COUNTY OF ROANOKE, VA

GENERAL NOTES

PRE-CONSTRUCTION MEETING AND CONSTRUCTION COMMENCEMENT:

1. All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County, the Western Virginia Water Authority, and the Virginia Department of Transportation.
2. Stormwater Management Agreements with an attached 8 1/2" x 11" or 8 1/2" x 14" plat must be approved and recorded prior to the pre-construction meeting.
3. Once all required items are submitted to the County of Roanoke, the developer must contact the Development Review Coordinator to indicate that a pre-construction meeting needs to be scheduled. The pre-construction meeting will be scheduled with the owner/developer two (2) working days later.
4. All land disturbing projects that require approval of an erosion and sediment control plan, grading or clearing permit shall require that the applicant provide the name of an individual who will be responsible for land disturbing activities and that this individual hold a Responsible Land Disturber (RLD) Certificate from the Department of Environmental Quality. The Responsible Land Disturber can be anyone from the Project team that is certified by the Commonwealth of Virginia to be in charge of carrying out the land disturbing activity for the project.
5. It is the responsibility of the owner/developer to notify the certified Responsible Land Disturber and the Utility Contractor to attend the pre-construction meeting.
6. The Development Review Coordinator will schedule the pre-construction meeting with the County Review Engineer, the County Inspector, and the Western Virginia Water Authority and the Town of Vinton Public Works Department if applicable.
7. An approved set of plans, Storm Water Pollution Prevention Plan (SWPPP), VSMP coverage letter, and all permits must be available at the construction site at all times.
8. The developer and/or contractor shall supply all utility companies with copies of approved plans, advising them that all grading and installation shall conform to approved plans.
9. The project engineer will inform the owner/developer verbally and in writing of the County's obligation to perform inspections on site. Everyone in the meeting will be required to sign a pre-construction checklist indicating their knowledge of Roanoke County's obligation to perform inspections on site.
10. The Erosion Control Permit or Combined Erosion Control & VSMP Permit is given to the developer at this pre-construction meeting.
11. Notify the County of Roanoke prior to beginning installation of ESC measures. The County will inspect Initial installations to ensure compliance with approved plan prior to start of grading. The developer SHALL contact the project inspector 24 hours before beginning any grading or construction on the property.
12. County inspectors must inspect storm drain / stormwater management / BMP installations during the process of installation. Please contact the site inspector 24 hours in advance.
13. All work shall be subject to inspection by Roanoke County, the Western Virginia Water Authority and the Virginia Department of Transportation Inspectors.
14. Contractors shall notify utilities of proposed construction at least two (2), but not more than ten (10) working days in advance. Area public utilities may be notified thru "Miss Utility": 1-800-552-7001 or VA 811.
15. The 100 year Floodway shall be staked prior to any construction.
16. Grade stakes shall be set for all curb and gutter, culvert, sanitary sewer and storm sewer at all times of construction.
17. The Department of Community Development shall be notified when a spring is encountered during construction.
18. Construction debris shall be containerized in accordance with the Virginia Litter Control Act. No less than one litter receptacle shall be provided on site.
19. The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets or rights of ways. It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times.
20. Plan approval in no way relieves the developer or contractors of the responsibilities contained within the erosion and sediment control or stormwater management policies.
21. Field construction shall honor proposed drainage divides as shown on plans.
22. Field corrections shall be approved by the Roanoke County Engineering Division and/or the Western Virginia Water Authority and the Professional of Record, prior to such construction.
23. The developer or contractor shall supply the County and the Western Virginia Water Authority with correct As-Built plans before final acceptance.

VIRGINIA DEPARTMENT OF TRANSPORTATION:

24. Plan approval by Roanoke County does not guarantee issuance of any permits by the Virginia Department of Transportation.
25. A permit must be obtained from the Virginia Department of Transportation, Salem Residency Office prior to construction in the highway right-of-way.
26. The preliminary pavement designs should be based on a predicted sub-grade CBR value of 7.0 and with a Resiliency Factor (RF) of 2.0 as shown in Appendix I of the 2000 Virginia Department of Transportation Pavement Design Guide for Subdivision and Secondary Roads. The sub-grade soil is to be tested by an independent laboratory and the results submitted to the Virginia Department of Transportation prior to base construction. Should the sub-grade CBR value and/or the RF value be less than the predicted values, additional base material will be required in accordance with Departmental specifications. Refer to the same manual as the number and locations of the required soil samples to be tested. All pavement designs shall be submitted to the Department for review and approval. The sub-grade shall be approved by the Virginia Department of Transportation prior to placement of the base. Base shall be approved by the Virginia Department of Transportation for depth, template, and compaction before the surface is applied.
27. Standard guardrail with safety end sections may be required on fills or in areas where hazards exist as deemed necessary. After completion of rough grading operations, the County Engineer and Virginia Department of Transportation shall be contacted to schedule a field review. Where guard rail is warranted, the standard shoulder width shall be provided and the guard rail shall be installed in accordance with the 2001 VDOT Road and Bridge Standards as part of this development.
28. Standard street and traffic control signs shall be erected at each intersection by the developer prior to final street acceptance.
29. All traffic devices shall be in accordance with current edition of the "Manual on Uniform Traffic Control Devices" (MUTCD).
30. All unsuitable material shall be removed from the construction limits of the roadway before placing embankment.

The Project Engineer shall provide electronic copies of the approved plans to the Development Review Coordinator within 5 working days of the pre-construction meeting.
The notes on this sheet shall not be modified.

NAME OF DEVELOPMENT: PROPOSED VALVOLINE INSTANT OIL CHANGE	I, Jason Hunt, OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OTHER APPLICABLE ROANOKE COUNTY CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS AND THE THIRTY (30) POINTS SHOWN ON THIS COVER SHEET UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.
MAGISTERIAL DISTRICT(S): VINTON	
OWNER (name, address, telephone): KROGER LIMITED PARTNERSHIP I, 3831 PETERS CREEK RD., ROANOKE, VA 24038	
DEVELOPER (name, address, telephone): VALVOLINE INSTANT OIL CHANGE, 100 VALVOLINE WAY, LEXINGTON, KY 40509	ATTN: JASON HUNT (859) 357-7188
ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone): CESO, INC., 2800 CORPORATE EXCHANGE DR. SUITE 160, COLUMBUS, OHIO 43231	(614) 942-3017
TAX MAP NO(S): 050.01-01-05.12-0000	

WATER NOTES

All water facilities shall be constructed according to the Western Virginia Regional Design and Construction Standards (Latest Edition).

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

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

All existing utilities may not be shown in their exact location. The contractor shall comply with the (State Water Works Regulations, Section 12VAC5-590-1150, where lines cross.

All trenches in existing or future highway right-of-ways shall be compacted according to Virginia Department of Transportation standards.

Lines shall be staked prior to construction.

Water main shall be minimum Class 350 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

Ductile Iron Pipe in accordance with the Western Virginia Regional Design and Construction Standards shall be required for all pipe with a working pressure equal to or greater than 100 p.s.i.

Western Virginia Water Authority
Availability letter number: 18-298

PRIVATE UTILITIES

Underground utilities installed on private property or in private utility easements and building related storm drains shall be designed and installed per the current edition of the Virginia Uniform Statewide Building Code. Design and installation requirements issued by the Western Virginia Water Authority that meet or exceed the USBC requirements are acceptable for private utilities. All private utilities are to be permitted through and inspected by the Roanoke County Inspections Office. Vaults, valves and other devices installed by or under the control of the Western Virginia Water Authority may not substituted for the code required devices.

