

**CITY OF VIRGINIA BEACH, VIRGINIA
GENERAL NOTES**

E.1.1 DEVELOPMENT AND COMPLIANCE CRITERIA

- ALL CONSTRUCTION METHODS AND MATERIALS WILL CONFORM TO THE CURRENT CITY OF VIRGINIA BEACH, VIRGINIA DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS AND STANDARDS (PWSS), DEPARTMENT OF PUBLIC UTILITIES, SEWER AND WATER SPECIFICATIONS AND DETAILS, DEPARTMENT OF PUBLIC UTILITIES DESIGN STANDARD MANUAL (2002), VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECS. (LATEST EDITION), VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS (LATEST EDITION), VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS, VIRGINIA STORMWATER MANAGEMENT HANDBOOKS AND ANY OTHER APPLICABLE CITY ORDINANCES OR STATE CODES, AMENDMENTS, AND LAWS PRIOR TO CONSTRUCTION.
- AN EROSION AND SEDIMENT CONTROL SURETY AND/OR STORM WATER MANAGEMENT SURETY WILL BE POSTED WITH THE DEVELOPMENT SERVICES CENTER (DSC) AND BEFORE THE ISSUANCE OF ANY PERMITS, FOLLOWING PLAN APPROVAL, IN THE APPROPRIATE AMOUNT, TO BE DETERMINED DURING PLAN REVIEW.
- THE OWNER/DEVELOPER/CONTRACTOR WILL OBTAIN A RIGHT-OF-WAY PERMIT FROM THE DEVELOPMENT SERVICES CENTER, CITY OF VIRGINIA BEACH, VIRGINIA, PRIOR TO CONSTRUCTION WITHIN ANY EXISTING PUBLIC RIGHT-OF-WAY OR PUBLIC EASEMENT. A COPY OF THE APPROVED TRAFFIC CONTROL PLAN MUST BE SUBMITTED WITH THE RIGHT-OF-WAY PERMIT APPLICATION.
- THE OWNER/DEVELOPER/CONTRACTOR/RESPONSIBLE LAND DISTURBER (RLD) WILL CONTACT EACH APPROPRIATE INSPECTIONS BUREAU TO SCHEDULE AN ON-SITE PRE-CONSTRUCTION MEETING AND/OR INSPECTION ACTIVITY 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY LAND DISTURBANCE OR CONSTRUCTION ACTIVITY.
- THE STORMWATER MANAGEMENT FACILITY (SWMF) SHALL NOT BE EXCAVATED BEYOND THE TYPICAL SECTION(S) AS SHOWN ON THE APPROVED PLAN UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE DSC. SITE MATERIALS EXCAVATED BEYOND THE TYPICAL SECTION(S) SHALL NOT BE USED OR SOLD OFFSITE UNLESS THE OWNER/DEVELOPER/CONTRACTOR COMPLIES WITH THE CURRENT CITY ORDINANCES PERTAINING TO THE OPERATION OF BORROW PITS. EXCAVATION MATERIALS FROM THE SWMF THAT ARE PROPOSED AS BACKFILL MUST BE CERTIFIED FOR THAT PURPOSE, AND APPROVAL IS REQUIRED BY THE DSC'S ENGINEER PRIOR TO USE. BACKFILL MATERIALS MAY BE STOCKPILED AND WILL NOT INTERFERE WITH EXISTING DRAINAGE IN ACCORDANCE WITH THE PWSS SECTION 15.7.
- HORIZONTAL DATUM: THIS SURVEY/PLAN IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 1983/1993 (HARN). COORDINATE VALUES SHOWN ARE EXPRESSED IN U.S. SURVEY FEET. VERTICAL CONTROL: THIS SURVEY/PLAN IS BASED ON NAVD 1989.
- THE CITY OF VIRGINIA BEACH SHALL ASSUME NO RESPONSIBILITIES OR LIABILITIES FOR ANY DAMAGE OR INJURY THAT MAY BE INCURRED AS A RESULT OF ANY ENCROACHMENT INTO A PUBLIC EASEMENT OR RIGHT-OF-WAY. SINCE AN ENCROACHMENT IS CONSIDERED TO BE TEMPORARY IN NATURE, THE CURRENT OWNER(S) ARE REQUIRED TO REMOVE THE ENCROACHMENT AT THEIR EXPENSE WHEN DEEMED NECESSARY BY THE CITY OF VIRGINIA BEACH. AS THE EASEMENT RUNS WITH THE LAND, THE OWNERS WILL GIVE NOTIFICATION TO THEIR HEIRS, ASSIGNS, SUCCESSORS IN TITLE OR LESSEE OF THE EXISTENCE OF ANY ENCROACHMENT AND THE RIGHTS OF THE CITY OF VIRGINIA BEACH.
- THE OWNER/DEVELOPER/CONTRACTOR WILL BE RESPONSIBLE FOR DRIVEWAYS, WALKS, CURBS, PAVEMENT MARKINGS, ETC., THAT MUST BE CUT, REMOVED, OR DAMAGED DURING CONSTRUCTION.
- CAUTION: WETLANDS MAY BE INVOLVED WITHIN THE BOUNDARY OF DEVELOPMENT. THE CONTRACTOR MUST COMPLY WITH THE EXACT LIMITS OF CONSTRUCTION. PERMITS MAY BE REQUIRED FROM FEDERAL, STATE, AND LOCAL AGENCIES.

E.1.2 EROSION AND SEDIMENT CONTROL AND TREE PROTECTION NOTES

- THE OWNER/DEVELOPER/CONTRACTOR/RLD WILL COMPLY WITH THE APPLICABLE REGULATIONS OF THE CITY OF VIRGINIA BEACH AND THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS, LATEST EDITION, AS DEEMED NECESSARY BEFORE, DURING, AND AFTER CONSTRUCTION.
- ALL EROSION AND SEDIMENT CONTROL AND TREE PROTECTION DEVICES MUST BE INSTALLED WITH THE FIRST STAGE OF CONSTRUCTION AND WILL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED. EROSION AND SEDIMENT CONTROL AND TREE PROTECTION DEVICES SHOWN ON THE PLAN ARE THE MINIMUM NECESSARY AND SHALL REMAIN IN PLACE UNTIL THE RELEASE OF THE EROSION AND SEDIMENT CONTROL BOND. THE ADDITION OR DELETION OF EROSION AND SEDIMENT CONTROL AND TREE PROTECTION DEVICES WILL BE AT THE DIRECTION OF THE PLANNING CIVIL INSPECTOR.
- ALL LAND DISTURBING ACTIVITIES MUST CONFORM WITH THE APPLICABLE REGULATIONS OF THE CITY OF VIRGINIA BEACH CODES, ORDINANCES, AND PWSS AND THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION EROSION AND SEDIMENT CONTROL HANDBOOK. THE CONTRACTOR SHALL EXERCISE EVERY REASONABLE PRECAUTION, INCLUDING THE APPLICATION OF TEMPORARY AND/OR PERMANENT MEASURES DEEMED NECESSARY BEFORE, DURING, AND AFTER CONSTRUCTION TO CONTROL EROSION AND PREVENT OR MINIMIZE SEDIMENT RUNOFF. THE PLANNING DEPARTMENT/PERMITS AND INSPECTIONS DIVISION SHALL ENFORCE THESE REQUIREMENTS. THE CITY INSPECTOR RESERVES THE RIGHT TO REQUIRE OTHER MEASURES NOT SPECIFICALLY DESCRIBED HEREIN TO CORRECT ANY EROSION OR SILTATION CONDITION.
- THE OWNER/DEVELOPER/CONTRACTOR/RLD WILL CONSTRUCT AND MAINTAIN A TEMPORARY CONSTRUCTION ENTRANCE AT EACH POINT OF INGRESS/EGRESS USING FILTER FABRIC UNDERLINER WITH TWO-INCH (2") STONE OR GREATER WITH A MINIMUM THICKNESS OF SIX INCHES (6"). THE CONSTRUCTION ENTRANCE SHALL HAVE A MINIMUM WIDTH OF 12 FEET AND MINIMUM LENGTH OF 70 FEET. SITES WITH SIGNIFICANT CONSTRUCTION TRAFFIC MAY BE REQUIRED TO INSTALL A LARGER WIDTH AND/OR LONGER LENGTH CONSTRUCTION ENTRANCE AS DEEMED NECESSARY BY THE DSC'S ENGINEER OR THE PLANNING CIVIL INSPECTOR. A WASH RACK MAY BE DEEMED NECESSARY AND REQUIRED BY THE PLANNING CIVIL INSPECTOR.
- THE OWNER/DEVELOPER/CONTRACTOR/RLD WILL CONSTRUCT, INSTALL, AND MAINTAIN SUFFICIENT EROSION AND SEDIMENT CONTROL DEVICES TO PREVENT SOIL FROM BEING ERODED AND PLACED ON ADJACENT STREETS, DRAINAGE SYSTEMS, AND WATERCOURSES. DEVICES WILL BE CLEAR OF MUD, DEBRIS, AND ERODED MATERIAL DURING ALL STAGES OF CONSTRUCTION. DEVICES ARE SUBJECT TO INSPECTIONS AFTER A STORM EVENT AND/OR AS REQUIRED BY THE PLANNING CIVIL INSPECTOR.
- DEWATERING AND WELL POINT DISCHARGE OPERATIONS MUST PROVIDE APPROPRIATE EROSION & SEDIMENT CONTROL DEVICES AND PRACTICE AND BE APPROVED BY THE PLANNING CIVIL INSPECTOR PRIOR TO THE COMMENCEMENT OF DISCHARGE OPERATIONS. A "STOP WORK ORDER" MAY BE ISSUED AND/OR LEGAL ACTION TAKEN FOR NON-COMPLIANCE.
- ALL DISTURBED AREAS WILL IMMEDIATELY BE STABILIZED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND WILL NOT EXCEED A MAXIMUM HORIZONTAL TO VERTICAL SLOPE OF THREE (3) TO ONE (1). TEMPORARY SEEDING IS REQUIRED IMMEDIATELY AFTER DISTURBANCE DURING ALL PHASES OF CONSTRUCTION.
- THE OWNER/DEVELOPER/CONTRACTOR/RLD WILL MONITOR AND TAKE PRECAUTIONS TO CONTROL DUST, (INCLUDING BUT NOT LIMITED TO) THE USE OF WATER OR CHEMICAL DUST PALLIATIVE, BY LIMITING THE NUMBER OF VEHICLES ALLOWED ON-SITE, AND MINIMIZING THE OPERATING SPEED OF ALL VEHICLES.
- RIPRAP WILL BE PLACED AT NORMAL WATER ELEVATIONS OF THE PROPOSED WET POND TO PREVENT EROSION OR AS DIRECTED BY THE PLANNING CIVIL INSPECTOR.
- PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION, TREE PROTECTION WILL BE PLACED AROUND ALL TREES TO BE RETAINED. THE TREE PROTECTION WILL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, SPECIFICATION 3.38 "TREE PRESERVATION AND PROTECTION REPLACING ANY PAVEMENT (WITH THE MINIMUM AS SPECIFIED IN CHAPTER 5 OF THE PWSS) WITH MATCHING MATERIALS, SUCH AS" AND SHALL BE LOCATED IN A CIRCULAR PATTERN AROUND THE TREE WITH A MINIMUM DISTANCE EQUAL TO THE DRIPLENE OF THE TREE, OR A MINIMUM OF FIVE FEET (5'), WHICHEVER IS GREATER.
- ITEMS INCLUDING, BUT NOT LIMITED TO, BOARDS, WIRES, OR SIGNAGE WILL NOT BE NAILED OR ATTACHED TO TREES TO BE RETAINED.
- DAMAGED TREE LIMBS WILL BE CUT BACK TO THE NEXT LATERAL BRANCH OR PARENT STEM AT THE BRANCH COLLAR. CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY THE CITY ARBORIST.
- TREES TO BE RETAINED, THAT ARE DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY TREES OF AT LEAST 2 1/2 INCH CALIPER, OF THE SAME SPECIES AND QUALITY OR AS SPECIFIED BY THE CITY ARBORIST. REPLACEMENT TREES WILL CONFORM TO THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK AND LANDSCAPING GUIDE CITY OF VIRGINIA BEACH (2002).
- AFTER OBTAINING THE LAND DISTURBING PERMIT, AND AT LEAST 48-HOURS PRIOR TO ANY LAND DISTURBING ACTIVITY, THE CONTRACTOR SHALL CONTACT PLANNING/CIVIL INSPECTIONS AT (757-385-4558) TO SCHEDULE A PRE-CONSTRUCTION MEETING. FAILURE TO CONTACT PLANNING/CIVIL INSPECTIONS PRIOR TO ANY LAND DISTURBING ACTIVITY MAY RESULT IN A STOP ORDER OR OTHER LEGAL ACTION.
- SILT FENCE FABRIC SHALL BE 36" TALL, STAKED WITH 2" X 2" HARDWOOD STAKES, 6-FOOT ON CENTER.
- "TRUCKS ENTERING HIGHWAY" SIGNS MUST BE PLACED BEFORE THE CONSTRUCTION ENTRANCE IN EACH DIRECTION.
- ANY AND ALL MATERIAL OR DEBRIS TRACKED ONTO A PUBLIC OR PRIVATE ROAD SURFACE WILL BE REMOVED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A SEDIMENT CONTROLLED DISPOSAL AREA.
- ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN A LAWFUL MANNER.
 - CURB & GUTTER 10'
 - FIVE FEET (5') WIDE SIDEWALK 50'
 - TEN FEET (10') WIDE 50'

