#### **Stephen Clough**

From: Sent: To: Cc: Subject: Attachments: Frank Cassidy Thursday, September 26, 2024 2:11 PM Carter Nevill Department Heads Fw: Flooding on Oliver city road image001.jpg

FYsA- here is an additional update on the flooding in Oliver City.

Frank

Get Outlook for iOS

Mr. Semple and Mr. Teigen,

Our Stormwater Administrator inspected the area and found there were clogged storm pipes downstream of the development causing a backup. This didn't allow the water to release quick enough to provide relief for what was occurring upstream. This makes sense since Mr. Teigen's property is not located within the mapped FEMA floodplain. The contractor is currently flushing the downstream pipe to remove the debris and sediment that accumulated in those pipes. This is a private matter between the developer and Mr. Teigen. Please let me know if you have additional questions.

Thank you, Rob

From: William Semple < Sent: Thursday, September 26, 2024 11:01 AM To: Rob Walton <rwalton@warrentonva.gov> Cc: Mike Teigen < Subject: Fw: Flooding on Oliver city road

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Rob,

What is the procedure for a homeowner to file a claim for damage caused by a developer?

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From: Mike Teigen < > > Sent: Thursday, September 26, 2024 10:56:50 AM To: William Semple < > > Subject: Re: Flooding on Oliver city road

Thank you, we did and it is coming from their new pond #3

On Thu, Sep 26, 2024 at 10:47 William Semple <

Just document the damage. I will inquire with Rob Walton what the procedure is for you to file a claim.

I would recommend tracing the storm water from its original location, if possible.

Sent from my Verizon, Samsung Galaxy smartphone Get Outlook for Android

From: Mike Teigen < Sent: Thursday, September 26, 2024 9:20:29 AM

To: William Semple < Sector Se

Thanks, it already caused problems since we now have damages.

Let me know what else you need from me. I'll be around all day since we had to take the day off of work to deal with this

Forwarded your message to Frank Cassidy with pics.

Agree: development is going to cause problems.

Sent from my Verizon, Samsung Galaxy smartphone Get Outlook for Android

From: Mike Teigen < > > Sent: Thursday, September 26, 2024 9:00:42 AM To: William Semple < > > Subject: Re: Flooding on Oliver city road

Good morning, we are still cleaning up, Keith Jenkins from the town also stopped by and helped reach out to VCC who is doing the site prep. This is where I am posting pictures and videos and will continue to do so:

My concern is this is not a one time occurrence.

Forwarded your message to Frank Cassidy, Town Manager.

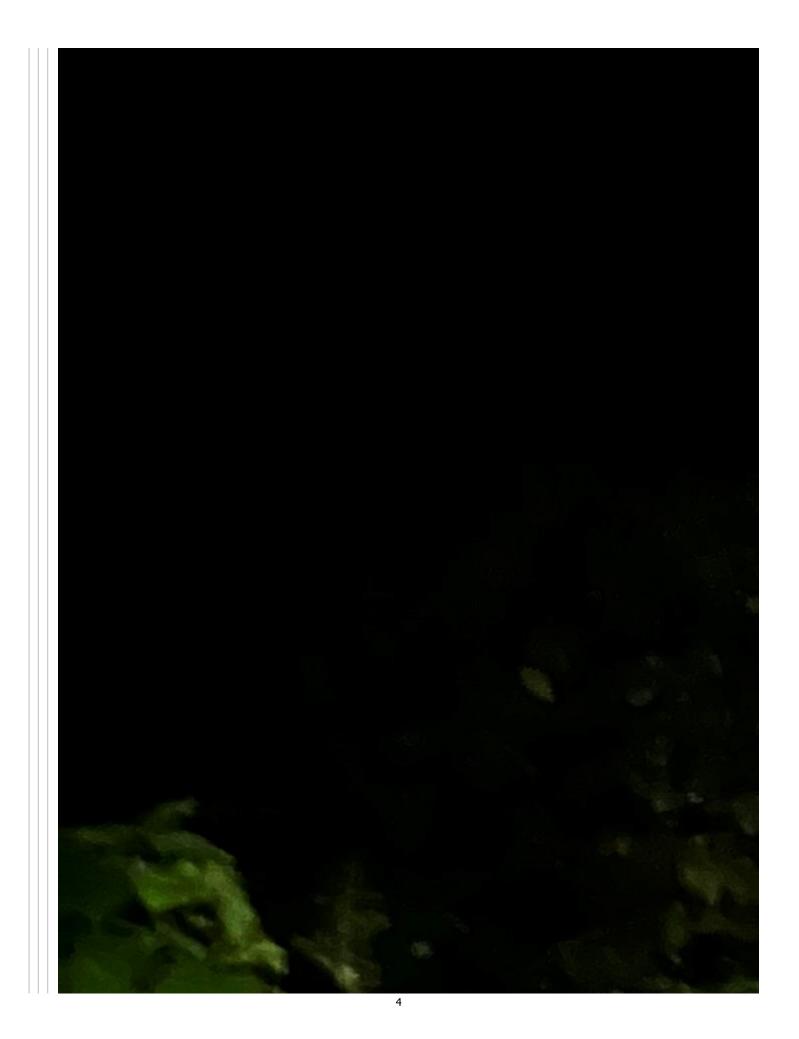
Am on vacation back Sunday night.

Send more photos. Also take some of other flooding of there is any.

Sent from my Verizon, Samsung Galaxy smartphone Get Outlook for Android

From: Mike Teigen < > > Sent: Thursday, September 26, 2024 5:28:26 AM To: William Semple < > > Subject: Flooding on Oliver city road

Hey Will, i hope you are well. We have 2 feet of water in our yard from the construction on Oliver city road. The development is dumping more water into the stream than it can handle.





#### **Stephen Clough**

From: Sent: To: Cc: Subject: Attachments: William Semple Tuesday, October 1, 2024 5:14 PM Rob Walton Frank Cassidy; Mike Teigen Oliver City Flooding WARRENTON\_CROSSING\_ES\_REVISION\_Tue\_Apr\_23\_2024\_11-12-06.pdf; Recorded\_-\_SWM\_Maintenance\_Agreement\_DB\_1770\_PG\_677\_Fri\_Jun\_14\_2024\_ 10-47-10.pdf

#### Rob,

I visited with Mike Teigen today, resident of Oliver City, who experienced considerable flooding from what certainly appears to be an overflow from Sediment Basin #3 as depicted on the attached ES Revision dated April 23, 2024. The overflow outlet from this basin is currently a 30" inch pipe, which dumped water into a stream channel running through his property serviced by only 15" pipes. As a consequence of this overflow, the Town's SWM staff been responsive, helped to clean out some of the pipes and the developer has been draining SB#3, but clearly the downstream infrastructure was not adequate to handle a heavy rainfall event.

I note Sediment Basin #3 is not referenced in the SWM Maintenance Agreement (attached), consistent with Mr. Teigen's understanding that as advised for the first time today, SB#3 is only temporary, but I cannot readily find anything that definitively dictates its future disposition, as it appears on the Phase 2 sheets (see Page 4) and its removal is not referenced under the Construction Sequence Notes, Phase II E&S, page 6. (Conversions to SWB Ponds of Basins #1 and # 2 are shown). Is there a possibility it *could* be converted to a SWB Pond in a future Site Plan Amendment?

Whether temporary or permanent, porting runoff through a residential backyard without fully considering the capacity of the downstream system to handle the water and sediment flow appears to have been shortsighted, given the outcome and the trouble Mr. Teigen has gone through to get to the bottom of all this and the damage it has potentially caused his property (not to mention his own personal time in responding to the crises). Since Mr. Teigen's stormwater system is not designed to accommodate the runoff, to prevent future flooding, I recommend at a minimum that the developer keep the drainage pump in place through at least the end of Phase 2, if not beyond, since the new Stormwater Ponds will need to be shown they are up to the job.

I cannot speak for Mr. Teigen or what he plans to do next. As you know, I am greatly concerned about the impact this development may have on Oliver City generally, especially since storm water management in Oliver City relies in part on pipes, drains and conduits involving residential backyards, which may or may not have been adequately surveyed or modified by the Town to accommodate increased water flows from all of the impervious surfaces 136 residential units will contribute. We should remember that SWM is not a new problem, even when Warrenton Crossing was covered with trees.

Regards,

William T. Semple Town Council, Ward 2 Warrenton, VA cell: 1 (540)-903-6645 wsemple@warrentonva.gov

# SITE DEVELOPMENT PLAN WARRENTON CROSSING TOWN OF WARRENTON, VIRGINIA (REVISION)

| LAND SUMMARY |                             |                |                      |                            |                    |                     |       |
|--------------|-----------------------------|----------------|----------------------|----------------------------|--------------------|---------------------|-------|
| PARCEL ID    | OWNER                       | रे             | PROPERTY ADDRESS     | LEGAL DESCRIPTION          | DEED BOOK<br>/PAGE | GIS AREA<br>(ACRES) | EXIST |
| 6984-61-1989 | TI-WARRENTON CROSSING, LLC. | 5              | NONE LISTED          | E MAIN STREET              | 1057/314           | 1.5849              | VA    |
| 6984-61-7761 | TI-WARRENTON CROSSING, LLC. | $\mathbf{)}$   | 374 OLIVER CITY ROAD | 300 BLOCK OLIVER CITY ROAD | 1555/2117          | 0.6800              | RESI  |
| 6984-61-3713 | TI-WARRENTON CROSSING, LLC. | 5              | NONE LISTED          | E FALMOUTH ST              | 1057/314           | 3.1580              | VA    |
| 6984-61-6433 | TI-WARRENTON CROSSING, LLC. | Ĵ              | NONE LISTED          | MILL ROAD                  | 1057/314           | 6.6500              | VA    |
| 6984-61-0388 | TI-WARRENTON CROSSING, LLC. | 7              | NONE LISTED          | E SIDE FALMOUTH ST.        | 1057/314           | 0.0000              | VA    |
| 6984-61-1248 | TI-WARRENTON CROSSING, LLC. | )              | NONE LISTED          | E MAIN STREET              | 1057/314           | 0.0000              | VA    |
| 6984-60-3988 | TI-WARRENTON CROSSING, LLC. | $\overline{)}$ | NONE LISTED          | SW OF RT 672               | 1138/1623          | 0.5862              | VA    |
| 6984-60-5961 | TI-WARRENTON CROSSING, LLC. | 3              | 62 OLD MILL LN       | 62 OLD MILL LN             | 1138/1623          | 2.5900              | ABAN  |
| 6984-61-7028 | TI-WARRENTON CROSSING, LLC. | 5              | NONE LISTED          | CASANOVA RD                | 1138/1623          | 0.8673              | VA    |
| 6984-60-4644 | TI-WARRENTON CROSSING, LLC. | 5              | NONE LISTED          | E FALMOUTH ST              | 1138/1623          | 0.5806              | ABAN  |
| 6984-60-3323 | TI-WARRENTON CROSSING, LLC. | 3              | 455 FALMOUTH ST      | LOT 1 & 2                  | 1127/1589          | 2.7500              | ABAN  |
| 6984-70-7966 | TI-WARRENTON CROSSING, LLC. | 5              | NONE LISTED          | 400 BLK OF OLIVER CITY RD  | 1127/1589          | 8.8520              | VA    |
| 6984-60-7614 | TI-WARRENTON CROSSING, LLC. | 7              | NONE LISTED          | LOT 5                      | 1074/13            | 3.5000              | VA    |
| 6984-70-0416 | TI-WARRENTON CROSSING, LLC. |                | NONE LISTED          | RES LOT 6                  | 1074/13            | 3.5500              | VA    |
| 6984-60-7 23 | TI-WARRENTON CROSSING, LLC. | 7              | 51 OLD MEETZE RD     | N PT LOT 7                 | 1085/1376          | 2.0000              | ABAN  |
| 6984-70-3768 | TI-WARRENTON CROSSING, LLC. | く              | NONE LISTED          | 400 BLK OF OLIVER CITY RD  | 1119/1319          | 2.0000              | VA    |
| 6984-60-9854 | TI-WARRENTON CROSSING, LLC. | ~              | 105 OLD MILL LN      | 100 BLK OF OLD MILL LN     | 1138/1623          | 1.4853              | VA    |
| 6984-71-5025 | TI-WARRENTON CROSSING, LLC. | 4              | NONE LISTED          | OLIVER CITY                | 1149/1808          | 0.7300              | VA    |
| 6984-61-5032 | TI-WARRENTON CROSSING, LLC. | 5              | NONE LISTED          | W SIDE OF RT 672           | 1057/322           | 0.4900              | VA    |
| 6984-61-5977 | TI-WARRENTON CROSSING, LLC. |                | NONE LISTED          | MILL ROAD LOT              | 1057/322           | 0.0000              | VA    |
| 6984-61-6912 | TI-WARRENTON CROSSING, LLC. | <              | NONE LISTED          | MILL ROAD LOT              | 1057/322           | 0.3249              | VA    |
| 6984-61-6847 | TI-WARRENTON CROSSING, LLC. |                | 356 OLIVER CITY RD   | 300 BLK OF OLIVER CITY RD  | 1057/322           | 0.5000              | ABAN  |
|              |                             |                | )                    | •                          | TOTAL AREA =       | 42.88               |       |
| $\sim$       |                             |                |                      | TOTAL AREA PER BOUI        | NDARY SURVEY =     | 47.2497             |       |

## GENERAL NOTES

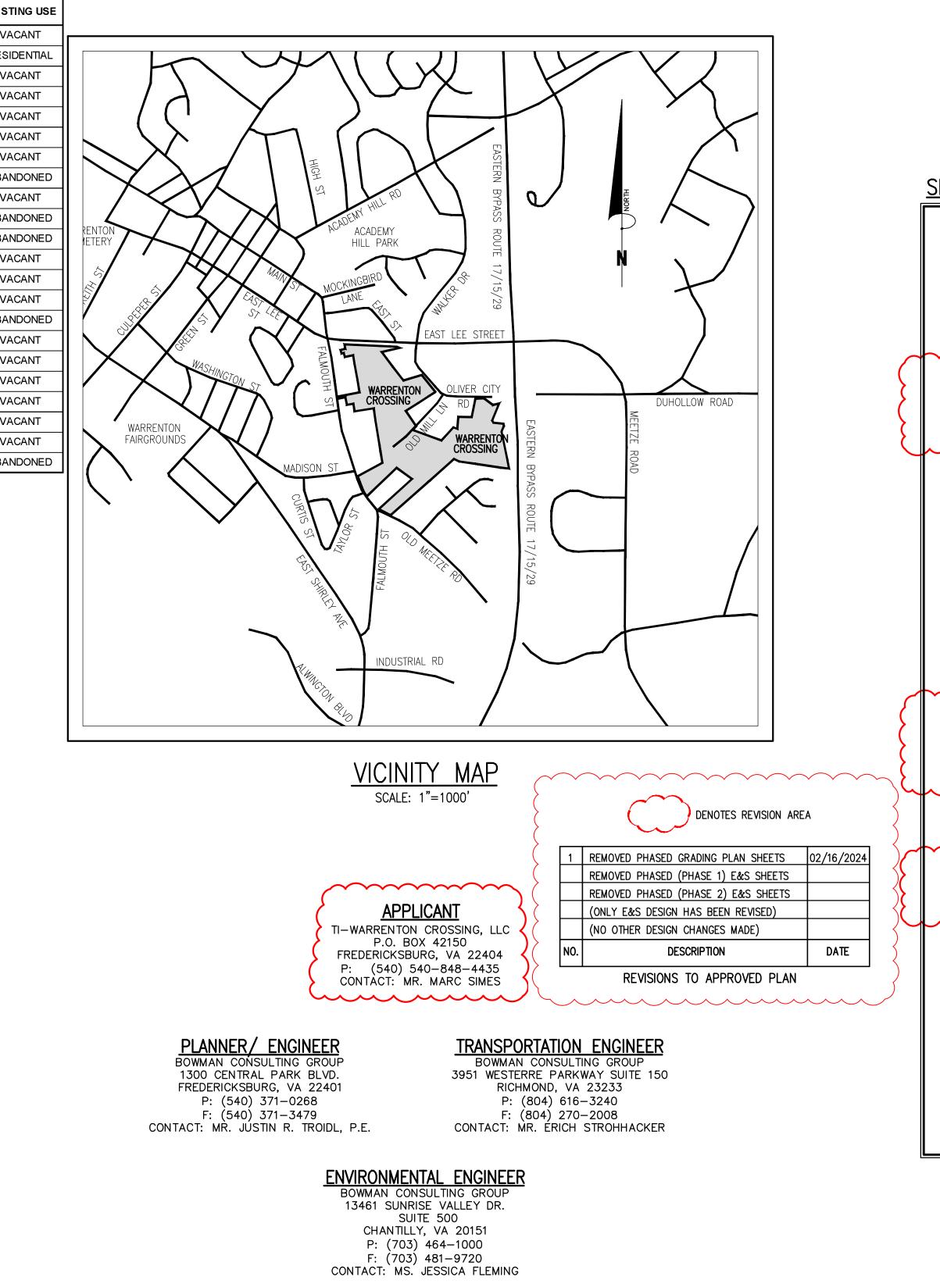
THE DEVELOPMENT IS COMPRISED OF MULTIPLE PARCELS, SOME ZONED R-6, SOME ZONED R-15, AND SOME SPLIT-ZONED R-6 AND R-15: SOME R-15 PARCELS ALSO HAVE BEEN GRANTED A SPECIAL USE PERMIT FOR R-15 CLUSTERING.

- 2. BOUNDARY INFORMATION TAKEN FROM A BOUNDARY SURVEY PREPARED BY BOWMAN CONSULTING GROUP COMPLETED IN DECEMBER 2011.
- TOPOGRAPHY WAS OBTAINED FROM AERIAL PHOTOGRAPHY BY MCKENZIE SNYDER, INC. DATED MARCH 9, 2009. 3. CONTOUR INTERVAL IS 2'. SUPPLEMENTAL FIELD SURVEYS WERE PREPARD BY BOWMAN CONSULTING GROUP FOR EX. UTILITY AS-BUILTS, AND DETAILED TOPOGRAPHY AT ROAD TIE IN POINTS.
- WATERS OF THE U.S. AND WETLAND BOUNDARIES FOR THIS PROJECT WERE DELINEATED BY BOWMAN CONSULTING 4 (REPORT AND MAP DATED DECEMBER 8, 2011) AND CONFIRMED BY THE U.S. ARMY CORP OF ENGINEERS DURING A JURISDICTIONAL DETERMINATION (USACE PROJECT NO. NAO-2011-02598, DATED JANUARY 18, 2012).
- FLOOD ZONE DATA TAKEN FROM FIRM (FLOOD INSURANCE RATE MAP) COMMUNITY PANELS 510057551061C PANEL 5. 0308C AND 51005551061C PANEL 0309C. THIS SITE LIES WITHIN THE 100 YEAR FLOODPLAIN ZONE A.
- THE PROPOSED SITE WILL BE SERVED BY PUBLIC WATER AND SEWER. THE TOWN OF WARRENTON CURRENTLY HAS 6. ADEQUATE WATER AND SEWER FACILITIES TO SERVE THIS DEVELOPMENT.
- THERE ARE NO KNOWN CEMETERIES ON THIS SITE. 7.
- THE UTLITIES SUPERINTENDENT WILL NEED TO DETERMINE THE STATE OF THE SANITARY MANHOLES PRIOR TO ACTUAL CONSTRUCTION TO DETERMINE WHETHER THEY CAN BE USED WITH NEW CORED CONNECTIONS OR IF A NEW MANHOLE IS REQUIRED. THE PUBLIC WORKS SUPERINTENDENT WILL DETERMINE THE STATE OF THE STORM DRAIN MANHOLES AT THE TIME OF CONSTRUCTION FOR THE STORM SEWER CONNECTIONS.

## SUBDIVIDER'S STATEMENTS

- 1. A SAFE WATER SUPPLY AND AN ADEQUATE MEANS OF SEWERAGE IN CONFORMANCE WITH THE TOWN OF WARRENTON'S ZONING ORDINANCE AND PUBLIC FACILITIES MANUAL WILL BE PROVIDED THROUGH CONNECTIONS TO THE EXISTING UTILITIES IN OLIVER CITY ROAD AND FALMOUTH STREET LOCATED ADJACENT TO THE PROJECT.
- THE STORMWATER MANAGEMENT FACILITIES, INCLUDING THE DRAINAGE SYSTEM HAVE BEEN DESIGNED IN ACCORDANCE 2. WITH THE TOWN OF WARRENTON'S ZONING ORDINANCE AND PUBLIC FACILITIES MANUAL.
- A SET OF COVENANTS AND RESTRICTIONS WILL BE SUBMITTED THAT WILL BIND THE LOT OWNERS TO MEMBERSHIP IN 3. AN ASSOCIATION THAT WOULD OWN AND MAINTAIN THE PROPOSED COMMON AREAS.
- THE STREETS IN THIS SUBDIVISION SHALL BE PUBLIC, DEDICATED TO THE TOWN OF WARRENTON. 4.
- THIS DEVELOPMENT PROPOSES COMMON OPEN SPACE RESERVED TO BE OWNED AND MAINTAINED BY A HOMEOWNER'S 5. ASSOCIATION.

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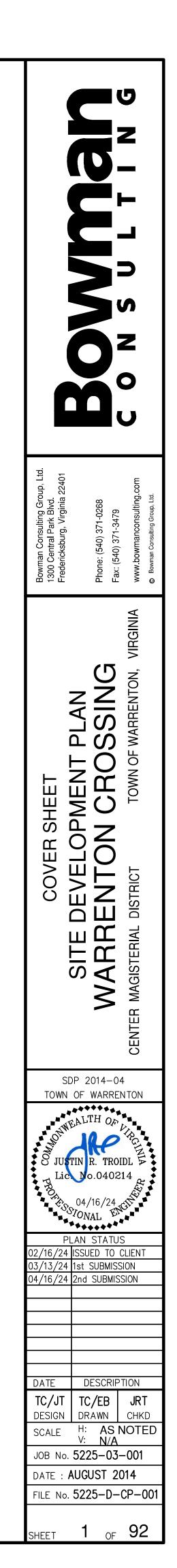
## APPROVAL

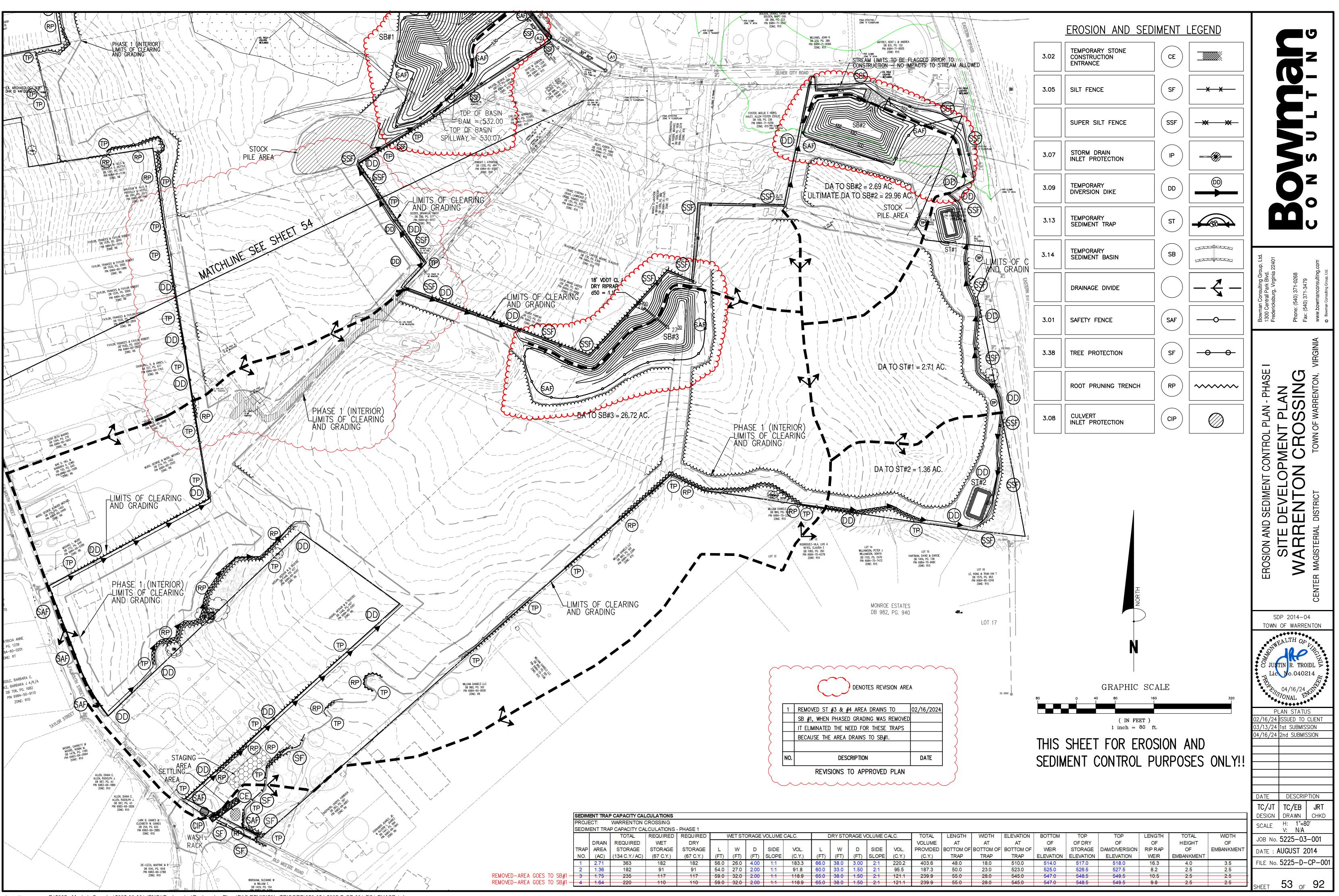
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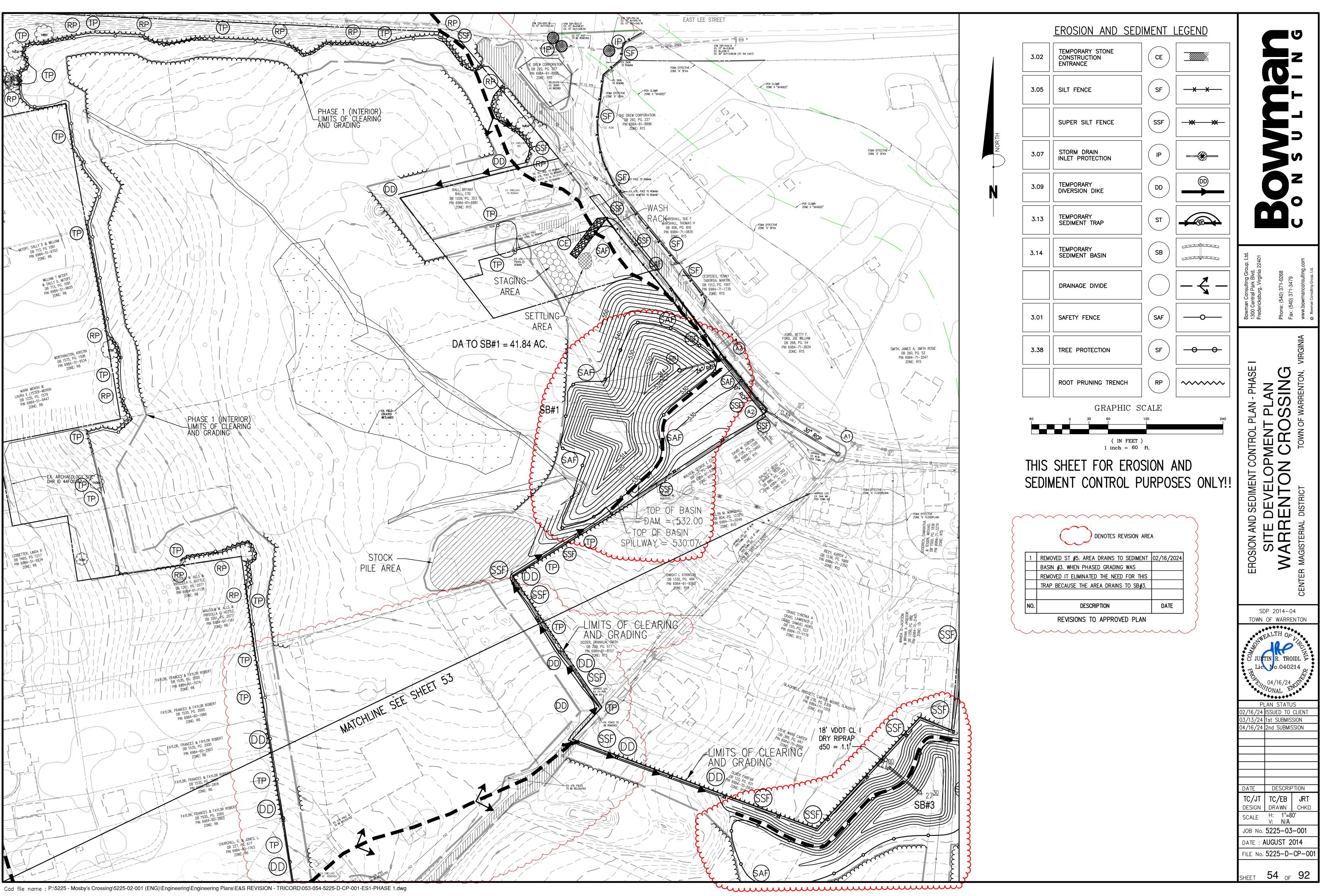
## EXISTING DRAINFIELD AND/OR WELLS NOTE

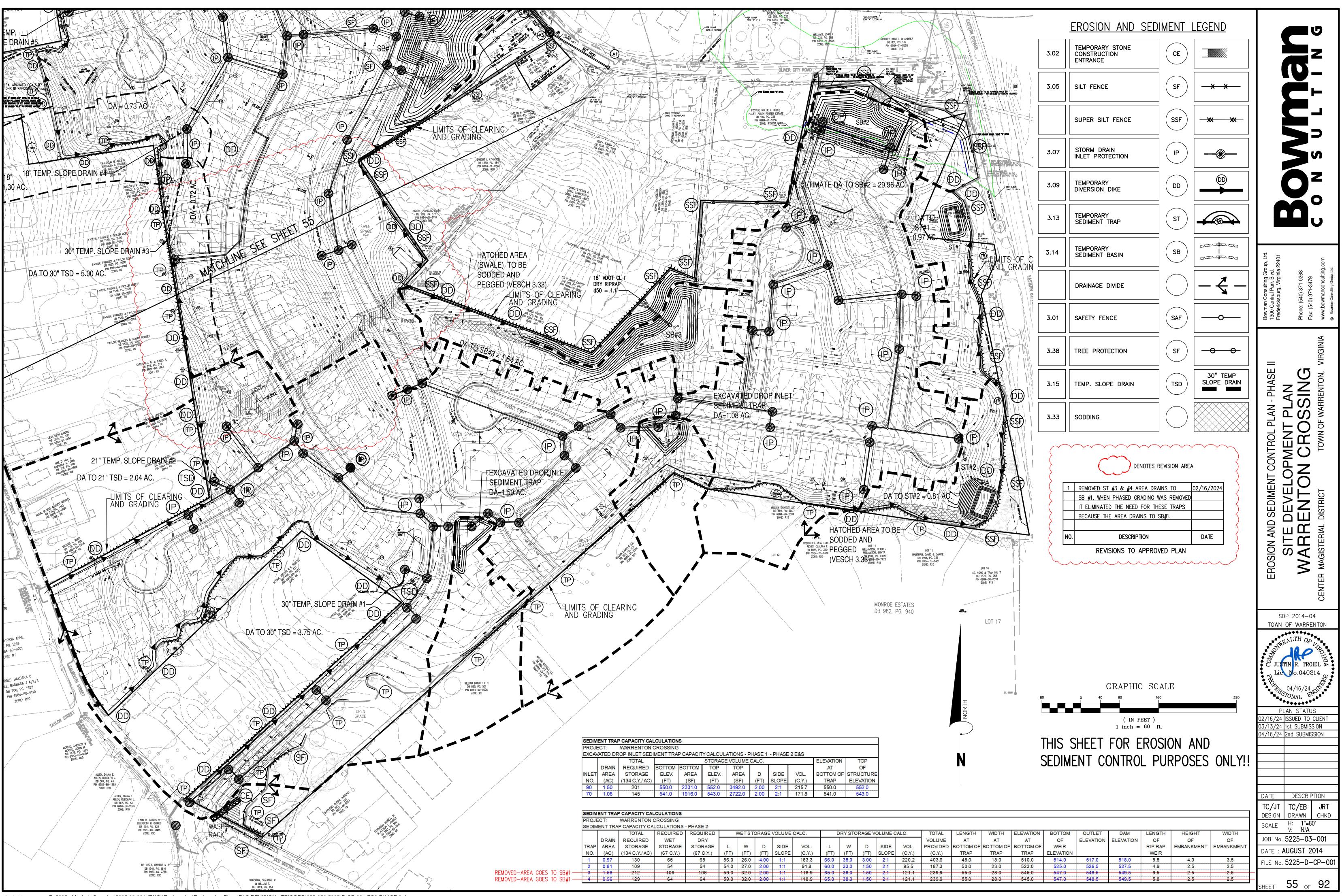
CONTRACTOR SHALL WORK WITH VA HEALTH DEPARTMENT TO REMOVE ANY ONSITE EXISTING DRAINFIELD OR WELLS ENCOURTERED DURING CONTRUCTION. ADDITIONALLY THERE IS AN EXISTING LATERAL LOCATED AT EX. MANHOLE AA, WHICH NEEDS TO BE ABANDONED.