EXISTING FEATURES LEGEND

APPLIES TO ALL CIVIL SHEETS

- R/W — RIGHT OF WAY LINE
- PARCEL LINE
- SUBJECT PROPERTY BOUNDARY LINE
- ESMT — EASEMENT LINE
- CURB
- EDGE OF PAVEMENT
- EDGE OF WALK
- PAVEMENT MARKINGS
- STM — STORM SEWER
- SAN — SANITARY SEWER
- W — WATER LINE
- G — GAS LINE
- OHE — OVHD ELECTRIC LINE
- UGE — UGND ELECTRIC LINE
- UGT — UGND TELECOMM LINE
- 102 — MAJOR CONTOUR
- 102 — MINOR CONTOUR
- WATER METER
- WV WATER VALVE
- POWER/TELEPHONE POLE
- POWER POLE
- AIR CONDITIONER
- ELECTRIC BOX
- LIGHT POLE
- GV GAS VALVE
- GAS METER
- STORM CATCH BASIN
- STORM INLET BASIN
- STORM MANHOLE
- STORM CLEAN OUT
- SANITARY MANHOLE
- SANITARY CLEAN OUT
- TRAFFIC/ SIGNAL POLE
- TRAFFIC MANHOLE
- SIGN

SEWER NOTES

All sanitary sewer facilities shall be installed according to the Western Virginia Regional Design and Construction Standards. (Latest Edition).

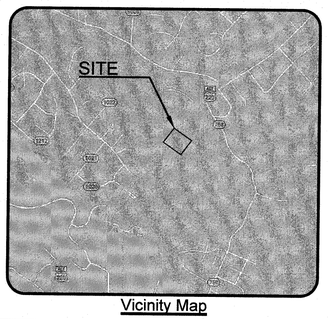
A minimum cover of three (3) feet is required over proposed lines.

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

All existing utilities may not be shown in their exact location. The contractor shall comply with (State Water Works Regulations, Section 12VAC5-590-1150, where lines cross.)

All trenches in existing or future rights-of-way shall be compacted according to Virginia Department of Transportation standards.

Lines shall be staked prior to construction.



Vicinity Map

Sheet Number	Sheet Title
C1.0	TITLE SHEET
C2.0	EXISTING CONDITIONS & DEMOLITION PLAN
C3.0	SWPPP
C3.1	SWPPP NOTES
C3.2	SWPPP DETAILS
C4.0	SITE PLAN
C5.0	GRADING PLAN
C5.1	STORM PROFILES
C6.0	UTILITY PLAN
C6.1	UTILITY DETAILS
C7.0	CONSTRUCTION DETAILS
C7.1	CONSTRUCTION DETAILS
C8.0	PHOTOMETRIC PLAN
L-1.0	LANDSCAPE PLAN
L-1.1	LANDSCAPE DETAIL
L-2.0	IRRIGATION PLAN

Sheet Index

SURVEY INFORMATION

Horizontal and vertical control surveys were performed in year: 2018
By: HURT & PROFFITT

All vertical elevations must be referenced to the National Geodetic Vertical Datum of 1929 or 1988.
All horizontal elevations must be referenced to the North American Datum of 1927 or 1983.
Horizontal Datum: NAD83 - VA STATE PLANE, SOUTH ZONE Vertical Datum: NAVD88

Source of topographic mapping is dated 04/05/2018

Boundary was performed by HURT & PROFFITT dated: 2018

Benchmark Information: SPIKE IN EX. UTILITY POLE - ELEVATION = 1034.93

The professional seal and signature certifies the boundary survey and topographic mapping to be accurate and correct.

QUANTITY & COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING		AC			
EXCAVATION		C.Y.			
EMBANKMENT		C.Y.			
VDOT DROP INLET DI-1	2	EA	$2,500.00	$5,000.00	
MANHOLE MH-2	2	EA	$1,000.00	$2,000.00	
12" HDPE PIPE	202	LF	$25.00	$5,050.00	
8" PVC SDR 35	64	LF	$6.50	$416.00	
6" PVC SDR 35	37	LF	$5.00	$185.00	
-IN. CONCRETE PIPE, CLASS III		LF			
-IN. CONCRETE PIPE, CLASS IV		LF			
-IN. C.M. CULVERT		LF			
-IN. C.M. CULVERT		LF			
BOX CULVERT		LS			
PAVED SWALE		LF			
RIPRAP - CLASS		SF			
PERMANENT GRASS SWALE		LF			
-IN. CONCRETE ENDWALL EW-		EA			
-IN. END SECTION ES-		EA			
HEADER CURB & GUTTER CG-		LF			
CURB & GUTTER CG-		LF			
VALLEY GUTTER		EA			
GRAVEL BASE		SY			
GRAVEL SHOULDER		SY			
SURFACE TREATMENT		SY			
-IN. BIT. CONC.: TYPE B-		SY			
-IN. BIT. CONC.: TYPE S-		SY			
-IN. BASE MATERIAL		C.Y.			
-IN. SUBBASE MATERIAL		C.Y.			
TRAFFIC BARRICADE		EA			
8" WATER LINE		LF			
6" WATER LINE		LF			
FIRE HYDRANT ASSEMBLIES		EA			
BLOW OFFS W/ VAULT, FRAME & COVER		EA			
-IN. GATE VALVES, W/ VAULT, FRAME & COVER		EA			
-IN. GATE VALVES, W/ VAULT, FRAME & COVER		EA			
8" SANITARY SEWER		LF			
STANDARD MANHOLE W/FRAME & COVER		EA			
SAMPLING MANHOLE/PORT		EA			
LANDSCAPING		LS		$9,500.00	
AMENITIES (INCLUDING BUT NOT LIMITED TO TRAILS, ETC...)		LS			
STORMWATER MANAGEMENT		LS			
AS-BUILT PLANS (STORM SEWER SYSTEMS)		LS			
AS-BUILT PLANS (STORMWATER MANAGEMENT)		LS			
SUBTOTAL				$22,151.00	
10% CONTINGENCY				$2,215.10	
ESTIMATED TOTAL				$24,366.10	

BY SEALING THE PLANS, THE DESIGN PROFESSIONAL HEREBY CERTIFIES THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT.

CESO
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DEVELOPER:
VALVOLINE INSTANT OIL CHANGE
100 VALVOLINE WAY
LEXINGTON, KY 40509
CONTACT: JASON HUNT
PHONE: (859) 357-7188
EMAIL: JASON.HUNT@VALVOLINE.COM

CONSTRUCTION MANAGER:
VALVOLINE INSTANT OIL CHANGE
100 VALVOLINE WAY
LEXINGTON, KY 40509
CONTACT: JERETT VANCE
PHONE: (859) 357-2198
EMAIL: JVANCE@VALVOLINE.COM

ENGINEER:
CESO, INC.
2800 CORPORATE EXCHANGE DR.
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COLUMBUS, OH 43231
CONTACT: JEFF LONCHOR
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EMAIL: LONCHOR@CESOINC.COM

ARCHITECT:
CESO, INC.
175 MONTROSE WEST AVE.
SUITE 400
AKRON, OH 44321
CONTACT: BEN RIHA
PHONE (330) 396-5699
EMAIL: RIHA@CESOINC.COM

COMMONWEALTH OF VIRGINIA
JEFFREY A. TIBBITTS
LIC. No. 043285
PROFESSIONAL ENGINEER

APPROVED
VALVOLINE INSTANT
OIL CHANGE
#SP-1802039

DATE RECEIVED
OCT 26 2018
COMMUNITY DEVELOPMENT

DEVELOPMENT PLAN
APPROVED
FOR CONSTRUCTION
BY ROANOKE COUNTY

Department	Date
Development Review	10/29/18
Engineering	10/29/18
Water & Sewer	10/29/18
Planning & Zoning	10/29/18