E.1.3 STORM WATER MANAGEMENT

- "AS-BUILT" PLANS MUST BE PREPARED BY A PROFESSIONAL ENGINEER OR LAND SURVEYOR LICENSED IN THE COMMONWEALTH OF VIRGINIA AND MUST BE SUBMITTED TO AND APPROVED BY THE DSC FOR ALL SWMF, PRIOR TO THE RELEASE OF EROSION AND SEDIMENT CONTROL (E&S) AND SWMF SURETY BONDS POSTED WITH THE DSC.
- A TEST PIT IN THE LOCATION OF THE INFILTRATION SWMF IS REQUIRED PRIOR TO THE CONSTRUCTION OF THE SWMF. CONTACT THE PLANNING CIVIL INSPECTOR FOR THE APPROPRIATE MEETING. EXFILTRATION TESTS ARE REQUIRED FOR ALL VOLUME CONTROL INFILTRATION SWMF'S IN ACCORDANCE WITH PWSS. EXCAVATION VOLUMES AND LIMITS OF EXCAVATION CAN ONLY BE DETERMINED DURING THE ACTUAL FIELD CONSTRUCTION AND MUST BE APPROVED BY THE PLANNING CIVIL INSPECTOR IN THE LOCATION OF THE SWMF PRIOR TO THE CONSTRUCTION.
- THE OWNER/DEVELOPER/CONTRACTOR/RLD MUST CONTACT THE PLANNING CIVIL INSPECTOR AT (757-385-4558), PRIOR TO ANY CONSTRUCTION. A MINIMUM OF FIVE (5) INSPECTIONS ARE REQUIRED FOR INFILTRATION STRUCTURES. FAILURE TO CONTACT THE PLANNING CIVIL INSPECTOR, AS DIRECTED, COULD RESULT IN REMOVAL AND RECONSTRUCTION OF STRUCTURES. THE PLANNING CIVIL INSPECTOR MUST BE NOTIFIED 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- IF SUBGRADE SOILS HAVE BEEN DETERMINED TO BE SUITABLE FOR INFILTRATION USE BASED ON SOIL INFORMATION/EVALUATION, THIS INFORMATION MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER AND SUBMITTED TO THE DSC'S ENGINEER.
- THE CITY OF VIRGINIA BEACH WILL NOT BE RESPONSIBLE FOR THE DESIGN, FUNCTIONING, MAINTENANCE, AND/OR REPAIR OF SWMF'S, EXCLUDING THOSE AREAS AND/OR IMPROVEMENTS LOCATED WITHIN DEDICATED CITY DRAINAGE EASEMENTS AND RIGHT-OF-WAY.
- THE OWNER WILL GIVE NOTIFICATIONS TO THEIR HEIRS, ASSIGNS, SUCCESSORS IN TITLE, OR LESSEE OF THE SWMF, UTILIZED WITH THIS DEVELOPMENT AND OF THE ABOVE STATED DISCLAIMER (NOTAE 5) BY THE CITY OF VIRGINIA BEACH.
- ALL ON-SITE SWMF'S WILL BE PROTECTED DURING ALL STAGES OF CONSTRUCTION TO ENSURE OPTIMUM EFFICIENCY UPON COMPLETION AND TO MINIMIZE EROSION AND SEDIMENT FROM ENTERING INTO THE STRUCTURE DURING CONSTRUCTION.
- PUBLIC OR PRIVATE UTILITY FACILITIES WILL NOT CONFLICT WITH THE STRUCTURAL PRISM OF THE PROPOSED SWMF'S AS SHOWN ON THE APPROVED PLANS. IF A CONFLICT OCCURS, THE OWNER/DEVELOPER/CONTRACTOR/RLD MUST IMMEDIATELY CONTACT THE PLANNING/CIVIL INSPECTIONS.
- EXFILTRATION TESTS FOR VOLUME CONTROL SWMF OR INFILTRATION SWMF'S WILL BE PERFORMED AT EACH TRENCH LOCATION, IN ACCORDANCE WITH PLANNING/CIVIL INSPECTIONS POLICY, PRIOR TO THE ACCEPTANCE BY THE PLANNING CIVIL INSPECTOR. TEST RESULTS MUST SHOW THAT THE EXFILTRATION TRENCH IS IN ACCORDANCE WITH THE CITY OF VIRGINIA BEACH PERFORMANCE CRITERIA APPROVED CERTIFIED SOIL REPORT FOR INFILTRATION SWMF'S.
- ALL STONE SIZES FOR SWMF'S WILL BE IN ACCORDANCE WITH CHAPTER 8, "STORMWATER MANAGEMENT" OF THE PWSS.
- ALL SWMF DRAINAGE STRUCTURES WILL BE PROTECTED WITH A MINIMUM OF FOUR FEET (4') OF SOD AROUND THE STRUCTURE AND SILT FENCING WILL BE INSTALLED SURROUNDING THE SOD AS REQUIRED UNLESS OTHERWISE APPROVED BY THE DSC'S ENGINEER AND NOTED IN THE PLAN DETAILS.
- ALL UNDERGROUND SWMF'S MUST BE MARKED WITH A 5" X 5" X 1/4" THICK OR LARGER, STEEL PLATE AT EACH CORNER OR IT MUST BE MARKED WITH WHITE METALLIC MARKING TAPE THAT IS THREE INCHES (3") WIDE AND PLACED ON TOP OF THE SWMF, NOT TO EXCEED ONE FOOT (1') BELOW THE GROUND SURFACE. IN CERTAIN CASES, AT THE OPTION OF THE CIVIL INSPECTOR, IT MAY BE APPROPRIATE TO USE BOTH.

E.1.4 UTILITIES

- PRIOR TO CONSTRUCTION OR EXCAVATION, THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA OF CONSTRUCTION. "MISS UTILITY" OF VIRGINIA (1-800-552-7001) MUST BE CONTACTED A MINIMUM OF 72 HOURS PRIOR TO EXCAVATING. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY EXISTING UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION, AT HIS OWN EXPENSE.
- THE RELOCATION OF ANY UTILITIES (PUBLIC OR PRIVATE) LOCATED WITHIN THE CITY'S RIGHT-OF-WAY, WILL BE AT THE DEVELOPER'S EXPENSE, AND COMPLETED PRIOR TO THE PLACEMENT OF ANY PROPOSED ROADWAY BASE MATERIAL OR PAVEMENT IN CONJUNCTION WITH THE SITE WORK. ALL NEW UTILITY LINE INSTALLATIONS MUST BE UNDERGROUND (SUCH AS TELEPHONE, POWER, CABLE TELEVISION, ETC.).
- WATER METERS AND SEWER CLEANOUTS MUST BE PLACED AT THE RIGHT-OF-WAY OR AT THE PUBLIC UTILITY EASEMENT LINE, (WITHIN THE RIGHT-OF-WAY/EASEMENT), OUTSIDE OF ENTRANCES AND SIDEWALKS.
- DEFLECTING, OFFSETTING, OR RELOCATING EXISTING UTILITY MAINS WILL NOT BE ALLOWED EXCEPT UNDER EXTREME CIRCUMSTANCES. SUCH EXEMPTIONS WILL BE SUBMITTED TO THE DSC'S PUBLIC UTILITIES ENGINEER FOR APPROVAL.
- TYPE "K" SOFT DRAWN COPPER WILL BE USED FOR OFF-SITE WATER SERVICE LINES, TWO INCH (2") LINES AND UNDER, IN RIGHT-OF-WAYS AND PUBLIC UTILITY EASEMENTS.
- THE OWNER/DEVELOPER/CONTRACTOR MUST CONTACT PUBLIC UTILITY/INSPECTIONS AT (757-385-4175) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION (PUBLIC OR PRIVATE) LOCATED WITHIN THE CITY'S RIGHT-OF-WAY OR EASEMENT.

E.1.5 INCIDENTAL DRAINAGE

- TEMPORARY DRAINAGE DURING CONSTRUCTION WILL BE PROVIDED BY THE OWNER/DEVELOPER/CONTRACTOR TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS, AND/OR ADJACENT PROPERTIES AS DIRECTED BY CIVIL INSPECTIONS.
- THE PLANNING/CIVIL INSPECTOR WILL PERFORM AN ON-SITE INSPECTION OF STORM SEWER PIPE PRIOR TO ANY BACKFILLING OF THE INSTALLED PIPE.
- IF PRECAST DRAINAGE STRUCTURES ARE USED, SHOP DRAWINGS WILL BE SUBMITTED TO THE DSC'S ENGINEER BY THE OWNER/DEVELOPER/CONTRACTOR'S DESIGN CONSULTANT, ALONG WITH THE PROPER CERTIFICATION, UNLESS PREVIOUSLY APPROVED BY THE CITY ENGINEER'S OFFICE.
- ALL PROPOSED PUBLIC STORM DRAINAGE STRUCTURES SHALL UTILIZE INLET SHAPING WITH PAVED INVERTS, UNLESS OTHERWISE NOTED, ON THE PLANS FOR EACH STRUCTURE.
- MINIMUM FINAL HEIGHT OF COVER, FOR ALL CONCRETE STORM SEWER PIPE, WILL BE TWO FEET(2') OR MANUFACTURE'S RECOMMENDATION. SEE THE PWSS, SECTION 2.2.7 "PIPE COVER", FOR FURTHER REQUIREMENTS.
- ALL CONCRETE STORM SEWER PIPES IN THE CITY RIGHT-OF-WAYS AND EASEMENTS WILL BE TONGUE AND GROOVE. PIPES SUBJECT TO TRAFFIC LOADING WILL BE REINFORCED CONCRETE PIPE AND CONFORM TO THE SPECIFICATION FOR CONCRETE STORM SEWER PIPE, AASHTO DESIGNATION M170, WITH THE MODIFICATION THAT ALL PIPES WILL BE MANUFACTURED WITH 4,000 PSI CONCRETE. ALL PIPE JOINTS WILL BE SEALED IN ACCORDANCE WITH SECTION 302.03 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
- ALL STORM SEWER PIPE JOINTS WILL BE INSTALLED, SILT FREE, OR WILL BE COMPLETELY WRAPPED WITH A TWO FEET (2') WIDE APPROVED FILTER FABRIC, SECURED IN PLACE PRIOR TO BACKFILLING.
- ALL PIPE CULVERTS (WATER, SEWER, AND STORM SEWER), LOCATED WITHIN RIGHT-OF-WAY EXCAVATION AREAS THAT ARE SUBJECT TO TRAFFIC LOADS WILL BE BACKFILLED WITH A SELECT OR GRANULAR MATERIALS AND PLACED IN SIX INCH (6") LAYERS AND COMPACTED TO 95 PERCENT THEORETICAL AASHTO DENSITY IN ACCORDANCE WITH SECTION 302.03 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
- ALL METAL PIPE CULVERTS AND STORM SEWERS WILL BE INSTALLED IN ACCORDANCE WITH DRAWING PB-1 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS.
- IF CORRUGATED METAL PIPE IS USED, THE OWNER/DEVELOPER/CONTRACTOR WILL FURNISH PH CERTIFICATIONS OF THE BACKFILL MATERIAL IF THE BACKFILL MATERIAL HAS NOT BEEN PREVIOUSLY TESTED.
- ALL NON-CONCRETE STORM SEWER PIPES PLACED IN THE CITY RIGHT-OF-WAY OR IN CITY DRAINAGE EASEMENTS WILL INCORPORATE THE USE AND INSTALLATION OF LOCATOR TAPPE/WIRE TO AID IN FUTURE DETECTION.

E.1.6 INCIDENTAL CONCRETE

- ALL CONCRETE WILL BE CLASS "A-3" AIR ENTRAINED (3,000 PSI) IN ACCORDANCE WITH SECTION 217 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROADS AND BRIDGE SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
- BOTH CURB AND GUTTER WILL BE CONSTRUCTED IN SECTIONS OF UNIFORM LENGTHS, APPROXIMATELY TEN (10) FEET (NO SECTIONS WILL BE LESS THAN SIX FEET (6')). EXPANSION JOINTS WILL BE FORMED AT INTERVALS OF 100 FEET USING 1/2 INCH PHENOL-BLENDED BITUMINOUS FIBER JOINT FILLER. CONSTRUCTION JOINTS ARE REQUIRED AS FOLLOWS:
 - CURB & GUTTER 100'
 - FIVE FEET (5') WIDE SIDEWALK 50'
 - TEN FEET (10') WIDE 50'
- ALL ENTRANCES WILL BE MADE OF A MINIMUM OF SEVEN INCHES (7") THICK CONCRETE FROM THE EDGE OF PAVEMENT TO THE RIGHT-OF-WAY LINE.
- ALL CONCRETE WORK PERFORMED IN THE RIGHT-OF-WAY WILL BE INSPECTED BY THE PLANNING CIVIL INSPECTOR.

ESTIMATED QUANTITIES

ITEM	COUNT	
SILT FENCE	410	L.F.
REINFORCED SILT FENCE	1,335	L.F.
CLEARING & GRUBBING	52,000	S.F.
GRADING CUT	2,175	C.Y.
GRADING FILL	2,240	C.Y.
VDOT #3 STONE	58	C.Y.
VDOT #8 STONE	4	C.Y.
GEOTEXTILE	180	S.Y.
COIR LOGS	700	L.F.
PORTAGE RAIL AND TIES	110	L.F.
PILE SUPPORTED DECKING	600	S.F.
CABLE SYSTEM	1	LS
PRIMARY WEIR	148	L.F.
SECONDARY WEIR	40	L.F.
SINGLE LAYER WEIR	720	L.F.
PORTAGE SIGNS	3	EA
WEIR SIGNS WITH SOLAR BEACON	2	EA
SPLIT RAIL FENCE	100	L.F.
GRASS	1,173	AC.
TREES	1,173	AC.
WETLAND COMPENSATORY BENCH	6,010	S.F.

EROSION CONTROL AND CONSTRUCTION SEQUENCING:

- ACQUIRE ALL NECESSARY PERMITS.
- SET UP A PRE-CONSTRUCTION MEETING WITH THE CITY.
- CONSTRUCTION ACCESS VIA WATER ONLY
- INSTALL E&S MEASURES, INCLUDE WIRE REINFORCED SILT FENCE ON CANAL SIDE.
- INSTALL COIR LOGS ACCORDING TO MANUFACTURER'S SPECIFICATIONS
- GRADE EXISTING BERM NORTH OF PORTAGE AREA
- TEMPORARILY SEED GRADED BERM NORTH OF PORTAGE
- GRADE PORTAGE AREA
- INSTALL PILES FOR PORTAGE
- INSTALL PORTAGE APPARATUS, INCLUDING WINCHES
- INSTALL GEOWEB MATERIAL AND BACKFILL WITH PEA GRAVEL
- GRADE REMAINDER OF BERM FOR ACCESS TO CONSTRUCT WEIR
- INSTALL VINYL SHEETS FOR WEIR FACE
- INSTALL WEIR WHALER & TIE-ROD HARDWARE
- BACKFILL WEIR WITH SUITABLE FILL TO ELEVATION 0.0
- INSTALL WEIR WARNING SIGNS & BEACONS
- BACKFILL WEIR WITH RAILROAD GRAVEL TO FINISHED GRADE, +1.0
- GRADE REMAINDER OF BERM TO PROPOSED ELEVATION
- ESTABLISH PERMANENT VEGETATIVE COVER, MAINTAIN VEGETATIVE COVER THROUGHOUT DURATION OF PROJECT.
- AFTER VEGETATION IS ESTABLISHED, INSTALL BEST MANAGEMENT PRACTICES AND ENSURE THAT NO SILT OR DEBRIS REACHES THESE STRUCTURES.
- REMOVE REMAINING TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WITHIN THIRTY DAYS AFTER FINAL SITE IS STABILIZED WITH VEGETATIVE CROPS.

LEGEND

PROPOSED	DESCRIPTION	EXISTING
---	BOUNDARY LINE	---
---	PROPERTY LINE	---
●	IRON PIN	○
10.0	SPOT ELEVATION, SURVEY POINT	10.0
+	SIGN	+
—	CABLE PEDESTAL	—
○	SHRUB	○
⊕	TREE	⊕
○	WELL	○
—	FENCE	—
■	RIP-RAP	■
MG	MATCH GRADE	MG
—	SILT FENCE (SF)	—
—	TREE PROTECTION (TP)	—
CE	CONSTRUCTION ENTRANCE (CE)	CE

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COMMONWEALTH OF VIRGINIA
TOM BOLANDLEY
No. 11138
7/23/10
PROFESSIONAL ENGINEER

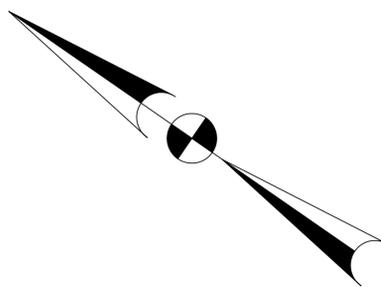
REVISION:	
DATE:	

LAKE TECUMSEH
WATER ELEVATION CONTROL PROJECT
GENERAL NOTES, MATERIAL QUANTITIES,
AND LEGEND FOR
U. S. FISH AND WILDLIFE

VIRGINIA BEACH, VIRGINIA

DESIGNED: TBL
DRAWN: WAL
CHECKED: TBL
SCALE: 1" = 20'
DATE: 7/23/10
FILE: plans.dwg
PROJ. #: 2009-014
SHEET NO.