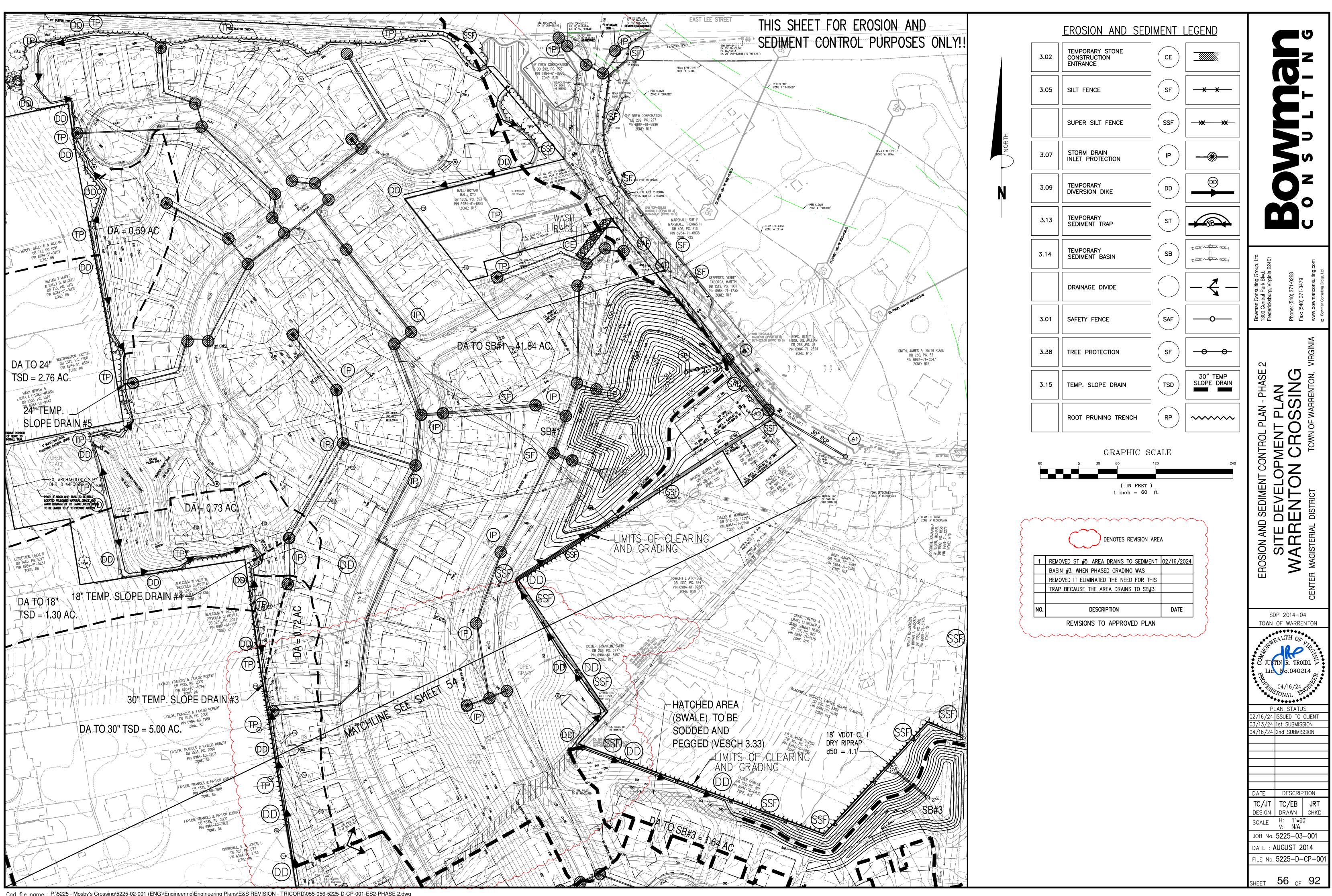


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#### EROSION AND SEDIMENT CONTROL NARRATIVE: PROJECT DESCRIPTION:

THE PROJECT CONSISTS OF 135 SINCLE FAMILY DETACHED LOTS ALONG WITH THE INFRASTRUCTURE REQUIRED TO SERVE THESE LOTS. THE SITE IS LOCATED IMMEDIATELY SOUTHEAST OF EAST LEE STREET AND FALMOUTH STREET INTERSECTION AND NORTH OF OLD MEETZE ROAD. THE ENTIRE DEVELOPMENT CONSISTS OF 47.25 ACRES. APPROXIMATELY 46.15 ACRES WILL BE DISTURBED.

#### **EXISTING CONDITIONS:**

EXISTING STRUCTURES WILL BE REMOVED FROM THE SITE AS SHOWN. THE EXISTING SITE DRAINS TOWARDS ITS NORTH & EAST BOUNDARIES INTO A STREAM SYSTEM WHICH FLOWS INTO A CULVERT BENEATH THE ROUTE 17/15/29 EASTERN BYPASS. THE SITE CONSISTS OF PREDOMINANTLY WOODED / MEADOW AREAS. THE SLOPES ONSITE RANGE FROM 2% IN LOW-LYING AREAS TO 30% ALONG THE HILLSIDES.

#### ADJACENT PROPERTY:

EAST LEE STEET, OLIVER CITY ROAD, AND SEVERAL R15 ZONED PARCELS BORDER THE PROPERTY TO THE NORTH. SEVERAL R6 PARCELS BORDER THE SITE TO THE WEST. FALMOUTH STREET AND SEVERAL R6 PARCELS BORDER THE SITE TO THE SOUTHWEST. SEVERAL R6 AND R15 PARCELS BORDER THE SITE TO THE SOUTH AND EAST. THE ROUTE 17/15/29 EASTERN BYPASS BORDERS THE SITE TO THE EAST.

#### REMOVED FIRST PART OF NARRATIVE THAT DISCUSSED GRADING PHASES) OFF-SITE AREAS:

MINOR DISTURBANCE WITHIN THE RIGHT OF WAY OF OLIVER CITY ROAD, FALMOUTH STREET, AND EAST LEE STREET WILL OCCUR TO CONSTRUCT POND "B" AND THE WILLIAMS WAY CONNECTION TO EAST LEE AND FALMOUTH STREET. CONSTRUCTION IN THESE AREAS WILL BEGIN AND END AS QUICKLY AS POSSIBLE. SOIL WILL BE STOCKPILED ONSITE WITHIN THE APPROVED CLEARING LIMITS AND THE CONTRACTOR SHALL ADHERE TO ALL THE REQUIREMENTS OF THE VESCH. THE STOCKPILES SHALL BE STABILIZED WITH TEMPORARY VEGETATION TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED. ALL CONSTRUCTION DEBRIS SHALL BE STOCKPILED ONSITE. IF OFFSITE BORROW OR SPOILS IS REQUIRED TO BE IMPORTED/EXPORTED TO/FROM THE SITE, EVIDENCE THAT THE OFF-SITE AREA IS UNDER A CURRENT VSMP PERMIT WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS SHALL BE PROVIDED TO THE TOWN OF WARRENTON PRIOR.

THE SITE CONSISTS OF ROHRERSVILLE LOAM (12A), MIDDLEBURG LOAM (17B), MYERSVILLE SILT LOAM (40D), AND FAUQUIER SILT LOAM (45B,C&D).

#### CRITICAL EROSION AREAS:

THE EXISTING STREAM NEAR THE OUTFALL OF POND "B" IS A CRITICAL AREA. THEREFORE, CARE SHALL BE TAKEN TO MINIMIZE LAND DISTURBANCE IN THIS AREA, AND SEDIMENT TRAPPED ON THE SITE. MEASURES HAVE BEEN PROVIDED IN THESE AREAS TO MINIMIZE THE IMPACTS. CARE SHALL ALSO BE TAKEN TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE ADJACENT PROPERTIES. THE STREAM ALONG OLIVER CITY ROAD SHALL BE FLAGGED PRIOR TO CONSTRUCTION IN THIS AREA. NO STREAM IMPACTS ARE AUTHORIZED ALONG OLIVER CITY ROAD DOWNSTREAM OF POND

#### EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VESCH AND THE TOWN OF WARRENTON. THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE. SEE SHEET 2 FOR THE VESCH MINIMUM STANDARDS.

#### STRUCTURAL PRACTICES:

- TEMPORARY CONSTRUCTION ENTRANCE 3.02 A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SHOWN ON THE PLAN. CONSTRUCTION VEHICLES ARE REQUIRED TO CLEAN THEIR WHEELS BEFORE EXITING ONTO ANY PUBLIC ROADS.
- TEMPORARY DIVERSION DIKE 3.09 TEMPORARY DIVERSION DIKES WILL DIRECT FLOW INTO THE SEDIMENT TRAPS AND BASINS. THEY WILL BE INSTALLED ALONG THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THE PHASE I E&S PLAN.
- TEMPORARY SEDIMENT TRAP 3.13 TEMPORARY SEDIMENT TRAPS SHALL BE INSTALLED AS SHOWN ON THE PHASE I PLAN AND PER THE SEDIMENT TRAP COMPUTATIONS AND DETAILS.
- TEMPORARY SEDIMENT BASIN 3.14 THE TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED AS SHOWN ON THE PHASE I PLAN AND PER THE SEDIMENT BASIN COMPUTATIONS AND DETAILS. ONE OF THE PROPOSED BASINS WILL BE CONVERTED TO A PERMANENT SWM POND ONCE THE UPSTREAM DRAINAGE AREA IS STABILIZED.
- SILT FENCE & SUPER SILT FENCE- 3.05 SILT FENCE AND SUPER SUPER SILT FENCE SHALL BE INSTALLED DOWN SLOPE AND ON CONTOURS AS SHOWN ON THE PHASE I E&S PLAN.
- STORM DRAIN INLET PROTECTION 3.07 ALL STORM SEWER INLETS SHALL BE PROTECTED DURING CONSTRUCTION. SEDIMENT-LADEN WATER SHALL BE FILTERED BEFORE ENTERING THE STORM SEWER INLETS.
- ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED. SEE SHEET 2 FOR 9VAC25-840-40 MINIMUM STANDARD #1
- PERTAINING TO SEEDING.
- SOIL STABILIZATION BLANKETS & MATTING 3.36 ALL STEEP SLOPES (3:1 OR GREATER) SHALL BE PROTECTED BY APPLYING SOIL STABILIZATION BLANKETS AND/OR MATS..
- CHECK DAM 3.20-1 CHECK DAMS SHALL BE INSTALLED AS SHOWN ON THE PHASE 2 E&S PLAN. SPACING SHALL BE IN ACCORDANCE WITH THE VESCH.

#### MANAGEMENT STRATEGIES: PHASE I:

- THE LIMITS OF CLEARING AND GRADING SHALL BE FLAGGED PRIOR TO THE PRE-CONSTRUCTION MEETING. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE. ADDITIONAL PHASE 1 CONTROLS SHALL BE PLACED PER THIS PLAN AND/OR AT THE REQUEST OF THE TOWN INSPECTOR.
- PHASE 1 WILL BE IMPLEMENTED PRIOR TO MAJOR CLEARING OPERATIONS AND DENUDING OF THE ADDITIONAL AREA TO BE DISTURBED WITH THIS PLAN. TEMPORARY MEASURES AS SHOWN ON THE PHASE 1 PLAN WILL BE INSTALLED, INCLUDING DIVERSION DIKES, (SUPER) SILT FENCE, TREE PROTECTION, AND SEDIMENT TRAPS/BASINS. CONTRACTOR SHALL PROVIDE AVAILABILITY OF A WATER TANK TRUCK AND HOSE AS NECESSARY TO CLEAN ALL VEHICLES AND EQUIPMENT PRIOR TO THEIR EXIT FROM SITE.
- SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
- TEMPORARY SEEDING AND OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING.
- AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED WITH FLAGGING. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
- THE TEMPORARY STOCKPILING OF EARTH AND CONSTRUCTION MATERIALS SHALL ONLY BE PERMITTED IN AREAS SCHEDULED FOR DEVELOPMENT. EARTH STOCKPILES SHALL BE STABILIZED WITH TEMPORARY VEGETATION IN ACCORDANCE WITH TOWN AND STATE EROSION CONTROL PRACTICES. NO STOCKPILING SHALL OCCUR OUTSIDE OF THE PROPOSED LIMITS OF CLEARING AND GRADING UNLESS APPROVED BY THE TOWN OF WARRENTON.
- DUST CONTROL THROUGHOUT THE ACTIVE CONSTRUCTION PHASE OF THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST. DUST CONTROL SHALL BE IN CONFORMANCE WITH THE STD. 3.39 OF THE VA EROSION/SEDIMENT CONTROL HANDBOOK AND/OR VDOT SEC. 511 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.
- 10. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
- PHASE II: 1. ONCE PHASE 1 E&S CONTROLS ARE INSTALLED, AN INITIAL E&S INSPECTION IS REQUIRED PRIOR TO CLEARING AND GRUBBING.
- AFTER CONTROLS OF PHASE 1 ARE IN PLACE, CLEARING AND CONSTRUCTION ON THE REMAINDER OF THE SITE MAY PROCEED. THE PROPOSED UTILITIES SHALL BE INSTALLED AS THE SITE IS BEING GRADED AND INLET PROTECTION SHALL BE INSTALLED AS REQUIRED DURING THE STORM SEWER INSTALLATION.
- DISTURBED AREAS SHALL BE STABILIZED AS QUICKLY AS POSSIBLE. INLET PROTECTION SHALL BE PROVIDED FOR DRAINAGE SYSTEM INSTALLED DURING CONSTRUCTION.
- DEWATER ALL PROPOSED SEDIMENT TRAPS TO THE PROPER DEWATERING DEVICE PRIOR TO FINAL CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETE, WITH ALL AREAS OF THE SITE 100% STABILIZED, AND ONLY AFTER WRITTEN APPROVAL OF THE TOWN OF WARRENTON INSPECTOR, THE TEMPORARY CONTROLS MAY BE REMOVED. CONSULT WITH E&S INSPECTOR PRIOR TO CONVERSION OF SEDIMENT BASINS TO SWM DRY PONDS.

#### PERMANENT STABILIZATION:

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING SHALL BE DONE WITH KENTUCKY 31 TALL FESCUE ACCORDING TO STANDARD SPEC 3.32, PERMANENT SEEDING, OF THE HANDBOOK. EROSION CONTROL BLANKETS WILL BE INSTALLED OVER FILL SLOPES WHICH HAVE BEEN BROUGHT FINAL GRADE AND HAVE BEEN SEEDED TO PROTECT THE SLOPES FROM RILL AND GULLY EROSION AND TO ALLOW SEED TO GERMINATE PROPERLY. MULCH (STRAW OR FIBER) WILL BE USED ON RELATIVELY FLAT AREAS. IN ALL SEEDING OPERATIONS. SEED. FERTILIZER AND LIME WILL BE APPLIED PRIOR TO MULCHING.

#### STORMWATER MANAGEMENT: SEE THE PRE & POST DEVELOPED STORMWATER MANAGEMENT NARRATIVE AND PLAN LOCATED ON SHEETS 64.

#### MAINTENANCE:

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL, ALL MEASURES ARE TO BE INSPECTED DAILY BY THE SITE SUPERINTENDENT. ANY DAMAGED MECHANICAL DEVICES SHALL BE REPAIRED AND/OR REPLACED BY THE CLOSE OF THE DAY. NO CONTROLS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE SITE INSPECTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES OR PENALTIES CAUSED BY HIS FAILURE TO COMPLY WITH THE EROSION AND SEDIMENT CONTROL PROGRAM OR THE DIRECTION OF THE SITE INSPECTOR. THE DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR CHANGES TO THE E&S PROGRAM

THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

- BE PERMITTED UNDER ANY CIRCUMSTANCE.

- REACHES HALF WAY TO THE TOP OF THE BARRIER.
- BE FERTILIZED AND RE-SEEDED AS NEEDED.
- INSPECTED AND REPAIRS MADE IF NEEDED.

#### CONSTRUCTION SEQUENCE: PHASE I E&S

- FLAG SITE PRIOR TO PRE-CONSTRUCTION MEETING.
- INSTALL CONSTRUCTION ENTRANCE.
- 5. APPLY TEMPORARY SEEDING AS REQUIRED. 6. DAILY INSPECTIONS OF EROSION CONTROLS AS REQUIRED.

- PHASE II E&S
- PERFORM CLEARING AND GRUBBING OPERATIONS. PERFORM ROUGH GRADING AND EARTHWORK OPERATIONS.
- APPLY TEMPORARY SEEDING WHEN REQUIRED.
- BEGIN INSTALLATION OF STORM SEWER. INSTALL INLET PROTECTION AROUND NEW INLETS AS THEY ARE SET.
- INSTALL UTILITIES (WATER, SEWER, ETC.)
- THE BASIN.
- WARRENTON.
- CONVERTING SEDIMENT BASINS TO SWM PONDS. 12. PERFORM FINAL GRADING.
- 13. PERMANENT SEEDING AND SODDING OPERATION. (SODDING AND PEGGING AS SHOWN ON SHEET 54 BEHIND LOTS
- 23-26 AND 52-54 PER VESCH 3.33) 14. DAILY INSPECTION AND MAINTENANCE OF E&S CONTROLS AS REQUIRED. 15. REMOVE E&S CONTROLS WITH APPROVAL FROM THE SITE INSPECTOR.

### OPSOIL NARRATIVE

FIELD EXPLORATION SHALL BE MADE TO DETERMINE IF THERE IS SUFFICIENT SURFACE SOIL OF GOOD QUALITY TO JUSTIFY STRIPPING. TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM), IT SHALL BE FREE OF DEBRIS, TRASH, STUMPS, ROCKS, ROOTS, AND NOXIOUS WEEDS, AND SHALL GIVE EVIDENCE OF BEING ABLE TO SUPPORT HEALTHY VEGETATION. IT SHALL CONTAIN NO SUBSTANCE THAT IS POTENTIALLY TOXIC TO PLANT GROWTH.

ALL TOPSOIL SHALL BE TESTED BY A RECOGNIZED LABORATORY FOR THE FOLLOWING CRITERIA:

pH RANGE: SHALL BE FROM 6.0-7.5. IF pH IS LESS THAN 6.0, LIME SHALL BE ADDED IN ACCORDANCE WITH SOIL TEST RESULTS OR IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE VEGETATIVE ESTABLISHMENT PRACTICE BEING USED.

SOLUBLE SALTS: SHALL NOT EXCEED 500 PPM.

IF ADDITIONAL OFF-SITE TOPSOIL IS NEEDED, IT MUST MEET THE STANDARDS STATED ABOVE.

STRIPPING: TOPSOIL OPERATIONS SHALL NOT BE PERFORMED WHEN THE SOIL IS WET OR FROZEN. STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA A 4-TO-6 INCH STRIPPING DEPTH IS COMMON BUT DEPTH MAY VARY DEPENDING ON THE PARTICULAR SOIL, ALL PERIMETER DIKES, BASINS, AND OTHER SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO STRIPPING.

#### STOCKPILING:

TOPSOIL SHALL BE STOCKPILED IN SUCH A MANNER THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE SHALL RESULT. STABILIZE OR PROTECT STOCKPILES IN ACCORDANCE WITH MS#2. THE SIDE SLOPES OF THE STOCKPILE SHALL NOT EXCEED 2:1. PERIMETER CONTROLS SHALL BE PLACED AROUND THE STOCKPILE IMMEDIATELY: SEEDING OF STOCKPILES SHALL BE COMPLETED WITHIN 7 DAYS OF THE FORMATION OF THE STOCKPILE, IN ACCORDANCE WITH STD & SPEC 3.31 TEMPORARY SEEDING IF IT IS TO REMAIN DORMANT FOR LONGER THAN 14 DAYS.

SITE PREPARATION PRIOR TO AND MAINTENANCE DURING TOP SOILING: BEFORE TOPSOILING. ESTABLISH NEEDED EROSION AND SEDIMENT CONTROL PRACTICES. THESE PRACTICES MUST BE MAINTAINED DURING TOPSOILING. PREVIOUSLY ESTABLISHED GRADES ON THE AREAS TO BE TOPSOILED SHALL BE MAINTAINED ACCORDING TO THE APPROVED PLAN. WHERE THE DH OF THE SUBSOIL ID 6.0 OR LESS, OR THE SOIL IS COMPOSED OF HEAVY CLAYS, AGRICULTURAL LIMESTONE SHALL BE SPREAD IN ACCORDANCE WITH THE SOIL TEST OR THE VEGETATIVE ESTABLISHMENT PRACTICE BEING USED. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY DISCING OR SCARIFYING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.

APPLYING TOPSOIL: TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN TOPSOIL OR SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 2 INCHES ON 3:1 OR STEEPED SLOPES AND 4 INCHES ON FLATTER SLOPES. ANY IRREGULARITIES IN THE SURFACE, RESULTING FROM TOPSOILING OR OTHER OPERATIONS, SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

IT IS NECESSARY TO COMPACT THE TOPSOIL ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL AND TO OBTAIN A LEVEL SEEDBED FOR THE ESTABLISHMENT OF HIGH MAINTENANCE TURF. HOWEVER, UNDUE COMPACTION IS TO BE AVOIDED AS IT INCREASES RUNOFF VELOCITY AND VOLUME, AND DETERS SEED GERMINATION. SPECIAL CONSIDERATION SHOULD BE GIVEN TO THE TYPES OF EQUIPMENT USED TO PLACE TOPSOIL IN AREAS TO RECEIVE FINE TURF. AVOID UNNECESSARY COMPACTION BY HEAVY MACHINERY WHENEVER POSSIBLE. IN AREAS WHICH ARE NOT GOING TO BE MOWED, THE SURFACE SHALL BE LEFT ROUGH IN ACCORDANCE WITH SURFACE ROUGHENING STD & SPEC 3.29.

NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS UNTIL SUFFICIENT TIME HAS ELAPSED TO PERMIT DISSIPATION OF TOXIC MATERIALS.

## TEMPORARY SEEDING - 3.31

1. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED. OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT

THE SEDIMENT TRAPS, STORM DRAIN INLETS AND BASINS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT. THE GRAVEL OUTLETS WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED BY SEDIMENT. IT SHALL BE REMOVED AND CLEANED OR REPLACED. THE SILT FENCE AND SUPER SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION

THE SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL

6. THE DIVERSION DIKES SHALL BE INSPECTED AFTER EVERY RAIN STORM AND REPAIRS MADE AS NECESSARY. ONCE EVERY TWO WEEKS, WHETHER OR NOT A STORM EVENT HAS OCCURRED OR NOT, THE DIVERSION DIKE SHALL BE

INSTALL PERIMETER CONTROLS (DIVERSION DIKES, SILT FENCE, SUPER SILT FENCE, TREE PROTECTION, ETC.) 4. INSTALL SEDIMENT TRAPS AND SEDIMENT BASINS. SWM OPENINGS IN THE RISER STRUCTURES FOR POND "A" & "B" SHALL BE PLUGGED/BLOCKED UNTIL THE SEDIMENT BASINS ARE CONVERTED TO FINAL SWM BASINS.

INSTALL ADDITIONAL PERIMETER CONTROLS AS NEEDED / REQUIRED BY THE TOWN INSPECTOR.

8. PHASE OUT SEDIMENT BASIN 3 AS FILL IS PLACED AND EARTHWORK OPERATIONS ARE PERFORMED ADJACENT TO

9. REMOVE SEDIMENT TRAPS AND BASINS WHEN ALL UPHILL AREAS HAVE BEEN STABILIZED AND/OR REDIRECTED TO FINAL PROPOSED SWM PONDS AND AT THE APPROVAL OF THE SITE INSPECTOR AND/OR THE TOWN OF

10. REMOVE ACCUMULATED SEDIMENT IN SEDIMENT BASIN 1 & 2 🗗 ESTABLISH FINAL GRADE OF SWM PONDS "A" 11. CONVERT SEDIMENT BASIN 2 TO FINAL SWM POND "B" AND SEDIMENT BASIN #1 TO FINAL SWM POND "A'

RESPECTIVELY, ONCE ALL UPHILL AREAS HAVE BEEN STABILIZED. REFER TO SHEET 61 FOR MORE INFORMATION ON 

ORGANIC MATTER: CONTENT SHALL BE NOT LESS THAN 1.5% BY WEIGHT.

#### NOTES:

1. IF THE ENTIRE SITE WILL NOT PERMANENTLY STABILIZED BEFORE DECEMBER 1, THE RESPONSIBLE LAND DISTURBER SHALL CONTACT THE TOWN EROSION AND SEDIMENT CONTROL STAFF TO SCHEDULE A PRE-WINTER MEETING TO OCCUR BEFORE OCTOBER 1

- 2. SEEDING MADE IN FALL FOR WINTER COVER AND DURING SUMMER MONTHS SHALL BE MULCHED.
- 3. SEE THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR ADDITIONAL CONSTRUCTION SPECIFICATIONS AND MAINTENANCE REQUIREMENTS FOR THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES SPECIFIED ON THIS PLAN. SEE SHEET 2 FOR VIRGINIA MINIMUM STANDARDS.
- 4. ALL AREAS OUTSIDE OF THE PROPOSED ROADWAY, SIDEWALK, AND CONCRETE SPILLWAY SHALL BE PERMANENTLY STABILIZED IN ACCORDANCE WITH THE VESCH.
- 5. THE TOWN OF WARRENTON EROSION AND SEDIMENT CONTROL INSPECTION PERSONNEL WILL INSPECT THE SITE EVERY TWO WEEKS AND WITHIN 24 HOURS OF A SIGNIFICANT RAIN-PRODUCING EVENT.
- 6. THE TOWN OF WARRENTON EROSION AND SEDIMENT CONTROL INSPECTOR MAY ADD OR DELETE EROSION AND SEDIMENT CONTROLS AS DEEMED NECESSARY.
- ONCE CURB IS INSTALLED, SILT FENCE WILL NEED TO BE INSTALLED BEHIND THE CURB.

## B. EACH LOT WILL REQUIRE PERIMETER CONTROLS AND A CONSTRUCTION ENTRANCE PRIOR TO HOUSE CONSTRUCTION.

## GENERAL EROSION & SEDIMENT CONTROL NOTES:

- UNLESS OTHERWISE NOTED. ALL VEGETATIVE AND EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE 1992 VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
- 2. FOR ADDITIONAL DETAILS AND SPECIFICATIONS NOT SHOWN HEREON, REFER TO THE 1992 VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ONSITE AT ALL TIMES. 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES
- NOT SHOWN HEREON THAT ARE DEEMED NECESSARY BY THE APPROVING AUTHORITY AND/OR THE SITE INSPECTOR. THE CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL DEVICES DAILY. ANY DAMAGED CONTROLS
- SHALL BE REPAIRED OR REPLACED BY THE CLOSE OF EACH WORKING DAY.
- 9. ALL CULVERTS SHALL BE INSTALLED DURING DRY CONDITIONS
- 10. THE TOWN OF WARRENTON EROSION AND SEDIMENT CONTROL INSPECTION PERSONNEL WILL INSPECT THE SITE EVERY TWO WEEKS AND WITHIN 24 HOURS OF A SIGNIFICANT RAIN-PRODUCING EVENT.

#### DUST CONTROL

#### **TABLE 3.31-C**

CONTRACTOR SHALL BE RESPONSIBLE TEMOCOMPREDY SUBSTITUTE OUGHOUVE ATHEREMICS SCIENCES FRANCE DATES HE APPLICATION OF WATER AND/OR APPROVED ADHESIVES PER STD. 3.39 OF THE VIRGINIA EROSION AND SEDIMENT. CONTROL HANDBO

| DBO | DK.   | SEEDING I  | RATE                 | 1                 | IORTH             | a                  | 5                  | SOUTI            | Ър                 |  |
|-----|---|--|----------------------|-------------------|-------------------|--------------------|--------------------|------------------|--------------------|--|
|     | SPECIES   | Асте   | 1000 ft <sup>2</sup> | 3/1<br>to<br>4/30 | 5/1<br>to<br>8/15 | 8/15<br>to<br>11/1 | 2/15<br>to<br>4/30 | 5/1<br>to<br>9/1 | 9/1<br>to<br>11/15 | PLANT<br>CHARACTERIS   |
|     | OATS<br>(Avena sativa)  | 3 bu. (up to 100 lbs.,<br>not less than 50 lbs.) | 2 lbs.               | x                 | -                 | -                  | х                  | -                | -                  | Use spring varieties (e.   |
|     | RYE <sup>d</sup><br>( <u>Secale cereale</u> )                       | 2 bu. (up to 110 lbs.,<br>not less than 50 lbs.) | 2.5 lbs.             | x                 | -                 | х                  | x                  | -                | х                  | Use for late fall seeding<br>cover. Tolerates cold ar<br>moisture.                                 |
|     | GERMAN MILLET<br>( <u>Setaria italica</u> )                         | 50 lbs.  | approx. 1 lb.        | -                 | х                 | -                  | •                  | <b>X</b>         | -                  | Warm-season annual. D<br>frost. May be added to<br>mixes.  |
|     | ANNUAL RYEGRASS <sup>c</sup><br>(Lolium multi-florum)               | 60 lbs.  | 1½ lbs.              | x                 | -                 | х                  | х                  | -                | х                  | May be added in mixes<br>mow out of most stands  |
|     | WEEPING<br>LOVEGRASS<br>( <u>Eragrostis</u> curvula)                | 15 lbs.  | 51/2 ozs.            | -                 | х                 | -                  | -                  | x                | -                  | Warm-season perennial,<br>bunch. Tolerates hot, d<br>and acid, infertile soils,<br>added to mixes. |
|     | KOREAN<br>LESPEDEZA <sup>c</sup><br>( <u>Lespedeza stipulacea</u> ) | 25 lbs.  | approx. 11/2<br>lbs. | x                 | x                 | -                  | x                  | x                | -                  | Warm season annual leg<br>Tolerates acid soils. Ma<br>added to mixes.                              |

Northern Piedmont and Mountain region. See Plates 3.22-1 and 3.22-2.

Southern Piedmont and Coastal Plain. May be used as a cover crop with spring seeding

May be used as a cover crop with fall seeding.

X May be planted between these dates. May not be planted between these dates.

SEE THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR ADDITIONAL CONSTRUCTION SPECIFICATIONS AND MAINTENANCE REQUIREMENTS FOR THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES SPECIFIED ON THIS PLAN.

#### INSPECTIONS

IN ACCORDANCE WITH PART 1.B.4A AND PART II.B.5 OF THE GENERAL VPDES PERMIT FOR DISCHARGE OF STORMWATER FROM CONSTRUCTION ACTIVITIES VAR10, GIVEN THE PROJECT DISCHARGES TO A SURFACE WATER IDENTIFIED AS IMPAIRED OR FOR WHICH A TMDL WASTELOAD ALLOCATION HAS BEEN ESTABLISHED AND APPROVED FOR SEDIMENT (OR A SEDIMENT-RELATED PARAMETER) AND/OR NUTRIENTS, ROUTINE SWPPP INSPECTIONS SHALL BE CONDUCTED AT A FREQUENCY OF EITHER:

1. AT LEAST ONCE EVERY FOUR BUSINESS DAYS

2. AT LEAST ONCE EVERY FIVE BUSINESS DAYS AND NO LATER THAN 24 HOURS FOLLOWING A MEASURABLE STORM EVENT. IN THE EVENT THAT A MEASURABLE STORM EVENT OCCURS WHEN THERE ARE MORE THAN 24 HOURS BETWEEN BUSINESS DAYS, THE INSPECTION SHALL BE CONDUCTED ON THE NEXT BUSINESS DAY.

SEE THE SWPPP DOCUMENT FOR ADDITIONAL INFORMATION.