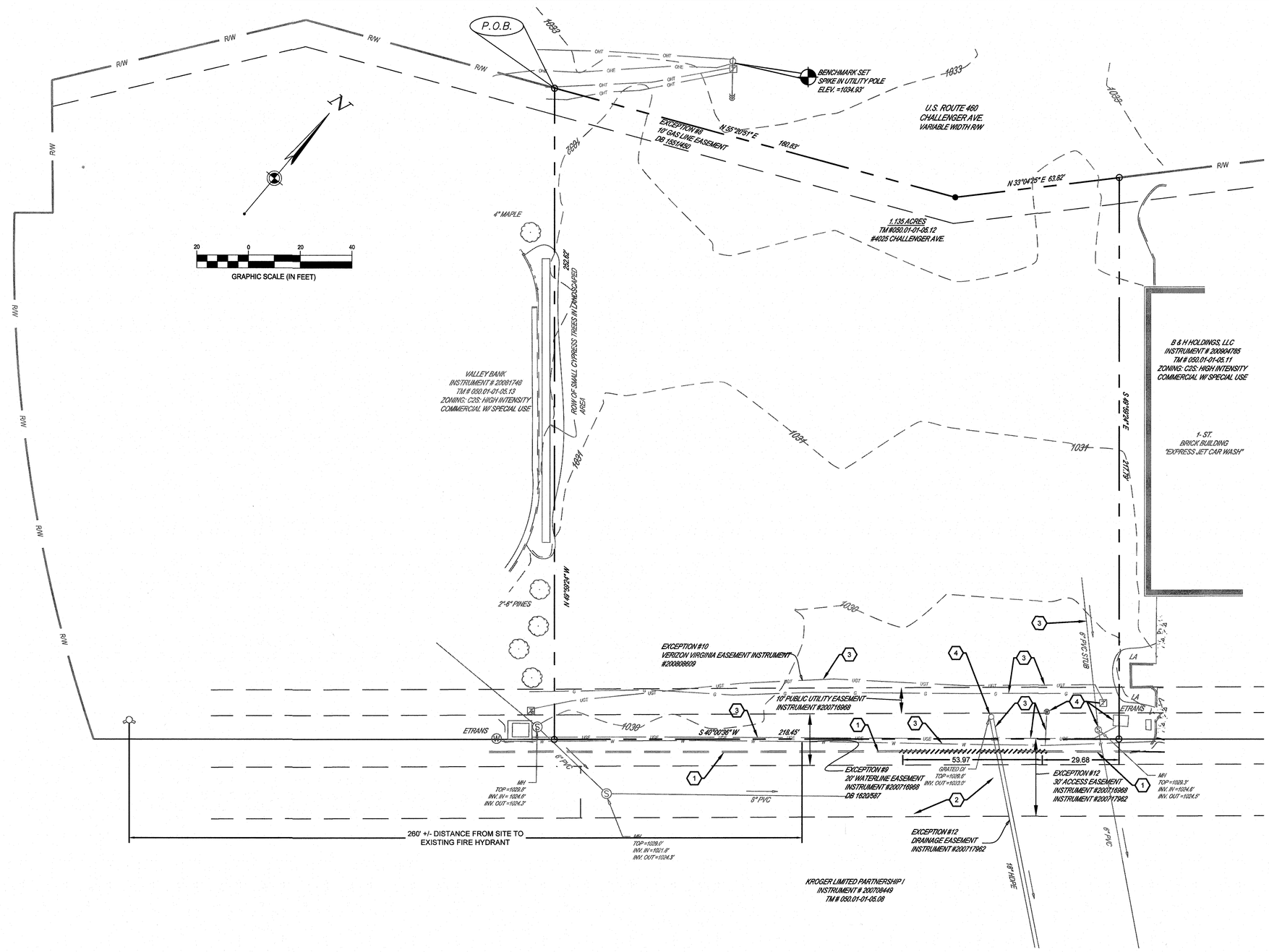
VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE.
ROANOKE, VA

I AM CERTIFIED BY THE STATE OF VIRGINIA AS A "RESPONSIBLE LAND DISTURBER." I SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN AS SHOWN.

SIGNATURE:
PRINTED NAME:
CERTIFICATE DATE:
TELEPHONE NUMBER:
ADDRESS:

REGISTERED LAND DISTURBER

SHEET
1
OF
16



LEGEND

EXISTING

REFER TO TITLE SHEET FOR EXISTING FEATURES LEGEND

PROPOSED

REMOVE AND DISPOSE OF EXISTING CURB

DEMOLITION PLAN GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE LOCALITY, AND ALL UTILITY PROVIDERS LOCATED ON-SITE AND IN THE RIGHT OF WAY.
2. CONTRACTOR SHALL PERFORM ALL DEMOLITION WORK PER LOCAL PROJECT SPECIFICATIONS.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALL STATE/LOCAL ONE CALL AND THEN TO CONTACT ALL UTILITY COMPANIES TO SCHEDULE UTILITY SERVICE REMOVAL AND/OR ABANDONMENT. ALL UTILITIES SHALL BE REMOVED AND/OR RELOCATED PER THE SPECIFICATIONS OF THE UTILITY COMPANIES. THE CONTRACTOR IS RESPONSIBLE TO PAY ALL FEES AND CHARGES ASSOCIATED WITH THIS WORK.
4. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS, AND LOCAL PROJECT SPECIFICATIONS.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL AND DISPOSAL, IN A LOCATION APPROVED BY THE GOVERNING AUTHORITIES, OF ALL STRUCTURES, PADS, WALLS, FOUNDATIONS, DRAINAGE STRUCTURES, UTILITIES, ETC. SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL AS SPECIFIED IN THE GEOTECHNICAL REPORT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING JOB SITE SAFETY PER OSHA REQUIREMENTS. AT ALL TIMES DURING DEMOLITION AND CONSTRUCTION, CONTRACTOR SHALL PROVIDE SAFETY RAILINGS AT ALL AREAS WHERE FALL PROTECTION IS REQUIRED.
7. CONTRACTOR MAY LIMIT SAW-CUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS BUT IF ANY DAMAGE IS INCURRED TO ANY OF THE SURROUNDING PAVEMENT, ETC., THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR.
8. SAW-CUT AND REMOVE TO FULL DEPTH AT ALL PAVEMENT/SIDEWALK LIMITS OR TO EXISTING JOINTS.
9. CONTRACTOR SHALL MAINTAIN A WELL-DRAINED SITE, FREE OF STANDING WATER DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DRAINAGE MEASURES DURING CONSTRUCTION.
10. CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING CONSTRUCTION FENCE, SIGNS, ETC. TO WARN AND KEEP UNAUTHORIZED PEOPLE OFF SITE FOR THE DURATION OF THE PROJECT.
11. EXTENT OF DEMOLITION WORK IS NOT LIMITED TO ONLY WHAT IS SHOWN TO BE DEMOLISHED ON THIS PLAN. DEMOLITION WORK MUST BE COMPLETE SO THE PROPOSED STRUCTURES AND APPURTENANCES CAN BE CONSTRUCTED.
12. ALL POTENTIALLY HAZARDOUS/TOXIC MATERIALS MUST BE REMOVED FROM THE SITE PRIOR TO DEMOLITION, AND PER DIRECTION OF THE ENVIRONMENTAL ENGINEER.
13. FEDERAL, STATE AND LOCAL CODE REQUIREMENTS SHALL CONTROL THE DISPOSAL OF DEBRIS RESULTING FROM THE REMOVAL OPERATION.
14. ALL MATERIALS AND STRUCTURES DESIGNATED AS "TO BE REMOVED" SHALL BE DISPOSED OF OFF SITE AND AT THE COST OF THE CONTRACTOR.
15. DEAD SEWER CONNECTIONS OR MAINS BEING REMOVED SHALL BE REMOVED TO THE RIGHT-OF-WAY (UNLESS PLANS OR UTILITY OWNER SPECIFY OTHERWISE) AND SEALED AND MADE WATERTIGHT.
16. ALL TRENCHES, HOLES AND PITS RESULTING FROM THE REMOVAL AND ABANDONMENT OF ANY STRUCTURE OR OBSTRUCTION SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
17. THE CONTRACTOR SHALL STRIP AND REMOVE (OR STOCKPILE) ALL TOPSOIL PRIOR TO COMMENCING WITH ANY EXCAVATION OR DEMOLITION.

CODED NOTES:

1. PROTECT EXISTING CURB TO REMAIN.
2. PROTECT EXISTING PAVEMENT/WALK TO REMAIN.
3. PROTECT EXISTING UTILITY/STORM LINE TO REMAIN.
4. PROTECT EXISTING UTILITY/STORM STRUCTURE TO REMAIN.

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FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: VIRGINIA ONE CALL AT 811 OR (800) 552-7001 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF VIRGINIA ONE CALL.