Control Coordinate Table						
Sym	Point	Northing	Easting	Elevation	Station	Offset
△	1	3,445,398.3	12,224,390.1	6.78	1+14.27	26.10 L
	2	3,445,517.2	12,224,311.9	8.70	2+56.53	22.90 L
	3	3,445,655.7	12,224,219.3	9.20	4+23.13	20.40 L
	4	3,445,757.1	12,224,145.5	7.46	5+48.48	23.60 L
	5	3,445,833.3	12,224,088.4	6.24	6+43.63	27.40 L
	6	3,445,922.6	12,224,039.9	6.04	7+44.64	16.50 L
▲	7	3,446,062.7	12,223,987.9	2.27	8+89.58	20.20 R
	8	3,445,306.8	12,224,234.9	1.86	1+27.06	205.70 L



GPIN 2424-57-0126
 NOW OR FORMERLY
 HAMPTON ROADS
 SANITATION DISTRICT
 INST. 20070309000327160
 INST. 2007030900032540 (PLAT)

LAKE TECUMSEH

RECYCLE TIMBER CUT FROM PROJECT AREA.
 QUANTITY AND POSITION DEPEND ON AMOUNT
 CLEARED FROM DISTURBED PROJECT AREA.

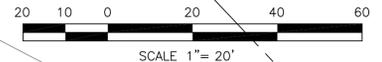
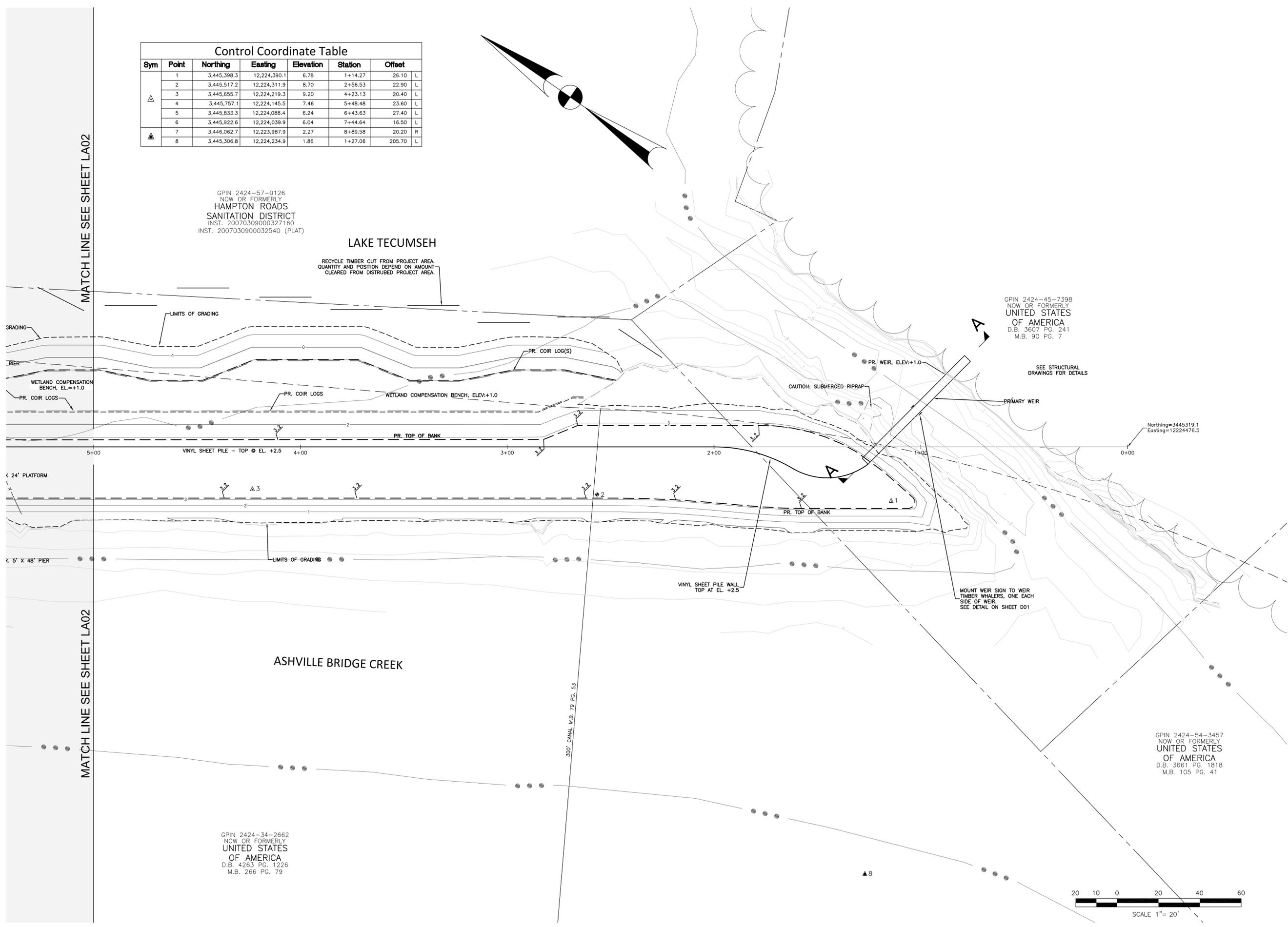
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 NOW OR FORMERLY
 UNITED STATES
 OF AMERICA
 D.B. 3607 PG. 241
 M.B. 90 PG. 7

SEE STRUCTURAL
 DRAWINGS FOR DETAILS

Northing=3445319.1
 Easting=12224476.5

GPIN 2424-54-3457
 NOW OR FORMERLY
 UNITED STATES
 OF AMERICA
 D.B. 3661 PG. 1818
 M.B. 105 PG. 41

GPIN 2424-34-2662
 NOW OR FORMERLY
 UNITED STATES
 OF AMERICA
 D.B. 4263 PG. 1226
 M.B. 266 PG. 79



MATCH LINE SEE SHEET LA02

MATCH LINE SEE SHEET LA02

L&M
 Langley & McDonald, Inc
 Engineering • Planning • Surveying
 309 Lynnhaven Parkway
 Virginia Beach, VA 23452
 PH: (757) 463-4306 FAX: (757) 463-3563

COMMONWEALTH OF VIRGINIA
 TOM A. LANGLEY
 Lic. No. 11138
 7/23/10
 PROFESSIONAL ENGINEER

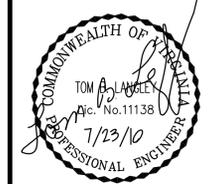
REVISION:	
DATE:	

VIRGINIA

LAKE TECUMSEH
 WATER ELEVATION CONTROL PROJECT
 PROPOSED BOAT PORTAGE
 AND WEIR PLAN
 FOR
 U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

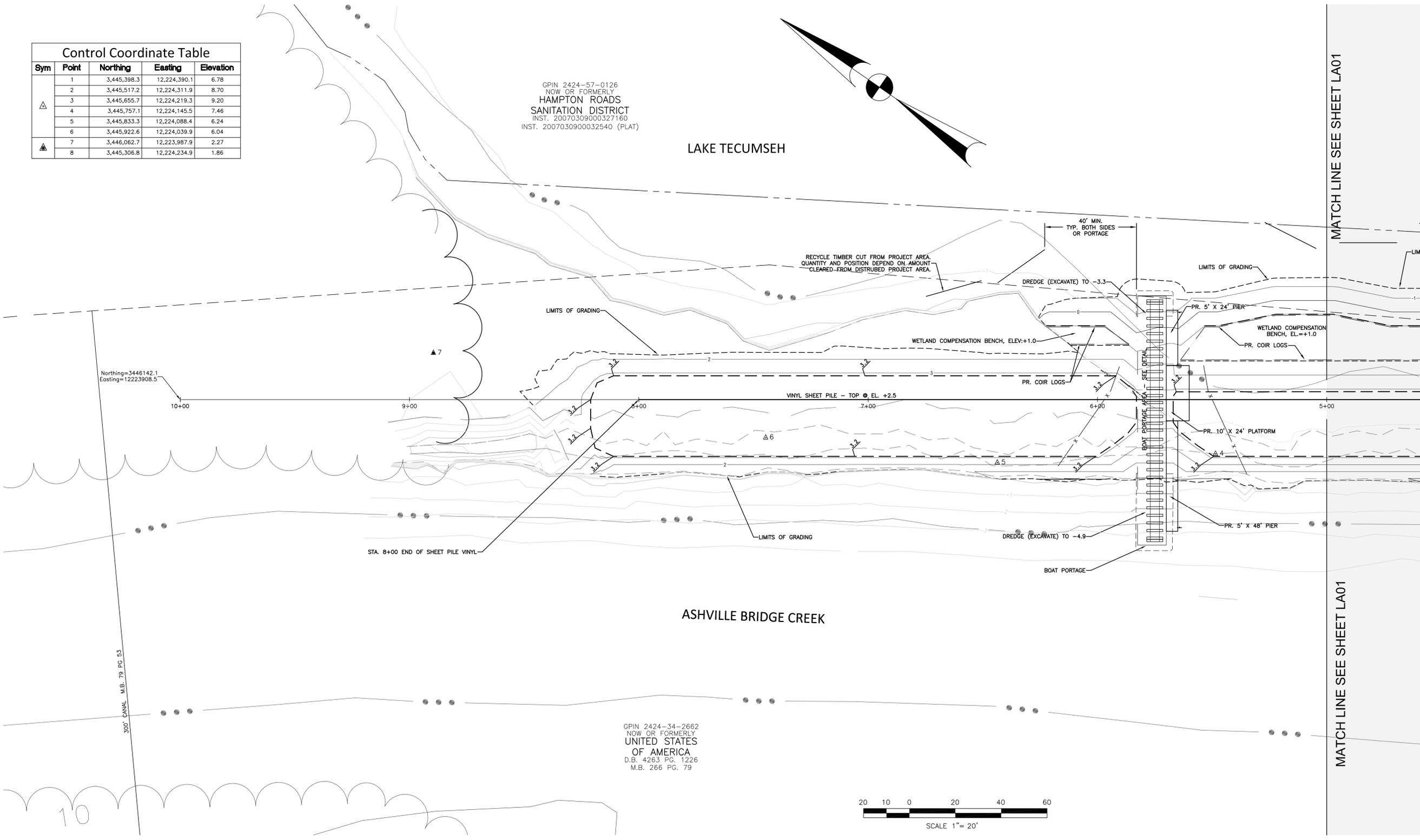
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CHECKED:	TBL
SCALE:	1" = 20'
DATE:	7/23/10
FILE:	plans.dwg
PROJ. #:	2009-014
SHEET NO.	



Sym	Point	Northing	Easting	Elevation
	1	3,445,398.3	12,224,390.1	6.78
	2	3,445,517.2	12,224,311.9	8.70
△	3	3,445,655.7	12,224,219.3	9.20
	4	3,445,757.1	12,224,145.5	7.46
	5	3,445,833.3	12,224,088.4	6.24
	6	3,445,922.6	12,224,039.9	6.04
▲	7	3,446,062.7	12,223,987.9	2.27
	8	3,445,306.8	12,224,234.9	1.86

GPIN 2424-57-0126
 NOW OR FORMERLY
 HAMPTON ROADS
 SANITATION DISTRICT
 INST. 20070309000327160
 INST. 2007030900032540 (PLAT)

LAKE TECUMSEH



Northing=3446142.1
 Easting=12223908.5

300' CANAL M.B. 79 PG. 53

STA. 8+00 END OF SHEET PILE VINYL

ASHVILLE BRIDGE CREEK

GPIN 2424-34-2662
 NOW OR FORMERLY
 UNITED STATES
 OF AMERICA
 D.B. 4263 PG. 1226
 M.B. 266 PG. 79



MATCH LINE SEE SHEET LA01

MATCH LINE SEE SHEET LA01

REVISION:	
DATE:	

VIRGINIA

LAKE TECUMSEH
 WATER ELEVATION CONTROL PROJECT
 PROPOSED BOAT PORTAGE
 AND WEIR PLAN
 FOR
 U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

DESIGNED:	TBL
DRAWN:	WAL
CHECKED:	TBL
SCALE:	1" = 20'
DATE:	7/23/10
FILE:	plans.dwg
PROJ. #:	2009-014
SHEET NO.	

10

GPIN 2424-19-8264
 NOW OR FORMERLY
 HAMPTON ROADS
 SANITATION DISTRICT
 D.B. 2066 PG. 239
 D.B. 2761 PG. 1951 (PLAT)

GPIN 2424-16-5667
 NOW OR FORMERLY
 LAND AMERICA HOLDING LLC
 INST. 20090904001053300
 M.B. 286 PG. 79

GPIN 2424-34-2862
 NOW OR FORMERLY
 UNITED STATES
 OF AMERICA
 D.B. 4226 PG. 776
 M.B. 286 PG. 79

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 Easting=12223043.0

Northing=3446644.1
 Easting=12223065.7

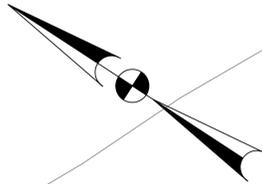
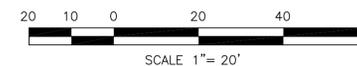
FOOT TRAIL - MATERIALS
 AND EQUIPMENT TO BE
 HAND CARRIED

SECONDARY WEIR
 SEE SHEET S1.01-
 FOR DETAILS

ASHVILLE CREEK

300' CANAL M.B. 79 PG. 53

GPIN 2414-94-0802
 NOW OR FORMERLY
 LAND AMERICA HOLDING LLC
 INST. 20090904001053300
 INST. 20070629000880110 (PLAT)



L&M
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 Engineering • Planning • Surveying
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COMMONWEALTH OF VIRGINIA
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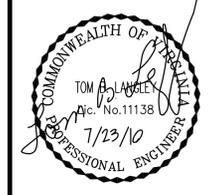
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DATE:	

VIRGINIA

LAKE TECUMSEH
 WATER ELEVATION CONTROL PROJECT
 SECONDARY WEIR PLAN
 FOR
 U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

DESIGNED: TBL
DRAWN: WAL
CHECKED: TBL
SCALE: 1" = 20'
DATE: 7/23/10
FILE: plans.dwg
PROJ. #: 2009-014
SHEET NO. LA03
6 OF 14 SHEETS



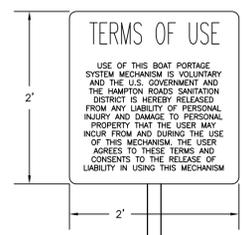
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DATE:	

VIRGINIA

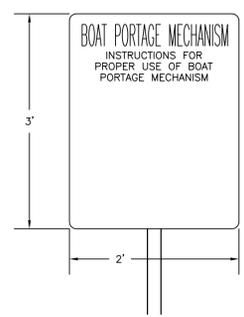
LAKE TECUMSEH
 WATER ELEVATION CONTROL PROJECT
 BOAT PORTAGE CONTROL PLAN & PROFILE
 FOR
 U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

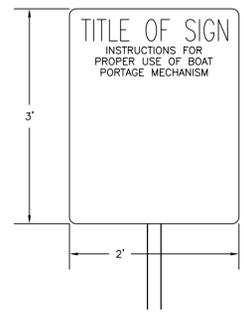
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PROJ. #:	2009-014
SHEET NO.	