CONCRETE WASHOUT

THE CONTRACTOR SHALL DIRECT CONCRETE WASH WATER INTO A LEAK-PROOF CONTAINER OR LEAK-PROOF SETTLING BASIN. THE CONTAINER OR BASIN SHALL BE DESIGNED SO TAHT NO OVERFLOWS CAN OCCUR DUE TO INADEQUATE SIZING OR PRECIPITATION. HARDENED CONCRETE WASTES SHALL BE REMOVED AND DISPOSED OF IN A MANNER CONSISTENT WITH THE HANDLING OF OTHER CONSTRUCTION WASTES. LIQUID CONCRETE WASTES SHALL BE REMOVED AND DISPOSED OF IN A MANNER CONSISTENT WITH THE HANDLING OF OTHER CONSTRUCTION WATERS AND SHALL NOT BE DISCHARGED TO SURFACE WATERS. SEE THE SWPPP DOCUMENT FOR ADDITIONAL INFORMATION.

| ~                          | DENOTES REVISION AREA                  | ~ ~ ~<br>A |  |
|----------------------------|--|------------|--|
| 1                          | REVISED NARRATIVE TO REMOVE THE PHASED | 02/16/2024 |  |
|                            | GRADING. ALL GRADING WILL OCCUR IN ONE |            |  |
|                            | PHASE AND E&S CONTROLS WILL BE         |            |  |
|                            | INSTALLED ACCORDINGLY. (ONLY CLOUDED   |            |  |
|                            | ITEMS CHANGED NO OTHER CHANGES MADE)   |            |  |
| NO.                        | DESCRIPTION                            | DATE       |  |
| REVISIONS TO APPROVED PLAN |  |            |  |
| $\overline{}$              |  | $\sim$     |  |

| TABLE 3.31-B<br>ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS |  |                     |  |  |  |
|--|--|---------------------|--|--|--|
| "QUIC  | K REFERENCE FOR ALL REGIO  | NS"                 |  |  |  |
| Planting Dates   | Species  | Rate<br>(lbs./acre) |  |  |  |
| Sept. 1 - Feb. 15  | 50/50 Mix of<br>Annual Ryegrass<br>(Lolium multi-florum)<br>&<br>Cereal (Winter) Rye<br>(Secale cereale) | 50 - 100            |  |  |  |
| Feb. 16 - Apr. 30  | Annual Ryegrass<br>(Lolium multi-florum)   | 60 - 100            |  |  |  |
| May 1 - Aug 31   | German Millet<br>(Setaria italica)   | 50                  |  |  |  |

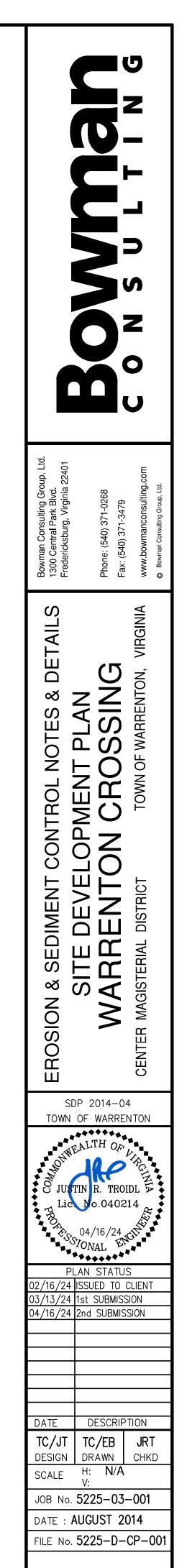
#### TABLE 3.32-D SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

|  | Total Lbs.<br>Per Acre                                      |
|--|---|
| Minimum Care Lawn  |   |
| <ul> <li>Commercial or Residential</li> <li>Kentucky 31 or Turf-Type Tall Fescue</li> <li>Improved Perennial Ryegrass</li> <li>Kentucky Bluegrass</li> </ul> | 175-200 lbs.<br>95-100%<br>0-5%<br>0-5%                     |
| High-Maintenance Lawn  | 200-250 lbs.  |
| - Kentucky 31 or Turf-Type Tall Fescue   | 100%  |
| General Slope (3:1 or less)  |   |
| <ul> <li>Kentucky 31 Fescue</li> <li>Red Top Grass</li> <li>Seasonal Nurse Crop *</li> </ul> Low-Maintenance Slope (Steeper than 3:1)                        | 128 lbs.<br>2 lbs.<br><u>20 lbs.</u><br>150 lbs.            |
| <ul> <li>Kentucky 31 Fescue</li> <li>Red Top Grass</li> <li>Seasonal Nurse Crop *</li> <li>Crownvetch **</li> </ul>  | 108 lbs.<br>2 lbs.<br>20 lbs.<br><u>20 lbs.</u><br>150 lbs. |
| * Use seasonal nurse crop in accordance with seeding date<br>February 16th through April   | es as stated below:   |

February 16th through April ..... Annual Rye May 1st through August 15th ..... Foxtail Millet August 16th through October ..... Annual Rye November through February 15th ..... Winter Rye

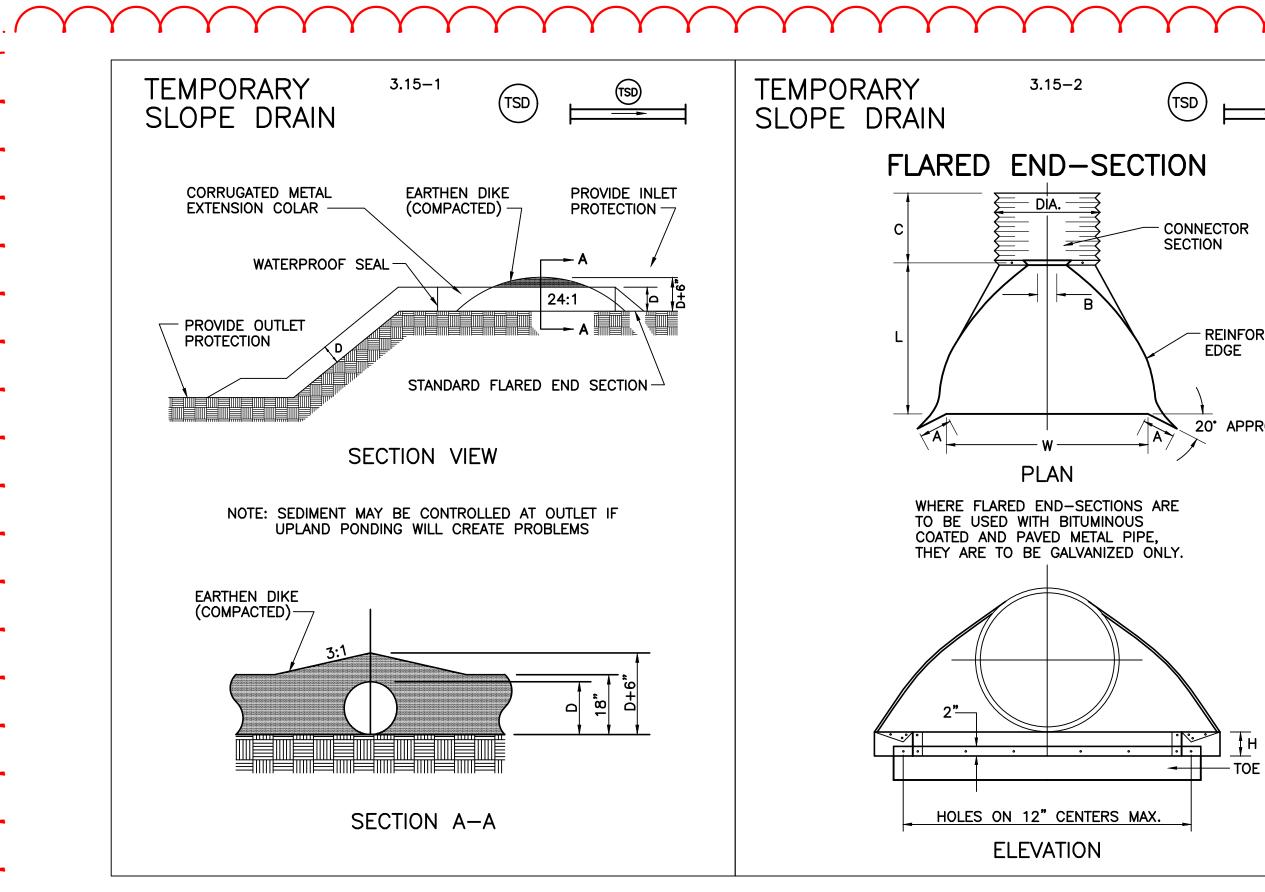
\*\* Substitute Sericea lespedeza for Crownvetch east of Farmville, Va. (May through September use hulled Sericea, all other periods, use unhulled Sericea). If Flatpea is used in lieu of Crownvetch, increase rate to 30 lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.

| ORGANIC MULCH MATERIALS AND APPLICATION RATES |   |                  |   |  |  |  |
|---|---|------------------|---|--|--|--|
| RATES:  |   | TES:             | NOTES:  |  |  |  |
| MULCHES:                                      | Per Acre  | Per 1000 sq. ft. | NOTES:  |  |  |  |
| Straw or Hay                                  | 1 <sup>1</sup> / <sub>2</sub> - 2 tons<br>(Minimum 2<br>tons for<br>winter cover) | 70 - 90 lbs.     | Free from weeds and coarse<br>matter. Must be anchored.<br>Spread with mulch blower<br>or by hand.  |  |  |  |
| Fiber Mulch                                   | Minimum<br>1500 lbs.  | 35 lbs.          | Do not use as mulch for<br>winter cover or during hot,<br>dry periods.* Apply as<br>slurry.   |  |  |  |
| Corn Stalks                                   | 4 - 6 tons  | 185 - 275 lbs.   | Cut or shredded in 4-6"<br>lengths. Air-dried. Do not<br>use in fine turf areas. Apply<br>with mulch blower or by<br>hand.  |  |  |  |
| Wood Chips                                    | 4 - 6 tons  | 185 - 275 lbs.   | Free of coarse matter. Air-<br>dried. Treat with 12 lbs<br>nitrogen per ton. Do not<br>use in fine turf areas. Apply<br>with mulch blower, chip<br>handler, or by hand. |  |  |  |
| Bark Chips<br>or<br>Shredded<br>Bark          | 50 - 70 cu.<br>yds.   | 1-2 cu. yds.     | Free of coarse matter. Air-<br>dried. Do not use in fine<br>turf areas. Apply with<br>mulch blower, chip handler,<br>or by hand.  |  |  |  |



## ISTICS (e.g., Noble) ngs, winter and low Dies at first to summer es. Will al. May dry slope ls. May be \_\_\_\_\_ egume. Iav be

58 <sub>OF</sub> 92



| (TSD)          | $\begin{array}{c} & & & \\ \hline TEMPORARY \\ SLOPE DRAIN \end{array}^{3.15-3} & & & \\ \hline \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$   |                        |   |
|----------------|--|------------------------|---|
| DR             | ROD (CONTINUED)<br>SIDE LUG ALTERNATE  | $\left  \right\rangle$ |   |
| IFORCED<br>E   | CONNECTION<br>TOE PLATE, WHERE NEEDED, TO BE PUNCHED TO MATCH IN SKIRT LIP. 3/8" GALV. BOLTS<br>TO BE FURNISHED. LENGTH OF TOE PLATE IS W + 10" FOR 12" TO 30" DIA. PIPE AND<br>W + 22" FOR 36" TO 60" DIA. PIPE.<br>SKIRT SECTION FOR 12" TO 30" DIA. PIPE TO BE MADE IN ONE PIECE.<br>SKIRT SECTION FOR 36" TO 54" DIA. PIPE MAY BE MADE FROM TWO SHEETS JOINED BY<br>RIVETING OR BOLTING ON CENTER LINE, 60" MAY BE CONSTRUCTED IN 3 PIECES.<br>CONNECTOR SECTION, CORNER PLATE AND TOE PLATE TO BE SAME SHEET THICKNESS<br>AS SKIRT. |                        | S u c   |
| PPROX.         | END-SECTIONS AND FITTINGS ARE TO BE GALVANIZED STEEL OR ALUMINUM ALLOY FOR<br>USE WITH LIKE PIPE.<br>APPROX.<br>2 1/2 : 1<br>SLOPE<br>TYPICAL<br>CROSS-SECTION   |                        |   |
|                | CROSS-SECTION  | $\left  \right\rangle$ |   |
| H<br>TOE PLATE | $\begin{array}{c c c c c c c c c c c c c c c c c c c $   |                        | Bowman Consulting Group, Ltd.<br>1300 Central Park Blvd.<br>Fredericksburg, Virginia 22401<br>Phone: (540) 371-0268<br>Fax: (540) 371-3479<br>www.bowmanconsulting.com<br>© Bowman Consulting Group, Ltd. |
|                | 42"0.064"0.105"16"22"11"69"84"36"48"0.064"0.105"18"27"12"78"90"24"54"0.064"/0.079"0.105"18"30"12"84"102"36"60"0.064"/0.109"0.105"/0.135"18"33"12"87"114"36"  |                        | DETAILS<br>G<br>N, VIRGINIA   |
|                | PIPE       DA (AC.)       DIA. (IN.)         TSD # 1       3.75       30         TSD # 2       2.04       21         TSD # 3       5.00       30         TSD # 4       1.30       18         TSD # 5       2.76       24   |                        | TROL NOTES &<br>MENT PLAN<br>CROSSIN<br>TOWN OF WARRENTC  |
|                | TABLE 3.15-ASIZE OF SLOPE DRAINMaximum Drainage<br>Area (acres)Pipe Diameter<br>(inches)0.5121.5182.5213.5245.030  |                        | EROSION & SEDIMENT CONT<br>SITE DEVELOPI<br>WARRENTON<br>CENTER MAGISTERIAL DISTRICT  |
|                | M  |                        | SDP 2014-04<br>TOWN OF WARRENTON  |
|                |  |                        | PLAN STATUS<br>02/16/24 ISSUED TO CLIENT<br>03/13/24 1st SUBMISSION<br>04/16/24 2nd SUBMISSION  |
|                |  |                        | DATE DESCRIPTION          TC/JT       TC/EB       JRT         DESIGN       DRAWN       CHKD         SCALE       H:       H:   |

SCALE H: V·

JOB No. **5225-03-001** 

DATE : AUGUST 2014

FILE No. 5225-D-CP-001

SHEET 60B OF 92

| 3.14-2 SB SEDIMENT BASIN #1   | 3.14-2 SB SB SEDIMENT BASIN #2  | 3.14-2 SB SB  |
|---|---|---|
| DESIGN HIGH WATER<br>(25-YR. STORM ELEV.)<br>(25-YR. STORM ELEV.)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72)<br>(530.72) | DESIGN HIGH WATER<br>(25-YR. STORM ELEV.)<br>(505.31)<br>67 C.Y./ AC.<br>"DRY" STORAGE  | DESIGN HIGH WATER<br>(25-YR. STORM ELEV.)<br>(25-YR. STORM ELEV.)<br>(540.50)<br>MIN. 1.0'<br>67 C.Y. / AC.<br>"DRY" STORAGE<br>(537.22)  |
| 67 C.Y./ AC.<br>"WET" STORAGE<br>(523.95)<br>(523.95)   | 67 C.Y./ AC.<br>"WET" STORAGE<br>(500.00)<br>(500.00)<br>BEE SWM DETAILS  | 67 C.Y./ AC.<br>"WET" STORAGE<br>(534.52)<br>8" DEWATERING<br>DEVICE (534.52)<br>72" RISER  |
| SEDIMENT CLEANOUT POINT 24" RCP (SEE STORM PROFILES)<br>A STAKE OR SPRAY<br>PAINT MARKER ON<br>RISER FOR CLEANOUT<br>ELEVATION SHALL BE<br>IN PLACE FOR<br>SEDIMENT BASINS.<br>ELEVATIONS IN PARENTHESIS DENOTE ACTUAL DIMENSIONS   | SEDIMENT CLEANOUT POINT   | SEDIMENT CLEANOUT POINT -<br>(531.95)<br>A STAKE OR SPRAY<br>PAINT MARKER ON<br>RISER FOR CLEANOUT<br>ELEVATION SHALL BE<br>IN PLACE FOR<br>SEDIMENT BASINS.<br>(RISER PASSES 25-YR. EVENT)<br>ELEVATIONS IN PARENTHESIS DENOTE ACTUAL DIMENSIONS   |
|   |   |   |
| Temporary Sediment Basin #1 Design Calculations Storage - Elevation Table   | Temporary Sediment Basin #2 Design Calculations Storage - Elevation Table   | Temporary Sediment Basin #3 Design Calculations Storage - Elevation Table   |
| ElevationAreaVolumeVolumeTotal(ft.)(ft²)(cf.)(cyd.)(cyd.) $512$ 00.00.000.00 $514$ 21552155.079.8179.81 $516$ 36055760.0213.33293.15 $518$ 54499054.0335.33628.48 $520$ 780413253.0490.851119.33 $522$ 1140219206.0711.331830.67 $524$ 1546426866.0995.042825.70 $526$ 2013035594.01318.304144.00 $528$ 2487045000.01666.675810.67 $530$ 2627130104.01114.966925.63   | Elevation         Area         Volume         Total           (ft.)         (ff <sup>2</sup> )         (cf.)         (cyd.)         (cyd.)           488         1955         0.0         0.00         0.00           490         3002         4957.0         183.59         183.59           492         4188         7190.0         266.30         449.89           494         5506         9694.0         359.04         808.93           496         6964         12470.0         461.85         1270.78           498         8589         15553.0         576.04         1846.81           500         10363         18952.0         701.93         2548.74           502         12806         23169.0         858.11         3406.85           504         15390         28196.0         1044.30         4451.15           506         18134         33524.0         1241.63         5692.78   | Storage - Elevation       Area       Volume       Volume       Total         (ft.)       (ft <sup>2</sup> )       (cf.)       (cyd.)       (cyd.)         527.3       3216       0.0       0.00       0.00         528       3708       2423.4       89.76       89.76         530       5331       9039.0       334.78       424.53         532       7314       12645.0       468.33       892.87         534       9897       17211.0       637.44       1530.31         536       17242       27139.0       1005.15       2535.46         538       28913       46155.0       1709.44       4244.90         540       48089       77002.0       2851.93       7096.83 |
| 531 32802 29536.5 1093.94 8019.57   | <u> </u>  | Wet Storage:  |
| Basin Volume Design<br>Wet Storage:   | Basin Volume Design   | 1. Minimum required volume = 67 cu. Yds. x Total Drainage Area (acres.)<br>67 cu. Yds. 26.72 (acres.) = 1790.2 cu. Yds.   |
| Wet Storage:<br>1. Minimum required volume = 67 cu. Yds. x Total Drainage Area (acres.)<br>67 cu. Yds. 41.84 (acres.) = 2803.3 cu. Yds.   | Wet Storage:<br>1. Minimum required volume = 67 cu. Yds. x Total Drainage Area (acres.)   | 2. Available basin volume = 1790.24 cu. Yds. at elevation 534.52<br>(From Storage - Elevation Curve)  |
| 2. Available basin volume = 2803.28 cu. Yds. at elevation 523.95<br>(From Storage - Elevation Curve)  | 67       cu. Yds. 29.96       (acres.) = 2007.3       cu. Yds.         2.       Available basin volume =       2548.74       cu. Yds. at elevation 500.00   | 3. Available volume before cleanout required.<br>33 cu. Yds. x 26.72 (acres) = 881.76 cu. Yds.  |
| 3. Available volume before cleanout required.<br>33 cu. Yds. x 41.84 (acres) = 1380.72 cu. Yds.   | (From Storage - Elevation Curve)<br>3. Available volume before cleanout required.   | 4. Elevation corresponding to cleanout level = 531.95<br>(From Storage - Elevation Curve)   |
| 4. Elevation corresponding to cleanout level = 520.73<br>(From Storage - Elevation Curve)   | 4. Elevation corresponding to cleanout level = $494.78$   | 5. Distance from invert of dewatering orifice to cleanout level = 2.56  |
| 5. Distance from invert of dewatering orifice to cleanout level = 3.22  | (From Storage - Elevation Curve)  | Dry Storage:  |
| Dry Storage:  | 5. Distance from invert of dewatering orifice to cleanout level = 5.22  | 6. Minimum required volume = 67 cu. Yds. x Total Drainage Area (acres.)<br>67 cu. Yds. 26.72 (acres.) = 1790.2 cu. Yds.   |
| 6. Minimum required volume = 67 cu. Yds. x Total Drainage Area (acres.)<br>67 cu. Yds. 41.84 (acres.) = 2803.3 cu. Yds.   | <ul> <li>Dry Storage:</li> <li>6. Minimum required volume = 67 cu. Yds. x Total Drainage Area (acres.)</li> </ul>   | 7. Total available basin volume at crest of riser* = 3580.48 cu. Yds.<br>at elevation 537.22 (From Storage - Elevation Curve)   |
| 7. Total available basin volume at crest of riser* = 5606.56 cu. Yds.<br>at elevation 527.76 (From Storage - Elevation Curve)   | 67 cu. Yds. 29.96 (acres.) = 2007.3 cu. Yds.<br>7. Total available basin volume at crest of riser* = 4624.98 cu. Yds.   | * Minimum = 134 cu. Yds. / acre of total drainage area.<br>Dewatering Orifice Calculations:   |
| Minimum = 134 cu. Yds. / acre of total drainage area.<br>Dewatering Orifice Calculations:   | at elevation 504.28 (From Storage - Elevation Curve)  | Q = S / 21,600 Q= 2.24 cfs  |
| Q = S / 21,600 Q= 3.50 cfs  | * Minimum = 134 cu. Yds. / acre of total drainage area.<br>Dewatering Orifice Calculations:   | h = $(537.22-534.52)/2 = 1.35$ h= 1.35 ft<br>A = Q/((64.32 * h)^{.5 * 0.6) A= 0.40 ft <sup>2</sup>  |
| h = $(533.10-529.08)/2 = 2.01$ h= 2.46 ft<br>A = Q/((64.32 * h)^{.5 * 0.6}) A= 0.46 ft <sup>2</sup>   | Q = S / 21,600 $Q = 2.51 cfsh = (498.46-494.78)/2 = 1.35 h= 2.14 ft$  | $d = 2 * (A/3.1415)^{h} 0.5 \qquad d = 0.71 \text{ ft} \\ d = 8.6 \text{ inches} $  |
| $d = 2 * (A/3.1415)^{0.5}$ $d = 0.77 \text{ ft}$<br>d = 9.2  inches   | $A = Q/((64.32 * h)^{h}.5 * 0.6) \qquad A = 0.36 \text{ ft}^{2}$<br>d = 2 * (A/3.1415)^{0}.5 \qquad d = 0.67 \text{ ft}   | <ul> <li>8. Diameter of dewatering orifice = 8.0 in.</li> <li>9. Diameter of flexible tubing = 10.0 in.</li> </ul>  |
| <ul> <li>8. Diameter of dewatering orifice = 10.0 in.</li> <li>9. Diameter of flexible tubing = 12.0 in.</li> </ul>   | d= 8.1 inches   | (Diameter of dewatering orifice plus 2 inches.)   |
| (Diameter of dewatering orifice plus 2 inches.)   | 9. Diameter of flexible tubing = 10.0 in.   | Preliminary Design Elevations   |
| Preliminary Design Elevations   | (Diameter of dewatering orifice plus 2 inches.)   | 10. Crest of Riser = 537.22<br>Top of Dam = 540.50  |
| 10. Crest of Riser = 528.87<br>Top of Dam = 532.00  | Preliminary Design Elevations<br>10. Crest of Riser = 504.28  | Design High Water = 538.42  |
| Design High Water = 531.00  | Top of Dam =         506.48           Design High Water =         505.31  | Basin Shape<br>11. Length of Flow L= 226  |
| Basin Shape<br>11. Length of Flow L= 270  |   | Effective Width We = 47<br>Length to Width Ratio = 4.8  |
| Effective Width We = 57   | Basin Shape       11.     Length of Flow       L=     165   | If > 2, baffles are not required  |
| If > 2, baffles are not required  | Effective WidthWe =80Length to Width Ratio=2.1  | If < 2, baffles are required  |
| If < 2, baffles are required  | If > 2, baffles are not required<br>If < 2, baffles are required  | Runoff         12.         Q2 =         50.43 cfs         (17 min Tc) I = 3.15         3.15   |
| Runoff<br>12. $Q_2 = 65.68 \text{ cfs} (23.9 \text{ min Tc}) I = 2.61$  | Runoff  | 13. $Q_{25} = 78.09 \text{ cfs} (17 \text{ min Tc}) I = 4.87$   |
| 13. $Q_{25} = 104.26$ cfs (23.9 min Tc) I = 4.15  | Image: Non-optimized formation of the state of the | <b>Principal Spillway Design</b><br>14. With emergency spillway, required spillway capacity $Qp = Q_2 = 50.43$ cfs.   |
| Principal Spillway Design<br>14. With emergency spillway, required spillway capacity Qp = Q <sub>2</sub> = 65.68 cfs.   |   | (Riser and barrel.)   |
| (Riser and barrel.)   | Principal Spillway Design14.With emergency spillway, required spillway capacity $Qp = Q_2 =$ 48.67 cfs.   | Without emergency spillway, required spillway capacity Qp = Q25 = 78.09 cfs.<br>(Riser and barrel)  |
| Without emergency spillway, required spillway capacity Qp = Q25 = 104.26 cfs.<br>(Riser and barrel)   | (Riser and barrel.)<br>Without emergency spillway, required spillway capacity Qp = Q25 = 76.88 cfs.   | 15. Without emergency spillway:<br>Assumed available head (h) = 1.20 ft. Using Q <sub>25</sub> )  |
| 15. With emergency spillway:<br>Assumed available head (h) = 1.20 ft. (Using Q <sub>2</sub> )   | (Riser and barrel)<br>15. Without emergency spillway:   | h = Design High Water Elevation - Crest of Riser Elevation<br>16. Riser diamter (Dr) = $72$ in. Actual head (h) = $1.20$ ft.  |
| h = Crest of Emergency Spillway Elevation - Crest of Riser Elevation<br>16. Riser diamter (Dr) = 60 in. Actual head (h) = 1.20 ft.  | Assumed available head (h) = $1.03$ ft. Using Q <sub>25</sub> )<br>h = Design High Water Elevation - Crest of Riser Elevation   | (From Plate 3.14-8)<br>17. Barrel length (I) = $60$ ft.   |
| (From Plate 3.14-8)<br>17. Barrel length (I) = 69.92 ft.  | 16. Riser diamter (Dr) = $N/A$ Actual head (h) = 0.78 ft.   | Head (H) on barrel through embankment = 11.12 ft. (538.42-527.3)  |
| Head (H) on barrel through embankment = 10.07 ft. (530.07-520.00)   | (From Plate 3.14-8)<br>17. Barrel length (I) = N/A  | (From Plate 3.14-7.)<br>18. Barrel diameter = 36 in. (CMP)  |
| (From Plate 3.14-7.)<br>18. Barrel diameter = 24 in. (RCP)  | Head (H) on barrel through embankment = N/A ft.<br>(From Plate 3.14-7.)   | (From Plate 3.14-B [concrete pipe] or Plate 3.14-A [corrugated pipe].)<br>19. Trash rack and anti-vortex device   |
| <ul><li>(From Plate 3.14-B [concrete pipe] or Plate 3.14-A [corrugated pipe].)</li><li>19. Trash rack and anti-vortex device</li></ul>  | 18. Barrel diameter = N/A in.<br>(From Plate 3.14-B [concrete pipe] or Plate 3.14-A [corrugated pipe].)   | Diameter =102 inches.Height =36 inches.   |
| Diameter =90 inches.Height =29 inches.  | <ul> <li>19. Trash rack and anti-vortex device</li> <li>Diameter = N/A inches.</li> </ul>   | (from Table 3.14-D)   |
| (from Table 3.14-D)<br>Emergency Spillway Design  | Height = $N/A$ inches.<br>(from Table 3.14-D)   | Anti-Seep Collar Design   |
|   | Emergency Spillway Design   | 23. Depth of water at principal spillway crest (Y) = 9.92 ft.   |
| 21. Bottom width (b) = 35 ft  | 21. Required spillway capacity $Qe = Q_{25} = 76.88$ cfs.   | Slope of upstream face of embankment (Z) = 2:1  |
| Head over weir = 0.65 ft  | 22. Bottom width (b) = $23.25$ ft   | Slope of principal spillway barrel (Sb) = 0.50%   |
| Anti-Seep Collar Design<br>*Barrel to be installed per the geotechnical recommendations. No anti-seep collars required.   | Head over weir = $1.03$ ft  | Length of barel in saturated zone (Ls) = $60.7509$ ft.  |
| Final Design Elevations     532.00  | Anti-Seep Collar Design   |   |
| Design High Water = 530.72  | *Wall to be installed per the geotechnical recommendations. No anti-seep collars required.<br><u>Final Design Elevations</u>  |   |
| Principal Spillway Crest = 528.87<br>Emergency Spillway Crest = 530.07  | 25.         Top of Dam =         506.48           Design High Water =         505.31  | (From Plate 3.14-12.)<br>Final Design Elevations  |
| Dewatering Orifice Invert = 523.95<br>Cleanout Elevation = 520.73   | Principal Spillway Crest = 504.15<br>Dewatering Orifice Invert = 500.00   | 25. Top of Dam = 540.50<br>Design High Water = 538.42   |
|   | Cleanout Elevation = 494.78   | Principal Spillway Crest = 537.22<br>Dewatering Orifice Invert = 534.52   |
|   | *SEDIMENT BASINS ARE SIZED BASED ON EITHER THE PHASE I DRAINAGE<br>AREA OR THE ULTIMATE DRAINAGE AREA, WHICHEVER IS GREATER.  | Cleanout Elevation = 531.95   |
|   |   | ·   |

## SEDIMENT BASIN #3 CONSTRUCTION SPECIFICATIONS REFER TO GEOTECHNICAL REPORT FOR CONSTRUCTION SPECIFICATIONS FOR SEDIMENT BASIN #1/POND "A" AND SEDIMENT BASIN #2/POND "B".

### ITE PREPARATION

REAS UNDER THE EMBANKMENT OR ANY STRUCTURAL WORKS RELATED TO THE BASIN SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES. VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. IN ORDER TO FACILITATE CLEANOUT AND RESTORATION, THE AREA OF MOST FREQUENT INUNDATION (MEASURED FROM THE TOP OF THE PRINCIPAL SPILLWAY) WILL BE CLEARED OF ALL BRUSH AND TREES.

#### UTOFF TRENCH

OR EARTH-FILL EMBANKMENTS, A CUTOFF TRENCH SHALL BE EXCAVATED ALONG HE CENTERLINE OF THE DAM. THE TRENCH MUST EXTEND AT LEAST 1 FOOT INTO A STABLE, IMPERVIOUS LAYER OF SOIL AND HAVE A MINIMUM DEPTH OF 2 FEET. THE CUTOFF TRENCH SHALL EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION. THE MINIMUM BOTTOM WIDTH SHALL BE 4 FEET, BUT ALSO MUST ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1.

COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHALL BE DRAINED DURING THE BACKFILLING/COMPACTING OPERATIONS.

#### MBANKMENT

HE FILL MATERIALS SHALL BE TAKEN FROM APPROVED BORROW AREAS. IT SHALL BE CLEAN MINERAL SOIL, FREE OF ROOTS, WOODY VEGETATION, STUMPS, SOD, OVERSIZED TONES, ROCKS, OR OTHER PERISHABLE OR OBJECTIONABLE MATERIAL. THE MATERIAL SELECTED MUST HAVE ENOUGH STRENGTH FOR THE DAM TO REMAIN STABLE AND BE TIGHT ENOUGH, WHEN PROPERTY COMPACTED, TO PREVENT EXCESSIVE PERCOLATION OF WATER THROUGH THE DAM. FILL CONTAINING PARTICLES RANGING FROM SMALL GRAVEL MATERIAL SHOULD CONTAIN APPROXIMATELY 20% CLAY PARTICLES BY WEIGHT. USING THE UNIFIED SOIL CLASSIFICATION SYSTEM, SC (CLAYED SAND), GC (CLAYED GRAVEL) AND CL ("LOW LIQUID LIMIT" CLAY) ARE AMONG THE PREFERRED TYPES OF EMBANKMENT SOILS. AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. THE FILL MATERIAL SHOULD CONTAIN THE PROPER AMOUNT OF MOISTURE TO ENSURE THAT 95% COMPACTION WILL BE ACHIEVED. FILL MATERIAL WILL BE PLACED IN 6-INCH CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL. COMPACTION SHALL BE OBTAINED BY ROUTING THE HAULING EQUIPMENT OVER THE FILL SO THAT THE ENTIRE SURFACE OF THE FILL IS TRANSVERSED BY AT LEAST ONE WHEEL OR TREAD TRACK OF THE EQUIPMENT, OR BY USING A COMPACTOR. SPECIAL CARE SHALL BE TAKEN IN COMPACTING AROUND THE ANTI-SEEP COLLARS (COMPACT BY HAND, IF NECESSARY) TO AVOID DAMAGE AND ACHIEVE DESIRED COMPACTION. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 10% HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT IF COMPACTION IS OBTAINED WITH HAULING EQUIPMENT. IF COMPACTORS ARE USED FOR COMPACTION, THE OVERBUILD MAY BE REDUCED TO NOT LESS THAN 5%.

#### RINCIPAL SPILLWAY

HE RISER OF THE PRINCIPAL SPILLWAY SHALL BE SECURELY ATTACHED TO THE ARREL BY A WATERTIGHT CONNECTION. THE BARREL AND RISER SHALL BE PLACED ON A FIRMLY COMPACTED SOIL FOUNDATION. THE BASE OF THE RISER SHALL BE FIRMLY ANCHORED ACCORDING TO DESIGN CRITERIA TO PREVENT ITS FLOATING. PERVIOUS MATERIALS SUCH AS SAND, GRAVEL, OR CRUSHED STONE SHALL NOT BE USED AS BACKFILL AROUND THE BARREL OR ANTI-SEEP COLLARS. SPECIAL CARE SHALL BE TAKEN IN COMPACTING AROUND THE ANTI-SEEP COLLARS (COMPACT BY HAND, IF NECESSARY). FILL MATERIAL SHALL BE PLACED AROUND THE PIPE IN -INCH LAYERS AND COMPACTED UNTIL 95% COMPACTION IS ACHIEVED. A MINIMUM OF TWO FEET OF FILL SHALL BE HAND-COMPACTED OVER THE BARREL BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.

#### EGETATIVE STABILIZATION

HE EMBANKMENT AND EMERGENCY SPILLWAY OF THE SEDIMENT BASIN SHALL BE TABILIZED WITH TEMPORARY OR PERMANENT VEGETATION IMMEDIATELY AFTER INSTALLATION OF THE BASIN (SEE TEMPORARY SEEDING, STD. & SPEC. 3.31 OR PERMANENT SEEDING, STD. & SPEC. 3.32).

#### ROSION AND SEDIMENT CONTROL

HE CONSTRUCTION OF THE SEDIMENT BASIN SHALL BE CARRIED OUT IN A MANNER SUCH THT IT DOES NOT RESULT IN SEDIMENT PROBLEMS DOWNSTREAM.

#### <u>AFETY</u> ALL STATE AND LOCAL REQUIREMENTS SHALL BE MET CONCERNING FENCING AND SIGNS WARNING THE PUBLIC OF THE HAZARDS OF SOFT, SATURATED SEDIMENT AND LOOD WATERS (REFER TO STD. & SPECS. 3.01, SAFETY FENCE).

#### AINTENANCE

HE BASIN EMBANKMENT SHOULD BE CHECKED REGULARLY TO ENSURE THAT IT IS TRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT.

#### THE EMERGENCY SPILLWAY SHOULD BE CHECKED REGULARLY TO ENSURE THAT ITS INING IS WELL ESTABLISHED AND EROSION-RESISTANT.

THE BASIN SHOULD BE CHECKED AFTER EACH RUNOFF-PRODUCING RAINFALL FOR SEDIMENT CLEANOUT. WHEN THE SEDIMENT REACHES THE CLEAN-OUT LEVEL, IT SHALL BE REMOVED AND PROPERTY DISPOSED OF.

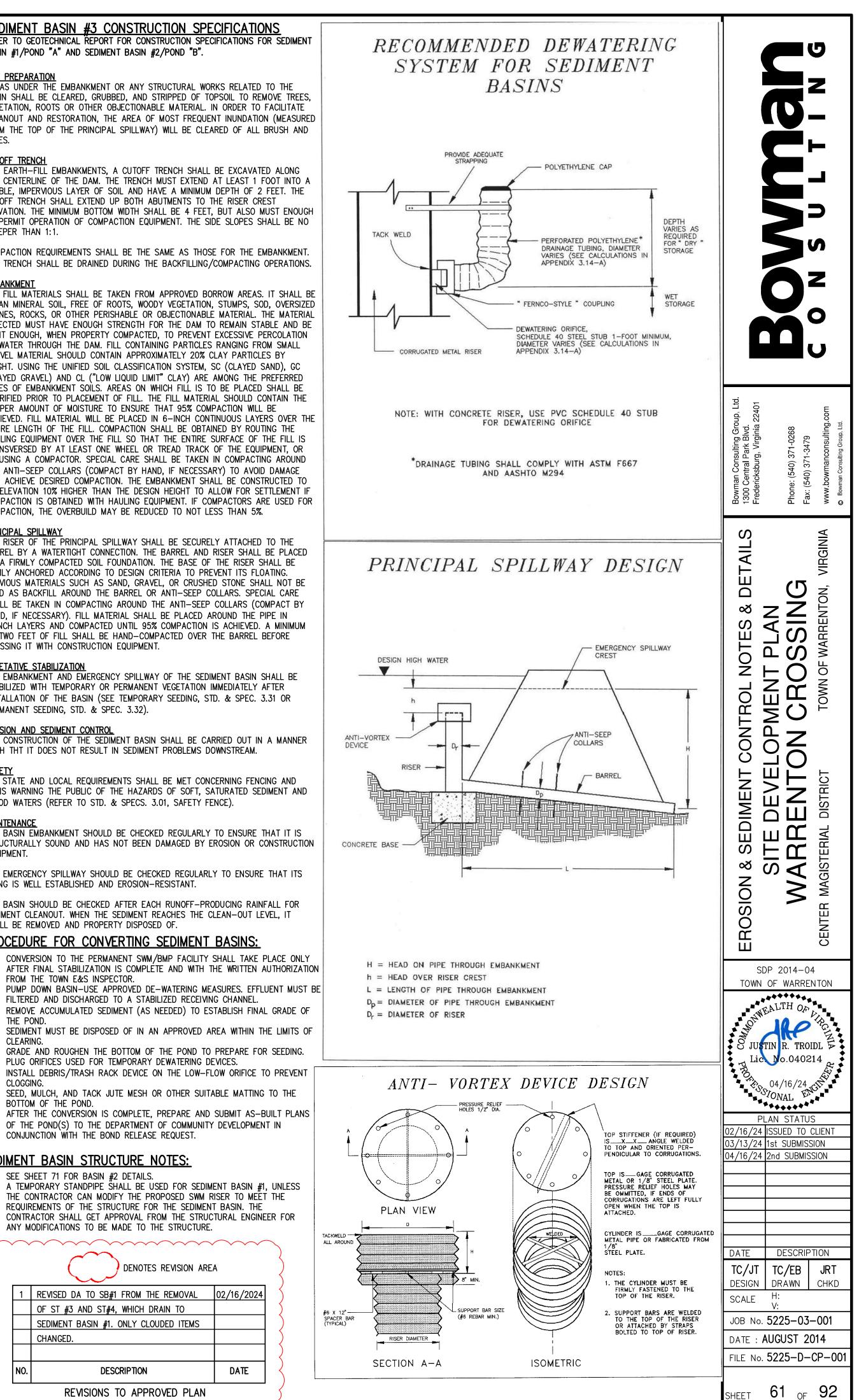
#### PROCEDURE FOR CONVERTING SEDIMENT BASINS:

- CONVERSION TO THE PERMANENT SWM/BMP FACILITY SHALL TAKE PLACE ONLY AFTER FINAL STABILIZATION IS COMPLETE AND WITH THE WRITTEN AUTHORIZATION FROM THE TOWN E&S INSPECTOR.
- 2. PUMP DOWN BASIN-USE APPROVED DE-WATERING MEASURES. EFFLUENT MUST BE FILTERED AND DISCHARGED TO A STABILIZED RECEIVING CHANNEL.
- 3. REMOVE ACCUMULATED SEDIMENT (AS NEEDED) TO ESTABLISH FINAL GRADE OF THE POND.
- 4. SEDIMENT MUST BE DISPOSED OF IN AN APPROVED AREA WITHIN THE LIMITS OF CLEARING.
- GRADE AND ROUGHEN THE BOTTOM OF THE POND TO PREPARE FOR SEEDING. PLUG ORIFICES USED FOR TEMPORARY DEWATERING DEVICES. INSTALL DEBRIS/TRASH RACK DEVICE ON THE LOW-FLOW ORIFICE TO PREVENT
- CLOGGING. 8. SEED, MULCH, AND TACK JUTE MESH OR OTHER SUITABLE MATTING TO THE BOTTOM OF THE POND.
- 9. AFTER THE CONVERSION IS COMPLETE, PREPARE AND SUBMIT AS-BUILT PLANS OF THE POND(S) TO THE DEPARTMENT OF COMMUNITY DEVELOPMENT IN CONJUNCTION WITH THE BOND RELEASE REQUEST.