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No.	Revisions/Submissions	Date
	ISSUED FOR FINAL APPROVAL	10.19.18
	BID SET	10.04.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	ISSUED FOR DEVELOPMENT PLAN REVIEW	08.01.18
	ISSUED FOR OWNER REVIEW	07.17.18

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA
JEFFREY A. JUNKINS
LICENSED
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18

Drawing Title
EXISTING CONDITIONS & DEMOLITION PLAN

Drawing No.
C2.0

W:\PROJECTS\VALVOLINE\755208-ROANOKE VA (VOC)\03-CIVIL\PLAN\PLOT SHEETS\755208_C2.0-DEMO, 10/24/2018 10:41:46 AM, LONCHOR

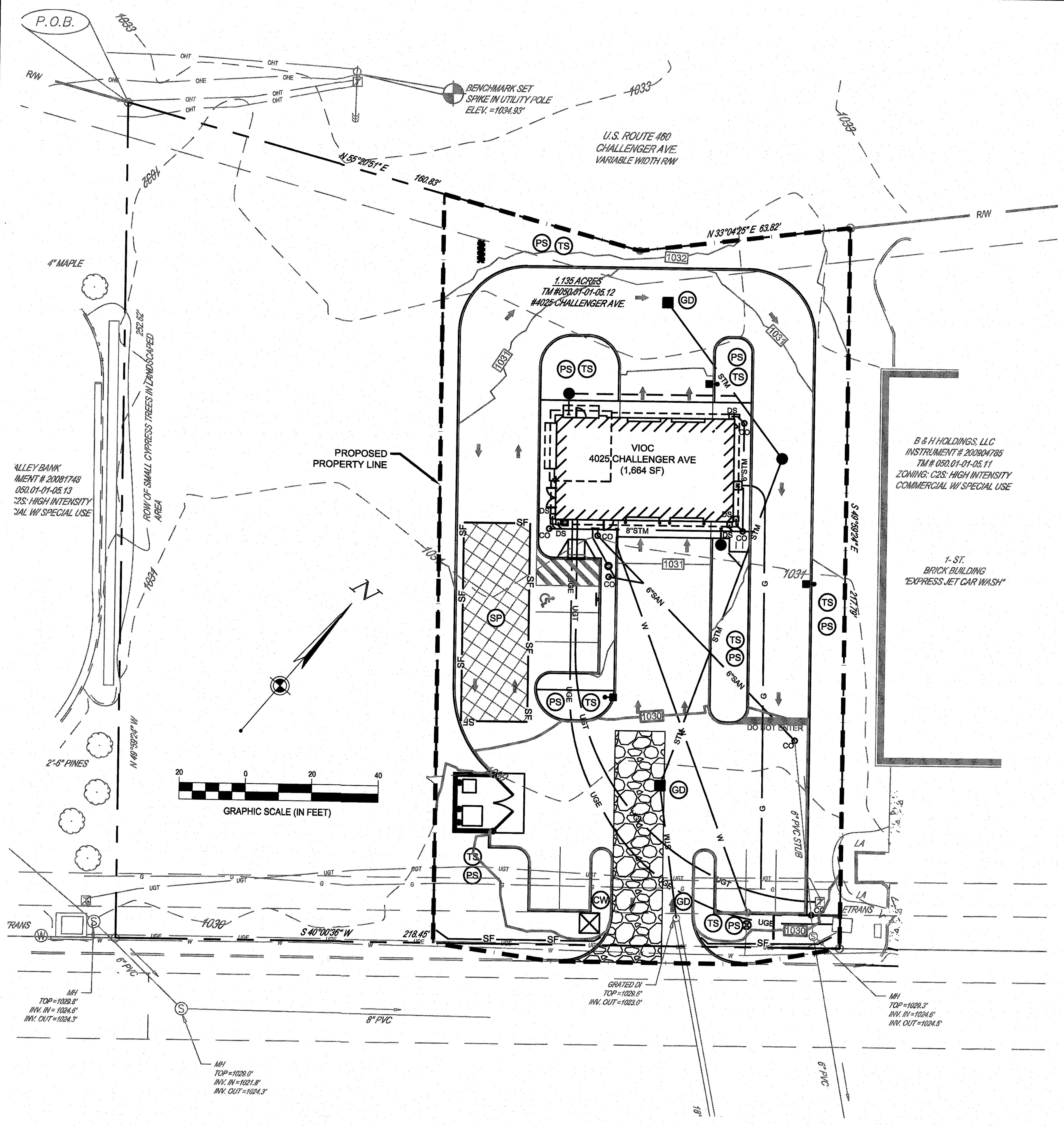

TABLE 6-1

GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and Virginia Regulations 4VAC50-30 Erosion and Sediment Control Regulations.

ES-2: The plan approving authority must be notified one week prior to the pre-construction conference, one week prior to the commencement of land disturbing activity, and one week prior to the final inspection.

ES-3: All erosion and sediment control measures are to be placed prior to or as the first step in clearing.

ES-4: A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.

ES-5: Prior to commencing land disturbing activities in areas other than indicated on these plans (including, but not limited to, off-site borrow or waste areas), the contractor shall submit a supplementary erosion control plan to the owner for review and approval by the plan approving authority.

ES-6: The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the plan approving authority.

ES-7: All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved.

ES-8: During dewatering operations, water will be pumped into an approved filtering device.

ES-9: The contractor shall inspect all erosion control measures periodically and after each runoff-producing rainfall event. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately.

LEGEND

EXISTING

REFER TO TITLE SHEET FOR EXISTING LEGEND ITEMS

PROPOSED

- STM — STORM SEWER
- LIMITS OF DISTURBANCE
- SF — SILT FENCE, PER DETAIL ON SHEET C3.2
- CW — CONCRETE WASHOUT
- GD — BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER, PER DETAIL ON SHEET C3.2
- TS — TEMPORARY SEEDING, PER VIRGINIA E&SC HANDBOOK
- PS — PERMANENT SEEDING, PER VIRGINIA E&SC HANDBOOK
- SP — STOCKPILE AREA, SURROUNDED WITH SILT FENCE, PER DETAIL SHEET C3.2
- STORM MANHOLE
- CATCH BASIN
- STABILIZED CONSTRUCTION ENTRANCE, PER DETAIL ON SHEET C3.2

EROSION AND SEDIMENT CONTROL PLAN PROJECT NARRATIVE:

PLAN ENGINEERS:
CESO, INC.
2800 CORPORATE EXCHANGE DR, STE 160
COLUMBUS, OH 43231
P. (614) 942-3017
CONTACT: JEFF LONCHOR

OWNER/DEVELOPER:
VALVOLINE INSTANT OIL CHANGE
100 VALVOLINE WAY
LEXINGTON, KY 40509
P. (859) 357-7188
CONTACT: JASON HUNT

THE PROPOSED PROJECT IS THE CONSTRUCTION OF AN INSTANT OIL CHANGE FACILITY. THE TOTAL DISTURBED AREA IS APPROXIMATELY 0.62 ACRES.

THE ENTIRE SITE DRAINS TO THE KROGER STORMWATER MANAGEMENT SYSTEM.

ON-SITE SOILS: 5C - CHISWELL-LITZ COMPLEX, 7 TO 15 PERCENT SLOPES 78%
5D - CHISWELL-LITZ COMPLEX, 15- TO 25 PERCENT SLOPES 22%

HYDROLOGIC SOIL GROUP = D

EXISTING SITE CONDITIONS: VACANT, GREEN LOT

SEQUENCE OF CONSTRUCTION:

1. INSTALL ALL TEMPORARY EROSION CONTROL MEASURES AS SHOWN.
2. BEGIN DEMOLITION OF SELECT SITE ITEMS.
3. BEGIN GRADING THE SITE. MAKING SURE THAT EROSION CONTROL MEASURES ARE IN PLACE AND WORKING PROPERLY THROUGHOUT GRADING OPERATIONS.
4. APPLY TEMPORARY SEEDING WITHIN (7) DAYS OF EXCAVATION.
5. BEGIN CONSTRUCTION OF ALL STORM SEWER AND UNDERGROUND UTILITIES. INSTALL INLET PROTECTION CONCURRENT WITH CONSTRUCTION OF PROPOSED STORM STRUCTURES.
6. FINE GRADING, SUBGRADE PREPARATION AND SITE PAVING.
7. CONSTRUCT BUILDING.
8. BEGIN CONSTRUCTION OF PARKING LOT, DRIVES, SIDEWALKS, AND CONCRETE FLATWORK.
9. PERMANENTLY SEED REMAINDER OF PERVIOUS AREAS. PERMANENT SEEDING SHALL BE INSTALLED WITHIN (7) DAYS OF COMPLETION OF FINAL GRADING IN UNPAVED AREAS.
10. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SITE ACHIEVES "FINAL STABILIZATION".
11. REFER TO LANDSCAPE PLAN FOR SEEDING.