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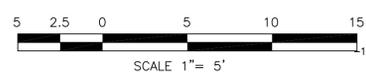


MS-2 SIGN
 NOT TO SCALE



MS-3 SIGN
 NOT TO SCALE

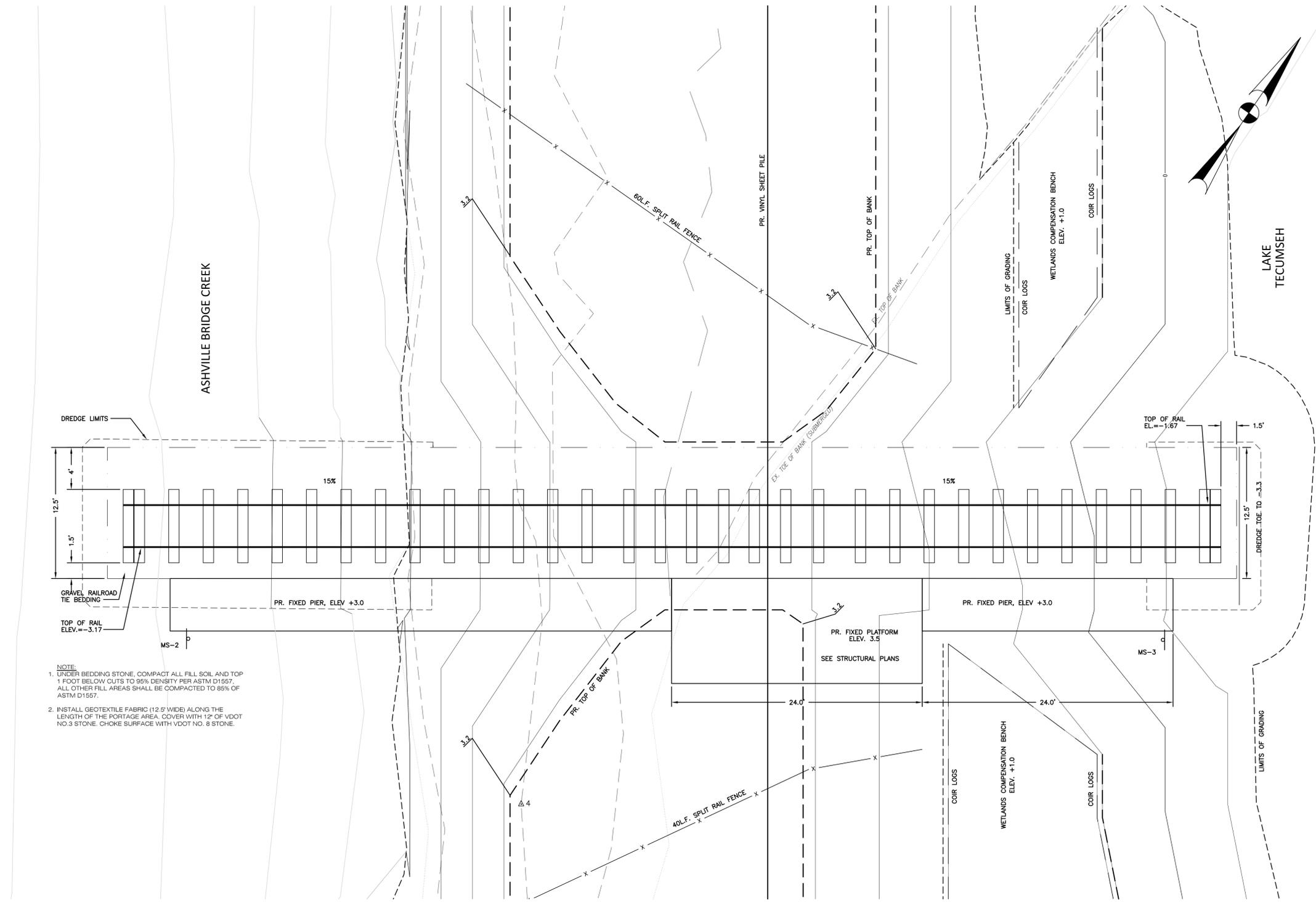
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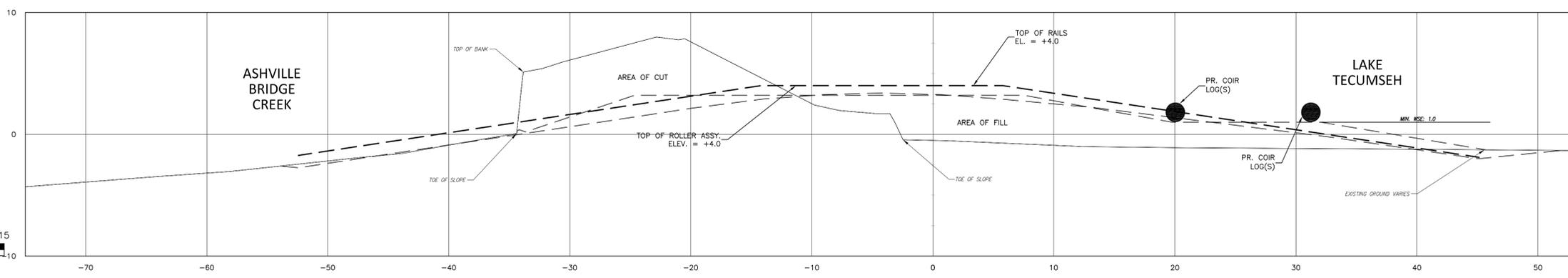
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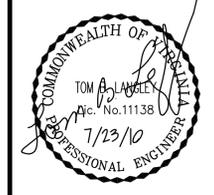
SIGN MATERIAL:
 1/8" ALUMINUM SHEET

SIGN MATERIAL:
 1/8" ALUMINUM SHEET



- NOTE:**
1. UNDER BEDDING STONE, COMPACT ALL FILL SOIL AND TOP 1 FOOT BELOW CUTS TO 95% DENSITY PER ASTM D1557. ALL OTHER FILL AREAS SHALL BE COMPACTED TO 85% OF ASTM D1557.
 2. INSTALL GEOTEXTILE FABRIC (12.5' WIDE) ALONG THE LENGTH OF THE PORTAGE AREA. COVER WITH 12" OF VDOT NO. 3 STONE. CHOKE SURFACE WITH VDOT NO. 8 STONE.





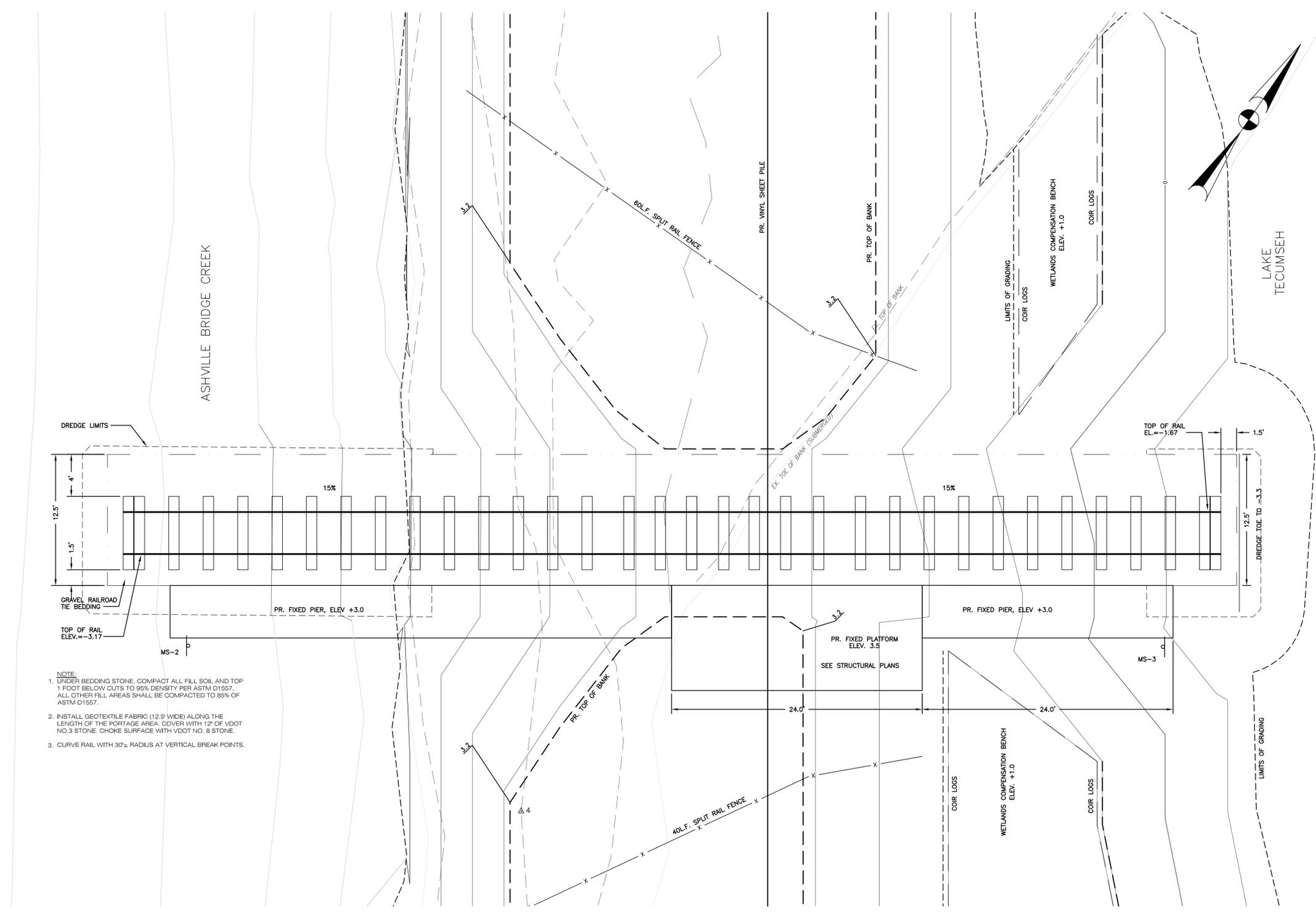
REVISION:	
DATE:	

VIRGINIA

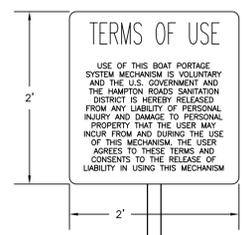
LAKE TECUMSEH
 WATER ELEVATION CONTROL PROJECT
 BOAT PORTAGE CONTROL PLAN & PROFILE
 FOR
 U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

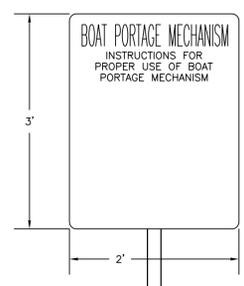
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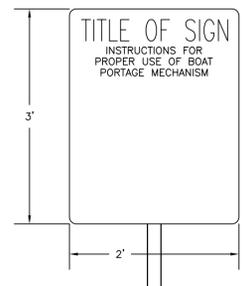
- NOTE**
1. UNDER BEDDING STONE, COMPACT ALL FILL SOIL AND TOP 1 FOOT BELOW CUTS TO 95% DENSITY PER ASTM D1557. ALL OTHER FILL AREAS SHALL BE COMPACTED TO 85% OF ASTM D1557.
 2. INSTALL GEOTEXTILE FABRIC (12.5' WIDE) ALONG THE LENGTH OF THE PORTAGE AREA. COVER WITH 12" OF VDOT NO. 3 STONE. CHOKO SURFACE WITH VDOT NO. 8 STONE.
 3. CURVE RAIL WITH 30'± RADIUS AT VERTICAL BREAK POINTS.



MOUNT SIGN NEXT TO CABLE WINCH
MS-1 SIGN
 NOT TO SCALE

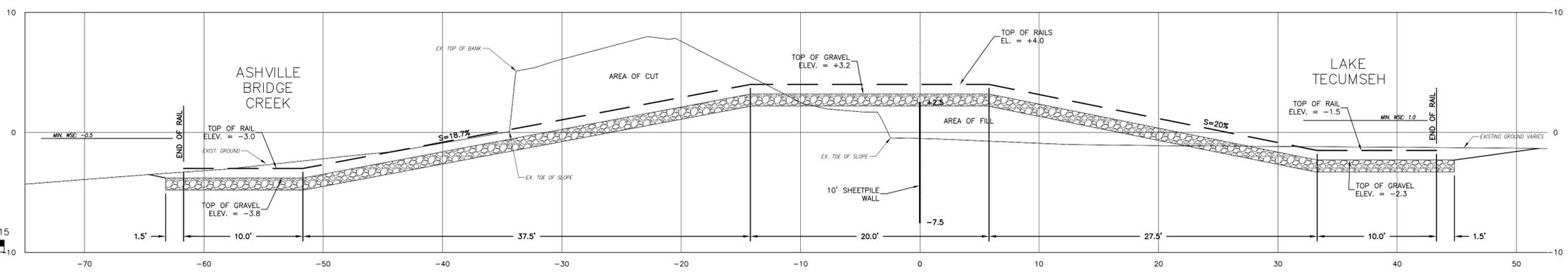
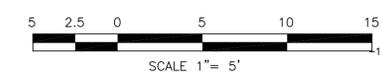