### EDIMENT BASIN STRUCTURE NOTES:

SEE SHEET 71 FOR BASIN #2 DETAILS. A TEMPORARY STANDPIPE SHALL BE USED FOR SEDIMENT BASIN #1, UNLESS THE CONTRACTOR CAN MODIFY THE PROPOSED SWM RISER TO MEET THE REQUIREMENTS OF THE STRUCTURE FOR THE SEDIMENT BASIN. THE CONTRACTOR SHALL GET APPROVAL FROM THE STRUCTURAL ENGINEER FOR ANY MODIFICATIONS TO BE MADE TO THE STRUCTURE.

|     | DENOTES REVISION ARE                  | A   |
|-----|---------------------------------------|-----|
| 1   | REVISED DA TO SB#1 FROM THE REMOVAL   | 02/ |
|     | OF ST #3 AND ST#4, WHICH DRAIN TO     |     |
|     | SEDIMENT BASIN #1. ONLY CLOUDED ITEMS |     |
|     | CHANGED.                              |     |
|     |                                       |     |
| NO. | DESCRIPTION                           |     |
|     | REVISIONS TO APPROVED PLAN            | -   |



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### BUOYANCY CALCULATIONS - SWM BMP CONTROL RISER

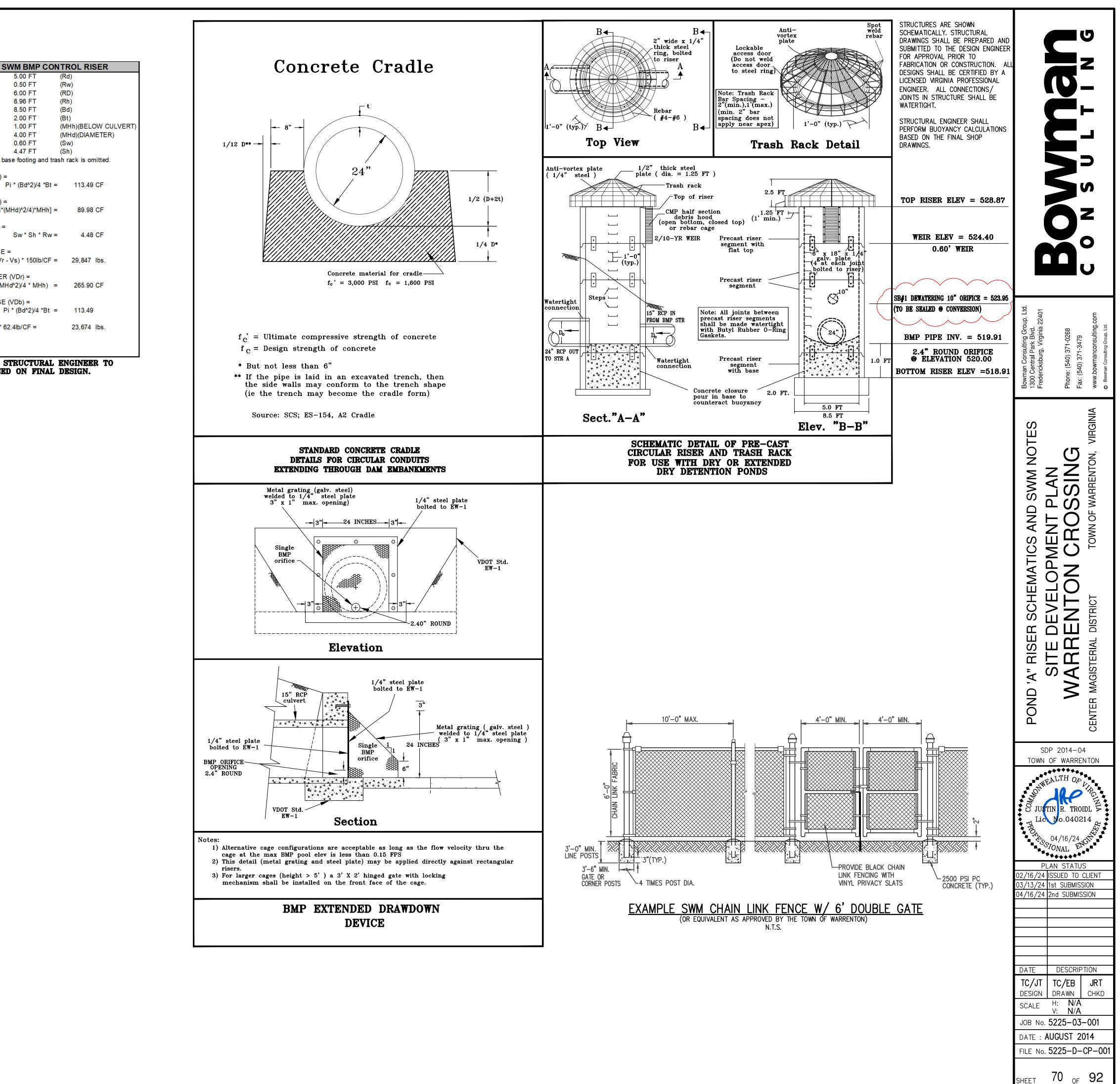
|                | CTCALCULATIONS - SV                 |            |
|----------------|-------------------------------------|------------|
|                | RISER INSIDE DIA=                   | 5.00 FT    |
|                | RISER WALL THICK=                   | 0.50 FT    |
|                | RISER OUTSIDE DIA=                  | 6.00 FT    |
|                | RISER HEIGHT =                      | 8.96 FT    |
|                | BASE DIAMETER=                      | 8.50 FT    |
|                |                                     | 2.00 FT    |
|                | INSIDE MH CONCETE =                 |            |
|                | INSIDE MH CONCETE =                 | 4.00 FT    |
| 2&10-YR        | SLOT WIDTH =                        | 0.60 FT    |
| <b>DPENING</b> | SLOT HEIGHT=                        | 4.47 FT    |
|                | *Weight of soil over exterior bas   | e footing  |
|                |                                     |            |
| OLUME O        | F CONCRETE IN BASE (Vb) =           |            |
|                | Pi                                  | * (Bd^2)/- |
|                |                                     |            |
| OLUME O        | F CONCRETE IN RISER (Vr) =          |            |
| (Pi*(RD^2)     | )/4) - (Pi*(Rd^2)/4)]*Rh} + [(Pi*(M | Hd)^2/4)*1 |
|                |                                     |            |
| OLUME O        | F CONCRETE IN SLOT (Vs) =           |            |
| ND OUTFA       | ALL CULVERT                         | Sw * Sh    |
|                |                                     |            |
| EIGHT OF       | CONCRETE RISER & BASE =             |            |
|                | (Vb + Vr - )                        | Vs) * 150l |
|                |                                     |            |
| ATER VO        | LUME DISPLACED BY RISER             | (VDr) =    |
|                | (Pi * (RD^2)/4 *Rh) + (Pi * (MH     | d^2)/4 * M |
|                |                                     |            |
|                |                                     |            |

WATER VOLUME DISPLACED BY BASE (VDb) =

BUOYANT FORCE (BF) = (VDr + VDb) \* 62.4lb/CF =

FACTOR OF SAFETY= 1.26

ESTIMATED CALCULATIONS - STRUCTURAL ENGINEER TO PERFORM CALCULATIONS BASED ON FINAL DESIGN.



## GENERAL SPECIFICATIONS FOR S.W.M. DAM AND FACILITY

- AREAS UNDER THE EMBANKMENT AND ANY STRUCTURAL WORKS SHAL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL, ROOTS OR OTHER OBJECTIONABLE MATERIAL. WOODY STEMMED SPECIES, PROPOSED OR EXISTING SHALL NOT BE PERMITTED WITHIN 25 FT OF EMBANKMENT FILL
- HE SUITABILITY AND ACCEPTABILITY OF ALL FILL MATERIAL WILL BE DETERMINED BY REGULAR PERIODIC SOIL ANALYSIS AND COMPACTION
- TESTS, WHICH SHALL BE MADE BY A QUALIFIED GEOTECHNICAL ENG. TESTS FOR SOIL ANALYSIS, MOISTURE CONTENT, AND COMPACTION ARE TO BE CONDUCTED IN ACCORDANCE WITH THE LATEST APPLICABLE ASTM STANDARDS AND SPECIFICATIONS.
- MATERIALS USED FOR THE IMPERVIOUS CORE AND CUT-OFF TRENCH SHALL BE COMPRISED OF ONE OF THE FOLLOWING SOILS AS DESIGNATED BY THE UNIFIED SOIL SYSTEM: SC, CL, OR ML, HAVING A MINIMUM PLASTICITY INDEX OF 8 WITH A MINIMUM OF 45% PASSING THE No. 200 SIEVE AND A MAX. OF 5 % RETAINED ON THE NO. 4 SIEVE.
- THE EMBANKMENT MAY BE CONSTRUCTED AS A HOMOGENOUS EMBANKMENT DAM USING ACCEPTABLE MATERIAL CLASSIFIED ML, CL, SC, OR GC SOILS PER ASTM D -2487. IN ADDITION TO THESE MATERIALS, SOILS CLASSIFIED CH AND MH MAY BE USED AS COMPACTED EMBANKMENT FILL BELOW THE UPPER 5 FEET OF THE SLOPES. SOILS CLASSIFIED AS SM OR GM PER ASTM D-2487 OR SUITABLE FILL MAY BE USED FOR EMBANKMENT IN THE DOWNSTREAM HALF OF THE EMBANKMENT.
- COMPACTION SHALL BE NOT LESS THAN 95% OF THE MAX. DRY DENSITY FOR THE GIVEN EMBANKMENT MATERIAL AS DETERMINED BY USE OF THE STANDARD PROCTOR METHOD PER ASTM T-99 OR ASTM D-698.
- THE FILL SHALL BE CONSTRUCTED IN 8-INCH LOOSE LIFTS AND SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL SO THAT SMOOTH HORIZONTAL PLANES ARE NOT BUILT INTO THE FILL STRUCTURE. SMOOTH HORIZONTAL PLANES CAN BE AVOIDED BY SCARIFYING OR USE OF SHEEPS-FOOT ROLLERS.
- THE EMBANKMENT SHALL BE CONSTRUCTED TO A MINIMUM ELEVATION 5% HIGHER THAN THE DESIGNED HEIGHT TO ALLOW FOR SETTLEMENT WHEN MECHANICAL COMPACTORS ARE USED FOR CONSTRUCTION.
- IF SUFFICIENT ACCEPTABLE MATERIAL IS NOT AVAILABLE ON THE SITE TO PROPERLY COMPLETE THE FILL, THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ACCEPTABLE BORROW MATERIAL.
- THE STORM WATER MANAGEMENT FACILITY IS TO BE OWNED AND MAINTAINED BY THE PARTY IDENTIFIED IN THE DEED OF DEDICATION. THE MAINTENANCE RESPONSIBILITY SHALL BE ESTABLISHED IN THE REQUIRED DEED OF DEDICATION. THE STORM WATER MANAGEMENT FACILITY SHALL BE INSPECTED ON A SEMI-ANNUAL BASIS AND AFTER ANY STORM WHICH CAUSES THE CAPACITY OF THE FACILITY TO BE EXCEEDED. ANY TRASH AND/OR DEBRIS WITHIN THE FACILITY SHALL BE REMOVED AND PROPERLY DISPOSED OF. INSPECTION REPORTS ARE TO BE MAINTAINED BY THE
- PARTY IDENTIFIED IN THE DEED OF DEDICATION. THE STORM WATER MANAGEMENT FACILITY SHALL BE PERIODICALLY CLEANED THE STORM WATER MANAGEMENT FACILITY SHALL BE PERIODICALLY CLEANED OUT (EVERY 5-10 YEARS) DEPENDING ON SEDIMENT LOADING, SO AS TO RE-ESTABLISH THE ORIGINAL CONTOURS WITHIN THE EXISTING POND AND OTHER AREAS. ALL EXCAVATED AND/OR DREDGED MATERIAL SHALL BE PLACED IN COMMON OPEN SPACE AS DESIGNATED BY THE PARTY IDENTIFIED IN THE DEED OF DEDICATION. THE DISPOSAL AREA SHALL HAVE APPROPRIATE E & S CONTROLS AND SHALL BE IMMEDIATELY SEEDED AND STABILIZED.

### **DETAIL NOTES:**

THE PURPOSE OF THESE PLANS IS TO PROVIDE THE BASIC DIMENSIONS REQUIRED TO CONTROL THE CONSTRUCTION OF THE WEIR WALL STRUCTURE SPECIFIC INFORMATION REGARDING THE DESIGN OF THE SPILLWAY SHALL BE PROVIDED BY A LICENSED STRUCTURAL ENGINEER.

### DAM CONSTRUCTION NOTES

1. STAKE OUT THE ENTIRE AREA TO BE COVERED BY THE DAM AND RELATED STRUCTURES.

2. REMOVE ALL TOPSOIL, ORGANIC MATTER AND STONES FROM THE AREA. INSTALL A COFFER DAM OR SOME OTHER APPROPRIATE STRUCTURE TO DIVERT RUNOFF AWAY FROM THE WORK AREA DURING CONSTRUCTION.

3. EXCAVATE THE CORE TRENCH UNDER THE ENTIRE LENGTH OF THE DAM. DEPTH TO BE DETERMINED BY A QUALIFIED SOIL SPECIALIST OR GEOTECHNICAL ENGINEER DURING EXCAVATION. MINIMUM ACCEPTABLE BOTTOM WIDTH IS 6 FEET. DEPTH OF CUTOFF SHOULD BE 5 FEET BELOW THE UPSTREAM TOE OF THE EMBANKMENT ELEVATION OR TO COHESIVE SOIL, WHICHEVER IS SHALLOWER. SIDE SLOPES SHOULD BE NO STEEPER THAN 1H:1V.

4. FILL IN THE CORE TRENCH. ALL FILL SHALL BE PLACED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER. THE ENGINEER WILL MAINTAIN A RECORD OF TYPES OF MATERIAL USED AND DEGREE OF COMPACTION ACHIEVED.

5. INSTALL THE CONCRETE WEIR WALL.

FILL ADJACENT TO THE WEIR AND THE FILL OVER THE WEIR WALL ARE TO BE COMPACTED BY MANUALLY OPERATED EQUIPMENT (NOT PULLED BY OR MOUNTED ON TRACK-TYPE OR WHEEL-TYPE EQUIPMENT). TAMPERS MOUNTED ON BACKHOES ARE NOT ACCEPTABLE. AFTER THE DEPTH OF FILL OVER THE WALL HAS REACHED A DEPTH OF AT LEAST 2 FEET, LARGE EQUIPMENT, BUT NOT VIBRATORY ROLLERS, MAY BE USED. VIBRATORY ROLLERS MAY BE USED AFTER THE DEPTH OF FILL OVER THE PIPE EXCEEDS 3 FEET.

6. PLACE FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER

7. SIDESLOPES SHALL BE AS FLAT AS THOSE SHOWN ON THE APPROVED PLANS.

8. A SETTLING ALLOWANCE OF AT LEAST 5% IS REQUIRED. IF DEGREE OF COMPACTION IS LESS THAN 95% BUT MORE THAN 90%, A SETTLING ALLOWANCE OF 10% IS REQUIRED.

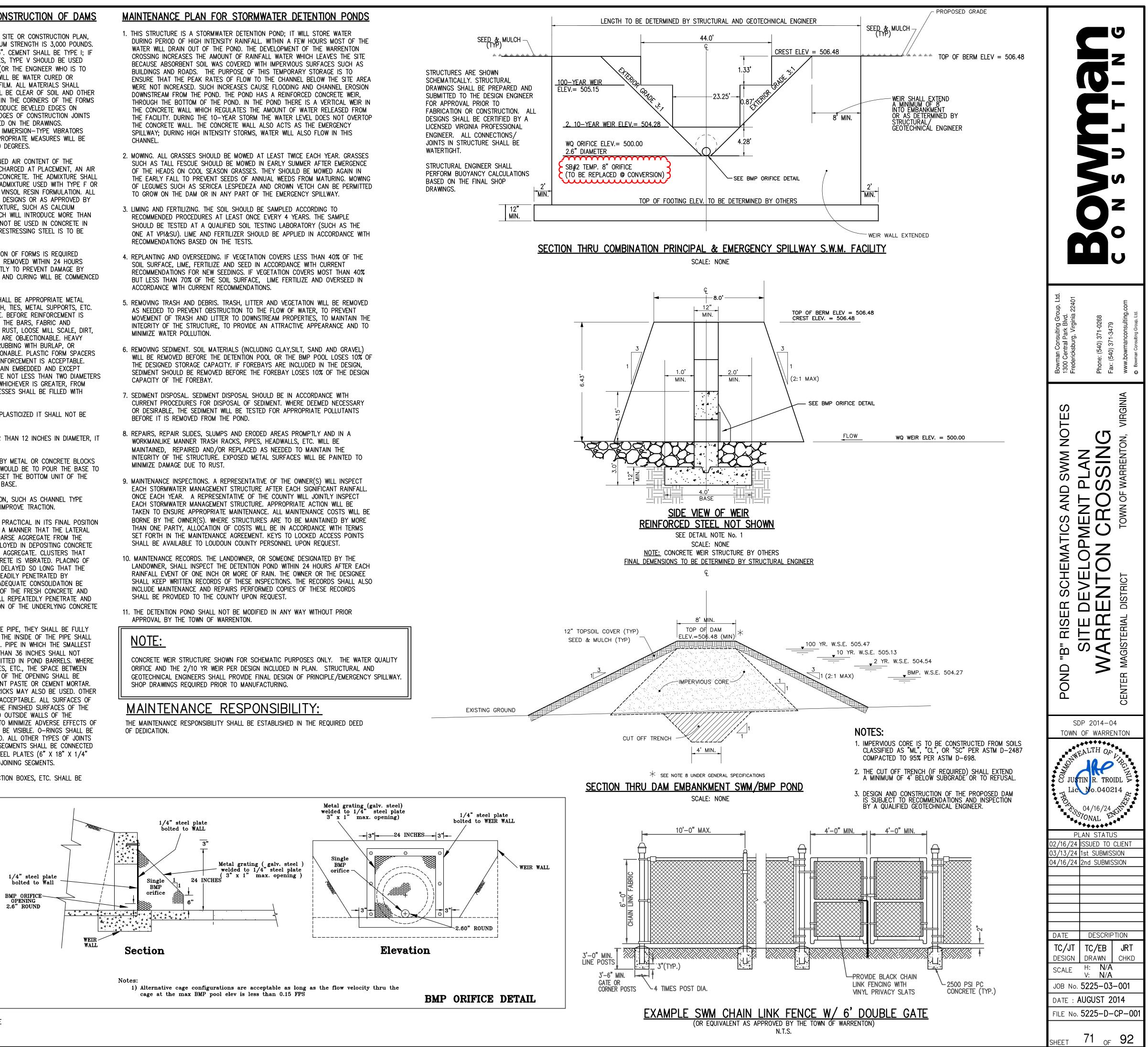
9. DURING THE BACKFILLING OPERATION, EQUIPMENT SHOULD NOT BE DRIVEN CLOSER THAN 4 FEET, AS MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE ALSO, EQUIPMENT SHOULD NEVER BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE, UNLESS COMPACTED FILL HAS BEEN PLACED TO A DEPTH SPECIFIED BY THE STRUCTURAL LIVE LOAD CAPACITY OF THE STRUCTURE OR PIPE IN ORDER TO ADEQUATELY DISTRIBUTE THE LOAD.

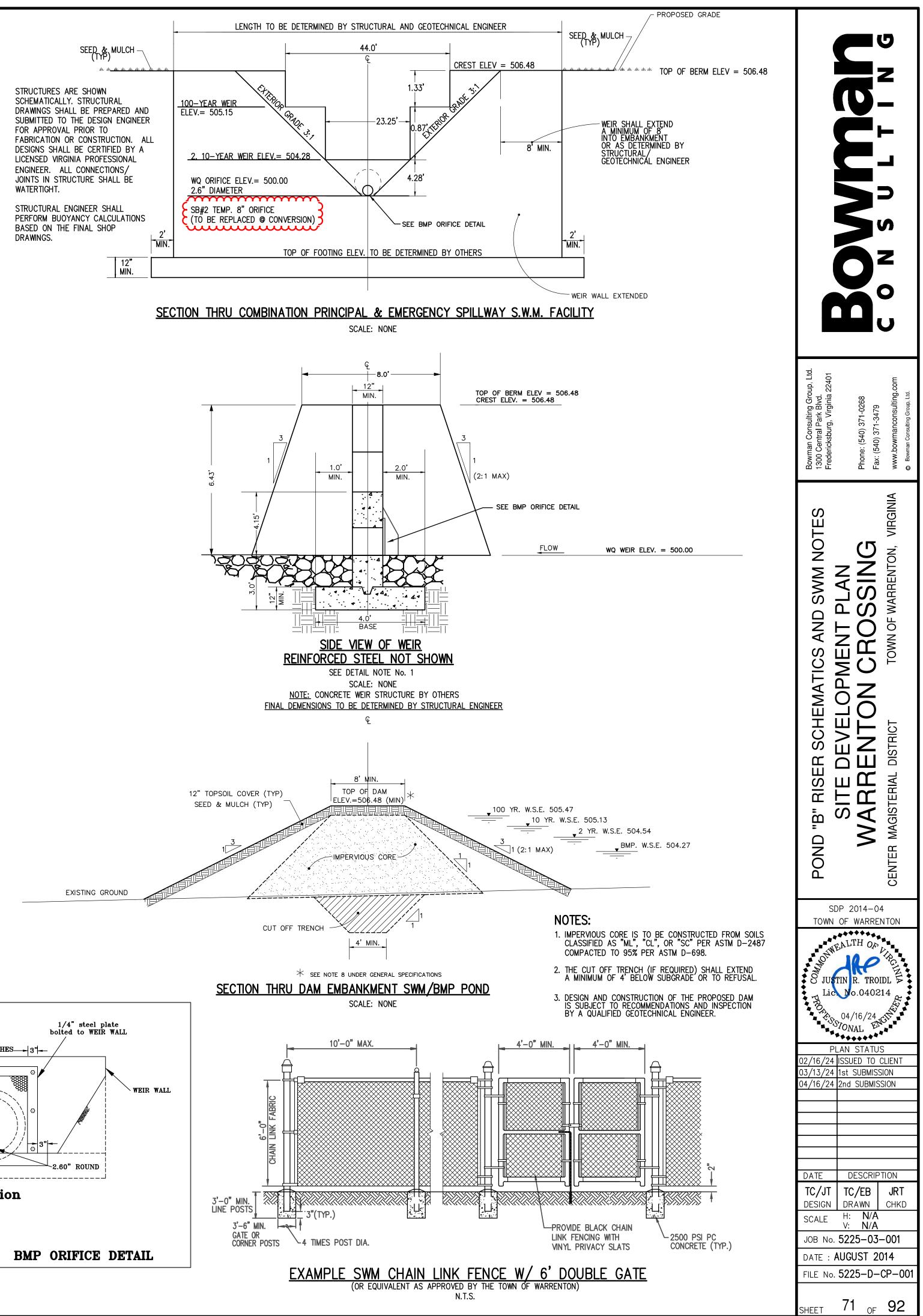
### DETENTION POND OUTLET STRUCTURE

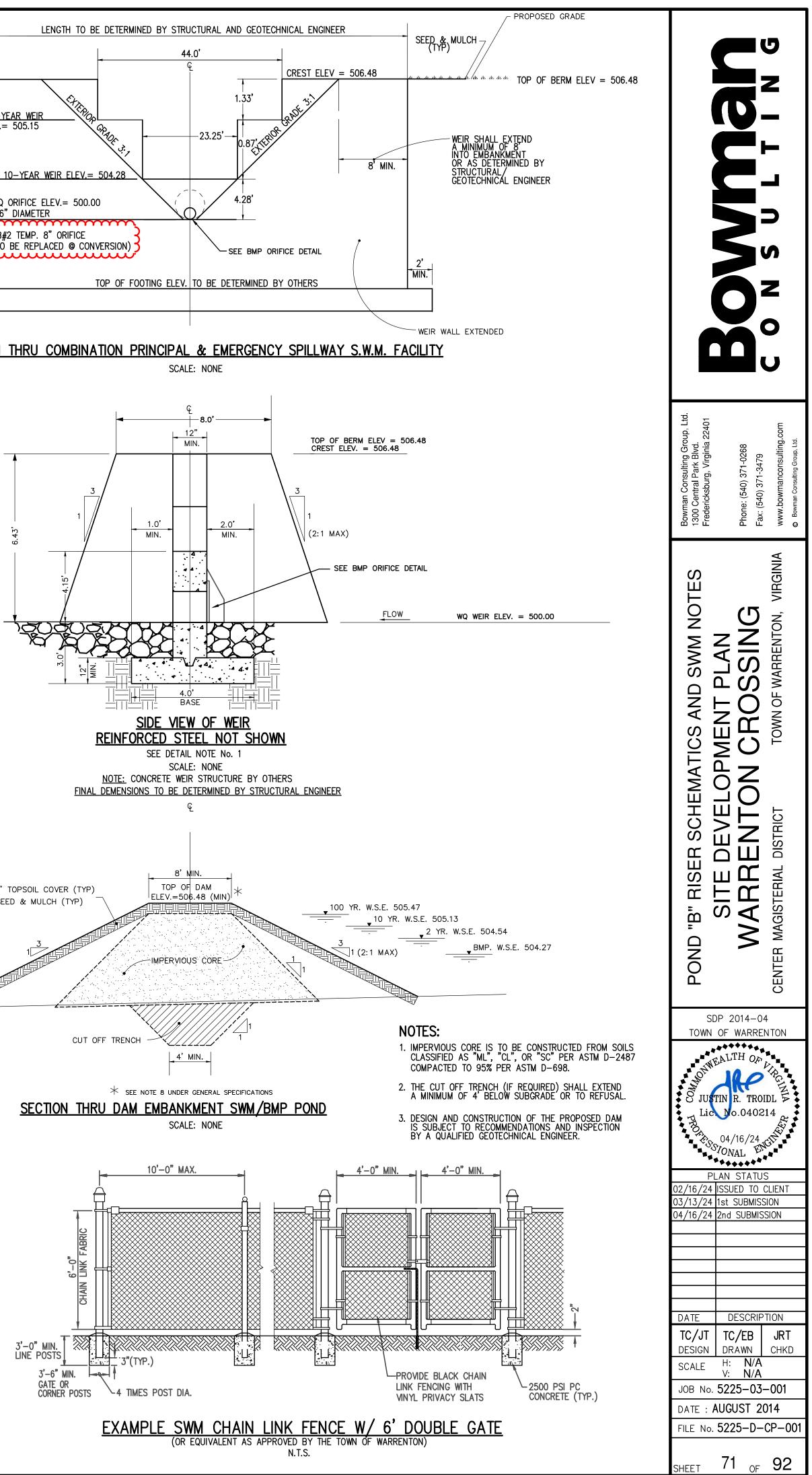
- BMP ORIFICE ELEV. =500.00 CREST OF 2/10 YR. WEIR ELEV. =504.15 / CREST OF 100 YR WEIR ELEV = 505.10 CREST ELEV. (TOP OF WALL ELEV.) = 506.43
- LENGTH OF 2/10 YR. WEIR 20.40 FT
- LENGTH OF 100 YR. WEIR 44.0 FT
- ALL OTHER WALL, SPILLWAY AND FOOTING DIMENSIONS AND/OR THICKNESS, AS WELL AS, REINFORCEMENT, BUOYANCY CALCULATIONS AND THE METHOD OF JOINING THE VARIOUS STRUCTURAL ELEMENTS ARE SUBJECT TO DESIGN BY A PROFESSIONAL STRUCTURAL ENGINEER.
- CONSTRUCTION AND CONTRACTION JOINTS ARE TO BE PROVIDED AS REQUIRED BY THE LATEST EDITION OF THE ACI CODE
- SUBGRADE PREPARATION AND BEDDING REQUIREMENTS FOR ALL STRUCTURAL ELEMENTS ARE SUBJECT TO DESIGN BY A
- PROFESSIONAL GEOTECHNICAL ENGINEER. PRECAST CONCRETE IS TO ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. CAST IN PLACE CONCRETE IS TO BE VDOT CLASS A3.
- REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A-615 (REINFORCING BARS).
- ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4"
- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN STRICT CONFORMANCE TO THE LATEST VDOT STANDARDS AND SPECIFICATIONS.
- SHOP DRAWINGS ARE TO BE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO FABRICATION.
- FOOTING DEPTHS SHOWN ARE SCHEMATIC ONLY. ALL FOOTINGS ARE TO EXTEND DOWN TO SUITABLE BEARING MATERIAL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

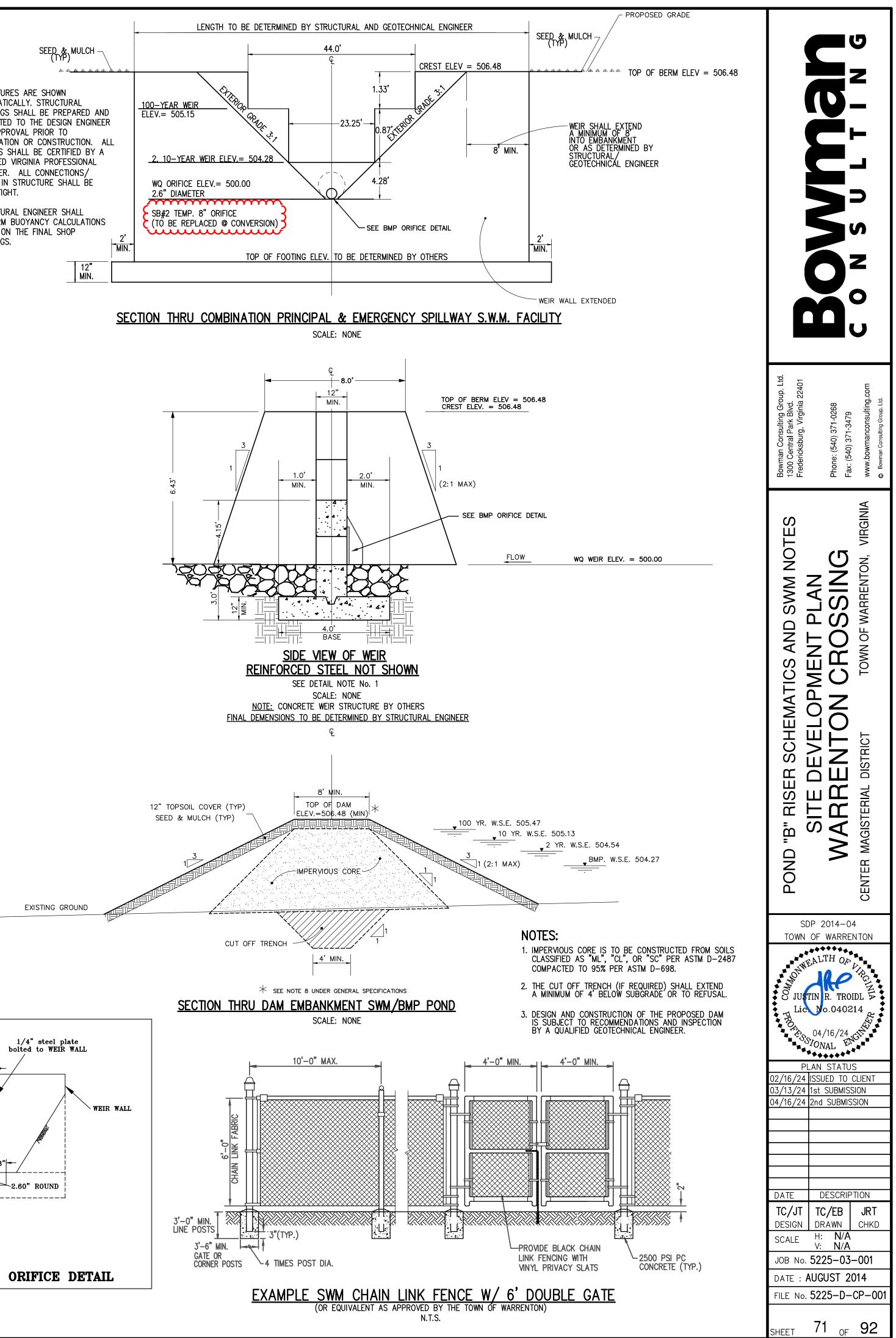
## NOTES FOR CONCRETE USED IN CONSTRUCTION OF DAMS