* CONTRACTOR SHALL MODIFY THE SEQUENCE OF CONSTRUCTION BASED ON SITE CONDITIONS. CONTRACTOR TO NOTIFY PROJECT MANAGER PRIOR TO CHANGING SEQUENCE OF CONSTRUCTION.

EROSION & SEDIMENT CONTROL COST ESTIMATE

ITEM	UOM	UNIT PRICE	QUANTITY	TOTAL
SILT FENCE	LF	$4.00	252	$1008.00
INLET PROTECTION	EA	$150.00	3	$450.00
STONE CONSTRUCTION ENTRANCE	EA	$1,200.00	1	$1,200.00
TEMPORARY SEEDING	1000 SF	$40.00	20	$800.00
PERMANENT SEEDING	1000 SF	$50.00	20	$1000.00
			SUBTOTAL	$4,458.00
			10% CONTINGENCY	**$445.80**
			TOTAL	$4,903.80

APPROVED

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FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: VIRGINIA ONE CALL AT 811 OR (800) 552-7001 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF VIRGINIA ONE CALL.

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No.	Revisions/Submissions	Date
	ISSUED FOR OWNER REVIEW	07.17.18
	ISSUED FOR DEVELOPMENT PLAN REVIEW	08.01.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	BID SET	10.04.18
	ISSUED FOR FINAL APPROVAL	10.19.18

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA — JEFFREY A. LONCHOR — PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18
Drawing Title	SWPPP
Drawing No.	C3.0

W:\PROJECTS\VALVOLINE\755208-ROANOKE VA (VIOC)\03-CIVIL\PLAN\PLOT SHEETS\755208_C3.0-SWPPP. 10/24/2018 10:42:03 AM, LONCHOR

Virginia Erosion and Sediment Control Plan Minimum Standards (MS) Checklist
August 30, 2013

Yes	N/A	4VAC50-30-40 Minimum Standards	Describe how MS is addressed on plan	MS Instructions for Contractor (this column optional)
		MS1: Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.		
		MS2: During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.		
		MS3: A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.		
		MS4: Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.		
		MS5: Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.		
		MS6: Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin. a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres. b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.		
		MS7: Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.		
		MS8: Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.		
		MS9: Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.		
		MS10: All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.		
		MS11: Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.		

		MS12: When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.		
		MS13: When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.		
		MS14: All applicable federal, state and local chapters pertaining to working in or crossing live watercourses shall be met.		
		MS15: The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.		
		MS16: Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria: a. No more than 500 linear feet of trench may be opened at one time. b. Excavated material shall be placed on the uphill side of trenches. c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property. d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization. e. Restabilization shall be accomplished in accordance with this chapter. f. Applicable safety chapters shall be complied with.		
		MS17: Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.		
		MS18: All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.		
		MS19: Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels: a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed. b. Adequacy of all channels and pipes shall be verified in the following manner: 1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or 2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks. (b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and (c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater		

		will be contained within the pipe or system. c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall: 1) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to channel the bed or banks; or 2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; 3) Develop a site design that will not cause the pre-development peak runoff rate from a twoyear storm to increase when runoff outfalls into a natural channel or will not cause the predevelopment peak runoff rate from a ten-year storm to increase when runoff outfalls into a manmade channel; or 4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion. d. The applicant shall provide evidence of permission to make the improvements. e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project. f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance. g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel. h. All on-site channels must be verified to be adequate. i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility. j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations. k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state. l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to i. detain the water quality volume and to release it over 48 hours; ii. detain and release over a 24-hour period the expected rainfall resulting from the one year, 24- hour storm; and iii. reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 10.1-562 or 10.1-570 of the Act. m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 10.1-561 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 10.1-603.2 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 4VAC50-60-48 of the Virginia Stormwater Management Program (VSMP) Permit Regulations. n. Compliance with the water quantity minimum standards set out in 4VAC50-60-66 of the Virginia Stormwater Management Program (VSMP) Permit Regulations shall be deemed to satisfy the requirements of Minimum Standard 19.		

STORM WATER POLLUTION PREVENTION PLAN GENERAL NOTES:

1. ALL EROSION AND SEDIMENTATION CONTROL SHALL BE PERFORMED ACCORDING TO: SWPPP AND DETAIL PLANS; ACCORDING TO THE LATEST STATE-ISSUED DRAINAGE DESIGN AND EROSION CONTROL MANUAL; ANY AND ALL REQUIRED PERMITS, REPORTS, AND RELATED DOCUMENTS. ALL CONTRACTORS AND SUBCONTRACTORS MUST BECOME FAMILIAR WITH ALL OF THE ABOVE.
2. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AND GRADE CHANGES TO THE SITE AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
3. CONTRACTOR SHALL MINIMIZE CLEARING AND DISTURBANCE TO THE ENVIRONMENT TO THE MAXIMUM EXTENT POSSIBLE OR AS REQUIRED BY THE GENERAL PERMIT.
4. SEDIMENT STRUCTURE AND PERIMETER SEDIMENT BARRIERS SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING BEFORE THE START OF CLEARING AND GRUBBING, AND SHALL CONTINUE TO FUNCTION UNTIL THE SLOPE DEVELOPMENT AREA IS RESTABILIZED. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED FOR OVER FOURTEEN (14) DAYS.
5. PERMANENT SOIL STABILIZATION OF DISTURBED AREAS BY MEANS OF VEGETATION, LANDSCAPE TYPE MULCHING, MATTING, SOD, RIP RAP, AND OTHER APPROVED LANDSCAPING TECHNIQUES TO BE APPLIED AS FOLLOWS:
   - WITHIN SEVEN (7) DAYS OF ANY AREA THAT WILL BE DORMANT FOR ONE (1) YEAR OR MORE.
   - WITHIN TWO (2) DAYS OF ANY AREA WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AT FINAL GRADE.
   - WITHIN SEVEN (7) DAYS FOR ANY OTHER AREA AT FINAL GRADE.
6. TEMPORARY SOIL STABILIZATION OF DISTURBED AREAS BY MEANS OF TEMPORARY VEGETATION, MULCHING, GEOTEXTILES, SOD, PRESERVATION OF EXISTING VEGETATION, AND OTHER APPROVED TECHNIQUES TO BE APPLIED AS FOLLOWS:
   - WITHIN TWO (2) DAYS OF ANY AREA WITHIN 50 FEET OF A SURFACE WATER OF THE STATE NOT AT FINAL GRADE THAT WILL REMAIN DORMANT FOR OVER FOURTEEN (14) DAYS.
   - WITHIN SEVEN (7) DAYS OF ANY AREA THAT WILL REMAIN DORMANT FOR MORE THAN FOURTEEN (14) DAYS, BUT LESS THAN ONE (1) YEAR.
   - PRIOR TO THE ONSET OF WINTER WEATHER FOR AREAS THAT WILL BE IDLE OVER WINTER.
7. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION. ALL SLOPES 3:1 OR STEEPER SHALL BE FERTILIZED, SEEDED, AND CURLEX BLANKETS BY AMERICAN EXCELSIOR COMPANY, NORTH AMERICAN GREEN, INC. OR AN APPROVED EQUAL SHALL BE INSTALLED ON THE SLOPES.
8. NO SOLID (OTHER THAN SEDIMENT) OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED IN STORM WATER RUNOFF.
9. ALL NON-SEDIMENT POLLUTANTS MUST BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL GUIDELINES. WASH OUT OF CONCRETE TRUCKS SHOULD OCCUR IN DESIGNATED PIT OR DIKED AREAS, WHERE WASHINGS CAN BE REMOVED AND PROPERLY DISPOSED OFF-SITE WHEN THEY HARDEN. STORAGE TANKS SHOULD ALSO BE LOCATED IN PIT OR DIKED AREAS. IN ADDITION, SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS TO CLEAN AND CONTAIN FUEL AND CHEMICAL SPILLS MUST BE KEPT ON SITE. NO TOXIC OR HAZARDOUS WASTES SHALL BE DISPOSED INTO STORM DRAINS, SEPTIC TANKS, OR BY BURNING OR MIXING WASTES.
10. IF THE ACTION OF VEHICLES TRAVELING OVER THE STABILIZED CONSTRUCTION ENTRANCE DOES NOT SUFFICIENTLY REMOVE MOST OF THE DIRT AND MUD, THEN THE TIRES MUST BE WASHED BEFORE VEHICLES ENTER A PUBLIC ROAD. PROVISIONS MUST BE MADE TO INTERCEPT THE WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
11. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DISPOSED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE SITE THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
12. DUST CONTROL USING APPROVED MATERIALS MUST BE PERFORMED AT ALL TIMES. DUST SUPPRESSANTS SHALL NOT BE APPLIED NEAR CATCH BASINS FOR STORM SEWERS OR OTHER DRAINAGE WAYS. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION IS PROHIBITED.
13. ON-SITE AND OFF-SITE STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION BY THE USE OF BEST MANAGEMENT PRACTICES. THESE AREAS MUST BE SHOWN ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH THE PERMIT REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITTING ALL OFF-SITE BORROW AND SPOIL AREAS UNDER A SEPARATE PERMIT.
14. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED ONTO THE ROADWAYS OR INTO THE STORM SEWERS MUST BE REMOVED IMMEDIATELY.
15. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH DAY; THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR ASPHALT FOR ROAD CONSTRUCTION.
16. THE LAST LAYER OF SOIL, INCLUDING TOPSOIL, SHOULD BE COMPACTED TO 80% - 85% OF THE MAXIMUM STANDARD PROCTOR DENSITY, IN AREAS OUTSIDE THE PARKING LOT THAT WILL RECEIVE VEGETATION. THIS IS PARTICULARLY IMPORTANT IN CUT SLOPE AND EMBANKMENT AREAS. IN PAVEMENT AND ISLAND AREAS, IT IS RECOMMENDED THAT THE SOIL BE COMPACTED TO 98% AND 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY RESPECTIVELY; THE LAST COMPACTED LAYER MAY BE SCARIFIED TO IMPROVE THE SOIL GROWTH CHARACTERISTICS.
17. CONTRACTOR TO DELINEATE STOCKPILE LOCATION ON PLANS TO BE KEPT ON SITE DURING CONSTRUCTION.
18. CONSTRUCT STOCKPILES IN ACCESSIBLE LOCATIONS THAT DO NOT INTERFERE WITH NATURAL DRAINAGE. INSTALL APPROPRIATE SEDIMENT CONTROLS TO TRAP SEDIMENT SUCH AS SILT FENCE IMMEDIATELY ADJACENT TO THE STOCKPILE OR SEDIMENT TRAPS OR BASINS DOWNSTREAM OF STOCKPILE. STOCKPILE SIDE SLOPES SHALL NOT EXCEED A RATIO OF 2:1.
19. IF A STOCKPILE IS STORED FOR MORE THAN FOURTEEN (14) DAYS, IT SHOULD BE TEMPORARILY SEEDED, OR COVERED WITH A TARP.
20. ALL RIP RAP MUST BE PLACED OVER GEOTEXTILE FILTER.
21. CONTAINERS SHALL BE AVAILABLE FOR DISPOSAL OF DEBRIS, TRASH, HAZARDOUS OR PETROLEUM WASTES. ALL CONTAINERS MUST BE COVERED AND LEAK-PROOF. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THE PERTINENT MATERIAL.
22. BRICKS, HARDENED CONCRETE, AND SOIL WASTE SHALL BE FREE FROM CONTAMINATION WHICH MAY LEACH CONSTITUENTS TO WATERS OF THE STATE.
23. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WASTE SHALL BE DISPOSED OF IN AN APPROVED C&DD LANDFILL. CONSTRUCTION DEBRIS MAY BE DISPOSED OF ON-SITE WITH OWNER'S APPROVAL, BUT DEMOLITION DEBRIS MUST BE DISPOSED OF IN AN APPROVED LANDFILL. MATERIALS WHICH CONTAIN ASBESTOS MUST COMPLY WITH AIR POLLUTION REGULATIONS.
24. CLEAN CONSTRUCTION WASTES THAT WILL BE DISPOSED INTO THE PROPERTY SHALL BE SUBJECT TO ANY LOCAL PROHIBITIONS FROM THIS TYPE OF DISPOSAL.
25. AREAS SHALL BE DESIGNATED FOR MIXING OR STORAGE OF COMPOUNDS SUCH AS FERTILIZERS, LIME ASPHALT, OR CONCRETE. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREAS.
26. EQUIPMENT FUELING & MAINTENANCE SHALL BE IN DESIGNATED AREAS ONLY. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREAS.
27. A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN MUST BE DEVELOPED FOR SITES WITH ONE ABOVE-GROUND STORAGE TANK OF 660 GALLONS OR MORE, TOTAL ABOVE-GROUND STORAGE OF 1,330 GALLONS, OR BELOW-GROUND STORAGE OF 4,200 GALLONS OF FUEL.
28. ALL DESIGNATED CONCRETE WASHOUT AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS OR OTHER STORMWATER DRAINAGE AREAS.
29. ALL CONTAMINATED SOIL MUST BE TREATED AND/OR DISPOSED IN AN APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES (TSDFs).
30. IF THE SITE CONTAINS CONTAMINATED SOIL, THE FOLLOWING SHALL BE USED TO PREVENT CONTAMINATION FROM BEING RELEASED:
    A. BERMS, TRENCHES, AND PITS TO COLLECT CONTAMINATED RUNOFF AND PREVENT DISCHARGES.
    B. PUMPING RUNOFF INTO A SANITARY SEWER (WITH PRIOR APPROVAL OF THE SANITARY SYSTEM OPERATOR) OR INTO A CONTAINER FOR TRANSPORT TO AN APPROPRIATE TREATMENT/DISPOSAL FACILITY.
    C. COVERING AREAS OF CONTAMINATION WITH TARPS OR OTHER METHODS THAT PREVENT STORMWATER FROM COMING INTO CONTACT WITH THE MATERIAL.
31. APPROPRIATE MEASURES MUST BE TAKEN TO ENSURE THAT ALL PROPER AIR POLLUTION PERMITS ARE OBTAINED.
32. PROCESS WASTEWATERS SHALL BE COLLECTED AND DISPOSED OF PROPERLY.
33. PROTECTED STORAGE AREAS SHALL BE USED FOR INDUSTRIAL AND CONSTRUCTION MATERIALS IN ORDER TO MINIMIZE THE EXPOSURE OF SUCH MATERIALS TO STORMWATER.
34. IF THERE IS HIGH GROUND WATER AT THIS SITE, CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND IMPLEMENTING A PLAN TO CONTROL BOTH SURFACE AND GROUND WATER DURING THE COURSE OF CONSTRUCTION.
35. DISCHARGE OF WATER WITH POTENTIAL SEDIMENT FROM THE SITE SHALL BE THROUGH A FILTER BAG, SUMP PIT OR OTHER SEDIMENT REMOVAL DEVICE.
36. ALL WATER FROM DEWATERING ACTIVITIES SHALL BE PROCESSED THROUGH A BMP PRIOR TO LEAVING THE SITE.