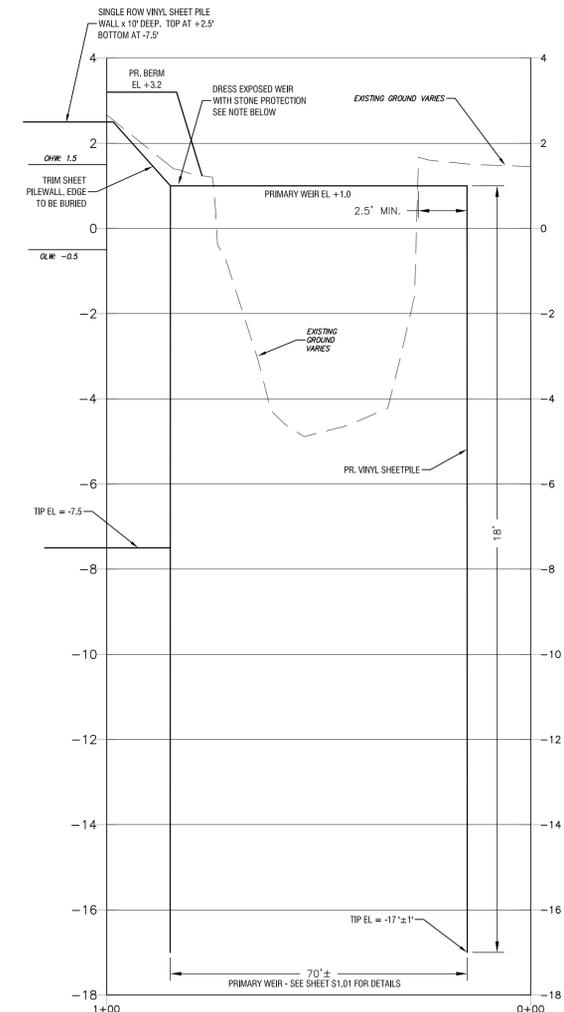
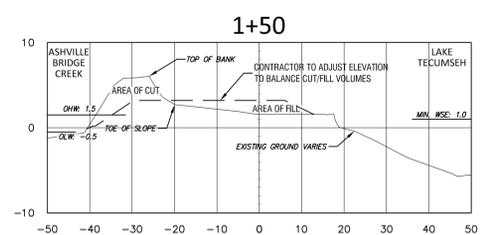
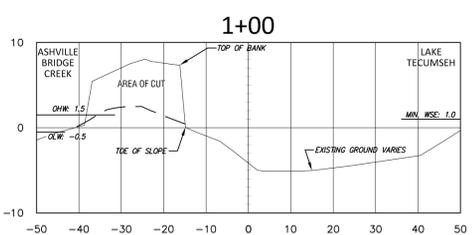
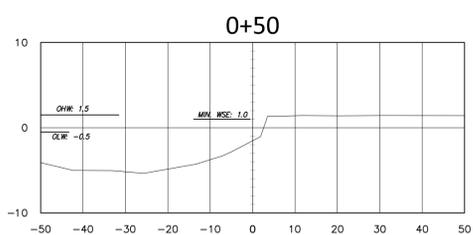
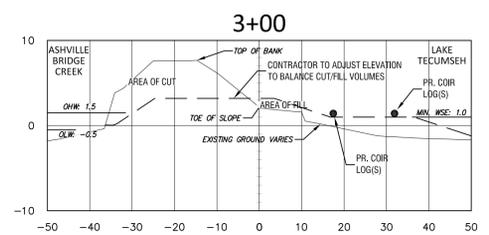
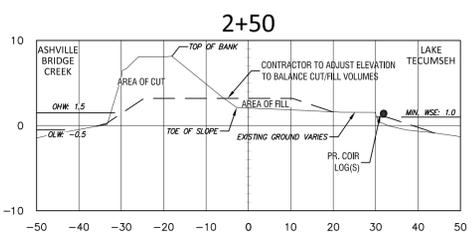
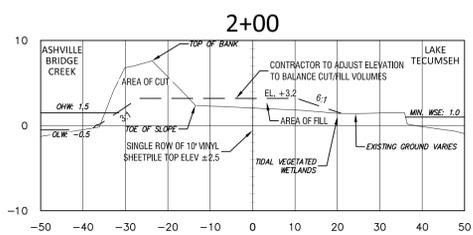
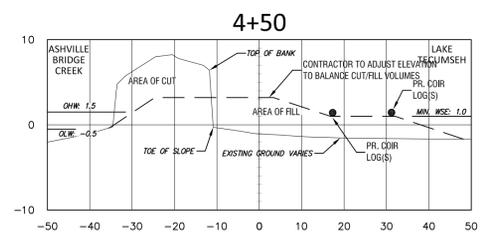
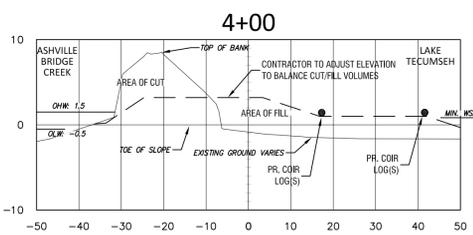
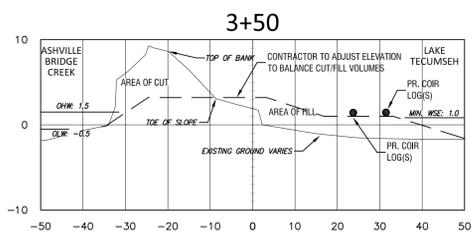
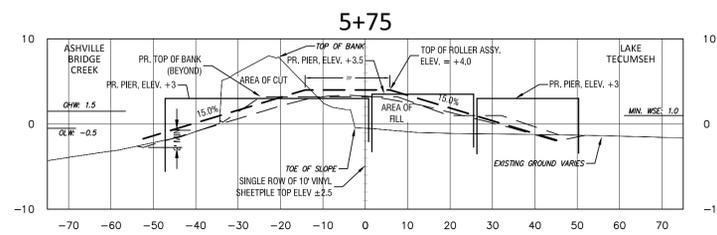
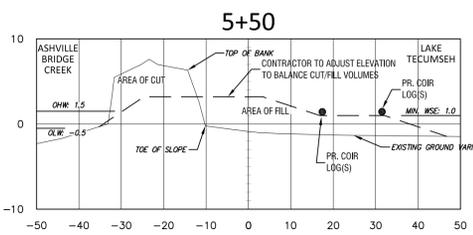
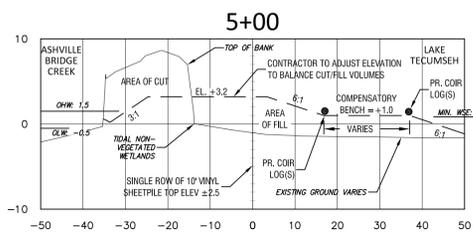
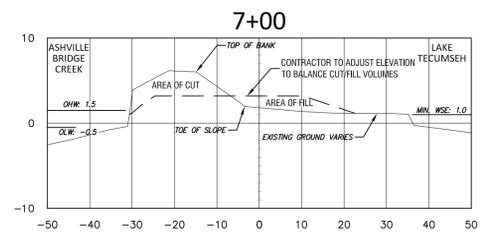
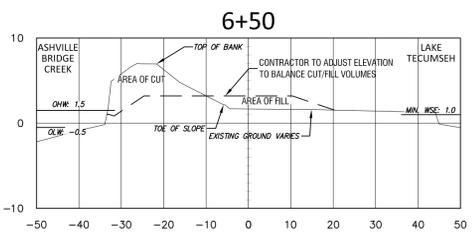
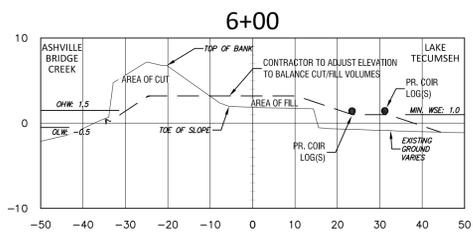
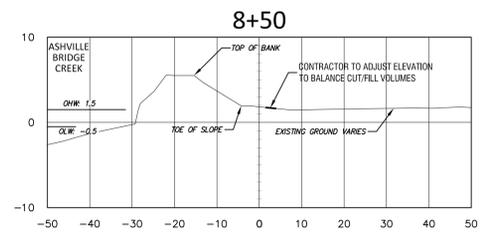
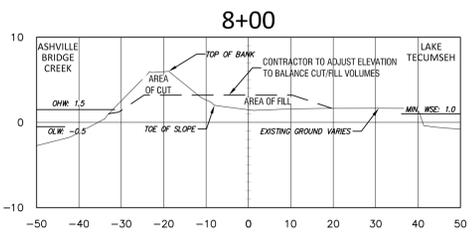
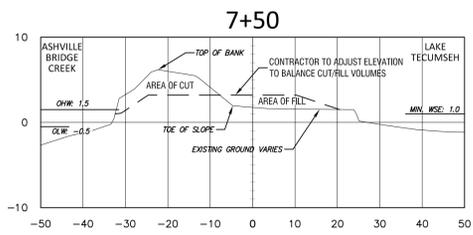
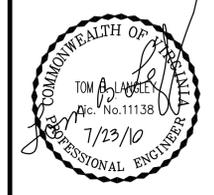
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 NOT TO SCALE



MOUNT SIGN TO PIER
MS-3 SIGN
 NOT TO SCALE

SIGN CONTENTS TO BE ESTABLISHED BY LATER DOCUMENT PROVIDED TO CONTRACTOR.



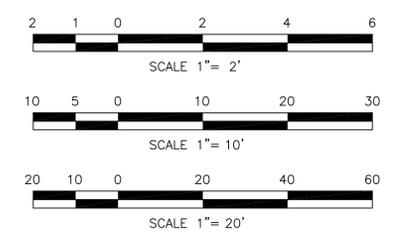


NOTE: STONE PROTECTION SHALL BE VDOT #3 GRADED AGGREGATE, 10' X 10' X 12" OVER GEOTEXTILE FABRIC, CENTERED AT TOP OF WEIR AT EACH BANK.

PRIMARY WEIR SECTION A-A

SCALE: HORIZ. 1"=2'
 VERT. 1"=20'

SCALE: HORIZ. 1"=20'
 VERT. 1"=10'



REVISION:
 DATE:

VIRGINIA

LAKE TECUMSEH
 WATER ELEVATION CONTROL PROJECT
 CROSS SECTIONS
 FOR
 U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

DESIGNED: TBL
DRAWN: WAL
CHECKED: TBL
SCALE: 1" = 20'
DATE: 7/23/10
FILE: plans.dwg
PROJ. #: 2009-014
SHEET NO.

DESIGN CODES:

- VIRGINIA UNIFORM STATE WIDE BUILDING CODE (VUSBC)
- THE 2000 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC 2003).
- NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION 2005
- ACI STANDARD 318-02, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

GENERAL NOTES:

- THE FOLLOWING LOADS, IN ADDITION TO THE DEAD LOADS OF THE PERMANENT MATERIALS AND CONSTRUCTION, WERE USED:
 - FIXED PIER & WALKWAY LIVE LOAD 50 PSF
 - WIND LOAD
 - BASIC WIND SPEED (3 SEC. GUST) 115 MPH
 - IMPORTANCE FACTOR 1.00
 - WIND EXPOSURE C
 - WIND DESIGN PRESSURE
- ALL ITEMS SHOWN ON THIS DRAWING ARE NEW CONSTRUCTION, UNLESS NOTED OTHERWISE AS EXISTING.
- THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION AND ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
- THE CONTRACTOR SHALL EXERCISE ALL PRECAUTIONS NECESSARY TO MAINTAIN ALL AREAS OF WORK IN A SAFE CONDITION THROUGHOUT CONSTRUCTION.
- UNDER NO CIRCUMSTANCES SHALL THE CONTRACT DRAWINGS BE REPRODUCED AND USED AS SHOP DRAWINGS.

CONCRETE NOTES:

- ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 301 "STRUCTURAL CONCRETE FOR BUILDINGS" AND ACI 318/318R "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- ALL CAST-IN-PLACE CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND ATTAIN AN ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AT AN AGE OF 28 DAYS.
- THE SLUMP OF CAST-IN-PLACE CONCRETE SHALL NOT EXCEED 4 INCHES WITHOUT A HIGH RANGE WATER REDUCING ADMIXTURE. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED 5% TO 7%.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60 DEFORMED BARS UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL MARKED CONTINUOUS (CONT.) SHALL BE LAPPED 42 BAR DIAMETERS AT SPLICES, UNLESS OTHERWISE NOTED.
- THE SLUMP OF CAST-IN-PLACE CONCRETE SHALL NOT EXCEED 4 INCHES WITHOUT A HIGH RANGE WATER REDUCING ADMIXTURE. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED 5% TO 7%.
- ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR BOLTS AND WELD PLATES SHALL BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
- MINIMUM CONCRETE COVER FOR PROTECTION OF REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE NOTED:
 - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH. 3 INCHES
 - CONCRETE EXPOSED TO EARTH OR WEATHER 1 1/2 INCHES
 - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND. 3/4 INCH
- THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF CONCRETE MIX DESIGN AND TEST REPORTS. THE MIX DESIGN SHALL INCLUDE ALL PROPERTIES OF THE MIX, MATERIALS USED IN THE CONCRETE AND ACTUAL CONCRETE STRENGTH. SHOP DRAWINGS FOR CONCRETE REINFORCEMENT SHALL ALSO BE PROVIDED, INCLUDING REINFORCING AND WELDED WIRE FABRIC.

STRUCTURAL STEEL NOTES:

- ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE NINTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- ALL STRUCTURAL STEEL AND THREADED RODS SHALL CONFORM TO ASTM A36 Fy = 36 KSI AND SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123, UNLESS OTHERWISE NOTED.

WOOD FRAMING NOTES:

- ALL STRUCTURAL LUMBER SHALL BE IN ACCORDANCE WITH S.P.I.B. SPECIFICATIONS AND SHALL BE NO. 2 SOUTHERN PINE AND USED AT 15% MAXIMUM MOISTURE CONTENT OR EQUAL.
- THE DESIGN, FABRICATION AND ERECTION OF ALL TIMBER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 1997 MANUAL FOR WOOD FRAMING CONSTRUCTION DATA #1 BY NATIONAL FOREST PRODUCTS ASSOCIATION.
- ALL WOOD FRAMING MEMBERS SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE SPECIFICATIONS. BOLT HEADS AND NUTS BEARING ON WOOD SHALL BE PROVIDED WITH STANDARD CUT WASHERS. ALL BOLTS AND SCREWS SHALL BE STAINLESS STEEL.
- WOOD FRAMING SHALL BE PRESSURE TREATED WITH 0.80 POUNDS PER CUBIC FOOT RETENTION OF CHROMATED COPPER ARSENATE, TYPE B (CCA-B), IN ACCORDANCE WITH AMERICAN WOOD-PRESERVERS' ASSOCIATION AWWA SPECIFICATIONS SECTIONS C1, C3, AND AWPB MP-2.