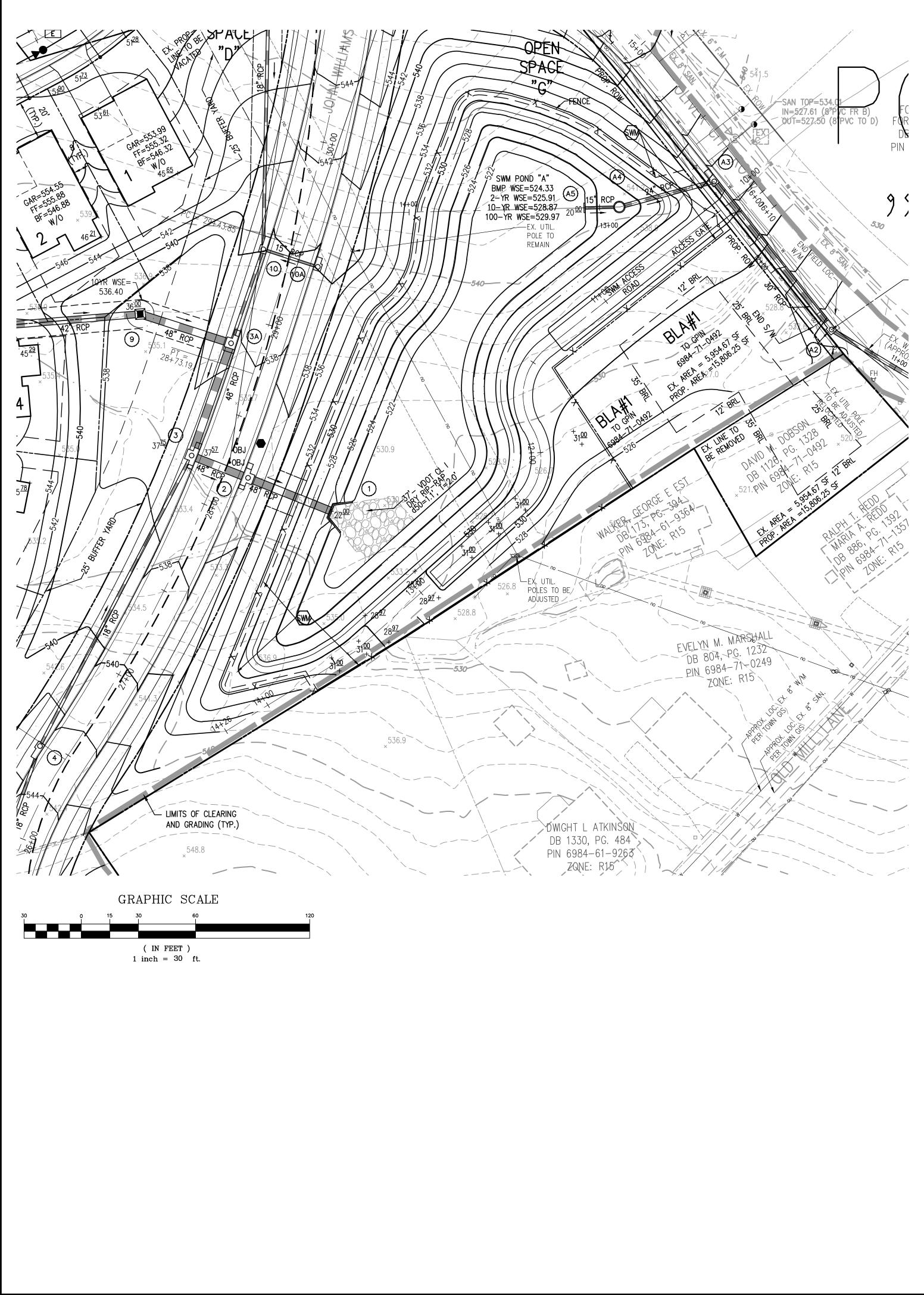
- 1. UNLESS OTHERWISE SPECIFIED IN THE APPROVED SITE OR CONSTRUCTION PLAN, THE FOLLOWING APPLY TO ALL CONCRETE. MINIMUM STRENGTH IS 3,000 POUNDS. MINIMUM SLUMP IS 1" AND MAXIMUM SLUMP IS 3". CEMENT SHALL BE TYPE I; IF SOIL IS FOUND TO BE HIGH IN SOLUBLE SULFATES, TYPE V SHOULD BE USED AFTER CONSULTING WITH THE DESIGN ENGINEER (OR THE ENGINEER WHO IS TO CERTIFY THE STRUCTURE). EXPOSED CONCRETE WILL BE WATER CURED OR COVERED WITH CLEAR OR WHITE POLYETHYLENE FILM. ALL MATERIALS SHALL CONFORM TO APPROPRIATE ASTMS. FORMS SHALL BE CLEAR OF SOIL AND OTHER MATERIALS. CHAMFER STRIPS SHALL BE PLACED IN THE CORNERS OF THE FORMS AND AT THE TOPS OF WALL PLACEMENTS TO PRODUCE BEVELED EDGES ON PERMANENTLY EXPOSED CONCRETE SURFACES. EDGES OF CONSTRUCTION JOINTS SHALL NOT BE BEVELED EXCEPT WHERE INDICATED ON THE DRAWINGS. CONSOLIDATION OF ALL CONCRETE SHALL BE BY IMMERSION-TYPE VIBRATORS OPERATED IN A NEARLY VERTICAL POSITION. APPROPRIATE MEASURES WILL BE TAKEN WHEN TEMPERATURES ARE LESS THAN 50 DEGREES.
- 2. UNLESS IT HAS BEEN SHOWN THAT THE ENTRAINED AIR CONTENT OF THE CONCRETE IS AT LEAST 4%, BY VOLUME, AS DISCHARGED AT PLACEMENT, AN AIR ENTRAINING ADMIXTURE SHALL BE USED IN THE CONCRETE. THE ADMIXTURE SHALL CONFORM TO ASTM C 260; ANY AIRENTRAINING ADMIXTURE USED WITH TYPE F OR G CHEMICAL ADMIXTURE SHALL BE NEUTRALIZED VINSOL RESIN FORMULATION. ALL ADMIXTURES WILL BE USED AS SPECIFIED IN THE DESIGNS OR AS APPROVED BY THE DESIGN OR CERTIFYING ENGINEER. ANY ADMIXTURE, SUCH AS CALCIUM CHLORIDE, OR COMBINATION OF ADMIXTURES WHICH WILL INTRODUCE MORE THAN 0.1% CHLORIDE (TO CEMENT, BY WEIGHT) SHALL NOT BE USED IN CONCRETE IN WHICH ALUMINUM GALVANIZED METALWORK OR PRESTRESSING STEEL IS TO BE EMBEDDED.
- 3. NOTE REBAR SCHEDULE IN DRAWINGS. LUBRICATION OF FORMS IS REQUIRED UNLESS OTHERWISE SPECIFIED.. FORMS SHALL BE REMOVED WITHIN 24 HOURS AFTER THE CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT DAMAGE BY CAREFUL FORM REMOVAL AND SPECIFIED REPAIR AND CURING WILL BE COMMENCED IMMEDIATELY THEREAFTER.
- 4. ALL MATERIALS TO BE WITHIN THE CONCRETE SHALL BE APPROPRIATE METAL REBAR, ELECTRICALLY WELDED WIRE FABRIC, MESH, TIES, METAL SUPPORTS, ETC. INTERIOR WOODEN BRACES ARE NOT ACCEPTABLE. BEFORE REINFORCEMENT IS EMBEDDED IN THE CONCRETE, THE SURFACES OF THE BARS, FABRIC AND SUPPORTS SHALL BE CLEANED OF HEAVY FLAKY RUST. LOOSE MILL SCALE, DIRT. GREASE OR OTHER FOREIGN SUBSTANCES WHICH ARE OBJECTIONABLE. HEAVY FLAKE RUST WHICH CAN BE REMOVED BY FIRM RUBBING WITH BURLAP. OR EQUIVALENT TREATMENT, IS CONSIDERED OBJECTIONABLE. PLASTIC FORM SPACERS ARE ACCEPTABLE. WHERE APPLICABLE, FIBER REINFORCEMENT IS ACCEPTABLE. EMBEDDED TIES FOR HOLDING FORMS SHALL REMAIN EMBEDDED AND EXCEPT WHERE F1 FINISH IS PERMITTED, SHALL TERMINATE NOT LESS THAN TWO DIAMETERS OR TWICE THE MINIMUM DIMENSION OF THE TIE, WHICHEVER IS GREATER, FROM THE FORMED SURFACES OF THE CONCRETE. RECESSES SHALL BE FILLED WITH APPROPRIATE MATERIAL.
- 5. ALL CONCRETE SHALL BE VIBRATED OR SUPER-PLASTICIZED IT SHALL NOT BE "WATERED DOWN" TO MAKE IT FLOW.
- 6. WHERE CONCRETE IS USED TO BED PIPE LARGER THAN 12 INCHES IN DIAMETER, IT SHALL BE VIBRATED OR SUPER-PLASTICIZED
- 7. POND RISERS SHALL BE PROPERLY SUPPORTED BY METAL OR CONCRETE BLOCKS PRIOR TO POURING THE BASE. AN ALTERNATIVE WOULD BE TO POUR THE BASE TO THE ELEVATION OF THE BOTTOM OF THE RISER, SET THE BOTTOM UNIT OF THE RISER IN PLACE AND THEN FINISH POURING THE BASE.
- 8. CONCRETE SURFACES LIKELY TO BE WALKED UPON, SUCH AS CHANNEL TYPE SPILLWAYS, SHALL HAVE A ROUGH SURFACE TO IMPROVE TRACTION.
- 9. CONCRETE SHALL BE DEPOSITED AS NEARLY AS PRACTICAL IN ITS FINAL POSITION AND SHALL NOT BE ALLOWED TO FLOW IN SUCH A MANNER THAT THE LATERAL MOVEMENT WILL CAUSE SEGREGATION OF THE COARSE AGGREGATE FROM THE CONCRETE MASS. METHODS AND EQUIPMENT EMPLOYED IN DEPOSITING CONCRETE IN FORMS SHALL MINIMIZE CLUSTERS OF COARSE AGGREGATE. CLUSTERS THAT OCCUR SHALL BE SCATTERED BEFORE THE CONCRETE IS VIBRATED. PLACING OI ADDITIONAL CONCRETE IN FORMS SHALL NOT BE DELAYED SO LONG THAT THE CONCRETE PLACED BEFORE THE DELAY IS NOT READILY PENETRATED BY VIBRATORS. IT IS ESPECIALLY IMPORTANT THAT ADEQUATE CONSOLIDATION BE ACHIEVED IN THE CONCRETE AT THE INTERFACE OF THE FRESH CONCRETE AND THE UNDERLYING CONCRETE. THE VIBRATOR SHALL REPEATEDLY PENETRATE AND THOROUGHLY RECONSOLIDATE THE UPPER PORTION OF THE UNDERLYING CONCRETE WHICH WAS PLACED BEFORE THE DELAY.
- 10. WHERE LIFT HOLES ARE PERMITTED IN CONCRETE PIPE, THEY SHALL BE FULLY GROUTED AND THE SURFACE OF THE GROUT ON THE INSIDE OF THE PIPE SHALL BE UNIFORM WITH THE INSIDE WALL OF THE PIPE. PIPE IN WHICH THE SMALLEST DIMENSION (DIAMETER IN ROUND PIPE) IS LESS THAN 36 INCHES SHALL NOT CONTAIN LIFT HOLES. LIFT HOLES ARE NOT PERMITTED IN POND BARRELS. WHERE PIPES ENTER RISERS, JUNCTION BOXES, MANHOLES, ETC., THE SPACE BETWEEN THE OUTSIDE WALL OF THE PIPE AND THE WALL OF THE OPENING SHALL BE FILLED WITH APPROPRIATE NON-SHRINKING CEMENT PASTE OR CEMENT MORTAR WHERE THE OPENINGS ARE LARGE, CONCRETE BRICKS MAY ALSO BE USED. OTHER TYPES (CLAY, CINDERBLOCK) OF BRICK ARE NOTACCEPTABLE. ALL SURFACES OF THE BRICKS MUST BE COVERED WITH CEMENT. THE FINISHED SURFACES OF THE CEMENT MUST BE UNIFORM WITH THE INSIDE AND OUTSIDE WALLS OF THE STRUCTURE. THE SURFACES SHALL BE SMOOTH TO MINIMIZE ADVERSE EFFECTS OF FREEZING AND THAWING AND BRICKS SHALL NOT BE VISIBLE. O-RINGS SHALL BE PROPERLY LUBRICATED AND PROPERLY INSTALLED. ALL OTHER TYPES OF JOINTS SHALL BE PROPERLY SEALED. CONCRETE RISER SEGMENTS SHALL BE CONNECTED BY BOLTING FOUR GALVANIZED OR STAINLESS STEEL PLATES (6" X 18" X 1/4" MIN.), UNIFORMLY SPACED, TO EACH PAIR OF ADJOINING SEGMENTS.
- 11. THE BOTTOMS OF ALL RISERS, MANHOLES, JUNCTION BOXES, ETC. SHALL BE SHAPED IN ACCORDANCE WITH VDOT'S IS-1.

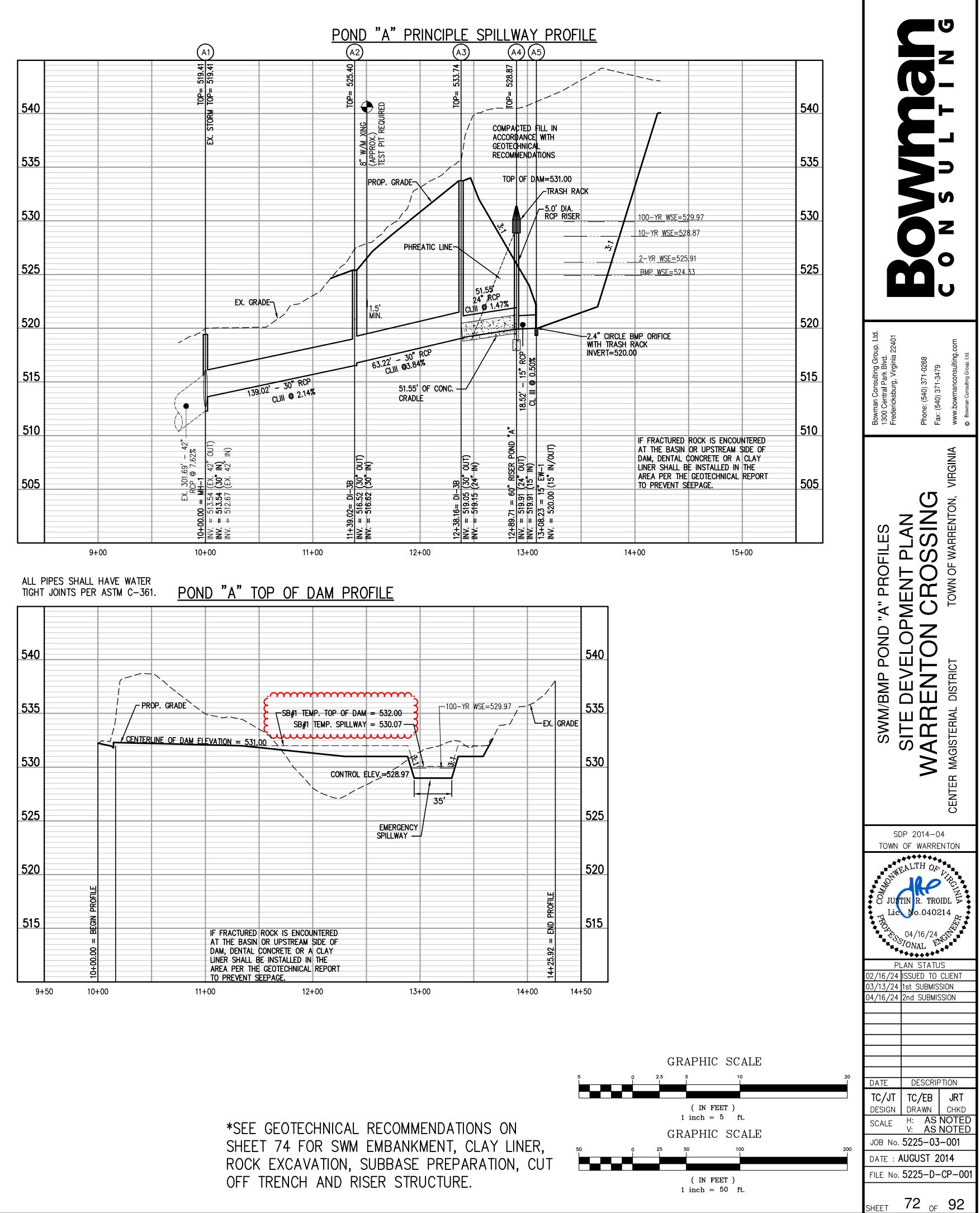


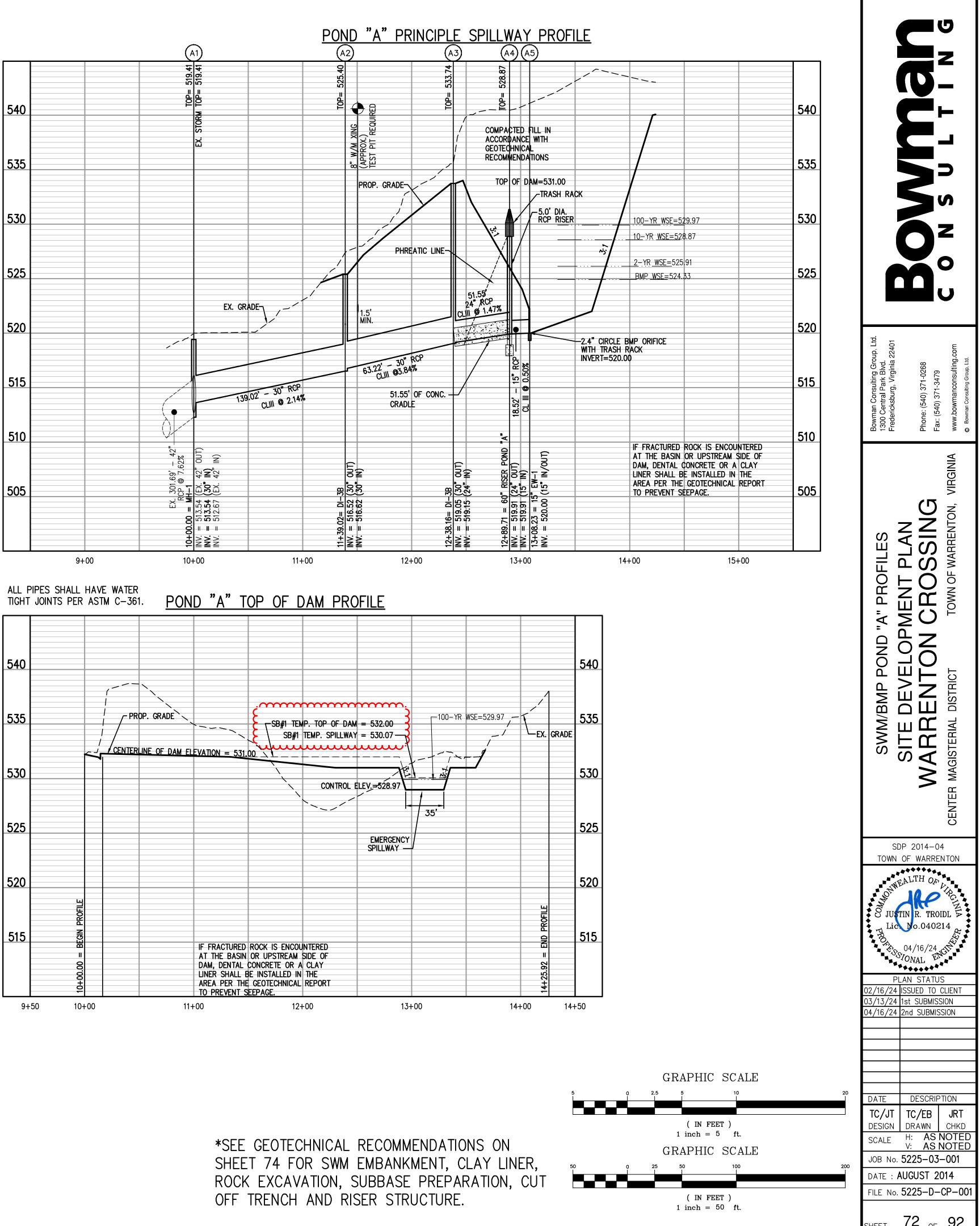


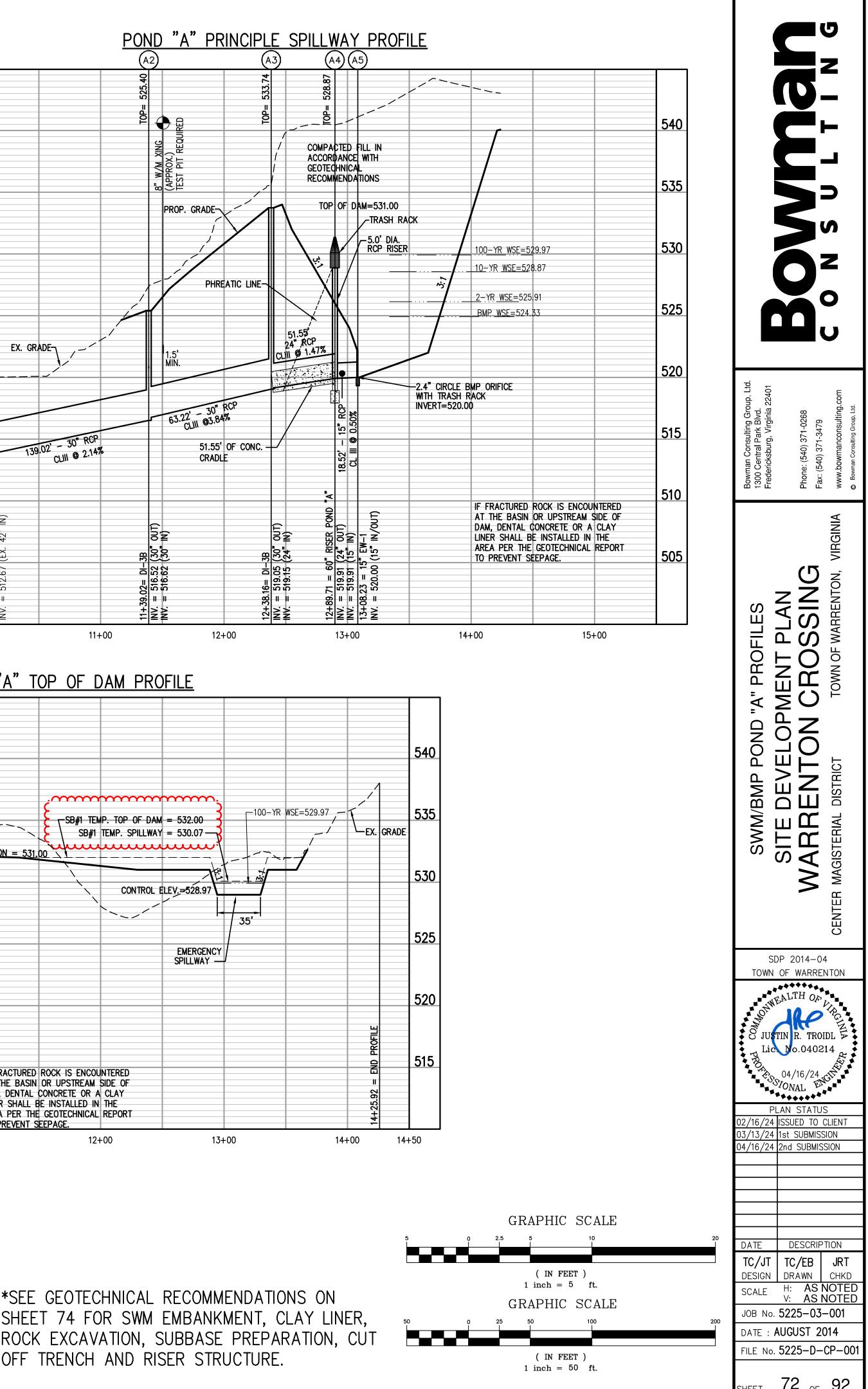














Doc ID: 009441960021 Type: DEE Recorded: 06/06/2024 at 02:46:44 PM Fee Amt: \$0.00 Page 1 of 21 Fauguier County, VA Gail H Barb Clerk of Circuit Court File# 2024-00003343

Prepared by and return to: David L. Lause, Esq., Tricord Companies, P.O. Box 42150, Fredericksburg, VA 22407

**STORMWATER MANAGEMENT FACILITY MAINTENANCE AGREEMENT** §58.1-811 (A)(3); 17.1-266 THIS AGREEMENT is made this <u>6</u> day of April, 2024, by and between the Town of Warrenton, Virginia (hereinafter "Town") and TI-Warrenton Crossing, LLC, a Virginia limited liability

company, (hereinafter "Owner").

#### WITNESSETH:

<sup>1</sup>WHEREAS, Owner is the owner of certain real property in the Town of Warrenton, Virginia, known as Tax Map Parcel Numbers <u>6984-61-1989-000</u>, 6984-61-0388-000, <u>6984-61-3713-000</u>, 6984-62-5032-000, <u>6984-61-5977-000</u>, 6984-61-6847-000, <u>6984-61-6433-000</u>, 6984-61-1248-000, <u>6984-60-7614-000</u>, 6984-70-0416-000, <u>6984-61-6912-000</u>, 6984-60-7123-000, <u>6984-60-3988-000</u>, 6984-60-5961-000, <u>6984-61-7028-000</u>, <u>6984-60-4644-000</u>, <u>6984-60-3323-000</u>, <u>6984-70-3768-000</u>, <u>6984-70-8904-500</u>, 6984-60-9854-000, <u>6984-71-5025-000</u>, <u>6984-71-0492-000</u>, and <u>6984-61-7761-000</u>, as recorded by deeds in the land records of the Clerk's Office of the Circuit Court for Fauquier County, Virginia in Deed Book 1767 at Pages 31-51 and in Deed Book 1767 at Pages 52-54, and being further described as set forth in the attached Exhibit A, and located as described in the attached Exhibit B (hereinafter "Property");

WHEREAS, the Town currently is the Virginia Stormwater Management Program (VSMP) Authority for the Town of Warrenton;

WHEREAS, the Property is being developed into a project known and designated as WARRENTON CROSSING as shown and described on the Site Development Plan Warrenton Crossing Town of Warrenton, Virginia, for the Property dated August 29, 2014, and revised through March 12, 2024, (hereinafter "Plan"), a copy of which is retained by the Town and incorporated herein by reference;

WHEREAS, the Plan includes one or more permanent stormwater management facilities (hereinafter "Facility") to control post development stormwater runoff from the Property; and

WHEREAS, to comply with § 62.1-44.15:28 of the Code of Virginia and the attendant Town regulations pertaining to this project, the Owner agrees to maintain the Facility in accordance with the Maintenance Plan dated August 29, 2014, and revised through February 12, 2019, (hereinafter "Maintenance Plan"), a copy of which is attached hereto and made a part hereof as Exhibit C.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants contained herein, the receipt and sufficiency of which are hereby acknowledged, and in accordance with the following terms and conditions, the parties agree as follows:

1. The Town and its agents may enter the Property to perform periodic inspections to ensure the proper maintenance and functioning of the Facility. These inspections will be conducted at reasonable times. Whenever possible, the Town will notify the Owner prior to entering the Property. If the Town finds that repairs must be undertaken to return the Facility to the original design, as shown and described in the Plan, the Owner shall complete any such repairs within thirty (30) calendar days of the inspection, or a longer period only if approved by the Town in writing.

2. The Owner, at the Owner's sole expense, shall construct the Facility in accordance with the Plan and all attendant state and local regulations, and shall provide to the Town a construction record drawing for the Facility prior to termination of coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities, also known as the "Construction General Permit", or any other state or local permits, as applicable.

3. The Owner, at the Owner's sole expense, shall maintain and repair the Facility in perpetuity and in a manner which will enable the Facility to remain in compliance with the Virginia Stormwater Management Program Regulations and Town Codes (as amended), and the Facility's original standards, as shown and described in the Plan and Maintenance Plan. The Owner shall keep written maintenance and repair records and provide copies to the Town annually.

4. The Owner, at the Owner's sole expense, shall cause the Facility to be inspected annually in accordance with and to the Maintenance Plan. These inspections shall be conducted by a person who is licensed as a professional engineer, architect, landscape architect, or land surveyor pursuant to Article 1 (§ 54.1-400 *et seq.*) of Chapter 4 of Title 54.1 of the Code of Virginia; a person who works under the direction and oversight of a licensed professional engineer, architect, landscape architect, or land surveyor; or a person who holds an appropriate certificate of competence from the State Water Control Board. If the inspector finds during an inspection that repairs must be undertaken to return the Facility to the original design as shown and described on the Plan, the Owner shall complete any such repairs

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within thirty (30) calendar days of the inspection or a longer period as approved by the Town. The Owner shall keep written inspection records and provide copies to the Town annually.

5. The Owner shall provide a right of ingress and egress for the Town and its agents to perform the periodic inspections referenced herein above and to undertake or have undertaken maintenance and repair of the Facility, if such maintenance is deemed necessary by the Town and not adequately completed by the Owner. It is expressly understood and agreed that the Town is under no obligation to maintain or repair the Facility. The Owner shall reimburse the Town for all maintenance and repair costs within thirty (30) calendar days after receiving a demand for reimbursement. The Owner acknowledges that the Town may take any other enforcement actions as may be available at law. The Town shall have the right inspect the Facility at a minimum of once every five (5) years, and more frequently if such inspection are deemed warranted by the Town.

6. The Owner shall save, hold harmless, and indemnify the Town and its agents against all liability, claims, demands, costs and expenses arising from, or out of, the Owner's failure to comply with the terms and conditions set forth herein, or arising from acts of the Owner related to the construction, operation, maintenance or repair of the Facility.

7. This Agreement shall constitute a covenant running with the land and shall inure to the benefit of and shall be binding upon the parties hereto, their respective heirs, successors and assigns, including, without limitation, any subsequent VSMP Authority for the Town of Warrenton, and all subsequent owners of the Property, as well as any property owner's association or similar organization responsible for maintenance of the Facility. This obligation shall be made known to any perspective purchaser prior to closing. The Owner shall notify the Town in writing within 30 days of conveying any interest in the Property affecting the ownership or responsibility for maintenance of the Facility. The Owner(s) agrees in the event that the Property is sold, transferred, or leased to provide information to the new owner, operator, or lessee regarding proper inspection, maintenance and repair of the stormwater management practice(s). The information shall accompany the first deed transfer and include Exhibits B and C and this Agreement. The transfer of this information shall also be required with any subsequent sale, transfer or lease of the Property.

8. Upon execution of this Agreement, it shall be recorded promptly in the Clerk's Office of the Circuit Court of Fauquier County, Virginia, at the Owner's sole expense. A copy of the recorded agreement shall be provided to the Town within thirty (30) calendar days of recordation.

9. The terms of this Agreement shall not be amended, modified or terminated and no waiver of any provision hereof shall be effective unless set forth in a written instrument executed with the same formality as this Agreement.

10. This Agreement shall be governed by and construed in accordance to the laws of the Commonwealth of Virginia.

11. This Agreement is not complete without the attached Exhibits being incorporated herein as are listed below.

Exhibit A: Legal description of the real estate for which this Agreement applies ("Property"). Exhibit B: Location map(s) showing a location of the Property and an accurate location of each stormwater management practice affected by this Agreement.

Exhibit C: Long-term Maintenance Plan that prescribes those activities that must be carried out to maintain compliance with this Agreement.

[Signature Page to Follow]

IN WITNESS WHEREOF, the Owner and the Town of Warrenton have caused this Agreement to be signed in their names by their duly authorized representatives as of the date first set forth above.

#### **PROPERTY OWNER**

ATTEST:

TI-WARRENTON CROSSING, LLC, a Virginia limited liability company

By: Michael # Michael A. Jones, Manager

COMMONWEALTH OF VIRGINIA COUNTY OF SPOTSYLVANIA to wit:

util a fans

I, (untria Quan Toombe, a Notary Public in and for the jurisdiction aforesaid, do certify that the foregoing instrument was acknowledged before me this  $191^{h}$  day of April, 2024, by Michael A. Jones in his capacity as Manager for TI-Warrenton Crossing, LLC, the Owner.



1216 Donlo

NOTARY PUBLIC My commission expires: <u>Sept 30</u>, Joseph . My Notary Registration Number: <u>339210</u>

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#### **TOWN OF WARRENTON, VIRGINIA**

APPROVED AS TO FORM:

Michael Tolley Gwinn [PRINT NAME]

Town Attorney

Thatal Tally Durun

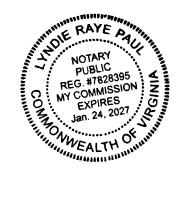
ATTEST:

EL Kerry Wharton Kuy Ce PRINT MAMEI

**Program Administrator** 

COMMONWEALTH OF VIRGINIA

COUNTY OF Fauqui er to wit: Under Pul, a Notary Public in and for the jurisdiction aforesaid, do certify that the foregoing instrument was acknowledged before me this  $\underbrace{\mathcal{U}}_{\mathcal{U}}^{\mathcal{M}}$  day of  $\underbrace{\mathcal{T}}_{\mathcal{U}}\mathcal{U}$ Kerry Wharton in [his/her] capacity as Program Administrato + Stom administrato 2024, by\_ The Town of Warrenton.