SWPPP MAINTENANCE NOTES:

ALL CONTROL MEASURES STATED IN THE SWPPP SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL TEMPORARY OR PERMANENT STABILIZATION OF THE SITE IS ACHIEVED. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED BY A QUALIFIED PERSON IN ACCORDANCE TO THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED ACCORDING TO THE FOLLOWING:

1. INLET PROTECTION DEVICES AND CONTROLS SHALL BE REPAIRED OR REPLACED WHEN THEY SHOW SIGNS OF UNDERMINING AND OR DETERIORATION. INLET PROTECTION DEVICES SHOULD BE ROUTINELY CLEANED AND MAINTAINED.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STANDING OF GRASS IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.
3. MINIMIZE OFF-SITE SEDIMENT TRACKING OF VEHICLES BY THE USE OF STONE MATERIAL IN ALL CONSTRUCTION ENTRANCES, ALONG WITH REGULARLY SCHEDULED SWEEPING/GOOD HOUSEKEEPING. STABILIZED CONSTRUCTION ENTRANCES TO BE PROPERLY MAINTAINED BY GENERAL CONTRACTOR AND IN GOOD WORKING ORDER AT ALL TIMES; THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE STONE AS CONDITIONS DEMAND.
4. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE) BY GENERAL CONTRACTOR. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
5. CONTRACTORS AND SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING ALL SEDIMENT FROM THE SITE, AND STORM SEWER SYSTEMS. SEDIMENT DEPOSITION DURING SITE STABILIZATION MUST ALSO BE REMOVED.
6. STONE CONSTRUCTION EXIT TO BE MAINTAINED BY GENERAL CONTRACTOR UNTIL SITE HAS BEEN PAVED OR IS NO LONGER REQUIRED.
7. ALL CATCH BASIN GRATES ARE TO BE PROTECTED WITH DANDY BAGS AFTER THEY ARE INSTALLED. THEY SHOULD BE ROUTINELY CLEANED AND MAINTAINED.
8. CONTAINERS SHALL BE AVAILABLE FOR DISPOSAL OF DEBRIS, TRASH, HAZARDOUS OR PETROLEUM WASTES. ALL CONTAINERS MUST BE COVERED AND LEAK-PROOF. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THE PERTINENT MATERIAL
9. BRICKS, HARDENING CONCRETE AND SOIL WASTE SHALL BE FREE FROM CONTAMINATION WHICH MAY LEACH CONSTITUENTS TO WATERS OF THE STATE.
10. CLEAN CONSTRUCTION WASTES THAT WILL BE DISPOSED INTO THE PROPERTY SHALL BE SUBJECT TO ANY LOCAL PROHIBITIONS FROM THIS TYPE OF DISPOSAL.
11. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WASTE SHALL BE DISPOSED OF IN AN APPROVED C&DD LANDFILL. CONSTRUCTION DEBRIS MAY BE DISPOSED OF ON-SITE, BUT DEMOLITION DEBRIS MUST BE DISPOSED IN AN APPROVED LANDFILL. ALSO, MATERIALS WHICH CONTAIN ASBESTOS MUST COMPLY WITH AIR POLLUTION REGULATIONS.
12. AREA SHALL BE DESIGNATED BY CONTRACTOR AND SHOWN ON SWPPP MAP FOR MIXING OR STORAGE OF COMPOUNDS SUCH AS FERTILIZERS, LIME ASPHALT, OR CONCRETE. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREA.
13. EQUIPMENT FUELING & MAINTENANCE SHALL BE IN DESIGNATED AREAS ONLY.
14. ALL DESIGNATED CONCRETE WASHOUT AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS OR OTHER STORMWATER DRAINAGE AREAS.
15. ALL CONTAMINATED SOIL MUST BE TREATED AND/OR DISPOSED IN AN APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES.
16. THE CONTRACTOR SHALL CONTACT THE VIRGINIA ENVIRONMENTAL PROTECTION AGENCY AT 215.814.5122, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE IN THE EVENT OF A PETROLEUM SPILL (>25 GALLONS) OR THE PRESENCE OF SHEEN.
17. OPEN BURNING IS NOT PERMITTED ON THE SITE.
18. CONTRACTOR TO ENSURE STREETS SHALL BE CLEARED OF DEBRIS FROM SITE AND SWEPT CLEAN ON AN AS-NEEDED BASIS.

POST-CONSTRUCTION STORMWATER SYSTEM MAINTENANCE

SYSTEM	MAINTENANCE REQUIREMENTS	FREQUENCY
STORM SEWER PIPE	CHECK FOR SEDIMENT ACCUMULATION AND BROKEN PIPES.	SEMI-ANNUALLY
CATCH BASIN(S) OR STORMWATER VAULT(S)	CHECK FOR TRASH ACCUMULATION, OR BROKEN CONCRETE	SEMI-ANNUALLY
OUTFALL STRUCTURE(S)	CHECK FOR TRASH ACCUMULATION, OR EROSION	SEASONALLY
ENERGY DISSIPATER(S)	CHECK RIP RAP FOR STRUCTURAL INTEGRITY AND EROSION	SEMI-ANNUALLY
UNDERGROUND DETENTION CHAMBERS	UTILIZE INSPECTION PORTS TO CHECK SEDIMENT ACCUMULATION IN THE UNDERGROUND DETENTION CHAMBERS. WHEN THE AVERAGE DEPTH OF SEDIMENT EXCEEDS 3 INCHES THROUGHOUT THE LENGTH OF THE ISOLATOR ROW, CLEAN-OUT SHOULD BE PERFORMED.	SEMI-ANNUALLY

APPROVED

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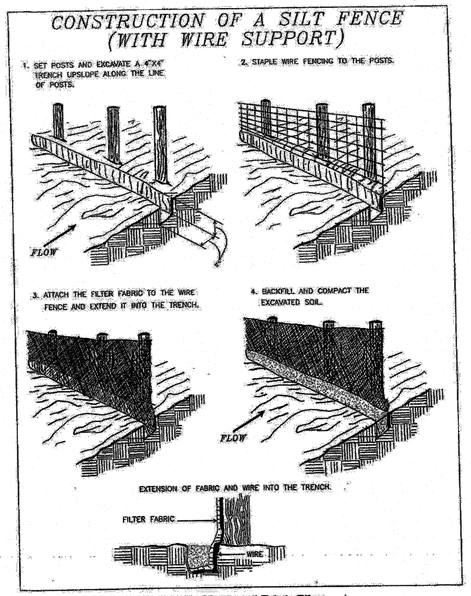
Drawing No.	C3.1

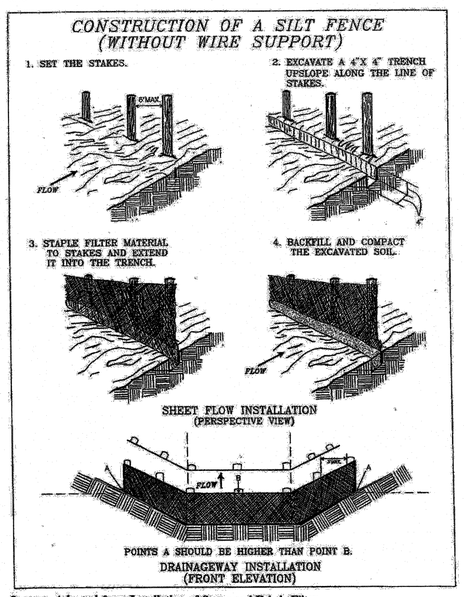
CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)



Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

Plate 3.05-1

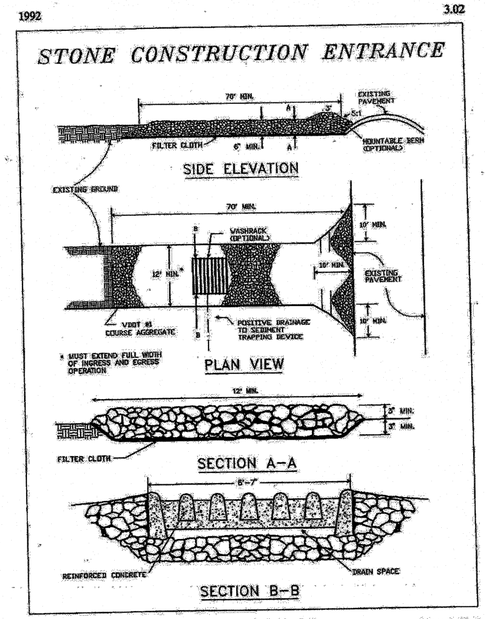
CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant

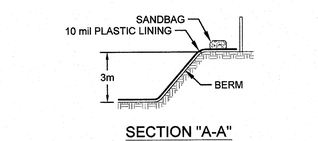
Plate 3.05-2

STONE CONSTRUCTION ENTRANCE

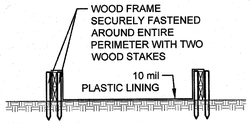


Source: Adapted from 1983 Maryland Standards for Soil Erosion and Sediment Control, and Va. DSWC