PILES - GENERAL:

- PILE SIZE, CAPACITY, LOCATION, CUT OFF ELEVATION, AND ESTIMATED DRIVEN LENGTH FOR BID PURPOSES SHALL BE AS SHOWN ON THE DRAWINGS.
- PILE DRIVING SHALL BE CONTINUOUS UNTIL THE REQUIRED PILE TIP ELEVATION IS REACHED.
- PILES SHALL BE IN ONE PIECE. SPLICES SHALL NOT BE PERMITTED.
- LENGTHS OF PILE FOR PAYMENT OF PILE DRIVING COSTS SHALL BE MEASURED FROM THE DRIVEN TIP ELEVATION TO THE CUT-OFF ELEVATION SHOWN ON THE DRAWINGS. THE LENGTH OF PILE ABOVE THE CUT-OFF ELEVATION SHALL BE EXCLUDED FROM PAYMENT CALCULATIONS.
- FOR BID PURPOSES, ASSUME AN ACTUAL DRIVEN PILE LENGTH EQUAL TO THE ESTIMATED DRIVEN PILE LENGTH SHOWN ON THE DRAWINGS. THE BID QUOTATION SHALL INCLUDE A PRICE FOR EACH ADDITIONAL FOOT OF PILE DRIVEN BEYOND THE ESTIMATED DRIVEN PILE LENGTH SHOWN ON THE DRAWINGS. THE SAME PRICE PER FOOT SHALL BE USED TO REDUCE THE PILING COST FOR THOSE PILES DRIVEN LESS THAN THE ESTIMATED PILE LENGTH SHOWN ON THE DRAWINGS.
- PILING CONTRACTOR IS RESPONSIBLE FOR ORDERING PILES OF SUFFICIENT LENGTH TO ACCOUNT FOR:
 - DAMAGE TO THE TOP OF THE PILE DURING DRIVING. ADDITIONAL DRIVEN LENGTH BEYOND THE ESTIMATED PILE LENGTH REQUIRED TO REACH THE ULTIMATE PILE CAPACITY.
- ALLOWABLE PILING TOLERANCES ARE:
 - NO SINGLE PILE OR PILE GROUP SHALL DEVIATE FROM ITS INDICATED CENTER OF GRAVITY BY PLUS-OR-MINUS 3 INCHES.
 - PILES SHALL NOT VARY FROM THE VERTICAL MORE THAN 1 INCH IN 10'-0" OR A MAXIMUM OF 4 INCHES.
 - PILE CUT OFF ELEVATIONS SHALL NOT VARY BY PLUS-OR-MINUS 1 INCH.
 - ANGLE OF BATTER PILES (IF USED) SHALL NOT VARY BY PLUS-OR-MINUS 0.5 DEGREES FROM THE SPECIFIED ANGLE.
- THE OWNER'S REPRESENTATIVE SHALL MAKE THE FINAL ACCEPTANCE OR REJECTION OF ALL PILING. CRITERIA FOR ACCEPTANCE WILL INCLUDE, BUT NOT LIMITED TO, THESE GENERAL NOTES, THE DRAWINGS, AND ANY PILING SPECIFICATIONS INCLUDED IN THIS CONTRACT.
- HEAVED PILES SHALL BE REDRIVEN TO ULTIMATE CAPACITY AT CONTRACTOR'S EXPENSE.
- REMEDIAL WORK REQUIRED FOR REJECTED PILES SHALL BE AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE. REMEDIAL WORK MAY INCLUDE, BUT NOT LIMITED TO, REMOVAL AND REPLACEMENT OF REJECTED PILE, OR INSTALLATION OF NEW PILE ADJACENT TO PILE GROUP. THE COST OF ALL REMEDIAL WORK SHALL BE BORN BY THE CONTRACTOR.
- ADDITIONAL ENGINEERING AND CONSTRUCTION COSTS REQUIRED TO MODIFY FOUNDATION DESIGNS TO ACCOMMODATE MISLOCATED OR REJECTED PILES SHALL BE AT THE CONTRACTOR'S EXPENSE.
- INFORMATION ON INDICATED SUBSURFACE CONDITIONS ARE NOT INTENDED AS REPRESENTATIONS OR WARRANTIES OF CONTINUITY OF SUCH CONDITIONS.
- PILING CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF UNDERGROUND STRUCTURES AND UTILITIES, WHETHER SHOWN OR OMITTED FROM THE PLANS. IF ITEMS ARE FOUND WHICH PROHIBIT FOUNDATIONS FROM BEING INSTALLED AS SHOWN, THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED BEFORE COMMENCING CONSTRUCTION.

TIMBER PILES:

- TIMBER PILES SHALL BE CLEAN-PEELED, CLASS B, SOUTHERN YELLOW PINE IN ACCORDANCE WITH ASTM D25. CAPACITY SHALL BE AS SHOWN ON CONTRACT DOCUMENTS. TIP DIAMETER SHALL BE 8".
- TIMBER PILES SHALL BE PRESSURE TREATED WITH 2.50 POUNDS PER CUBIC FOOT RETENTION OF CHROMATED COPPER ARSENATE, TYPE B (CCA-B), IN ACCORDANCE WITH AMERICAN WOOD-PRESERVERS' ASSOCIATION AWWA SPECIFICATIONS SECTIONS C1, C3, AND AWPB MP-2.

SPECIAL INSPECTIONS:

- THE FOLLOWING SPECIAL INSPECTION SHALL BE PERFORMED BY THE OWNER IN ACCORDANCE WITH CHAPTER 17 OF IBC 2003:

PILE FOUNDATIONS:

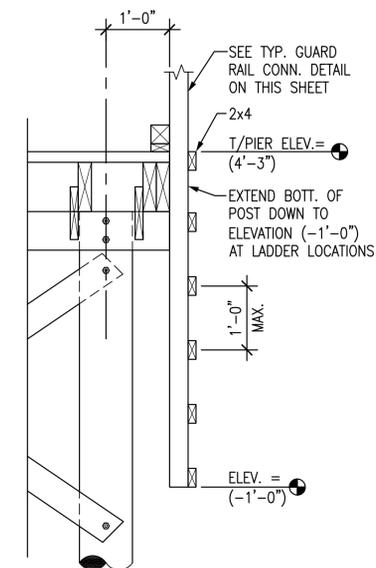
- MONITOR DRIVING OF TEST PILES
- MONITOR DRIVING OF PRODUCTION PILES
- REVIEW AS-DRIVEN SURVEY

CONCRETE:

- REVIEW MIX. DESIGN AND MATERIAL CERTIFICATES OF COMPLIANCE
- FIELD INSPECTION OF REINFORCING STEEL PLACEMENT
- FIELD INSPECTION OF CONCRETE PLACING AND CURING
- EVALUATION OF CONCRETE STRENGTH

WOOD:

- REVIEW SUBMITTALS AND INSTALLATION



SECTION AT OPTIONAL LADDER LOCATION

3/4" = 1'-0"

REVISION:

DATE:

VIRGINIA

LAKE TECUMSEH
WATER ELEVATION CONTROL PROJECT
 GENERAL NOTES
 FOR
 U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

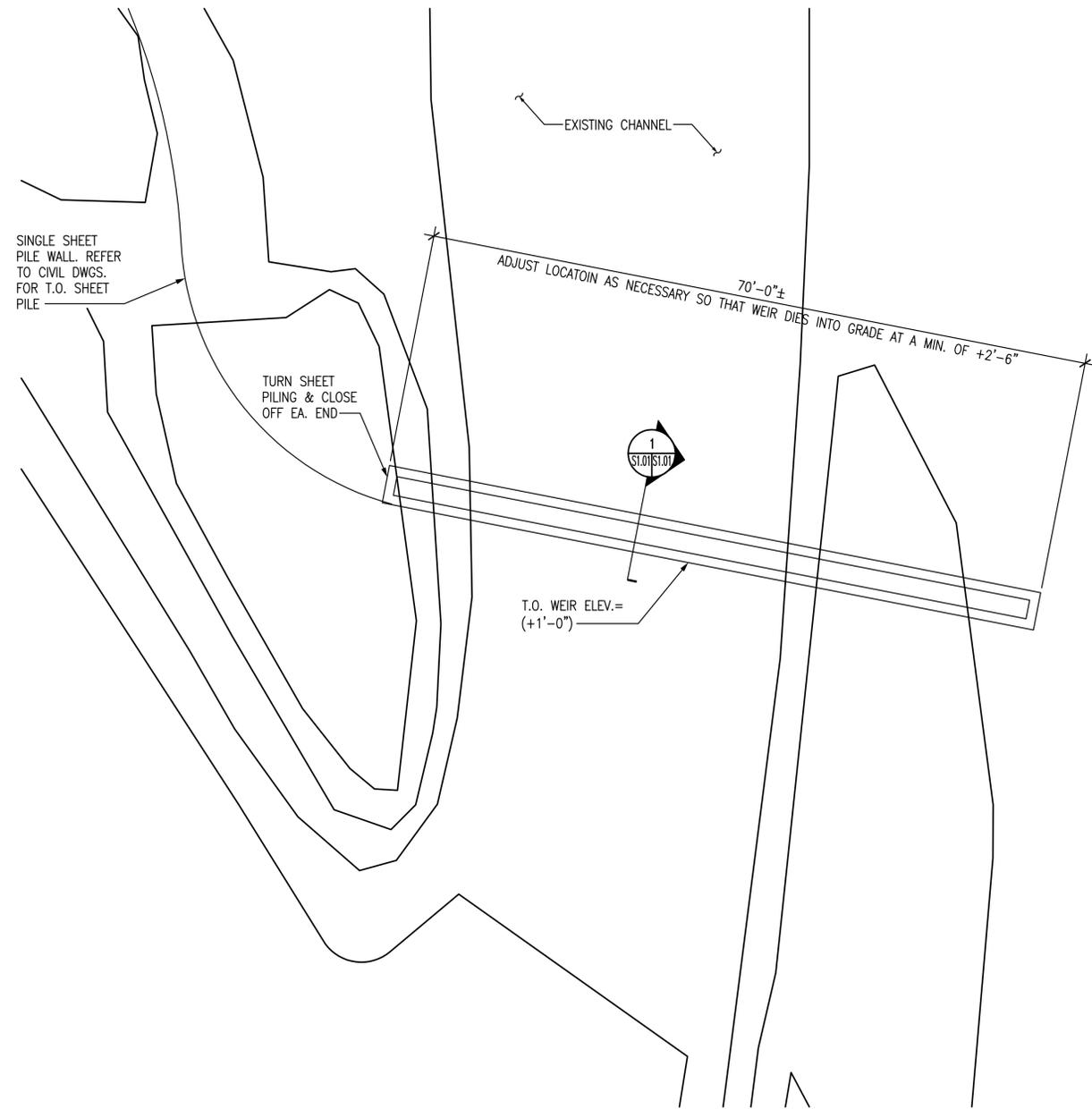
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 DRAWN: GMG
 CHECKED: CPG
 SCALE: AS NOTED
 DATE: 7/23/10
 FILE: .dwg
 PROJ. #: 29351
 SHEET NO.

S0.01
 10 OF 14 SHEETS

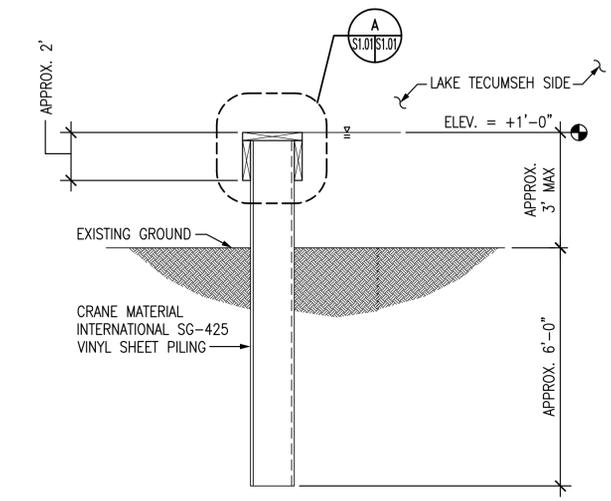
McPHERSON
DESIGN
GROUP p.c.
 STRUCTURAL ENGINEERS
 4371 Center Drive, Suite 100
 Norfolk, Virginia 23502-4102
 Phone (757) 945-2000
 Facsimile (757) 945-2001
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L&M
Langley & McDonald, Inc
 Engineering • Planning • Surveying
 309 Lynnhaven Parkway
 Virginia Beach, VA 23452
 PH: (757) 463-4306 FAX: (757) 463-3563

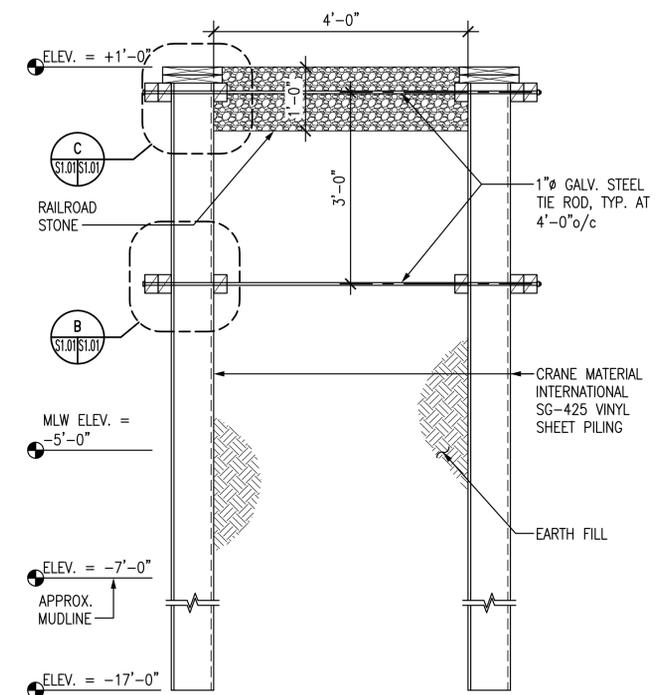




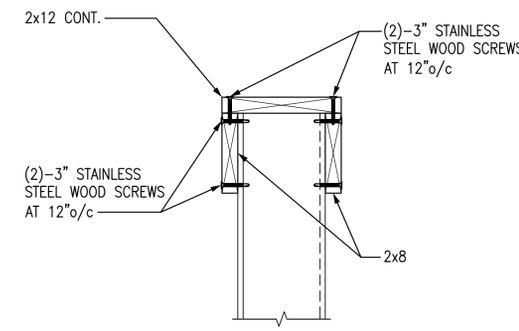
PRIMARY WEIR PLAN - CANAL LOCATION
1/8" = 1'-0"



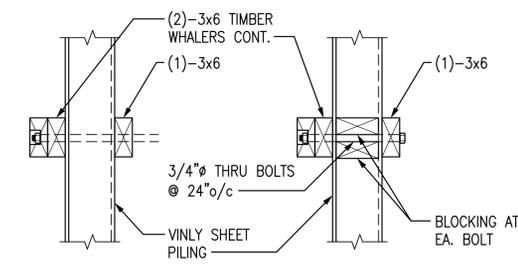
SECONDARY WEIR AT CREEK LOCATION - SECTION
NOT TO SCALE



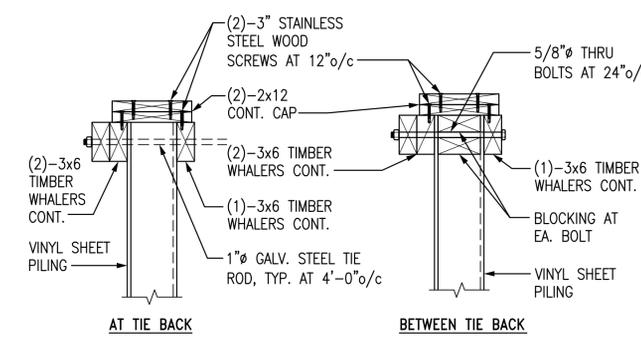
SECTION
3/4" = 1'-0"



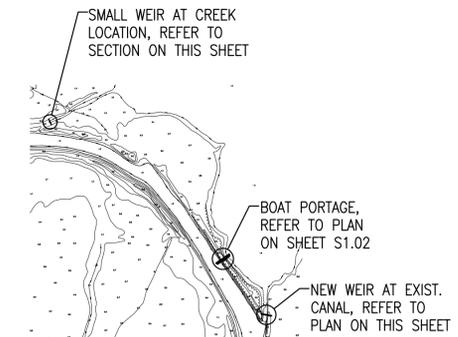
DETAIL A
1 1/2" = 1'-0"



DETAILS B
1" = 1'-0"



DETAILS C
1" = 1'-0"



KEY PLAN
NOT TO SCALE

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Virginia Beach, VA 23452
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COMMONWEALTH OF VIRGINIA
GREGORY M. GERLING
Lic. No. 039573
7/23/10
PROFESSIONAL ENGINEER

REVISION:
DATE:

VIRGINIA

LAKE TECUMSEH
WATER ELEVATION CONTROL PROJECT
WEIR PLAN, SECTIONS AND DETAILS
FOR
U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

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CHECKED: CPG
SCALE: AS NOTED
DATE: 7/23/10
FILE: .dwg
PROJ. #: 29351
SHEET NO.