NOTARY PUBLIC My commission expires: 01-24-2027 My Notary Registration Number: 7828395

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#### **EXHIBIT A**

#### **Description of Property**

Tax Map Nos. 6984-61-1989-000, 6984-61-0388-000, 6984-61-3713-000, 6984-62-5032-000, 6984-61-5977-000, AND 6984-61-6847-000:

BEGINNING AT A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF OLIVER CITY ROAD, VARIABLE WIDTH RIGHT-OF-WAY, SAID POINT BEING ON THE NORTHERLY LINE OF THE LANDS OF BALL AS RECORDED IN DEED BOOK 1209 AT PAGE 353 AMONG THE LAND RECORDS OF FAUQUIER COUNTY, VIRGINIA; THENCE, DEPARTING SAID OLIVER CITY ROAD AND RUNNING WITH SAID BALL

S 75°59'22" W, 256.25 FEET TO A POINT; THENCE, CONTINUING WITH SAID BALL AND, WITH THE SAME LINE EXTENDED, WITH SAID OLIVER CITY ROAD AND WITH THE LANDS OF 374 OLIVER CITY LC AS RECORDED IN DEED BOOK 1545 AT PAGE 2095 AMONG SAID LAND RECORDS

S 37°49'34" E, 238.63 FEET TO A POINT ON THE NORTHERLY LINE OF THE LANDS OF HISTORIC FIELDS, L.L.C. (6984-61-6433) AS RECORDED IN DEED BOOK 1057 AT PAGE 314 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID 374 OLIVER CITY LC AND RUNNING WITH SAID HISTORIC FIELDS, L.L.C. (6984-61-6433) THE FOLLOWING COURSES AND DISTANCES:

S 73°18'25" W, 450.57 FEET TO A POINT; THENCE

S 08°31'50" E, 133.36 FEET TO A POINT BEING A NORTHEASTERLY CORNER OF THE LANDS OF HISTORIC FIELDS, L.L.C. (6984-61-1248) AS RECORDED IN DEED BOOK 1057 AT PAGE 314 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID HISTORIC FIELDS, L.L.C. (6984-61-6433) AND RUNNING WITH SAID HISTORIC FIELDS, L.L.C. (6984-61-1248) AND, WITH THE SAME LINE EXTENDED, WITH THE LANDS OF HOHMANN AND WAGSTAFF AS RECORDED IN DEED BOOK 1465 AT PAGE 1217 AMONG SAID LAND RECORDS

S 79°18'25" W, 347.65 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF YONGUE, II AND WHISENANT AS RECORDED IN DEED BOOK 1507 AT PAGE 1340 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID HOHMANN AND WAGSTAFF AND RUNNING WITH SAID YONGUE, II AND WHISENANT THE FOLLOWING COURSES AND DISTANCES:

N 10°30'21" W, 101.58 FEET TO A POINT; THENCE

S 79°29'39" W, 103.89 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF FALMOUTH STREET, VARIABLE WIDTH RIGHT-OF-WAY; THENCE, DEPARTING SAID YONGUE, II AND WHISENANT AND RUNNING WITH SAID FALMOUTH STREET

N 09°30'08" W, 28.93 FEET TO A POINT BEING A SOUTHWESTERLY CORNER OF THE LANDS OF WILLIAMS AS RECORDED IN DEED BOOK 1733 AT PAGE 765 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID FALMOUTH STREET AND RUNNING WITH SAID WILLIAMS

N 78°45'37" E, 300.34 FEET TO A POINT; THENCE, CONTINUING WITH SAID WILLIAMS AND, WITH THE SAME LINE EXTENDED, WITH THE LANDS OF WORTHINGTON AS RECORDED IN DEED BOOK 1575 AT PAGE 1506 AMONG SAID LAND RECORDS

N 09°24'48" W, 162.99 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF MITOFF AND SEMPLE (6984-51-9605) AS RECORDED IN DEED BOOK 713 AT PAGE 1091 AND DEED BOOK 1386 AT PAGE 1476 AMONG SAID LAND RECORDS ; THENCE, DEPARTING SAID WORTHINGTON AND RUNNING WITH SAID MITOFF AND SEMPLE AND, WITH THE SAME LINE EXTENDED, WITH THE LANDS OF MITOFF AND SEMPLE (6984-51-9703) AS RECORDED IN DEED BOOK 713 AT PAGE 1091 AND DEED BOOK 1386 AT PAGE 1476 AMONG SAID LAND RECORDS AND WITH THE LANDS OF WARRENTON ROCK PROPERTIES LLC AS RECORDED IN DEED BOOK 1715 AT PAGE 1536 AMONG SAID LAND RECORDS

N 10°35'23" W, 238.55 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF PEITLER AS RECORDED IN DEED BOOK 1616 AT PAGE 947 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID WARRENTON ROCK PROPERTIES LLC AND RUNNING WITH SAID PEITLER THE FOLLOWING COURSES AND DISTANCES:

N 08°45'11" W, 100.00 FEET TO A POINT; THENCE

S 78°12'25" W, 113.79 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF MAJOR AS RECORDED IN DEED BOOK 1152 AT PAGE 2231 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID PEITLER AND RUNNING WITH SAID MAJOR THE FOLLOWING COURSES AND DISTANCES:

N 13°53'49" W, 54.50 FEET TO A POINT; THENCE

S 76°13'36" W, 31.41 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF TUCKER AS RECORDED IN DEED BOOK 376 AT PAGE 443 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID MAJOR AND RUNNING WITH SAID TUCKER

N 15°09'19" W, 49.30 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF BALL AS RECORDED IN DEED BOOK 1693 AT PAGE 2217 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID TUCKER AND RUNNING WITH SAID BALL THE FOLLOWING COURSES AND DISTANCES:

N 76°39'44" E, 65.64 FEET TO A POINT; THENCE

N 09°37'05" W, 61.00 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF EAST LEE STREET, VARIABLE WIDTH RIGHT-OF-WAY; THENCE, DEPARTING SAID BALL AND RUNNING WITH SAID EAST LEE STREET

S 87°20'55" E, 697.44 FEET TO A POINT; THENCE, CONTINUING WITH A TRANSITION FROM SAID EAST LEE STREET INTO THE SOUTHWESTERLY RIGHT-OF WAY LINE OF SAID OLIVER CITY ROAD

S 66°29'57" E, 40.65 FEET TO A POINT; THENCE, CONTINUING WITH SAID OLIVER CITY ROAD

S 39°54'20" E, 102.99 FEET TO A POINT BEING A NORTHEASTERLY CORNER OF THE LANDS OF HISTORIC FIELDS, L.L.C. (6984-61-6912) AS RECORDED IN DEED BOOK 1057 AT PAGE 322 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID OLIVER CITY ROAD AND

RUNNING WITH SAID HISTORIC FIELDS, L.L.C. (6984-61-6912) THE FOLLOWING COURSES AND DISTANCES:

S 75°59'22" W, 252.81 FEET TO A POINT; THENCE

S 38°34'22" E, 63.15 FEET TO A POINT; THENCE

N 75°59'22" E, 254.44 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF WAY LINE OF SAID OLIVER CITY ROAD; THENCE, DEPARTING SAID HISTORIC FIELDS, L.L.C. (6984-61-6912) AND RUNNING WITH SAID OLIVER CITY ROAD

S 39°54'20" E, 70.88 FEET TO THE POINT OF BEGINNING,

CONTAINING 394,472 SQUARE FEET OR 9.05583 ACRES OF LAND, MORE OR LESS.

#### Tax Map Nos. 6984-61-6433-000 AND 6984-61-1248-000:

All that certain lot of land which was conveyed to the late Roberta Day Hodgkin, under the name of Bertie D. Hodgkin, by deed of J.O. Hodgkin, her husband, dated June 15, 1896, recorded in Deed Book 87 at Page 219, in the Clerk's Office of the Circuit Court of Fauquier County, Virginia, and consisting of a lot of land which was conveyed to the said J.O. Hodgkin by deed of W. F. Hodgkin and wife dated June 28, 1882, recorded in Deed Book 73 at Page 11, in said Clerk's Office, and of a lot of land which was conveyed to the said J. 0. Hodgkin by deed of W.F. Hodgkin and wife, dated July 1, 1889, recorded in Deed Book 80 at Page 238 in the Clerk's Office of the Circuit Court of Fauquier County, Virginia; and

All that certain lot of land which was conveyed to the late Roberta Day Hodgkin, under the name of Bertie D. Hodgkin, by deed of Louisa C. Hodgkin dated April 5, 1899, recorded in Deed Book 91 at Page 124, in the Clerk's Office of the Circuit Court of Fauquier County, Virginia.

LESS AND EXCEPT from the two parcels above all that certain parcel of land containing 0.2296 acres, more or less, conveyed to Harry Franklin Hitt and Mary Ellen A. Hitt, by Deed dated December 23, 1988 and recorded in Deed Book 610 at Page 729, among the aforesaid county land records.

The residue of said parcels more particularly described as follows: Beginning at a point on the east side of Falmouth Street, corner to now or formerly Hudson, this being the northwest corner of the residue described herein; thence with the line of now or formerly Hudson and then Rider N 89 deg. 20' 20" E 451.87 feet to a point, being the northwest corner of the tract described above as Parcel Five; thence with the line of said Parcel Five S 01 deg. 42' 2" W 230.01 feet to a point in the line of now or formerly Pearson; thence with the line of now or formerly Pearson N 89 deg. 08' 57" W 258. 78 feet to a point in the line of now or formerly Huston; thence with the line of Huston N 00 deg. 59' 10" E 103.08 feet to a point, also in the line of now or formerly Huston; thence continuing with his line S 89 deg. 20' 17" E 191.58 feet to a point in the line of full as shown on plat attached to the Deed recorded in Deed Book 610 at Page 729; thence with the line of said Hitt N 00 deg. 46' 31" W 101.58 feet; and continuing with his line S 89 deg. 1' 29" E 96.03 feet to a point on the east side of Falmouth Street; thence with the said east side of Falmouth Street 30.03 feet to the point and place of beginning.

#### Tax Map No. 6984-60-7614-000:

All that certain lot or parcel of land situate, lying and being in Fauquier County, Virginia, being more particularly described as Lot No. 5, as shown on plat recorded in the Clerk's Office of the Circuit Court of Fauquier County, Virginia, in Deed Book 117 at Page 123, containing 3 acres, 2 roods, more or less.

#### Tax Map No. 6984-70-0416-000:

All that certain lot or parcel of land situate, lying and being in Fauquier County, Virginia, being more particularly described as Lot No. 6, as shown on plat recorded in the Clerk's Office of the Circuit Court of Fauquier County, Virginia, in Deed Book 117 at Page 123, containing 3 acres, 2 roods, 19 poles, more or less.

LESS AND EXCEPT that portion of original Lot 6 conveyed as part of a 2.8092 acres parcel, by Deed recorded in Deed Book 331 at Page 22, in the aforesaid Clerk's Office.

AND FURTHER LESS AND EXCEPT that portion of original Lot 6 now being within the bounds of Tax Map Parcels 6984-70-1108 and 6984-60-9026, being the property now or formerly of William H. Hanback.

#### Tax Map No. 6984-61-6912-000:

All that certain tract or parcel of land situate in Center Magisterial District, Fauquier County, Virginia, on Virginia Route 672, containing 0.3249 acres, more or less, according to plat of survey by James G. Butler, Jr., C.L.S., dated June 7, 1988, and recorded in the Clerk's Office of the Circuit Court of Fauquier County, Virginia, in Deed Book 601 at Page 166.

#### Tax Map No. 6984-60-7123 (known as 511 Old Meetze Road):

All that certain lot or parcel of land being described as 2.275 acres, more or less, as shown on plat and described by metes and bounds of Blackwell Eng. And Const. Co. attached to that certain Deed recorded in Deed Book 148, Page 4, in the Clerk's Office of the Circuit Court of Fauquier County, Virginia.

LESS AND EXCEPT that portion of subject property conveyed to the Commonwealth of Virginia by Deed recorded in Deed Book 172, at Page 389, in the aforesaid Clerk's Office.

#### Tax Map Nos. 6984-60-3988-000 AND 6984-60-5961-000 (the latter known as 62 Old Mill Lane):

All that certain lot or parcel of land lying and being in the corporate limits of the Town of Warrenton in what is known as Oliver City, adjoining the property of Hanback, Corbin, Hodgkin, Rider and others and containing 3.183 acres, more or less, according to survey made by R. M. Bartenstein, certified surveyor, dated August 16, 1950, and recorded in Deed Book 172 at Page 551, in the Clerk's Office of the Circuit Court of Fauquier County, Virginia.

Metes and Bounds:

Beginning at a point in the westerly side of Oliver City Road, (variable width) and being the northeasterly corner of a parcel of land now or formerly in the name of John Battaglia as recorded in Deed Book 859, at Page 1735, and being the southeasterly corner of a parcel of land now or formerly in the name of R L. Rider & Company as recorded in Deed Book 667, at Page 24B; thence with the northerly outline of the said John Battaglia parcel and with the northerly outline of the following two (2) parcels of land;

1) now or formerly George E. Walker, as recorded in Deed Book 173, at Page 394;

2) now or formerly Edward Lee Smith, as recorded in Deed Book 229, at Page 577;

S 57° 33' 35" W, 492.40 feet to a rebar found at a fence corner, being the northeast corner to a parcel of land now or formerly in the name of R. L. Rider & Company, as recorded in Deed Book 596, at Page 843; thence

with the northerly outline of the said R. L. Rider & Company parcel; S 74° 01' 28" W, 141.05 feet to an iron pipe set, being the TRUE POINT OF BEGINNING; thence

with the westerly outline of the said R. L. Rider & Company parcel, S 34° 35' 41" E, 322.05 feet to a point in the Old Mill Lane, being in the northerly line of a parcel of land now or formerly in the name of R. L. Rider, & Co., as recorded in Deed Book 650, at Page 967; thence

with the northerly outline of the said R. L. Rider, & Co. parcel and with the northerly outline of a parcel of land now or formerly in the name of William R. Hogan, as recorded in Deed Book 888, at Page 1188, S 42° 38' 47" W, 336.48 feet to an iron pipe set, being the southeasterly corner of a parcel of land now or formerly in the name of R. L. Rider & Co., as recorded in Deed Book 324, at Page 626; thence

with the easterly outline of the said R. L. Rider & Co. parcel the following two (2) courses and distances;

1) N 35° 22' 41" W, 178.45 feet to an iron pipe set; and thence

2) S 49° 37' 19" W, 83.94 feet to an iron pipe set, being the southeasterly corner of a parcel of land now or formerly in the name of William H. & Clara W. Lewis, as recorded in Deed Book 226, at Page 281; thence

with the easterly outline of the said William H. & Clara W. Lewis parcel and with the easterly outline of five (5) parcels of land now or formerly in the name of Walter Trow Payne, as recorded in Deed Book 143, at Page 130; N 08° 54' 03" W, 349.42 feet to a point being the southeasterly corner of a parcel of land now or formerly in the name of Lisa Dudley Welch, as recorded in Deed Book 766, at Page 445 and being the southwesterly corner of a parcel of land now or formerly in the name of Lisa Dudley Welch, as recorded in Deed Book 766, at Page 445 and being the southwesterly corner of a parcel of land now or formerly in the name of R.L. Rider & Company, as recorded in Deed Book 667, at Page 248; thence

with the southerly outline of the said R. L. Rider & Company parcel N 74° 01' 28" E, 277.13 feet to the TRUE POINT OF BEGINNING, containing 3.1762 acres of land, more or less.

#### Tax Map No. 6984-61-7028:

All that certain parcel of land situate, lying and being in Fauquier County, Virginia, in the line of John Fairfax at the yard, and running in a straight line to a lane between D.J.O. Hodgkin and W. E. Bishop, two hundred and thirty-seven feet (237 ft), thence running with said lane one hundred and thirty-five feet (135 ft), thence running three hundred and twelve feet (312 ft) to the line of John Fairfax, thence with the line of John Fairfax one hundred and thirty-five feet (135 ft) to the point of beginning.

Metes and Bounds:

Beginning at a point in the westerly side of Oliver City Road, (variable width) and being the northeasterly corner of a parcel of land now or formerly in the name of John Battaglia as recorded in Deed Book 859, at Page 1735, and being the southeasterly corner of a parcel of land now or formerly in the name of R. L. Rider & Company as recorded in Deed Book 667, at Page 248; thence with the northerly outline of the said John Battaglia parcel and with the northerly outline of the following two (2) parcels of land;

1) now or formerly George E. Walker, as recorded in Deed Book 173, at Page 394;

2) now or formerly Edward Lee Smith, as recorded in Deed Book 229, at Page 577;

S 57° 33' 35" W, 492.40 feet to a rebar found at a fence corner, being the TRUE POINT OF BEGINNING; thence

with the westerly outline of the said Edward Lee Smith parcel, S 34° 09' 20" E, 247.19 feet, passing through an iron pipe set on line at 232.19 feet, (being a 15.00 foot offset to the corner), to a point being in Old Mill Lane and being in the northerly line of a parcel of land now or formerly in the name of Steve Ward Carter, as recorded in Deed Book 389, at Page 647; thence

with the northerly outline of the said Steve Ward Carter parcel and with the northerly outline of a parcel of land now or formerly in the name of R. L. Rider, & Co., as recorded in Deed Book 650, at Page 967, S 42° 38' 47" W, 135.11 feet to a point in Old Mill Lane and being the southeasterly corner of a parcel of land in the name of R. L. Rider & Co., as recorded in Deed Book 324, at Page 626; thence

with the easterly outline of the said R. L. Rider & Co. parcel, N 34° 35' 41" W, 322.05 feet to an iron pipe set, being the northeasterly corner to the said R. L. Rider & Co. parcel and in the southerly line of a parcel of land now or formerly in the name of R. L. Rider & Company, as recorded in Deed Book 667, at Page 248; thence

with the southerly outline of the said R. L Rider & Company, N 74° 01' 28" E, 141.05 feet to the TRUE POINT OF BEGINNING and containing 0.8673 acres of land, more or less.

#### Tax Map No. 6984-60-4644-000:

Tract A: All that certain lot or parcel of land lying and being situated in Center District, Fauquier County, Virginia, in the Town of Warrenton, adjoining Bishop and others and containing 2 roods and 14.78 poles, it being shown and described on plat of survey thereof recorded in Deed Book 121 at Page 108, in the Clerk's Office of the Circuit Court of Fauquier County, Virginia.

Tract B: All right, title or interest in and to a right of way described as appurtenant to this property and which is more fully and accurately described in Deed from White to Chichester, recorded in the aforesaid Clerk's Office in Deed Book 123 at page 4, and from Bishope to White, recorded in the aforesaid Clerk's Office in Deed Book 121 at Page 108.

Metes and Bounds:

Beginning at a point in the westerly side of Oliver City Road, (variable width) and being the northeasterly corner of a parcel of land now or formerly in the name of John Battaglia as recorded in Deed Book 859, at Page 1735, and being the southeasterly corner of a parcel of land now or formerly in the name of R. L.

Rider & Company as recorded in Deed Book 667, at Page 248; thence with the northerly outline of the said John Battaglia parcel and with the northerly outline of the following two (2) parcels of land;

1) now or formerly George E. Walker, as recorded in Deed Book 173, at Page 394;

2) now or formerly Edward Lee Smith, as recorded in Deed Book 229, at Page 577;

S 57° 33' 35" W, 492.40 feet to a rebar found at a fence corner, being Ihe northeast corner to a parcel of land now or formerly in the name of R. L. Rider & Company, as recorded in Deed Book 596, at Page 843; thence

with the northerly outline of the said R L. Rider & Company parcel and the northerly outline of a parcel of land now or formerly in the name of R. L. Rider & Co., as recorded in Deed Book 324, at Page 626, S 74° 01' 28" W, 418.18 feet to a point, being the southeasterly corner of a parcel of land now or formerly in the name of Lisa Dudley Welch, as recorded in Deed Book 766, at Page 445, thence

with the easterly outline of five (5) parcels of land now or formerly in the name of Walter Trow Payne, as recorded in Deed Book 143, at Page 130 and the easterly outline of a parcel of land in the name of William H. & Clara W. Lewis, as recorded in Deed Book 226, at Page 281, S 08° 54' 03" E, 349.42 feet to an iron pipe set being the TRUE POINT OF BEGINNING; thence

with the southerly outline of the said R. L. Rider & Co. parcel the following two (2) courses and distances;

1) N 49° 37' 19" E, 83.94 feet to an iron pipe set; and thence

2) S 35° 22' 41" E, 178.45 feet to an iron pipe set being in the northerly line of a parcel of land now or formerly in the name of William R. Hogan, as recorded in Deed Book 888, at Page 1188; thence

with the northerly outline of the said William R. Hogan parcel and with the northerly outline of a parcel of land now or Connerly in the name of George W. Joynes, Trustee of the Henry W. Joynes Family Trust, as recorded in Deed Book S26, at Page 810, S 42° 38' 47" W, 193.01 feet to an iron pipe found, being the southeasterly corner of a parcel of land in the name of Emma A. Mudd, as recorded in Deed Book 599, at Page 1533; thence

with the easterly outline of the said Emma A. Mudd parcel and with the easterly outline of a parcel of land in the name 0f Harrington W. Harris & Charles E. Smith, as recorded in Deed Book 289, at Page 615, N 08° 54' 03" W, 235.93 feet to the TRUE POINT OF BEGINNING and containing 0.5806 acres of land, more or less.

#### Tax Map No. 6984-60-3323-000 (known as 455 Falmouth Street):

BEGINNING AT A POINT ON THE NORTHEASTERLY RIGHT-OF-WAY LINE OF FALMOUTH STREET, VARIABLE WIDTH RIGHT-OF-WAY, SAID POINT BEING A SOUTHWESTERLY CORNER OF THE LANDS OF LOTUS HOMES LLC AS RECORDED IN DEED BOOK 1753 AT PAGE 843 AMONG THE LAND RECORDS OF FAUQUIER COUNTY, VIRGINIA; THENCE, DEPARTING SAID FALMOUTH STREET AND RUNNING WITH SAID LOTUS HOMES LLC AND, WITH THE SAME LINE EXTENDED, WITH THE LANDS OF LOTUS HOMES LLC AS RECORDED IN DEED BOOK 1758 AT PAGE 97 AMONG SAID LAND RECORDS N 61°29'54" E, 374.95 FEET TO A POINT BEING A SOUTHWESTERLY CORNER OF THE LANDS OF DAVID M. DOBSON (6984-60-4644) AS RECORDED IN DEED BOOK 1138 AT PAGE 1623 AMONG SAID

LAND RECORDS; THENCE, DEPARTING SAID LOTUS HOMES LLC AND RUNNING WITH SAID DOBSON

N 42°38'18" E, 57.08 FEET TO A POINT BEING A SOUTHWESTERLY CORNER OF THE LANDS OF HISTORIC FIELDS, L.L.C. AS RECORDED IN DEED BOOK 1074 AT PAGE 13 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID DOBSON AND RUNNING WITH SAID HISTORIC FIELDS, L.L.C.

S 54°10'13" E, 187.12 FEET TO A POINT BEING A NORTHWESTERLY CORNER OF THE LANDS OF HOGAN AS RECORDED IN DEED BOOK 1678 AT PAGE 1596 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID HISTORIC FIELDS, L.L.C. AND RUNNING WITH SAID HOGAN

S 46°18'32" W, 550.15 FEET TO A POINT ON THE NORTHEASTERLY RIGHT-OF-WAY LINE OF SAID FALMOUTH STREET; THENCE, DEPARTING SAID HOGAN AND RUNNING WITH SAID FALMOUTH STREET THE FOLLOWING COURSES AND DISTANCES:

132.61 FEET ALONG THE ARC OF A CURVE DEFLECTING TO THE RIGHT WITH A RADIUS OF 379.54 FEET, A CENTRAL ANGLE OF 20°01'10", AND A CHORD BEARING AND DISTANCE OF N 29°13'03" W, 131.94 FEET TO A POINT; THENCE

N 20°35'43" W, 163.98 FEET TO THE POINT OF BEGINNING,

CONTAINING 112,226 SQUARE FEET OR 2.57635 ACRES OF LAND, MORE OR LESS.

#### Tax Map Nos. 6984-70-3768-000 AND 6984-70-8904-500:

BEGINNING AT A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF EASTERN BYPASS, ROUTE 17/15/29, VARIABLE WIDTH RIGHT-OF-WAY, SAID POINT BEING A NORTHEASTERLY CORNER OF OPEN SPACE, MONROE ESTATES, AS RECORDED IN DEED BOOK 982 AT PAGE 940 AMONG THE LAND RECORDS OF FAUQUIER COUNTY, VIRGINIA; THENCE, DEPARTING SAID EASTERN BYPASS AND RUNNING WITH SAID OPEN SPACE AND, WITH THE SAME LINE EXTENDED, WITH LOT 16, MONROE ESTATES, AS RECORDED IN DEED BOOK 982 AT PAGE 940 AMONG SAID LAND RECORDS

N 83°35'38" W, 116.32 FEET TO A POINT BEING THE NORTHEASTERLY CORNER OF LOT 15, MONROE ESTATES, AS RECORDED IN DEED BOOK 982 AT PAGE 940 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID LOT 16 AND RUNNING WITH SAID LOT 15 AND, WITH THE SAME LINE EXTENDED, WITH LOT 13 AND 14, MONROE ESTATES, AS RECORDED IN DEED BOOK 982 AT PAGE 940 AMONG SAID LAND RECORDS

N 81°27'34" W, 334.40 FEET TO A POINT BEING A NORTHEASTERLY CORNER OF THE LANDS OF WILLIAM DANIELS LLC AS RECORDED IN DEED BOOK 860 AT PAGE 501 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID LOT 13 AND RUNNING WITH SAID WILLIAM DANIELS LLC THE FOLLOWING COURSES AND DISTANCES:

N 81°31'16" W, 174.17 FEET TO A POINT; THENCE

N 81°27'51" W, 46.39 FEET TO A POINT; THENCE

N 64°30'50" W, 74.10 FEET TO A POINT BEING A NORTHEASTERLY CORNER OF THE LANDS OF HISTORIC FIELDS, L.L.C. AS RECORDED IN DEED BOOK 1074 AT PAGE 13 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID WILLIAM DANIELS LLC AND RUNNING WITH SAID OF HISTORIC FIELDS, L.L.C.

N 67°18'23" W, 276.82 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF DAVID M. DOBSON AS RECORDED IN DEED BOOK 1138 AT PAGE 1623 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID HISTORIC FIELDS, L.L.C. AND RUNNING WITH SAID DOBSON

N 31°37'35" E, 165.43 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF FAIRFAX AS RECORDED IN DEED BOOK 122 AT PAGE 421 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID DOBSON AND, WITH THE SAME LINE EXTENDED, WITH THE LANDS OF CARTER AS RECORDED IN DEED BOOK 389 AT PAGE 647 AMONG SAID LAND RECORDS AND THE LANDS OF BLACKWELL, ET ALS AS RECORDED IN WILL BOOK 270 AT PAGE 1309 AND WILL BOOK 274 AT PAGE 1212 AMONG SAID LAND RECORDS

N 42°41'54" E, 237.36 FEET TO A POINT BEING A SOUTHERLY CORNER OF THE LANDS OF JACKSON AS RECORDED IN DEED BOOK 1359 AT PAGE 862 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID BLACKWELL, ET ALS AND RUNNING WITH SAID JACKSON AND, WITH THE SAME LINE EXTENDED, WITH THE LANDS OF DOBSON AS RECORDED IN DEED BOOK 1149 AT PAGE 1808 AMONG SAID LAND RECORDS

S 68°18'19" E, 213.12 FEET TO A POINT; THENCE, CONTINUING WITH SAID DOBSON AND, WITH THE SAME LINE EXTENDED, WITH C. AND M. FOSTER LLC AS RECORDED IN DEED BOOK 1690 AT PAGE 501 AMONG SAID LAND RECORDS

N 11°28'44" E, 471.74 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF OLIVER CITY ROAD, VARIABLE WIDTH RIGHT-OF-WAY; THENCE, DEPARTING SAID C. AND M. FOSTER LLC AND RUNNING WITH SAID OLIVER CITY ROAD THE FOLLOWING COURSES AND DISTANCES:

N 88°48'55" E, 115.50 FEET TO A POINT; THENCE

S 53°08'15" E, 146.03 FEET TO A POINT; THENCE

N 75°56'52" E, 87.00 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF SAID EASTERN BYPASS, SAID POINT ALSO BEING THE NORTHERLY CORNER OF THE LANDS OF DOBSON AS RECORDED IN DEED BOOK 1539 AT PAGE 163 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID OLIVER CITY ROAD AND SAID EASTERN BYPASS AND RUNNING WITH SAID DOBSON THE FOLLOWING COURSES AND DISTANCES:

S 22°33'43" W, 245.73 FEET TO A POINT; THENCE

S 31°21'00" E, 34.64 FEET TO A POINT; THENCE

S 84°05'15" E, 134.53 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF SAID EASTERN BYPASS; THENCE, DEPARTING SAID DOBSON AND RUNNING WITH OF SAID EASTERN BYPASS THE FOLLOWING COURSES AND DISTANCES:

S 11°46'11" E, 30.58 FEET TO A POINT; THENCE

#### S 23°38'04" W, 80.22 FEET TO A POINT; THENCE

S 11°28'35" E, 398.93 FEET TO A POINT; THENCE

S 10°33'46" E, 105.67 FEET TO THE POINT OF BEGINNING,

CONTAINING 500,369 SQUARE FEET OR 11.48689 ACRES OF LAND, MORE OR LESS.

#### Tax Map No. 6984-60-9854-000:

All that lot or parcel of land lying and being situate outside the Town of Warrenton, beginning at a stone at the point of intersection of the lines of Joseph A. Jeffries and Mrs. R. T. Scott, running along Mrs. R. T. Scott's line in a southeasterly direction four hundred and twelve (412) feet; then in a northeasterly direction one hundred and sixty-five (165) feet; then in a northwesterly direction three hundred and eighty (380) feet, to the line of Joseph A. Jeffries; thence in a southwesterly direction with the line of said Joseph A. Jeffries, one hundred and sixty-five (165) feet to the starting point at the intersection of the lines of said Joseph A. Jeffries and Mrs. R. T. Scott.

#### Metes and Bounds:

Beginning at a point in the westerly side of Oliver City Road, (variable width) and being the northeasterly corner of a parcel of land now or formerly in the name of John Battaglia as recorded in Deed Book 859, at Page 1735, and being the southeasterly corner of a parcel of land now or formerly in the name of R. L. Rider & Company as recorded in Deed Book 667, at Page 248; thence

with the northerly outline of the said John Battaglia parcel and with the northerly outline of the following two (2) parcels of land;

1) now or formerly George E. Walker, as recorded in Deed Book 173, at Page 394;

2) now or formerly Edward Lee Smith, as recorded in Deed Book 229, at Page 577;

S 57° 33' 35" W, 492.40 feet to a rebar found at a fence corner, being the northeast corner to a parcel of land now or formerly in the name of R. L. Rider & Company, as recorded in Deed Book 596, at Page 843; thence

with the easterly outline of the said R. L. Rider & Company parcel, S 34 ° 09' 20" 'E, 247.19 feet to a point in Old Mill Lane and being in the northerly line of a parcel of land now or formerly in the name of Steve Ward Carter, as recorded in Deed Book 389, at Page 647; thence

with the northerly outline of the said Steve Ward Carter parcel, S 42° 38' 47" W, 68.05 feet to a point in Old Mill Lane, being the TRUE POINT OF BEGINNING; thence

departing Old Mill Lane and with the easterly outline of the said Steve Ward Carter parcel and a parcel of land now or formerly in the name of Oliver Fairfax, as recorded in Deed Book 122, at Page 421, S 69° 52' 12" E, 408.08 feet, (passing through an iron pipe set on line at 15.00 feet), to an iron pipe found, being in the westerly line of a parcel of land now or formerly in the name of Marjorie H. Addison, as recorded in Will Book 187. at Page 1921; thence

with the westerly outline of the said Marjorie H. Addison parcel, S 31 ° 39' 56" W, 165.53 feet to an iron pipe set, being in the northerly line of a parcel of land now or formerly in the name of William R. Hogan, as recorded in Deed Book 888, at Page 1188; thence

with the northerly outline of two (2) parcels of land being the aforesaid William R. Hogan, N 67° 19' 57" W, 434.66 feet, (passing through a rebar found on line at 431.12 feet, being a 3.55 foot offset from the corner), to a point in Old Mill Lane and being in the southerly outline of a parcel of land now or formerly in the name of R. L. Rider & Co., as recorded in Deed Book 324, at Page 626; thence

with the southerly outline of the said R. L. Rider & Co. and with the southerly outline of a parcel of land now or formerly in the name of R. L. Rider & Company, as recorded in Deed Book 596, at Page 843, N 42° 38' 47" W, 154.74 feet to the TRUE POINT OF BEGINNING and containing 1.4853 acres of land, more or less.

#### Tax Map No. 6984-71-5025-000:

All that certain tract or parcel of land lying and being in Fauquier County, Virginia, near Warrenton and containing 0.73 acres, more or less, according to a survey attached to a deed recorded July 3, 1942 in Deed Book 152 at Page 279, in the Clerk's Office of the Circuit Court of Fauquier County, Virginia.

#### Tax Map No. 6984-71-0492-000:

BEGINNING AT A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF OLIVER CITY ROAD, VARIABLE WIDTH RIGHT-OF-WAY, SAID POINT BEING A NORTHWESTERLY CORNER OF THE LANDS OF REDD AS RECORDED IN DEED BOOK 886 AT PAGE 1392 AMONG THE LAND RECORDS OF FAUQUIER COUNTY, VIRGINIA; THENCE, DEPARTING SAID OLIVER CITY ROAD AND RUNNING WITH SAID REDD

S 52°05'54" W, 105.00 FEET TO A POINT BEING A NORTHWESTERLY CORNER OF THE LANDS OF MARSHALL AS RECORDED IN DEED BOOK 804 AT PAGE 1232 AMONG SAID LAND RECORDS AND A SOUTHEASTERLY CORNER OF THE LANDS OF STINE AND DAY AS RECORDED IN DEED BOOK 1667 AT PAGE 2433 AMONG SAID LAND RECORD; THENCE, DEPARTING SAID REDD AND SAID MARSHALL AND RUNNING WITH SAID STINE AND DAY

N 29°52'01" W, 65.38 FEET TO A POINT BEING A SOUTHEASTERLY CORNER OF THE LANDS OF HISTORIC FIELDS, L.L.C. AS RECORDED IN DEED BOOK 1057 AT PAGE 314 AMONG SAID LAND RECORDS; THENCE, DEPARTING SAID STINE AND DAY AND RUNNING WITH SAID HISTORIC FIELDS, L.L.C.

