Traffic Area. The mapped area between NAS Oceana and Fentress Air Field identified for lower residential densities due to noise.

**JPA** – Joint Permit Application. Permit application for water construction activities in tidal waters and tidal wetlands in Virginia. The Virginia Marine Resources Commission (VMRC) coordinates
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this process. VMRC, Army Corps of Engineers and the Waterfront Section of the Virginia Beach Planning Department review the applications.

**Nuisance Ponding** – Nuisance ponding is standing water less than 6” deep that dissipate within three days.

**Plan Revision** – Any requested change to an approved plan. Construction related to the plan revision will not be allowed without DSC approval.

**PWSS** – Public Works Specifications and Standards

**RLD** – Responsible Land Disturber. A individual who is registered with the Virginia Department of Conservation and Recreation and is in charge of and responsible for carrying out an approved “land disturbing activity” plan.

**Slope** – The degree of vertical deviation of a surface from the horizontal, expressed in the ratio of the run to the rise. (Example, 3:1 or 3 to 1 or 3 feet of run for every one foot of rise)

**SWMF** – Stormwater Management Facility. A devise that controls stormwater runoff and changes the characteristics of the runoff, including, but not limited to, the quantity and quality.

**SWMO** – Stormwater Management Ordinance

**SWO** – Southern Watersheds Management Ordinance

**TDH** – Total Dynamic Head

**VDOT** – Virginia Department of Transportation

**Vertical Datum** – The City of Virginia Beach uses and requires the use of NAVD, 1988.

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### STORMWATER MANAGEMENT SUMMARY SHEET

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**Hydrograph/Routing Software Used:**

Software Description (describe methodology, nodes, paths, links, etc):

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**February 2017 Discharge, Q (cfs) – 100 Year Storm Event**

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