S1.01
11 OF 14 SHEETS

REVISION:
 DATE:

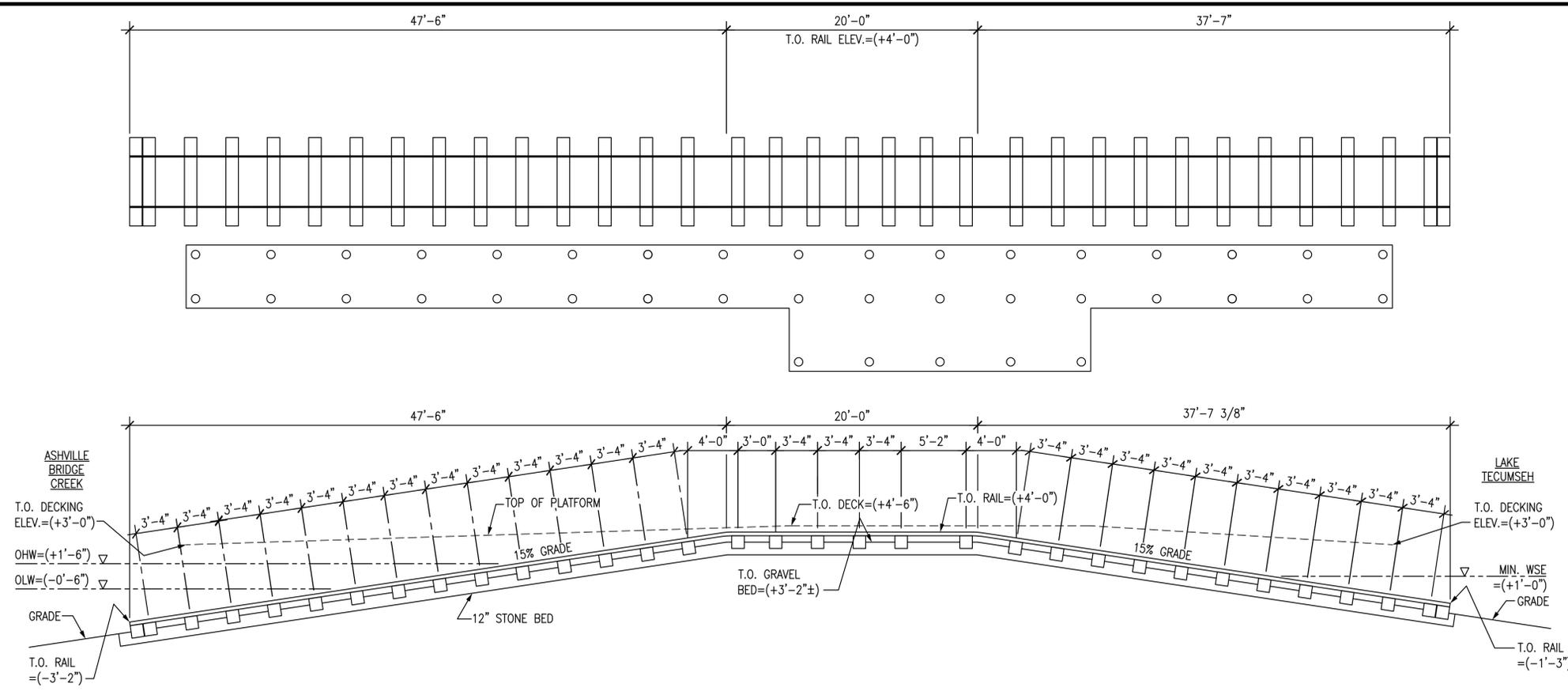
VIRGINIA

LAKE TECUMSEH
 WATER ELEVATION CONTROL PROJECT
 BOAT PORTAGE PROFILE AND PLAN
 FOR
 U. S. FISH AND WILDLIFE

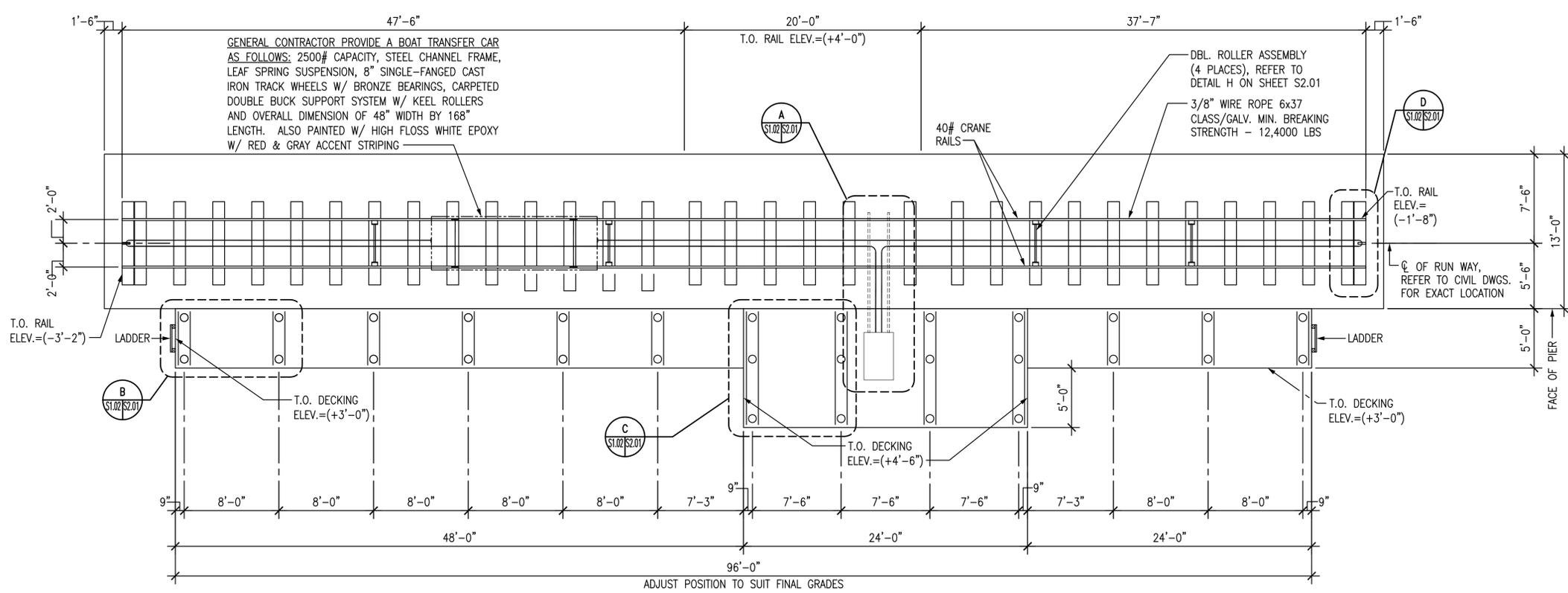
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 SHEET NO.

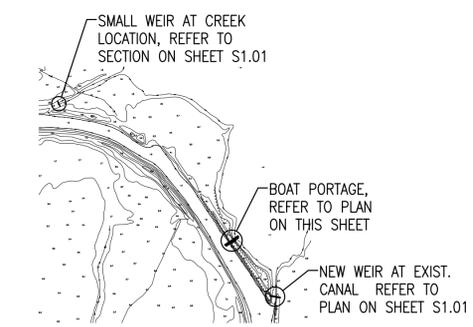
S1.02
 12 OF 14 SHEETS



BOAT PORTAGE PROFILE
 3/16" = 1'-0"



BOAT PORTAGE PLAN
 3/16" = 1'-0"



KEY PLAN
 NOT TO SCALE

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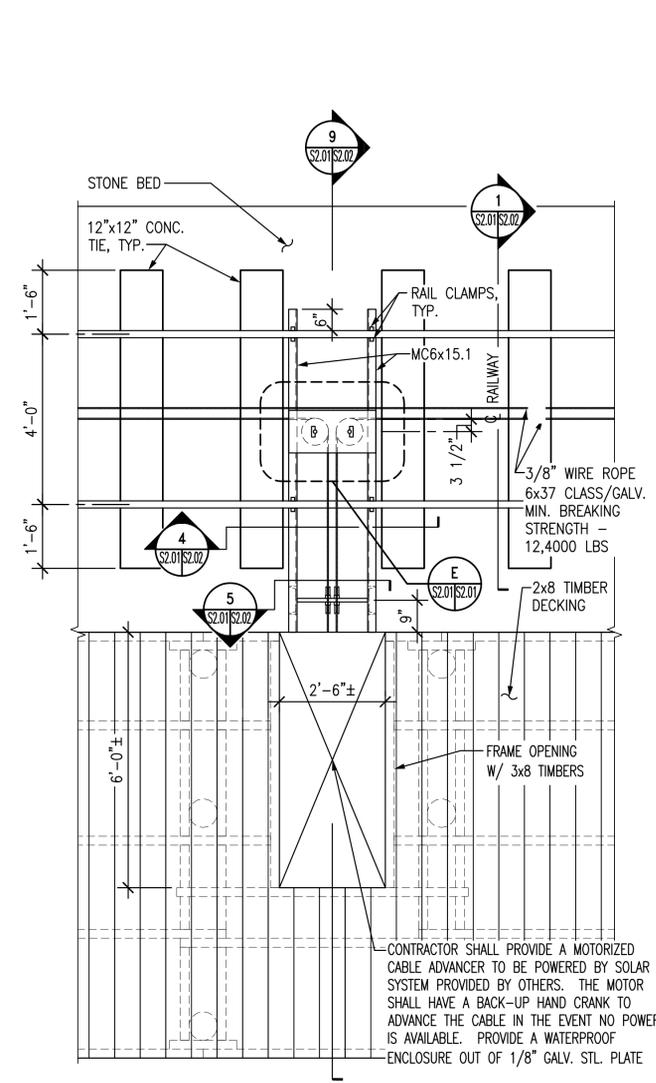
REVISION:	
DATE:	

VIRGINIA

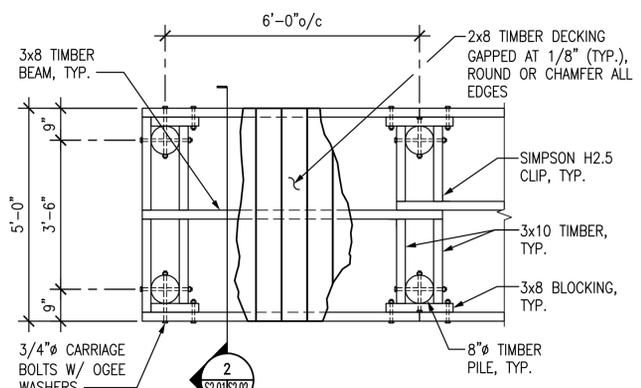
LAKE TECUMSEH
WATER ELEVATION CONTROL PROJECT
 SECTIONS AND DETAILS
 FOR
 U. S. FISH AND WILDLIFE

VIRGINIA BEACH,

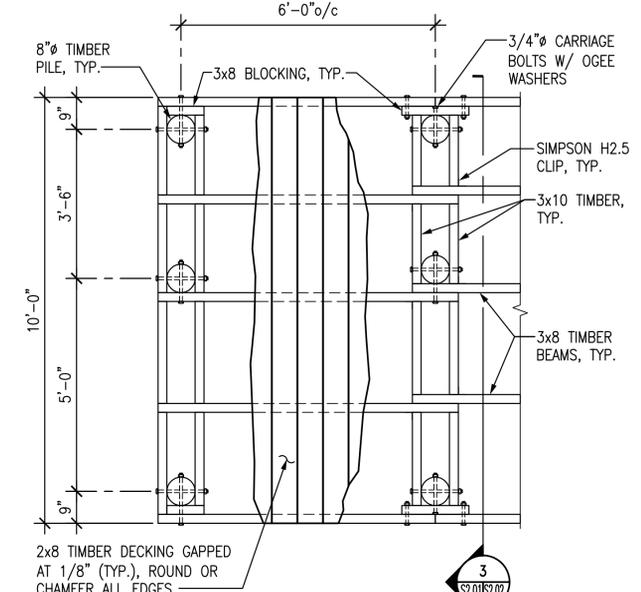
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CHECKED:	CPG
SCALE:	AS NOTED
DATE:	7/23/10
FILE:	.dwg
PROJ. #:	29351
SHEET NO.	