N 57°41'35" E, 92.80 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF SAID OLIVER CITY ROAD; THENCE, DEPARTING SAID HISTORIC FIELDS, L.L.C. AND RUNNING WITH SAID OLIVER CITY ROAD

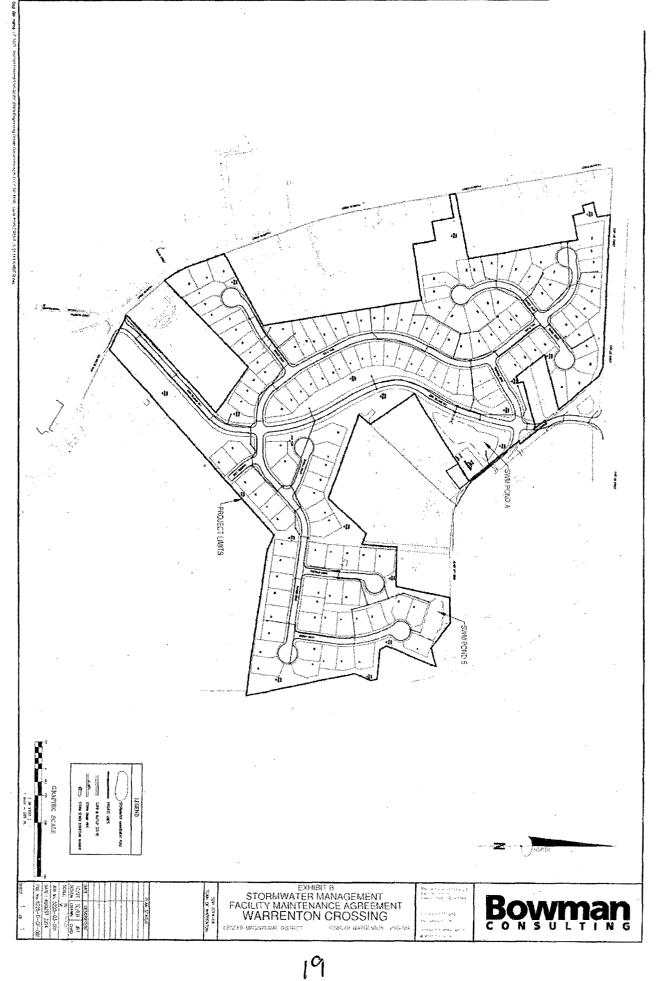
S 41°30'06" E, 55.80 FEET TO THE POINT OF BEGINNING,

CONTAINING 5,955 SQUARE FEET OR 0.13670 ACRES OF LAND, MORE OR LESS.

TOGETHER WITH AND SUBJECT TO right of way as set forth in Deed recorded in Deed Book 141 at Page 519, among the aforesaid land records.

## Tax Map No. 6984-61-7761-000 (known as 374 Oliver City Road):

All that certain lot or parcel of land situate, lying and being on edge of Warrenton, in Center District, in Fauquier County, Virginia, containing about one acre, and more particularly described by metes and bounds set out in Deed dated July 5, 1945, recorded in Deed Book 159, at Page 460, as follows: Being bounded by Mill road on the front and beginning at a point in middle of said road and corner to n/f Hodgkins line; thence with middle of said Road a distance of 149 feet to corner with n/f Anderson property; thence with n/f Anderson 270 feet to corner n/f Anderson and n/f Arrington; thence with n/f Arrington lands a distance of 145 feet (being back line of lot conveyed) to corner n/f Arrington and n/f Hodgkins; thence with n/f Hodgkins property line a distance of 270 feet to middle of said Mill Road and point of beginning; being bounded by said Mill Road, Anderson, Arrington an Hodgkins lands and situated as aforesaid. LESS AND EXCEPT that parcel of land containing 14,100 square feet, more or less, as described in document recorded in Deed Book 383 at Page 767, as confirmed in that Order recorded in Deed Book 397 at Page 226, in the aforesaid Clerk's Office.



Book: 1770 Page: 677 File No: 2024-00003343 Seq: 19

#### Exhibit C

#### Warrenton Crossing Stormwater Management Maintenance Plan

Pond "A" and Pond "B" are stormwater detention ponds; they will store water during periods of high intensity rainfall. Within a few hours most of the water will drain out of the ponds. The development of Warrenton Crossing increased the amount of rainfall water which leaves the site because absorbent soil was covered with impervious surfaces such as roads and buildings. The purpose of this temporary storage is to ensure that the peak rates of flow to the channel below the site area are not increased. Such increases could cause flooding and channel erosion downstream from the development. Pond "A" and Pond "B" were also designed to be Best Management Practices (BMP). In other words, they were designed to ensure that the amount of phosphorus and other pollutants flowing to the Chesapeake Bay were not increased by construction of Warrenton Crossing. This is accomplished by storing a certain volume of water in the permanent pool.

Pond "A" has a 24-inch reinforced concrete pipe (RCP), called a "barrel", and Pond "B" has a weir wall at the bottom of the pond. Pond "A" has a 60-inch vertical RCP called a "riser". Pond "B" has concrete weir wall as the control structure. In Pond "A" there is a 2.4-inch orifice at the bottom of the riser to regulate the BMP design storm. In Pond "B", there is a 2.6-inch orifice at the bottom of the weir wall to control the BMP design storm. Several feet above this orifice in each pond is a weir cut into the riser to regulate the 2-year and 10-year design storms. During the 10-year storm the water level does not overtop the concrete riser. Pond "A" has a separate vegetated emergency spillway that was designed to pass the 100-year storm event from the contributing drainage area. Pond "B" has a larger weir located above the 2- & 10-year weir to pass the 100-year storm event.

### Mowing

All grasses should be mowed at least twice each year. Grasses such as tall fescue should be mowed in early summer after emergence of the heads on cool season grasses. They should be mowed again in the early fall to prevent seeds of annual weeds from maturing. Mowing of legumes such as Sericea lespedeza and crown vetch can be less frequent. Trees and shrubs should not be permitted to grow in the dam or in any part of the emergency spillway.

## **Liming and Fertilizing**

The soil should be sampled according to recommended procedures at least once every 4 years. The sample should be tested at a qualified soil testing laboratory (such as the one at VPI & SU). Lime and fertilizer should be applied in accordance with recommendations based on the tests.

#### **Replanting and Over-seeding**

If vegetation covers less than 40% of the soil surface, lime, fertilize and seed in accordance with current recommendations for new seedings. If vegetation covers more than 40% but less than 70% of the soil surface, lime, fertilize and over-seed in accordance with current recommendations.

## **Removing Trash and Debris**

Trash, litter and vegetation will be removed as needed to prevent obstruction to the flow of water, to prevent movement of trash and litter to downstream properties, to maintain the integrity of the structure, to provide an attractive appearance and to minimize water pollution.

### **Removing Sediment**

Soil materials (including clay, silt, sand and gravel) will be removed from the forebay before 25% of the capacity of the forebay is lost. Sediment will be removed from the rest of the pond before 10% of the designed storage capacity is lost in order to ensure that the pond will adequately function as a BMP.

#### Sediment Disposal

Sediment disposal should be in accordance with current procedures for disposal of sediment. Where deemed necessary or desirable, the sediment will be tested for appropriate pollutants before it is removed from the pond.

#### **Repairs**

Repair slides, slumps and eroded areas promptly and in a workmanlike manner. Trash racks, pipes, headwalls, etc. will be maintained, repaired and/or replaced as needed to maintain the integrity of the structure. Exposed metal surfaces will be painted to minimize damage due to rust.

#### **Maintenance Inspections**

A representative of the owner(s) will inspect each stormwater management structure after each significant rainfall. Once each five (5) years a representative of the Town will jointly inspect each stormwater management structure with the Owner's representative to insure appropriate maintenance has occurred and that annual inspection reports provided by the Owner are accurate. Appropriate action will be taken to ensure appropriate maintenance. All maintenance costs will be borne by the owner(s). Where structures are to be maintained by more than one party, allocation of costs will be in accordance with terms set forth in the maintenance agreement. Keys to locked access points shall be available to Town of Warrenton personnel upon request.

#### **Maintenance records**

The landowner, or someone designated by the landowner, shall keep written records of all inspections, maintenance and repairs performed. Copies of these records shall be provided to the Town upon request.

The pond shall not be modified in any way without prior approval by the Town of Warrenton.

RECORDED IN CLERK'S OFFICE OF FAUQUIER ON JUNE 6, 2024 at 2:46:44 PM AS REQUIRED BY VA CODE §58.1-802 STATE: \$0.00 LOCAL: \$0.00 FAUQUIER COUNTY, VA GAIL H BARB CLERK OF CIRCUIT COURT

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Bail HBarb

Book: 1770 Page: 677 File No: 2024-00003343 Seq: 21

## **Stephen Clough**

| From:    | Frank Cassidy                        |
|----------|--------------------------------------|
| Sent:    | Thursday, September 26, 2024 1:57 PM |
| То:      | Carter Nevill                        |
| Cc:      | Department Heads                     |
| Subject: | Sep. 26 Rain Event Update            |

Good afternoon, Mayor (Council is bcc'd)

FYSA- Please accept this as an update from the rain event early this morning:

We received 4.8 inches of rain at the WWTP. The plant handled it well but is still recovering. This is a result of excessive rain in a short time, the influence of I&I, and the plant struggling to keep up with the inflow. This means the plant went up to processing 5.4 mgd with the rains and is bringing it back down to the average of 1.7 as time moves on.

The WTP received 4.8 inches of rain. The dam is overflowing. This is very good.

We had four houses on Shirley Ave. near the horse show grounds that experienced sewer back up in their basements because of excess rain. We are working with the property owners and VRSA on this issue. This is the same issue that happened with the last rain event in the area. The houses are lower than the street and this is a causing a flooding issue. We will continue to work through this as best we can and provide updates.

A house in Oliver City, on Oliver City Road experienced property flooding because of the new development in the area. Staff is working with the property owner, VRSA, and the contractor. Given the circumstances, this is an issue between the property owner and the contractor/developer at this point-the contractor cleaned out the resident's private storm pipes and is working with the property owners.

We are anticipating some effects from Hurricane Helene that is expected to make landfall sometime tonight in the "big bend" area of Florida. It is projected to continue to move north into the Tennessee Valley, stall for a bit, then circle back east ward. Regardless of this projection, as we expect changes as the system evolves, we will get some effects from this storm. At this point, it appears additional rainfall will be our main impact. Staff is preparing for a wet week ahead.

As conditions progress, or we receive helpful information, we will pass it along.

Be safe,

Frank Cassidy Town Manager Town of Warrenton, VA



21 Main St. Warrenton, VA 20186 **Phone:** 540-347-1101 ext. 200

## **Stephen Clough**

| From:    | Kerry Wharton   |
|----------|---|
| Sent:    | Wednesday, October 2, 2024 2:58 PM                                      |
| То:      | William Semple  |
| Cc:      | Frank Cassidy; Stephanie Miller; Steven Friend; Rob Walton; Lyndie Paul |
| Subject: | RE: Oliver City Flooding  |

Good Afternoon, Mr. Semple,

(Mayor Nevill, and Council are bcc on this email)

Your email was forwarded to me by Rob Walton, and I hope to answer some of your questions and concerns you may have on Warrenton Crossing.

Sediment basin #3 is a temporary basin that will only remain until the storm structures are in installed to convey water to sediment basin #2. The reason for sediment basin #3 to be shown on phase 2 of the plan is to remaind contractors that the basin is to remain in place until all the infrastructure is being graded and constructed. The sediment basin cannot be removed until approval is received from the erosion & sediment control inspector. It is likely that sediment basin #3 will be removed once they are ready to complete the pad sites for the future homes, by the time this will occur, infrastructure will be in its place to convey water to sediment basin #2. The remaining sediment basin 1 & 2 will not be converted over to their permanent pond design until all upslope areas are stabilized with vegetation which includes homes built and yards are stabilized. Due to the storm sewer installation and placement of the houses, there is no reason for sediment basin #3 to remain long term and be converted over to a permanent stormwater pond. The entire plan would need to be amended requiring significant changes if sediment basin #3 became permanent. Sediment basin #3 is currently collecting 26.72 acres and the drainage area will be reduced to approximately 2 acres when the project is complete.

When the flooding occurred on Mr. Tiegen's property, unfortunately we received 5 inches of rain within 3-4 hours which correlates to a 25-year storm. The intensity and volume of water in a short amount of time went over the top of the riser structure not allowing for a 6-hour drawdown time to occur preventing the ability for sediment to settle and water to flow through the dewatering orifice as intended. This prevents the embankment from being overwhelmed and breaching the embankment.

We are requiring the contractor to keep the pump in place for sediment basin # 3 to allow pumping down the water as needed with future rain events or storms that we are aware of that may occur. We will continue to implement best management practices onsite and be proactive and encourage stabilization as much as possible in areas that may not be immediately required.

For the future improvements, sediment basin #1/Pond A structure is connected to the storm sewer pipe along Oliver City Road and will outfall to the stream adjacent to the cul-de-sac. Sediment basin #2/Pond B will also outfall to the stream adjacent to Oliver City cul-de-sac. This should alleviate some of the stormwater issues that have been concerns due to the amount of drainage now being collected to the sediment basins/future Stormwater Management Ponds.

Please let me know if you have any additional questions or concerns.

Sincerely, Kerry



From: Rob Walton <rwalton@warrentonva.gov>
Sent: Wednesday, October 2, 2024 7:50 AM
To: Kerry Wharton <kwharton@warrentonva.gov>; Keith Jenkins <kjenkins@warrentonva.gov>
Cc: Frank Cassidy <fcassidy@warrentonva.gov>
Subject: FW: Oliver City Flooding

Kerry and Keith,

Please see the email below. You may want to let Mr. Semple know the process of removing the sediment basin once the SWM facility takes its place (paragraph 2 below).

Thank you, Rob

From: William Semple <<u>wsemple@warrentonva.gov</u>>
Sent: Tuesday, October 1, 2024 5:14 PM
To: Rob Walton <<u>rwalton@warrentonva.gov</u>>
Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>>; Mike Teigen <<u>Subject:</u> Oliver City Flooding

Rob,

I visited with Mike Teigen today, resident of Oliver City, who experienced considerable flooding from what certainly appears to be an overflow from Sediment Basin #3 as depicted on the attached ES Revision dated April 23, 2024. The overflow outlet from this basin is currently a 30" inch pipe, which dumped water into a stream channel running through his property serviced by only 15" pipes. As a consequence of this overflow, the Town's SWM staff been responsive, helped to clean out some of the pipes and the developer has been draining SB#3, but clearly the downstream infrastructure was not adequate to handle a heavy rainfall event.

I note Sediment Basin #3 is not referenced in the SWM Maintenance Agreement (attached), consistent with Mr. Teigen's understanding that as advised for the first time today, SB#3 is only temporary, but I cannot readily find anything that definitively dictates its future disposition, as it appears on the Phase 2 sheets (see Page 4) and its removal is not referenced under the Construction Sequence Notes, Phase II E&S, page 6. (Conversions to SWB Ponds of Basins #1 and # 2 are shown). Is there a possibility it *could* be converted to a SWB Pond in a future Site Plan Amendment?

Whether temporary or permanent, porting runoff through a residential backyard without fully considering the capacity of the downstream system to handle the water and sediment flow appears to have been

shortsighted, given the outcome and the trouble Mr. Teigen has gone through to get to the bottom of all this and the damage it has potentially caused his property (not to mention his own personal time in responding to the crises). Since Mr. Teigen's stormwater system is not designed to accommodate the runoff, to prevent future flooding, I recommend at a minimum that the developer keep the drainage pump in place through at least the end of Phase 2, if not beyond, since the new Stormwater Ponds will need to be shown they are up to the job.

I cannot speak for Mr. Teigen or what he plans to do next. As you know, I am greatly concerned about the impact this development may have on Oliver City generally, especially since storm water management in Oliver City relies in part on pipes, drains and conduits involving residential backyards, which may or may not have been adequately surveyed or modified by the Town to accommodate increased water flows from all of the impervious surfaces 136 residential units will contribute. We should remember that SWM is not a new problem, even when Warrenton Crossing was covered with trees.

Regards,

William T. Semple Town Council, Ward 2 Warrenton, VA cell: 1 (540)-903-6645 wsemple@warrentonva.gov

## **Stephen Clough**

From:William SempleSent:Wednesday, October 16, 2024 2:53 PMTo:Frank CassidyCc:Kerry Wharton; Stephanie Miller; Steven Friend; Rob Walton; Lyndie Paul; Mike TeigenSubject:RE: Oliver City FloodingAttachments:20241001\_VAR10Q177\_IR Marked.pdf

Frank,

I wonder if Kerry or Rob can explain the highlighted items to me, especially #31, 37 49 and the status of the requests for corrective action.

The deadline for completion of these actions is today (see page 6).

Thanks.

William T. Semple Town Council, Ward 2 Warrenton, VA cell: 1 (540)-903-6645 wsemple@warrentonva.gov

From: Mike Teigen < Sent: Wednesday, October 16, 2024 2:24 PM To: William Semple <wsemple@warrentonva.gov> Cc: Kerry Wharton <kwharton@warrentonva.gov>; Frank Cassidy <fcassidy@warrentonva.gov>; Stephanie Miller <smiller@warrentonva.gov>; Steven Friend <sfriend@warrentonva.gov>; Rob Walton <rwalton@warrentonva.gov>; Lyndie Paul <lpaul@warrentonva.gov> Subject: Re: Oliver City Flooding

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Thanks for working with me on this and sorry for the delay in replying, I was waiting for information from DEQ, DEQ is requesting proof that SB#3 can indeed handle a 25-year event. I attached the DEQ report for your reference. It is interesting that the report also says "Sediment basin 2 is currently installed as a sediment trapping practice and is not designed according to the

approved plans. No sequencing regarding sediment basin 2 conversion was documented in the approved plans."

Where is the record of the 5" in 3-4 hours? just wondering since NOAA is listing 3" over 24 hours for our neighborhood during that time.

Just a note it looks like they did move the pump to one of the other basins. I am also wondering if you know whether or not VCC is planning on repairing Oliver City Road where they tapped the storm drain before winter. I would hate it if our road cant be repaired due to the gravel or since the gravel is compacted lower than the road surface for someone to get hurt if it ices over.

Thanks again!

On Thu, Oct 3, 2024 at 11:56 AM William Semple <<u>wsemple@warrentonva.gov</u>> wrote:

Thank you, Kerry. The steps you have taken seem appropriate and sufficient over the near term. Thanks for you responsive engagement in the process and your staff's work on helping to resolve the problem.

But I am still hesitant. My concern is that the amount of rain we received, which you have characterized as a once in a 25-year event—is that this the probability of its occurring again is based on a historical measure and does not reflect what has been a recent and relatively sudden increase in tropical storm and hurricane activity in the region (though those who study our oceans predicated this years ago).

My family regularly vacations on Ocracoke Island, and over the past decade we have seen increasingly strong hurricanes (Dorian, in 2019) and elevated tides. Many of the residents have returned to rebuild their homes on eight to ten-foot pilings, but who can say who long this will be adequate. North Carolina has spent millions constructing bridges and workarounds to portions of Route 12 that have been in imminent danger of being washed away. North of Hatteras, houses in Rodanthe built thirty years ago have been collapsing into the sea, making national headlines.

And now of course, we have the disaster that has affected western North Carolina, an area that seemed immune from the coastal destruction typically caused by a hurricane or tropical storm.

While all of this may seem somewhat conjectured and apocryphal, I believe Oliver City is especially exposed. We will just have to wait and see how it all works out. I believe the more we can do to anticipate washout events the better, and that would include a review of the overall stormwater management plan for that neighborhood.

(Town Council bcc'd.)

From: Kerry Wharton <<u>kwharton@warrentonva.gov</u>>
Sent: Wednesday, October 2, 2024 2:58 PM
To: William Semple <<u>wsemple@warrentonva.gov</u>>
Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>>; Stephanie Miller <<u>smiller@warrentonva.gov</u>>; Steven Friend
<<u>sfriend@warrentonva.gov</u>>; Rob Walton <<u>rwalton@warrentonva.gov</u>>; Lyndie Paul
<<u>lpaul@warrentonva.gov</u>>
Subject: RE: Oliver City Flooding

Good Afternoon, Mr. Semple,

(Mayor Nevill, and Council are bcc on this email)

Your email was forwarded to me by Rob Walton, and I hope to answer some of your questions and concerns you may have on Warrenton Crossing.

Sediment basin #3 is a temporary basin that will only remain until the storm structures are in installed to convey water to sediment basin #2. The reason for sediment basin #3 to be shown on phase 2 of the plan is to remind contractors that the basin is to remain in place until all the infrastructure is being graded and constructed. The sediment basin cannot be removed until approval is received from the erosion & sediment control inspector. It is likely that sediment basin #3 will be removed once they are ready to complete the pad sites for the future homes, by the time this will occur, infrastructure will be in its place to convey water to sediment basin #2. The remaining sediment basin 1 & 2 will not be converted over to their permanent pond design until all upslope areas are stabilized with vegetation which includes homes built and yards are stabilized. Due to the storm sewer installation and placement of the houses, there is no reason for sediment basin #3 to remain long term and be converted over to a permanent stormwater pond. The entire plan would need to be amended requiring significant changes if sediment basin #3 became permanent. Sediment basin #3 is currently collecting 26.72 acres and the drainage area will be reduced to approximately 2 acres when the project is complete.

When the flooding occurred on Mr. Tiegen's property, unfortunately we received 5 inches of rain within 3-4 hours which correlates to a 25-year storm. The intensity and volume of water in a short amount of

time went over the top of the riser structure not allowing for a 6-hour drawdown time to occur preventing the ability for sediment to settle and water to flow through the dewatering orifice as intended. This prevents the embankment from being overwhelmed and breaching the embankment.

We are requiring the contractor to keep the pump in place for sediment basin # 3 to allow pumping down the water as needed with future rain events or storms that we are aware of that may occur. We will continue to implement best management practices onsite and be proactive and encourage stabilization as much as possible in areas that may not be immediately required.

For the future improvements, sediment basin #1/Pond A structure is connected to the storm sewer pipe along Oliver City Road and will outfall to the stream adjacent to the cul-de-sac. Sediment basin #2/Pond B will also outfall to the stream adjacent to Oliver City cul-de-sac. This should alleviate some of the stormwater issues that have been concerns due to the amount of drainage now being collected to the sediment basins/future Stormwater Management Ponds.

Please let me know if you have any additional questions or concerns.

Sincerely,

Kerry

## Kerry Wharton

Stormwater Administrator

Town of Warrenton, VA



| From: Rob Walton < <u>rwalton@warrentonva.gov</u> ><br>Sent: Wednesday, October 2, 2024 7:50 AM<br>To: Kerry Wharton < <u>kwharton@warrentonva.gov</u> >; Keith Jenkins < <u>kjenkins@warrentonva.gov</u> ><br>Cc: Frank Cassidy < <u>fcassidy@warrentonva.gov</u> ><br>Subject: FW: Oliver City Flooding   |
|---|
| Kerry and Keith,  |
| Please see the email below. You may want to let Mr. Semple know the process of removing the sediment basin once the SWM facility takes its place (paragraph 2 below).   |
| Thank you,<br>Rob   |
| <pre>From: William Semple &lt;<u>wsemple@warrentonva.gov</u>&gt; Sent: Tuesday, October 1, 2024 5:14 PM To: Rob Walton &lt;<u>rwalton@warrentonva.gov</u>&gt; Cc: Frank Cassidy &lt;<u>fcassidy@warrentonva.gov</u>&gt;; Mike Teigen &lt;<u>Subject</u>: Oliver City Flooding</pre>   |
| Rob,  |
| I visited with Mike Teigen today, resident of Oliver City, who experienced considerable flooding from what certainly appears to be an overflow from Sediment Basin #3 as depicted on the attached ES Revision dated April 23, 2024. The overflow outlet from this basin is currently a 30" inch pipe, which dumped water into a stream channel running through his property serviced by only 15" pipes. As a consequence of this overflow, the Town's SWM staff been responsive, helped to clean out some of the pipes and the developer has been draining SB#3, but clearly the downstream infrastructure was not adequate to handle a heavy rainfall event. |

I note Sediment Basin #3 is not referenced in the SWM Maintenance Agreement (attached), consistent with Mr. Teigen's understanding that as advised for the first time today, SB#3 is only temporary, but I cannot readily find anything that definitively dictates its future disposition, as it appears on the Phase 2 sheets (see Page 4) and its removal is not referenced under the Construction Sequence Notes, Phase II

E&S, page 6. (Conversions to SWB Ponds of Basins #1 and # 2 are shown). Is there a possibility it *could* be converted to a SWB Pond in a future Site Plan Amendment?

Whether temporary or permanent, porting runoff through a residential backyard without fully considering the capacity of the downstream system to handle the water and sediment flow appears to have been shortsighted, given the outcome and the trouble Mr. Teigen has gone through to get to the bottom of all this and the damage it has potentially caused his property (not to mention his own personal time in responding to the crises). Since Mr. Teigen's stormwater system is not designed to accommodate the runoff, to prevent future flooding, I recommend at a minimum that the developer keep the drainage pump in place through at least the end of Phase 2, if not beyond, since the new Stormwater Ponds will need to be shown they are up to the job.

I cannot speak for Mr. Teigen or what he plans to do next. As you know, I am greatly concerned about the impact this development may have on Oliver City generally, especially since storm water management in Oliver City relies in part on pipes, drains and conduits involving residential backyards, which may or may not have been adequately surveyed or modified by the Town to accommodate increased water flows from all of the impervious surfaces 136 residential units will contribute. We should remember that SWM is not a new problem, even when Warrenton Crossing was covered with trees.

Regards,

William T. Semple

Town Council, Ward 2

Warrenton, VA

cell: 1 (540)-903-6645

wsemple@warrentonva.gov



Contact: Rachel Rosenquist Northern Regional Office (571) – 866-6283 Rachel.Rosenquist@deq.virginia.gov

## Project Name: Warrenton Crossing

| Inspection Date: | 10/1/2024 |
|------------------|-----------|
|------------------|-----------|

Permit Number: VAR10Q177 Time: 9:30 am

| The purpose of the inspection is to assess the general condition and compliance level of the construction activity, or the presence of actual or potential adverse impacts. This report is limited to the day, time, and specified statutory and regulatory requirements identified in the Report and Request for Corrective Action, if attached. Although some statutory or regulatory components may not be covered by this inspection report your responsibilities as the owner/operator are to comply with all applicable statutory and regulatory requirements. |                        |   |        |                           |                               |  |  |
|--|------------------------|---|--------|---------------------------|-------------------------------|--|--|
| Project Address:   | 62 Old N               | lill Lane                                 |        | County/City:              | Town of Warrenton             |  |  |
| Project Operator:  | Tricord,               | rd, Incorporated                          |        | Operator Telephone:       | (540) 785-8400                |  |  |
| Project Contact:   | Doug Jo                | nes                                       |        | Contact Telephone:        |                               |  |  |
| Contact E-Mail:  | mblake@                | e@reg-va.com                              |        | Qualified Personnel (QP): | Samuel Elton                  |  |  |
| Total Permitted<br>Disturbed Acreage:  | 46.15                  | Est. Dist. Acres (At time of inspection): | 46.15  | Site Conditions           | Rainy and Wet                 |  |  |
| Linear Project: 🗌 Yes  | 🛛 No                   | Annual Stands. & S                        | pecs:  | Yes 🛛 No 🛛 VESMP/VSMI     | P Authority: 🛛 Locality 🗌 DEQ |  |  |
| Stage of Construction:   | Stage of Construction: |   |        |                           |                               |  |  |
| Initial Clearing & Grading   |                        | ☑ Rough Grading                           |        | Building Construction     | □ Final Grading □ Other       |  |  |
| $\Box$ Construction of SWM F   | acilities              | 🗌 Final Stabili                           | zation | Re-Inspection:            | Termination                   |  |  |

|   | COVERAGE & POSTING REQUIREMENTS<br>Reviewed during re-inspection? ⊠Yes □No  | Yes         | No | N/A |
|---|---|-------------|----|-----|
| 1 | The construction activity has General VPDES Permit for Discharges of Stormwater from Construction Activities (CGP or Permit) coverage? (Va. Code §62.1- 44.15:55.A) (§62.1- 44.15:34.A)                                 | $\boxtimes$ |    |     |
| 2 | A copy of the notice of coverage letter is posted at a publicly accessible location near the main entrance of the construction activity? (CGP Part II D)  | $\boxtimes$ |    |     |
| 3 | Notice of the location of the Stormwater Pollution Prevention Plan (SWPPP) is posted near the site's entrance, if applicable, and information for public access is provided? (9VAC25-875-500.G)(CGP Part II E.1, 2 & 3) | $\boxtimes$ |    |     |

|    | SWPPP AVAILABILITY AND CONTENTS  | Yes         | No          | N/A |
|----|--|-------------|-------------|-----|
|    | Reviewed during re-inspection? ⊠Yes □No  |             |             |     |
| 4  | A SWPPP has been developed and is on-site <b>or</b> made available during the inspection? (CGP Part II A & E.1, 2 & 3)(9VAC25-875-500.G)   | $\boxtimes$ |             |     |
| 5  | The SWPPP contains a signed copy of the registration statement? (CGP) Part II B.1.a)   | $\boxtimes$ |             |     |
| 6  | The SWPPP includes, upon receipt, a copy of the notice of coverage letter and the CGP? (CGP Part II B.1.b & c)   | $\boxtimes$ |             |     |
| 7  | The SWPPP includes a narrative description of the nature of the construction activity, including the function of the project? (CGP Part II B.1.d)  | $\boxtimes$ |             |     |
| 8  | The SWPPP includes a legible map of the construction site identifying all significant site and drainage features, limits of clearing and grading, locations where concentrated stormwater is discharged; control measures and locations of support activities? (CGP Part II B.1.e.(1-7)) | $\boxtimes$ |             |     |
| 9  | The SWPPP contains an approved erosion and sediment control plan? (9VAC25-875-500.B)(CGP Part II B.2)  | $\boxtimes$ |             |     |
| 10 | The SWPPP contains an approved stormwater management plan or an existing construction activity has a stormwater management plan that ensures compliance with the water quality and quantity requirements? (9VAC25-875-500.C)(CGP Part II B.3)  | $\boxtimes$ |             |     |
| 11 | The SWPPP contains an adequate pollution prevention plan? (9VAC25-875-500.D)(CGP Part II B.4)  | $\boxtimes$ |             |     |
| 12 | The SWPPP identifies impaired water(s), approved Total Maximum Daily Loads (TMDLs), pollutant(s) of concern, exceptional waters and additional controls measures applicable? (9VAC 25-875-500.E)(CGP Part II B.5.(a-b), 6.(a-d), & 7.(a-b))  | $\boxtimes$ |             |     |
| 13 | The SWPPP specifies a turbidity benchmark or approved alternative method and procedures for monitoring and recording construction dewatering discharges to benthic or sediment impaired, TMDL or exceptional waters? (CGP Part II B.8.(a-d))   |             | $\boxtimes$ |     |
| 14 | The SWPPP contains the name, phone number and qualifications of "Qualified Personnel" conducting inspections? (CGP Part II B.9)  | $\boxtimes$ |             |     |



Contact: Rachel Rosenquist Northern Regional Office (571) – 866-6283 Rachel.Rosenquist@deq.virginia.gov

## Project Name: Warrenton Crossing Inspection Date: 10/1/2024

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| 15 | The SWPPP includes the names or positions duly authorized to sign inspection reports or modify the SWPPP, signed and certified in accordance with Part III K? (CGP Part II B.10) |              | $\boxtimes$ |  |
|----|--|--------------|-------------|--|
| 16 | The SWPPP specifies corrective actions for repairs made more than two times to the same control at the same location? (CGP Part II F.3)  | $\boxtimes$  |             |  |
| 17 | The SWPPP is signed and dated in accordance with Part III K and include the required certification in accordance with Part III K.4? (CGP Part II B.11)                           | $\mathbb{X}$ |             |  |

|    | SWPPP AMENDMENTS, MODIFICATIONS AND UPDATES<br>Reviewed during re-inspection?  Yes  No  | Yes         | No          | N/A         |
|----|---|-------------|-------------|-------------|
| 18 | The SWPPP is amended whenever there is a change in the design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants to surface waters? (CGP Part II C.1)(9VAC25-875-500.G)  | $\boxtimes$ |             |             |
| 19 | The SWPPP is amended if inspections or investigations by the operator's qualified personnel, or by local, state or federal officials find that existing control measures are ineffective in minimizing pollutants in discharges? (CGP Part II C.2)(9VAC25-875-500.G)  | $\boxtimes$ |             |             |
| 20 | Contractor(s) that will implement and maintain each control measure are identified? (CGP Part II C(3))  | $\boxtimes$ |             |             |
| 21 | The SWPPP is updated within five business days when any modifications to its implementation have occurred, including a record of dates when major grading activities occur, construction activities temporarily or permanently cease on a portion of the construction site or stabilization measures are initiated? (CGP Part II C.4.a)(9VAC25-875-500.G) | $\boxtimes$ |             |             |
| 22 | There is documentation in the SWPPP controls that were replaced or modified where they have been used inappropriately or incorrectly? (CGP Part II C.4.b)(9VAC25-875-500.G)   | $\boxtimes$ |             |             |
| 23 | The SWPPP is updated to note areas that have reached final stabilization? (CGP Part II C.4.c)(9VAC25-875-<br>500.G)   |             |             | $\boxtimes$ |
| 24 | The SWPPP is updated to note properties that are no longer under the legal control of the operator and the dates on which the operator no longer had legal control over each property? (CGP Part II C.4.d)(9VAC25875-500.G)   |             |             | $\boxtimes$ |
| 25 | The SWPPP notes the date of any prohibited discharges, the volume released, actions taken to minimize the impact of the release and measures taken to prevent the recurrence of any prohibited discharge? (CGP Part II C.4.e-f)(9VAC25-875-500.G)   | $\boxtimes$ |             |             |
| 26 | Amendments, modifications, or updates to the SWPPP are signed in accordance with Part III K and include the required certification in accordance with Part III K.4? (CGP Part II C.5) (9VAC25-875-500.G))   |             | $\boxtimes$ |             |

|    | INSPECTIONS AND CORRECTIVE ACTIONS<br>Reviewed during re-inspection? ⊠Yes ⊡No  | Yes         | No | N/A         |
|----|--|-------------|----|-------------|
| 27 | Inspections required by the SWPPP are conducted at the required frequency, including a modified frequency for impaired water(s), approved TMDL(s), and exceptional waters when applicable? (CGP Part II G.2.a-e) (CGP Part II B.5.b.(3), B.6.d, & B.7.b.(3)) |             |    |             |
| 28 | Inspection reports are completed and signed in accordance with CGP Part II G. 3-5? (CGP Part II G.3-5)   |             | X  |             |
| 29 | Corrective actions are taken consistent with the requirements of the CGP? (CGP Part II H.1)  | $\boxtimes$ |    |             |
| 30 | Construction dewatering discharge(s) are ceased when turbidity measurements exceed the selected benchmark, controls are inspected and modified as needed, and results are recorded in the SWPPP? (CGP Part II H.2)   |             |    | $\boxtimes$ |

|    | ESC AND SWM PLAN IMPLEMENTATION<br>Reviewed during re-inspection? ⊠Yes ⊡No   | Yes         | No          | N/A |
|----|--|-------------|-------------|-----|
| 31 | The project is implemented in accordance with the approved erosion and sediment control plan and stormwater management plans? (9VAC25-875-500.B and C)   |             | $\boxtimes$ |     |
| 32 | All denuded areas requiring temporary or permanent stabilization are stabilized within required timeframes, and stabilization requirements for impaired waters, approved TMDL(s), pollutants of concern and exceptional waters, when applicable, are met? (9VAC 25-875-561.1) (9VAC25-875-500.B) (9VAC25-880-60) (CGP Part I F.1.(a)) (CGP Part II B.5.b.(1) & B.7.b.(1)) (CGP Part II B.2.c.(9)) (CGP II F.1-2) |             | $\boxtimes$ |     |
| 33 | Soil stockpiles are adequately stabilized with seeding and/or protected with sediment trapping measures? (9VAC 25-875-560.2) (CGP Part II B.2.(c)) (9VAC25-875-500.B)  | $\boxtimes$ |             |     |