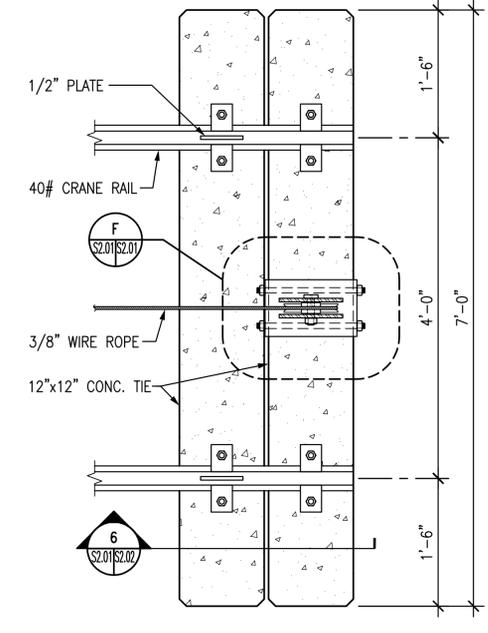
DETAIL A
 1/2" = 1'-0"



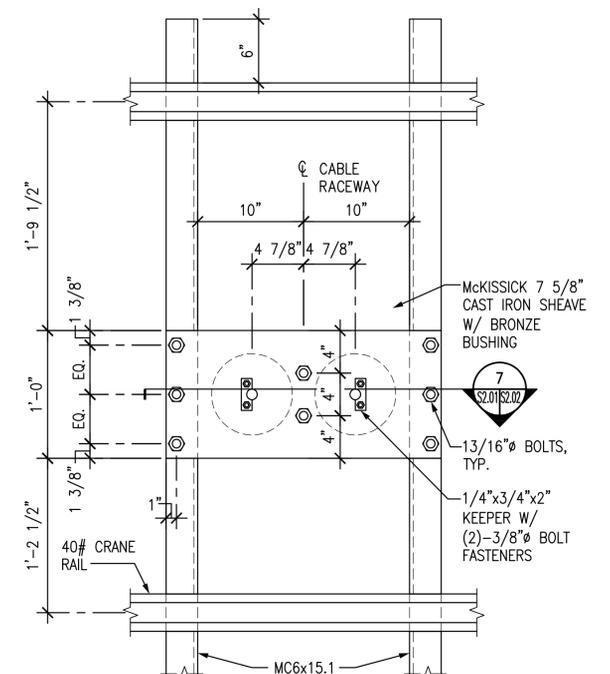
DETAIL B
 1/2" = 1'-0"



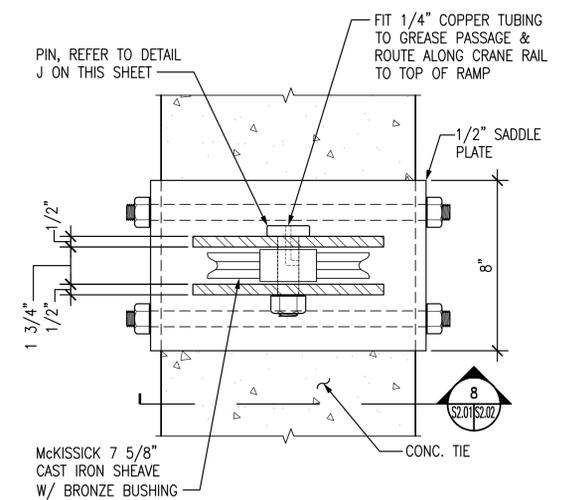
DETAIL C
 1/2" = 1'-0"



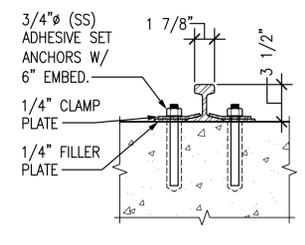
DETAIL D
 1" = 1'-0"



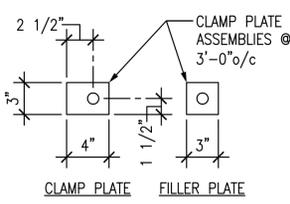
DETAIL E
 1 1/2" = 1'-0"



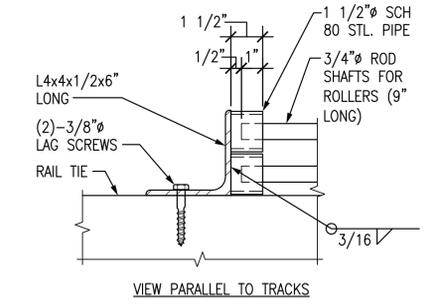
DETAIL F
 3" = 1'-0"



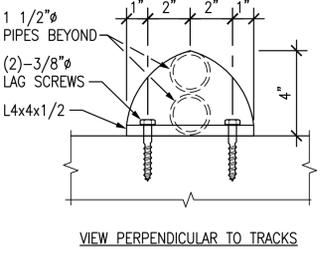
DETAIL G
 1 1/2" = 1'-0"



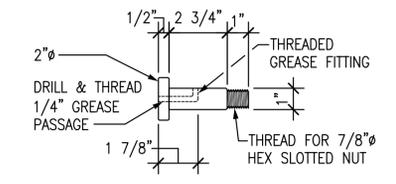
DETAIL H
 3" = 1'-0"



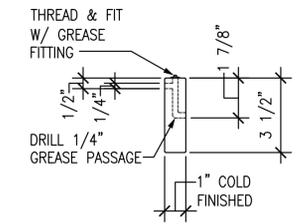
DETAIL I (DOUBLE ROLLER)
 3" = 1'-0"



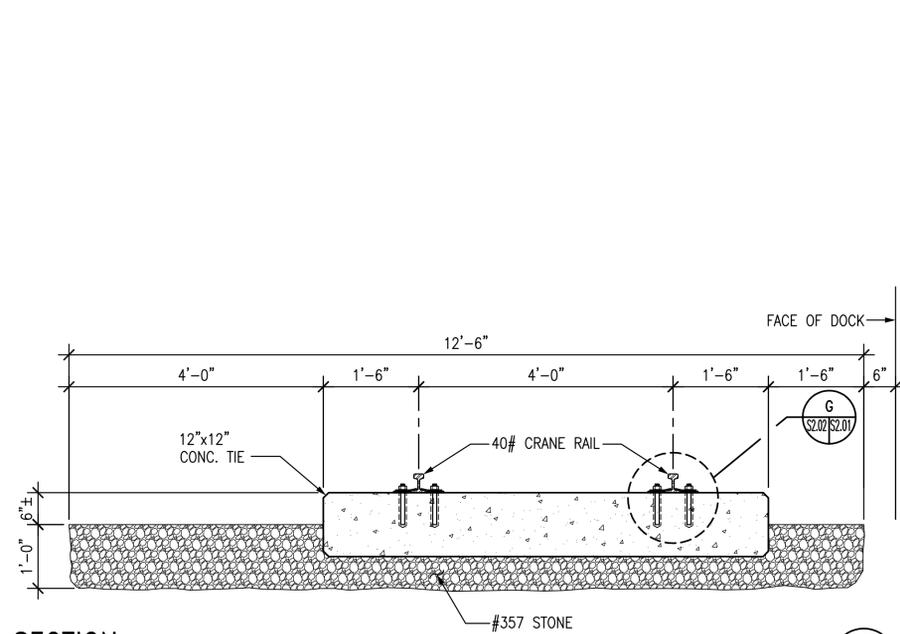
DETAIL J
 3" = 1'-0"



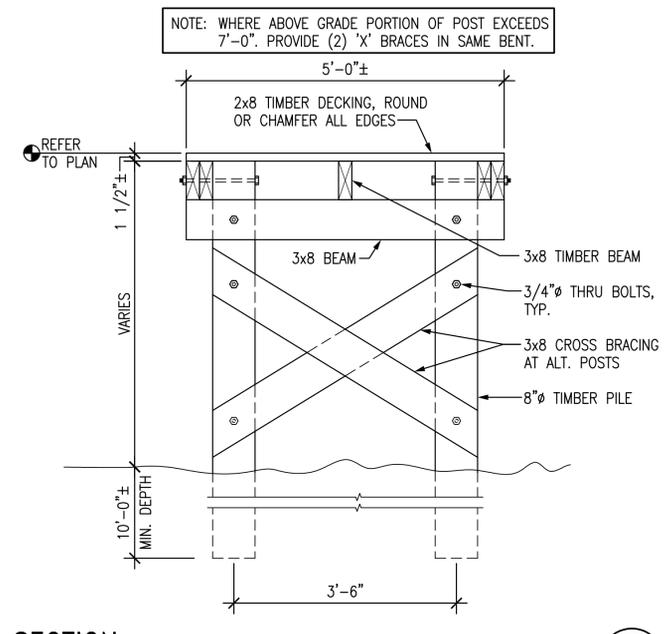
DETAIL K
 3" = 1'-0"



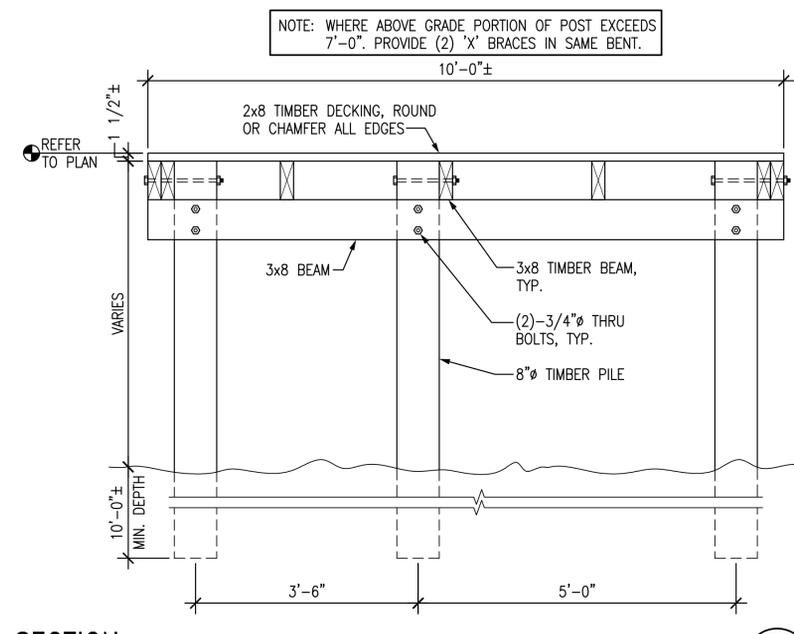
DETAIL L
 3" = 1'-0"



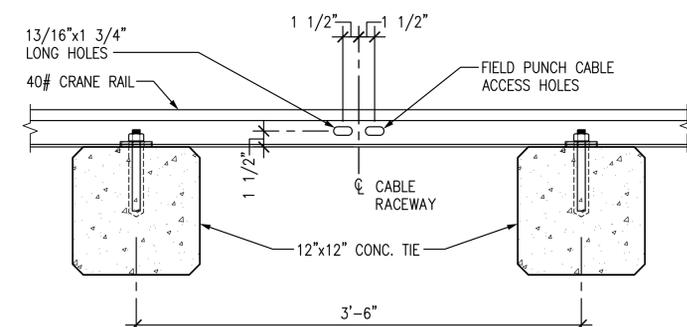
SECTION 1
3/4" = 1'-0"



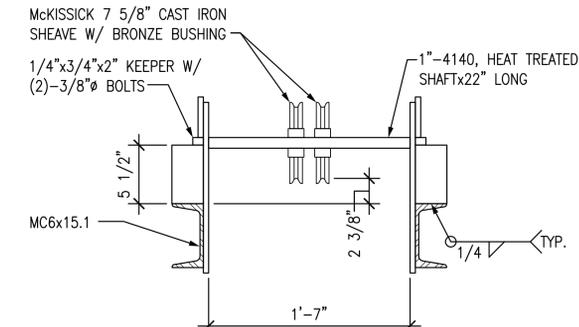
SECTION 2
3/4" = 1'-0"



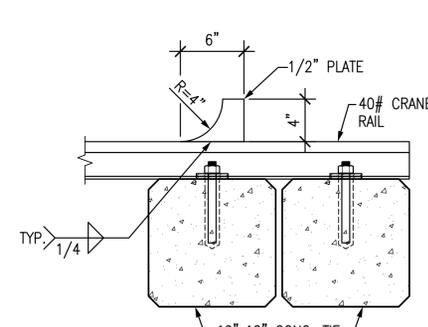
SECTION 3
3/4" = 1'-0"



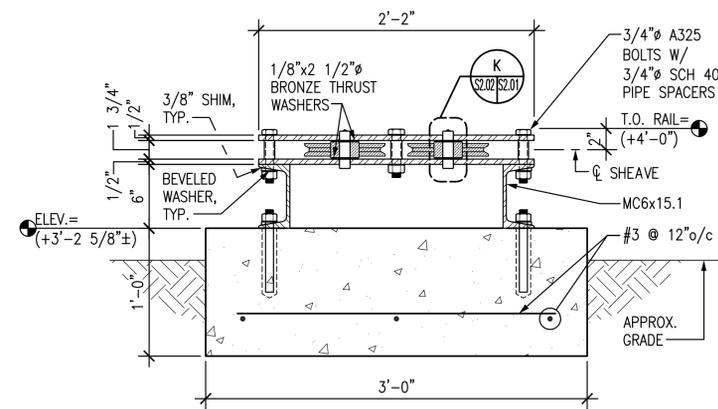
SECTION 4
1 1/2" = 1'-0"



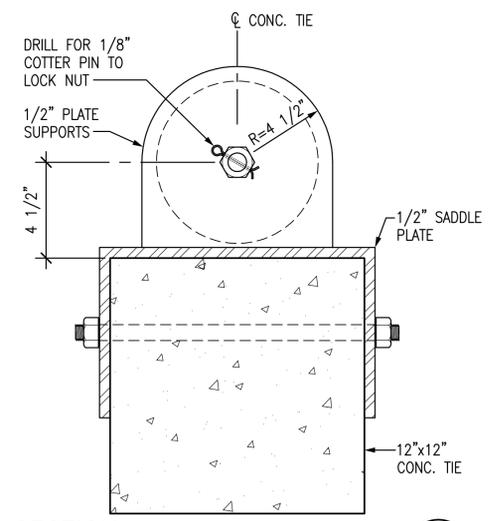
SECTION 5
1 1/2" = 1'-0"



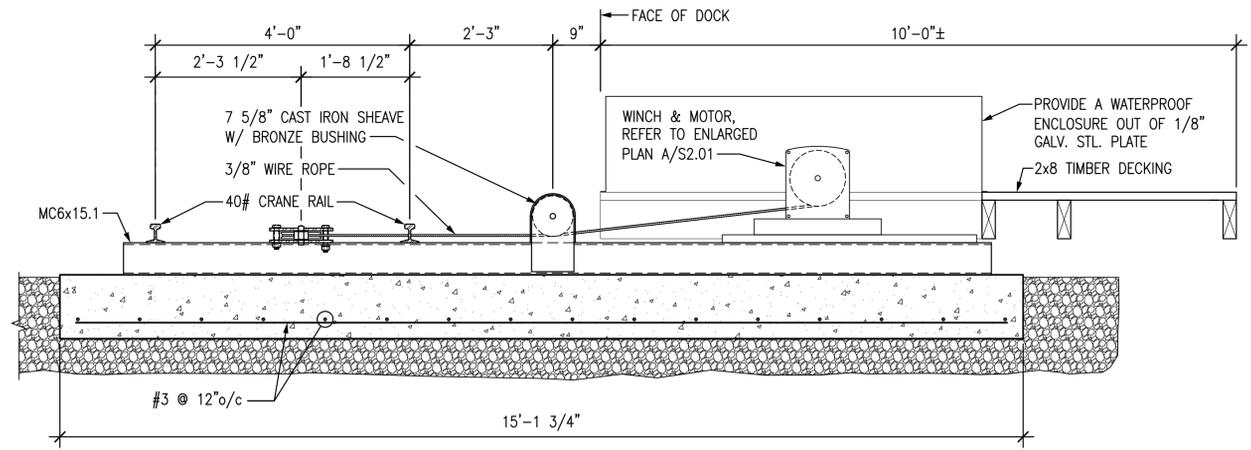
SECTION 6
1 1/2" = 1'-0"



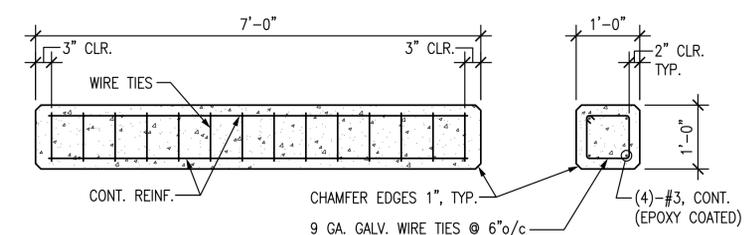
SECTION 7
1 1/2" = 1'-0"



SECTION 8
3" = 1'-0"



SECTION 9
3/4" = 1'-0"



TYPICAL PRECAST CONCRETE RAIL ROAD TIE DETAIL
NOT TO SCALE

REVISION:

DATE:

VIRGINIA

LAKE TECUMSEH
WATER ELEVATION CONTROL PROJECT
SECTIONS AND DETAILS
FOR
U. S. FISH AND WILDLIFE
VIRGINIA BEACH,

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