Contact: Rachel Rosenquist Northern Regional Office (571) – 866-6283 Rachel.Rosenquist@deq.virginia.gov

## Project Name: Warrenton Crossing Inspection Date: 10/1/2024

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| 34 | A permanent vegetative cover is established that is uniform, providing 75% or more vegetative cover with no significant bare areas, is mature enough to survive and will inhibit erosion? (9VAC 25-875-560.3) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B) |             |             | $\boxtimes$ |
|----|---|-------------|-------------|-------------|
| 35 | Sediment trapping facilities are constructed and made functional before upslope land disturbance takes place? (9VAC 25-875-560.4) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)   | $\boxtimes$ |             |             |
| 36 | Earthen structures are stabilized immediately after installation? (9VAC 25-875-560.5) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)   |             | $\boxtimes$ |             |
| 37 | Sediment traps and basins are installed in accordance with Minimum Standard #6 and the approved plan? (9VAC 25-875-560.6) (CGP Part II B.2.c.(10)) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)  |             |             |             |
| 38 | Finished cut and fill slopes are adequately stabilized to prevent or correct excessive erosion? (9VAC 25-875-<br>560.7) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-870-54.B)  |             |             | $\boxtimes$ |
| 39 | Concentrated runoff flowing down cut or fill slopes is contained in an adequate permanent or temporary channel or structure? (9VAC 25-875-560.8) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)  | $\boxtimes$ |             |             |
| 40 | Adequate drainage or other protection is provided for water seeps? (9VAC 25-875-560.9) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)  |             |             | $\boxtimes$ |
| 41 | All operational storm sewer inlets have adequate inlet protection? (9VAC 25-875-560.10) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)   |             |             | $\boxtimes$ |
| 42 | Are stormwater conveyance channels adequately stabilized with channel lining and/or outlet protection? (9VAC 25-875-560.11) (CGP Part II A.2(c)) (CGP II E(1-2)) (9VAC25-875-500.B)   |             | $\boxtimes$ |             |
| 43 | In-stream construction is conducted using measures to minimize channel damage? (9VAC 25-875-560.12) (CGP Part II B.2(c)) (CGP II F(1-2)) (9VAC25-875-500.B)   |             |             | $\boxtimes$ |
| 44 | Temporary stream crossings of non-erodible material are installed where applicable? (9VAC 25-875-560.13) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)  |             |             | $\boxtimes$ |
| 45 | Necessary restabilization of in-stream construction is complete? (9VAC 25-875-560.15) (CGP II F.1-2) (9VAC25-875-500.B)   |             |             | $\boxtimes$ |
| 46 | Utility trench operations are conducted and stabilized in accordance with Minimum Standard #16? (9VAC 25-875-<br>560.16) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)  |             |             | $\boxtimes$ |
| 47 | Provisions are made to minimize vehicular tracking of sediment onto paved or public roads and tracked sediment is properly removed at the end of each day? (9VAC 25-875-560.17) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-560.B)                               | $\boxtimes$ |             |             |
| 48 | All temporary control structures that are no longer needed are removed within 30 days and disturbed soil resulting from their removal is permanently stabilized? (9VAC 25-875-560.18) (CGP Part II B.2.(c)) (CGP II F.1-2) (9VAC25-875-500.B)                         |             |             |             |
| 49 | Properties and waterways downstream from development are adequately protected from erosion, sediment and damage in accordance with the standards and criteria specified by 9VAC25-875-560.19(a-n)? (9VAC 25-875-560.19(a-n))  |             | $\boxtimes$ |             |
| 50 | All control measures are properly maintained in effective operating condition in accordance with good engineering practices and, where applicable, manufacturer specifications? (CGP Part II F.1) (9VAC25-875-300)  | $\boxtimes$ |             |             |
| 51 | Permanent control measures included in the SWPPP are in place and functioning effectively? (9VAC25-875-<br>500.C) (9VAC25-880-60) (CGP Part I F.1.(a))  |             |             | $\boxtimes$ |
|    |   |             |             |             |

| POLLUTION PREVENTION PLAN IMPLEMENTATION<br>Reviewed during re-inspection? ⊠Yes □No |   |             | No | N/A |
|---|---|-------------|----|-----|
| 52  | Practices are in place to prevent and respond to leaks, spills, and other releases including (i) procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases; and (ii) procedures for reporting leaks, spills, and other releases in accordance with Part III G? (CGP Part II B.4.e.(1))(9VAC25-875-500) | $\boxtimes$ |    |     |
| 53  | Practices are in place to prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities? (CGP Part II B.4.e.(2))(9VAC25-875-500)  | $\boxtimes$ |    |     |
| 54  | Practices are in place to prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including the clean-up of stucco, paint, form release oils, and curing compounds? (CGP Part II B.4.e.(3))(9VAC25-875-500)   | $\boxtimes$ |    |     |
| 55  | Practices are in place to minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water, and other types of washing? (CGP Part II B.4.e.(4))(9VAC25-875-500)  | $\boxtimes$ |    |     |



Contact: **Rachel Rosenquist** Northern Regional Office (571) - 866-6283 Rachel.Rosenquist@deq.virginia.gov

| Project Name: Warrenton Crossing |
|----------------------------------|
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| 56 | Concrete wash water is directed into a leak-proof container or properly constructed leak-proof settling basin? (CGP Part II B.4.e.(5))(9VAC25-875-500)  |             | $\boxtimes$ |
|----|---|-------------|-------------|
| 57 | Practices are in place to minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials, and wastes? (CGP Part II B.4.e.(6))(9VAC25-875-500)  | $\boxtimes$ |             |
| 58 | Practices are in place to prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, and sanitary wastes? (CGP Part II B.4.e.(7)(9VAC25-875-500)  |             |             |
| 59 | Practices are in place to minimize any other discharge from the potential pollutant-generating activities not addressed above, when applicable? (CGP Part II B.4.e.(8))(9VAC25-875-500)   |             |             |
| 60 | Practices are in place to minimize the exposure of waste materials to precipitation by closing or covering waste containers during precipitation events and at the end of the business day, or implementing similarly effective practices? (CGP Part II B.4.e.(9))(9VAC25875-500) | $\boxtimes$ |             |

| SITE EVALUATION AND AGENCY RECOMMENDATION |  |             | No | N/A         |
|---|--|-------------|----|-------------|
| 61  | Measures have been taken to prevent adverse impact(s) to receiving waters? (CGP Part I B.6)( Part I G.1)(Part II B.4.e,(1-9))(Part II H.2) | $\boxtimes$ |    |             |
| 62  | Corrective actions not referred to the local VESMP Authority, if applicable, or Comprehensive DEQ re-inspection is not required.           | $\boxtimes$ |    |             |
| 63  | No additional compliance or enforcement action is recommended.   |             |    | $\boxtimes$ |

Rachel Kerngrott

Inspector Signature:

Date Transmitted: 10/8/2024

Comments: Inspection conducted with Town of Warrenton inspector, Bowman Engineering, site contractors, and permit holder.

Background: DEQ received the initial PREP report regarding muddy stormwater flooding the surrounding development on August 30, 2024. On Friday, September 27, 2024, DEQ received photo and video documentation of the flooding concerns from a downstream neighbor.

Site Visit: DEQ visited the construction project and the findings are documented within this report.



Contact: Rachel Rosenquist Northern Regional Office (571) – 866-6283 Rachel.Rosenquist@deq.virginia.gov

Project Name: Warrenton Crossing Inspection Date: 10/1/2024 Permit Number: VAR10Q177

Time: 9:30 am

# CONSTRUCTION GENERAL PERMIT SITE INSPECTION REPORT

# **REQUEST FOR CORRECTIVE ACTION**

| Checklist #  | Occurrence | Observation, location/ <u>Recommended Corrective Action</u>  |
|--|------------|--|
| SWPPP<br>Documentation<br>#13, 15, 26, 30                              | 1st        | <ol> <li>Observation:         <ol> <li>The turbidity benchmark and procedures for construction dewatering discharges were not detailed within the SWPPP.</li> <li>The delegation of authority was not signed following part III K.</li> <li>The delegated authority has not signed inspection reports and amendments documented in the SWPPP.</li> </ol> </li> <li>Recommended Corrective Action:         <ol> <li>The operator shall document and implement one of the following turbidity benchmark options for construction dewatering discharges.</li> <li>Ensure delegation of authority is documented and signed following Part III K.</li> <li>Ensure the delegated authority signs all SWPPP inspections and amendments to the SWPPP.</li> </ol> </li> </ol> |
| Project<br>Implemented<br>per the<br>Approved Plans<br>#31, 37, and 49 | 1st        | <ol> <li>Observation:         <ol> <li>Sediment basin 2 is currently installed as a sediment trapping practice and is not designed according to the approved plans. No sequencing regarding sediment basin 2 conversion was documented in the approved plans.</li> <li>The downstream area of the sediment basin's 3 outfall was inundated by a stormwater discharge on through the basin's principal spillway.</li> </ol> </li> <li>Recommended Corrective Action:         <ol> <li>Provide documentation that sediment basin 2 will be installed per the approved plans.</li> <li>Provide documentation demonstrating that Sediment Basin 3 is constructed to handle a 25-year storm event.</li> </ol> </li> </ol>   |
| Stabilization<br>#32, 36   | 1st        | Observation:         1. Project slopes adjacent to sediment basins 2 and 3 were denuded during the inspection (Fig. 1).         2. Diversion berms constructed near sediment basins 2 and 3 were not stabilized after installation (Fig. 2).         Recommended Corrective Action:         1. Project slopes shall be temporarily stabilized within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days.         2. Stabilize all diversion berms after installation in accordance with minimum standard 5.  |
| Stormwater<br>Conveyance<br>Channels<br>#42                            | 1st        | Observation: Stormwater conveyance channels directed towards sediment traps and sediment basins were not stabilized per minimum standard 11 (Fig. 2, 3, and 4). <u>Recommended Corrective Action:</u> Stabilize the stormwater conveyance channels in accordance with minimum standard 11.   |



Contact: Rachel Rosenquist Northern Regional Office (571) – 866-6283 Rachel.Rosenquist@deq.virginia.gov

## Project Name: Warrenton Crossing Inspection Date: 10/1/2024

Permit Number: VAR10Q177 Time: 9:30 am

## Deadline for Completion of Recommended Corrective Action: 10/16/2024

## Targeted Re-Inspection Date: To be conducted by the locality inspector.

The deadline date for completing recommended corrective actions applies to <u>all conditions</u> noted on this report unless otherwise noted. If the listed condition(s) currently constitute non-compliance and/or corrective actions are not completed by the deadline, other enforcement actions may be issued to the entity responsible for ensuring compliance on the above project.



Contact: Rachel Rosenquist Northern Regional Office (571) – 866-6283 Rachel.Rosenquist@deq.virginia.gov

## Project Name: Warrenton Crossing Inspection Date: 10/1/2024

Permit Number: VAR10Q177

Time: 9:30 am

# CONSTRUCTION GENERAL PERMIT SITE INSPECTION PHOTO LOG

Fig. 1 Description: Adjacent slopes to sediment basin 2 were denuded at the time of inspection.



## Fig. 2

Description: The diversion berm adjacent to sediment basin 2 was not stabilized after installation. The stormwater conveyance channel directed towards sediment basin 2 was not stabilized.



## Fig. 3

Description: Stormwater conveyance channels directed towards sediment basins 2 and 3 were not stabilized.



## Fig. 4

Description: The stormwater conveyance channel directed into sediment trap 2 was not stabilized.



## **Stephen Clough**

| From:    | Kerry Wharton  |
|----------|--|
| Sent:    | Thursday, October 17, 2024 2:52 PM   |
| То:      | William Semple   |
| Cc:      | Frank Cassidy; Stephanie Miller; Steven Friend; Rob Walton; Lyndie Paul; Mike Teigen |
| Subject: | RE: Oliver City Flooding   |

Good Afternoon, Mr. Semple,

(Mayor Nevill, and Council are bcc on this email)

I am following up on your email- please see my responses in blue on the items you wanted further clarification:

(15) The SWPPP includes the names or positions duly authorized to sign inspection reports or modify the SWPPP, signed and certified in accordance with Part III K? (CGP Part II B.10)

Duly authorized representatives. The SWPPP (Stormwater Pollution Prevention Plan) shall include the names of individuals or positions duly authorized to sign inspection reports or modify the SWPPP on behalf of the operator. Any authorization shall be signed and dated in accordance with Part III K 2 and shall include the required certification in accordance with Part III K 4. Marc Simes as the "owner/representative" for Tricord, had not designated a duly authorized representative who is onsite to update the SWPPP or sign inspection reports. It has now been updated to reflect the contractor and the 3<sup>rd</sup> party consultant that completes the inspections for Tricord. A SWPPP is a site-specific written document to identify potential sources of stormwater pollution at a construction site. This document is required under their Construction General Permit (required by the state when land disturbance exceeds 1 acre). This has been addressed.

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Observation: 1. Sediment basin 2 is currently installed as a sediment trapping practice and is not designed according to the approved plans. No sequencing regarding sediment basin 2 conversion was documented in the approved plans. The decision was made in the field to allow for a sediment trap to be installed in the interim instead of a sediment basin. A sediment trap is designed to take less than 3 acres of drainage area while a sediment basin is for 3 acres or more of drainage. The sediment trap was utilized since the interim drainage area was 2.69 acres. The sediment basin will be installed prior to the storm sewer installation which will increase the drainage area to 29.96 in its ultimate condition. The sediment trap was oversized for the current drainage area. Staff can add or delete erosion and sediment controls as necessary in the field if site conditions change which was warranted since a retaining wall must be built behind sediment basin #2. As an option, a sediment trap was utilized. The plan is going to be updated to reflect the sediment trap that has been constructed in the field. Typically plans are "redlined" with changes that are temporary in the field for documentation purposes, but the plans will be updated to include this temporary change.

**Recommended Corrective Action:** 

1. Provide documentation that sediment basin 2 will be installed per the approved plans. The approved plans referenced a "temporary 8" orifice" (to be replaced at conversion), which is intended to be the dewatering orifice. DEQ requested an updated detail showing the dewatering orifice being retrofitted on the permanent weir structure for further clarification. Our office received a revised detail yesterday, but it was not accepted. I have specified that the engineer provide an actual detail showing the dewatering orifice for the retrofit for sediment basin #2 as intended of the original design.

2. Provide documentation demonstrating that Sediment Basin 3 is constructed to handle a 25-year storm event. A copy of the riser inflow curve graphic was provided. Calculations were provided sheets in the original plan, but this graphic is used to estimate the size of the riser for a 25-year event.

Please be aware that there will be further activity with road construction and utilities that will need to be installed per plan. The road will need to be restored once construction activity is completed.

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The site has addressed all previous violations that were identified on the ground. The contractor has made headway with stabilization on several areas throughout the site which is the best erosion & sediment control measure that can be utilized to reduce sedimentation downstream. Hopefully, the weather will continue to be conducive for the vegetative growth. We will continue to work with DEQ to ensure items are addressed as required as we correspond with the owner and the contractor.

Please let me know if you have any additional questions or concerns. Thanks, Kerry

Kerry Wharton Stormwater Administrator Town of Warrenton, VA



21 Main Street Warrenton, VA 20186 Office: 540-347-1101 ext 135 Mobile: 540-428-9587 www.warrentonya.gov

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Subject: RE: Oliver City Flooding

Frank,

I wonder if Kerry or Rob can explain the highlighted items to me, especially #31, 37 49 and the status of the requests for corrective action.

The deadline for completion of these actions is today (see page 6).

Thanks.

William T. Semple Town Council, Ward 2 Warrenton, VA cell: 1 (540)-903-6645 wsemple@warrentonva.gov

From: Mike Teigen < Sent: Mike Teigen < Sent: Wednesday, October 16, 2024 2:24 PM</p>
To: William Semple < wsemple@warrentonva.gov >
Cc: Kerry Wharton < kwharton@warrentonva.gov >; Frank Cassidy < fcassidy@warrentonva.gov >; Stephanie Miller
<smiller@warrentonva.gov >; Steven Friend < sfriend@warrentonva.gov >; Rob Walton < rwalton@warrentonva.gov >; Lyndie Paul < lpaul@warrentonva.gov >
Subject: Re: Oliver City Flooding

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Thanks for working with me on this and sorry for the delay in replying, I was waiting for information from DEQ, DEQ is requesting proof that SB#3 can indeed handle a 25-year event. I attached the DEQ report for your reference. It is interesting that the report also says "Sediment basin 2 is currently installed as a sediment trapping practice and is not designed according to the approved plans. No sequencing regarding sediment basin 2 conversion was documented in the approved plans."

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Thanks again!

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But I am still hesitant. My concern is that the amount of rain we received, which you have characterized as a once in a 25-year event—is that this the probability of its occurring again is based on a historical measure and does not reflect what has been a recent and relatively sudden increase in tropical storm and hurricane activity in the region (though those who study our oceans predicated this years ago).

My family regularly vacations on Ocracoke Island, and over the past decade we have seen increasingly strong hurricanes (Dorian, in 2019) and elevated tides. Many of the residents have returned to rebuild their homes on eight to ten-foot pilings, but who can say who long this will be adequate. North Carolina has spent millions constructing bridges and workarounds to portions of Route 12 that have been in imminent danger of being washed away. North of Hatteras, houses in Rodanthe built thirty years ago have been collapsing into the sea, making national headlines.

And now of course, we have the disaster that has affected western North Carolina, an area that seemed immune from the coastal destruction typically caused by a hurricane or tropical storm.

While all of this may seem somewhat conjectured and apocryphal, I believe Oliver City is especially exposed. We will just have to wait and see how it all works out. I believe the more we can do to anticipate washout events the better, and that would include a review of the overall stormwater management plan for that neighborhood.

(Town Council bcc'd.)

From: Kerry Wharton <<u>kwharton@warrentonva.gov</u>>
Sent: Wednesday, October 2, 2024 2:58 PM
To: William Semple <<u>wsemple@warrentonva.gov</u>>
Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>>; Stephanie Miller <<u>smiller@warrentonva.gov</u>>; Steven Friend
<<u>sfriend@warrentonva.gov</u>>; Rob Walton <<u>rwalton@warrentonva.gov</u>>; Lyndie Paul
<<u>lpaul@warrentonva.gov</u>>
Subject: RE: Oliver City Flooding

Good Afternoon, Mr. Semple,

(Mayor Nevill, and Council are bcc on this email)

Your email was forwarded to me by Rob Walton, and I hope to answer some of your questions and concerns you may have on Warrenton Crossing.

Sediment basin #3 is a temporary basin that will only remain until the storm structures are in installed to convey water to sediment basin #2. The reason for sediment basin #3 to be shown on phase 2 of the plan is to remind contractors that the basin is to remain in place until all the infrastructure is being graded and constructed. The sediment basin cannot be removed until approval is received from the erosion & sediment control inspector. It is likely that sediment basin #3 will be removed once they are ready to complete the pad sites for the future homes, by the time this will occur, infrastructure will be in its place to convey water to sediment basin #2. The remaining sediment basin 1 & 2 will not be converted over to their permanent pond design until all upslope areas are stabilized with vegetation which includes homes built and yards are stabilized. Due to the storm sewer installation and placement of the houses, there is no reason for sediment basin #3 to remain long term and be converted over to a permanent stormwater pond. The entire plan would need to be amended requiring significant changes if sediment basin #3 became permanent. Sediment basin #3 is currently collecting 26.72 acres and the drainage area will be reduced to approximately 2 acres when the project is complete.

When the flooding occurred on Mr. Tiegen's property, unfortunately we received 5 inches of rain within 3-4 hours which correlates to a 25-year storm. The intensity and volume of water in a short amount of time went over the top of the riser structure not allowing for a 6-hour drawdown time to occur preventing the ability for sediment to settle and water to flow through the dewatering orifice as intended. This prevents the embankment from being overwhelmed and breaching the embankment.

We are requiring the contractor to keep the pump in place for sediment basin # 3 to allow pumping down the water as needed with future rain events or storms that we are aware of that may occur. We will continue to implement best management practices onsite and be proactive and encourage stabilization as much as possible in areas that may not be immediately required.

For the future improvements, sediment basin #1/Pond A structure is connected to the storm sewer pipe along Oliver City Road and will outfall to the stream adjacent to the cul-de-sac. Sediment basin #2/Pond B will also outfall to the stream adjacent to Oliver City cul-de-sac. This should alleviate some of the stormwater issues that have been concerns due to the amount of drainage now being collected to the sediment basins/future Stormwater Management Ponds.

Please let me know if you have any additional questions or concerns.

Sincerely,

Kerry

## Kerry Wharton

Stormwater Administrator

Town of Warrenton, VA



From: Rob Walton <<u>rwalton@warrentonva.gov</u>>
Sent: Wednesday, October 2, 2024 7:50 AM
To: Kerry Wharton <<u>kwharton@warrentonva.gov</u>>; Keith Jenkins <<u>kjenkins@warrentonva.gov</u>>
Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>>
Subject: FW: Oliver City Flooding

Kerry and Keith,

Please see the email below. You may want to let Mr. Semple know the process of removing the sediment basin once the SWM facility takes its place (paragraph 2 below).

Thank you, Rob

From: William Semple <<u>wsemple@warrentonva.gov</u>>
Sent: Tuesday, October 1, 2024 5:14 PM

To: Rob Walton <<u>rwalton@warrentonva.gov</u>>
Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>>; Mike Teigen <</p>
Subject: Oliver City Flooding

Rob,

I visited with Mike Teigen today, resident of Oliver City, who experienced considerable flooding from what certainly appears to be an overflow from Sediment Basin #3 as depicted on the attached ES Revision dated April 23, 2024. The overflow outlet from this basin is currently a 30" inch pipe, which dumped water into a stream channel running through his property serviced by only 15" pipes. As a consequence of this overflow, the Town's SWM staff been responsive, helped to clean out some of the pipes and the developer has been draining SB#3, but clearly the downstream infrastructure was not adequate to handle a heavy rainfall event.

I note Sediment Basin #3 is not referenced in the SWM Maintenance Agreement (attached), consistent with Mr. Teigen's understanding that as advised for the first time today, SB#3 is only temporary, but I cannot readily find anything that definitively dictates its future disposition, as it appears on the Phase 2 sheets (see Page 4) and its removal is not referenced under the Construction Sequence Notes, Phase II E&S, page 6. (Conversions to SWB Ponds of Basins #1 and # 2 are shown). Is there a possibility it *could* be converted to a SWB Pond in a future Site Plan Amendment?

Whether temporary or permanent, porting runoff through a residential backyard without fully considering the capacity of the downstream system to handle the water and sediment flow appears to have been shortsighted, given the outcome and the trouble Mr. Teigen has gone through to get to the bottom of all this and the damage it has potentially caused his property (not to mention his own personal time in responding to the crises). Since Mr. Teigen's stormwater system is not designed to accommodate the runoff, to prevent future flooding, I recommend at a minimum that the developer keep the drainage pump in place through at least the end of Phase 2, if not beyond, since the new Stormwater Ponds will need to be shown they are up to the job.

I cannot speak for Mr. Teigen or what he plans to do next. As you know, I am greatly concerned about the impact this development may have on Oliver City generally, especially since storm water management in Oliver City relies in part on pipes, drains and conduits involving residential backyards, which may or may not have been adequately surveyed or modified by the Town to accommodate increased water flows from all of the impervious surfaces 136 residential units will contribute. We should remember that SWM is not a new problem, even when Warrenton Crossing was covered with trees.

Regards,

William T. Semple

Town Council, Ward 2

Warrenton, VA

cell: 1 (540)-903-6645

wsemple@warrentonva.gov

# **Stephen Clough**

From:William SempleSent:Thursday, October 17, 2024 5:04 PMTo:Kerry WhartonCc:Frank Cassidy; Stephanie Miller; Steven Friend; Rob Walton; Lyndie Paul; Mike TeigenSubject:RE: Oliver City Flooding

Kerry,

Thank you for these thorough responses. They are very helpful in helping me convey the status of the project to the residents along Falmouth Street, in Oliver City, and Monroe Estates.

Although the project has been years in the planning, I don't believe that most of my neighbors, including yours truly, were quite prepared for the sheer scope of this development and how it lays in and around various neighborhoods. I attach for everyone's edification what this looks like from the air. One can see how enveloped some of the properties are in Oliver City, not to mention the Hogans who live near the intersection of Falmouth and Old Meetze in the lower right.



Regards,

William T. Semple Town Council, Ward 2 Warrenton, VA cell: 1 (540)-903-6645 wsemple@warrentonva.gov

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Teigen <

Subject: RE: Oliver City Flooding

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Your email was forwarded to me by Rob Walton, and I hope to answer some of your questions and concerns you may have on Warrenton Crossing.

Sediment basin #3 is a temporary basin that will only remain until the storm structures are in installed to convey water to sediment basin #2. The reason for sediment basin #3 to be shown on phase 2 of the plan is to remind contractors that the basin is to remain in place until all the infrastructure is being graded and constructed. The sediment basin cannot be removed until approval is received from the erosion & sediment control inspector. It is likely that sediment basin #3 will be removed once they are ready to complete the pad sites for the future homes, by the time this will occur, infrastructure will be in its place to convey water to sediment basin #2. The remaining sediment basin 1 & 2 will not be converted over to their permanent pond design until all upslope areas are stabilized with vegetation which includes homes built and yards are stabilized. Due to the storm sewer installation and placement of the houses, there is no reason for sediment basin #3 to remain long term and be converted over to a permanent stormwater pond. The entire plan would need to be amended requiring significant changes if sediment basin #3 became permanent. Sediment basin #3 is currently collecting 26.72 acres and the drainage area will be reduced to approximately 2 acres when the project is complete.

When the flooding occurred on Mr. Tiegen's property, unfortunately we received 5 inches of rain within 3-4 hours which correlates to a 25-year storm. The intensity and volume of water in a short amount of time went over the top of the riser structure not allowing for a 6-hour drawdown time to occur preventing the ability for sediment to settle and water to flow through the dewatering orifice as intended. This prevents the embankment from being overwhelmed and breaching the embankment.

We are requiring the contractor to keep the pump in place for sediment basin # 3 to allow pumping down the water as needed with future rain events or storms that we are aware of that may occur. We will continue to implement best management practices onsite and be proactive and encourage stabilization as much as possible in areas that may not be immediately required.

For the future improvements, sediment basin #1/Pond A structure is connected to the storm sewer pipe along Oliver City Road and will outfall to the stream adjacent to the cul-de-sac. Sediment basin #2/Pond B will also outfall to the stream adjacent to Oliver City cul-de-sac. This should alleviate some of the stormwater issues that have been concerns due to the amount of drainage now being collected to the sediment basins/future Stormwater Management Ponds.

Please let me know if you have any additional questions or concerns.

Sincerely,

Kerry

Kerry Wharton

Stormwater Administrator

Town of Warrenton, VA



From: Rob Walton <<u>rwalton@warrentonva.gov</u>>
Sent: Wednesday, October 2, 2024 7:50 AM
To: Kerry Wharton <<u>kwharton@warrentonva.gov</u>>; Keith Jenkins <<u>kjenkins@warrentonva.gov</u>>
Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>>
Subject: FW: Oliver City Flooding

Kerry and Keith,

Please see the email below. You may want to let Mr. Semple know the process of removing the sediment basin once the SWM facility takes its place (paragraph 2 below).

Thank you, Rob

From: William Semple <<u>wsemple@warrentonva.gov</u>>
Sent: Tuesday, October 1, 2024 5:14 PM
To: Rob Walton <<u>rwalton@warrentonva.gov</u>>
Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>>; Mike Teigen <<u>wset</u>
Subject: Oliver City Flooding

Rob,

I visited with Mike Teigen today, resident of Oliver City, who experienced considerable flooding from what certainly appears to be an overflow from Sediment Basin #3 as depicted on the attached ES Revision dated April 23, 2024. The overflow outlet from this basin is currently a 30" inch pipe, which dumped water into a stream channel running through his property serviced by only 15" pipes. As a consequence of this overflow, the Town's SWM staff been responsive, helped to clean out some of the pipes and the developer has been draining SB#3, but clearly the downstream infrastructure was not adequate to handle a heavy rainfall event.

I note Sediment Basin #3 is not referenced in the SWM Maintenance Agreement (attached), consistent with Mr. Teigen's understanding that as advised for the first time today, SB#3 is only temporary, but I cannot readily find anything that definitively dictates its future disposition, as it appears on the Phase 2 sheets (see Page 4) and its removal is not referenced under the Construction Sequence Notes, Phase II E&S, page 6. (Conversions to SWB Ponds of Basins #1 and # 2 are shown). Is there a possibility it *could* be converted to a SWB Pond in a future Site Plan Amendment?

Whether temporary or permanent, porting runoff through a residential backyard without fully considering the capacity of the downstream system to handle the water and sediment flow appears to have been shortsighted, given the outcome and the trouble Mr. Teigen has gone through to get to the

bottom of all this and the damage it has potentially caused his property (not to mention his own personal time in responding to the crises). Since Mr. Teigen's stormwater system is not designed to accommodate the runoff, to prevent future flooding, I recommend at a minimum that the developer keep the drainage pump in place through at least the end of Phase 2, if not beyond, since the new Stormwater Ponds will need to be shown they are up to the job.

I cannot speak for Mr. Teigen or what he plans to do next. As you know, I am greatly concerned about the impact this development may have on Oliver City generally, especially since storm water management in Oliver City relies in part on pipes, drains and conduits involving residential backyards, which may or may not have been adequately surveyed or modified by the Town to accommodate increased water flows from all of the impervious surfaces 136 residential units will contribute. We should remember that SWM is not a new problem, even when Warrenton Crossing was covered with trees.

Regards,

William T. Semple

Town Council, Ward 2

Warrenton, VA

cell: 1 (540)-903-6645

wsemple@warrentonva.gov

## **Stephen Clough**

| From:    | William Semple   |
|----------|--|
| Sent:    | Thursday, October 3, 2024 11:56 AM   |
| То:      | Kerry Wharton  |
| Cc:      | Frank Cassidy; Stephanie Miller; Steven Friend; Rob Walton; Lyndie Paul; Mike Teigen |
| Subject: | RE: Oliver City Flooding   |

Thank you, Kerry. The steps you have taken seem appropriate and sufficient over the near term. Thanks for you responsive engagement in the process and your staff's work on helping to resolve the problem.

But I am still hesitant. My concern is that the amount of rain we received, which you have characterized as a once in a 25-year event—is that this the probability of its occurring again is based on a historical measure and does not reflect what has been a recent and relatively sudden increase in tropical storm and hurricane activity in the region (though those who study our oceans predicated this years ago).

My family regularly vacations on Ocracoke Island, and over the past decade we have seen increasingly strong hurricanes (Dorian, in 2019) and elevated tides. Many of the residents have returned to rebuild their homes on eight to ten-foot pilings, but who can say who long this will be adequate. North Carolina has spent millions constructing bridges and workarounds to portions of Route 12 that have been in imminent danger of being washed away. North of Hatteras, houses in Rodanthe built thirty years ago have been collapsing into the sea, making national headlines.

And now of course, we have the disaster that has affected western North Carolina, an area that seemed immune from the coastal destruction typically caused by a hurricane or tropical storm.

While all of this may seem somewhat conjectured and apocryphal, I believe Oliver City is especially exposed. We will just have to wait and see how it all works out. I believe the more we can do to anticipate washout events the better, and that would include a review of the overall stormwater management plan for that neighborhood.

(Town Council bcc'd.)

From: Kerry Wharton <kwharton@warrentonva.gov>
Sent: Wednesday, October 2, 2024 2:58 PM
To: William Semple <wsemple@warrentonva.gov>
Cc: Frank Cassidy <fcassidy@warrentonva.gov>; Stephanie Miller <smiller@warrentonva.gov>; Steven Friend
<sfriend@warrentonva.gov>; Rob Walton <rwalton@warrentonva.gov>; Lyndie Paul <lpaul@warrentonva.gov>
Subject: RE: Oliver City Flooding

Good Afternoon, Mr. Semple,

(Mayor Nevill, and Council are bcc on this email)

Your email was forwarded to me by Rob Walton, and I hope to answer some of your questions and concerns you may have on Warrenton Crossing.

Sediment basin #3 is a temporary basin that will only remain until the storm structures are in installed to convey water to sediment basin #2. The reason for sediment basin #3 to be shown on phase 2 of the plan is to remain contractors that the basin is to remain in place until all the infrastructure is being graded and constructed. The sediment basin cannot be removed until approval is received from the erosion & sediment control inspector. It is likely that sediment basin #3 will be removed once they are ready to complete the pad sites for the future homes, by the time this will occur, infrastructure will be in its place to convey water to sediment basin #2. The remaining sediment basin 1 & 2 will not be converted over to their permanent pond design until all upslope areas are stabilized with vegetation which includes homes built and yards are stabilized. Due to the storm sewer installation and placement of the houses, there is no reason for sediment basin #3 to remain long term and be converted over to a permanent stormwater pond. The entire plan would need to be amended requiring significant changes if sediment basin #3 became permanent. Sediment basin #3 is currently collecting 26.72 acres and the drainage area will be reduced to approximately 2 acres when the project is complete.

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Please let me know if you have any additional questions or concerns.

Sincerely, Kerry



From: Rob Walton <<u>rwalton@warrentonva.gov</u>> Sent: Wednesday, October 2, 2024 7:50 AM To: Kerry Wharton <<u>kwharton@warrentonva.gov</u>>; Keith Jenkins <<u>kjenkins@warrentonva.gov</u>> Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>> Subject: FW: Oliver City Flooding Kerry and Keith,

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To: Rob Walton <<u>rwalton@warrentonva.gov</u>>
Cc: Frank Cassidy <<u>fcassidy@warrentonva.gov</u>>; Mike Teigen <<u>teigen316@gmail.com</u>>
Subject: Oliver City Flooding

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Regards,

William T. Semple Town Council, Ward 2 Warrenton, VA cell: 1 (540)-903-6645 wsemple@warrentonva.gov