Plate 3.02-1



SECTION "A-A"



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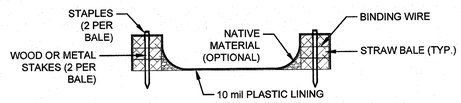
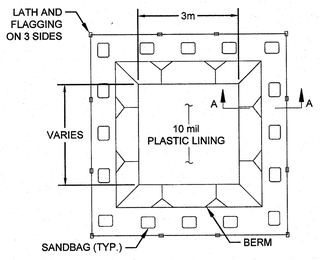


SECTION "A-A"

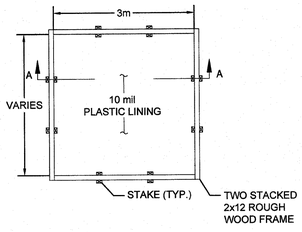


NOTE:

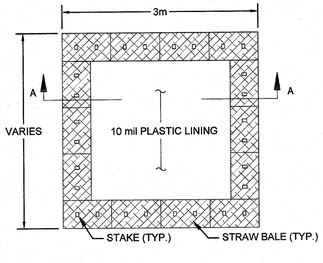
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.

2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 10m OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

"BELOW GRADE"



"ABOVE GRADE" w/ WOOD PLANKS

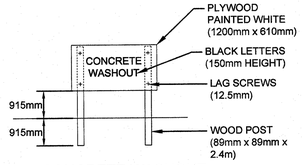


NOTES:

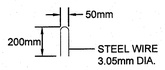
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.

2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

PLAN VIEW



CONCRETE WASHOUT SIGN DETAIL

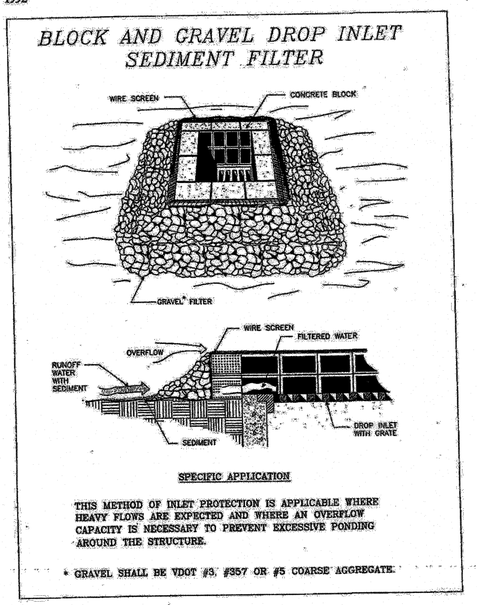


STAPLE DETAIL

Ⓒ CONCRETE WASHOUT DETAIL

NTS

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

Source: Va. DSWC

Plate 3.07-3

APPROVED

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No.	Revisions/Submissions	Date
	ISSUED FOR OWNER REVIEW	07.17.18
	ISSUED FOR DEVELOPMENT PLAN REVIEW	08.01.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	BID SET	10.04.18
	ISSUED FOR FINAL APPROVAL	10.19.18

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA
JEFFREY A. JENNINGS
LICENSE NO.
PROFESSIONAL ENGINEER

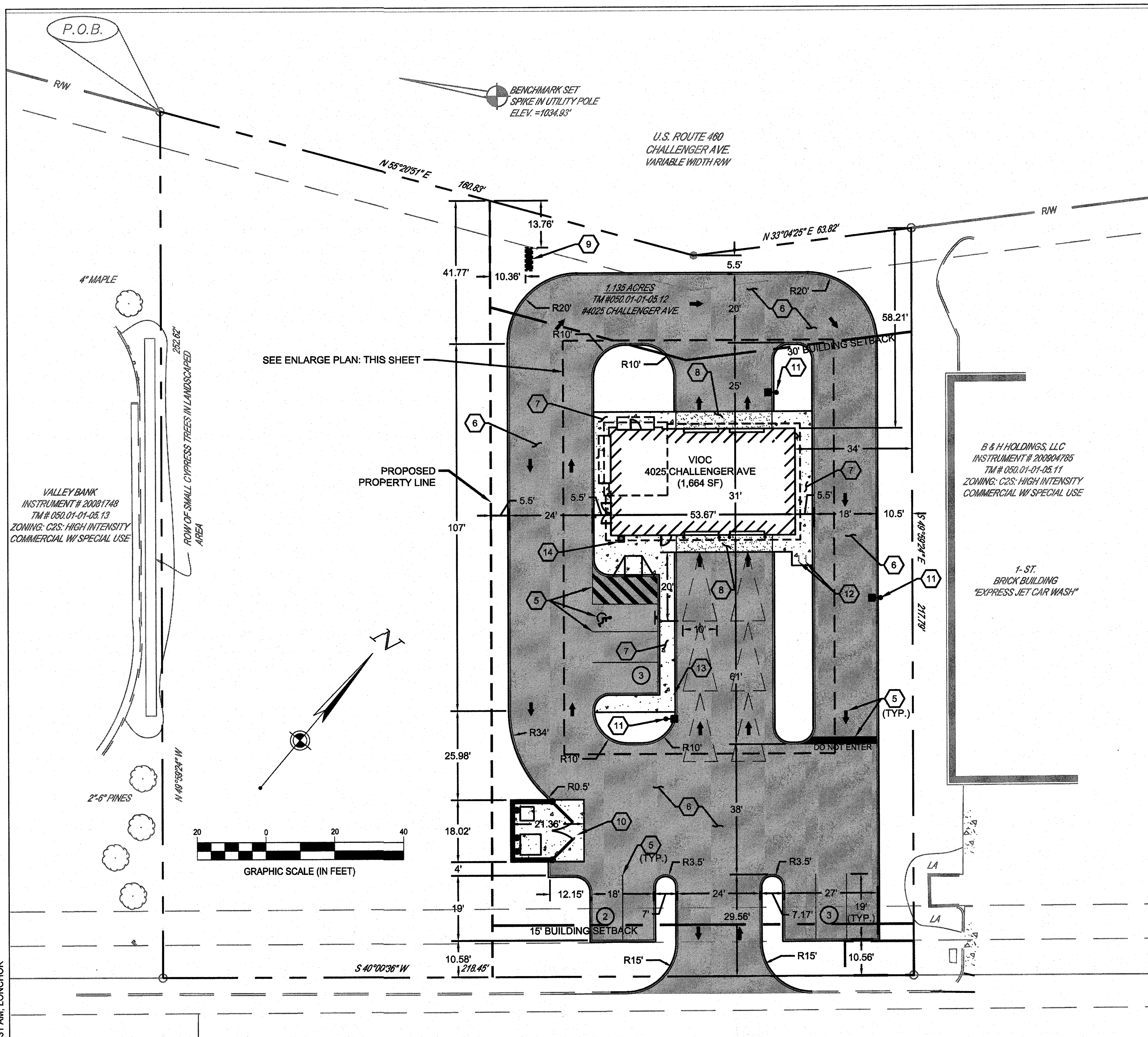
Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18

Drawing Title

SWPPP DETAILS

Drawing No.

C3.2



SITE PLAN GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL HEALTH AND SAFETY STANDARDS, INCLUDING BUT NOT LIMITED TO O.S.H.A. STANDARDS.
2. THE CONTRACTOR SHALL OBTAIN FINAL APPROVALS/PERMITTING AND INSPECTION AS NECESSARY PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF DUMPSTER ENCLOSURE, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY ENTRANCE LOCATIONS AND SITE LIGHTING ELECTRICAL LAYOUT.
4. REFER TO CONSTRUCTION DETAILS / GEOTECHNICAL REPORT FOR PAVEMENT SECTION RECOMMENDATIONS.
5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE STATE SUPPLEMENT TO THE NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
6. CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING CONSTRUCTION FENCE, SIGNS, ETC. TO WARN AND KEEP UNAUTHORIZED PEOPLE OFF SITE FOR THE DURATION OF THE PROJECT.
7. CONTRACTOR IS RESPONSIBLE FOR PROVIDING JOB SITE SAFETY PER OSHA REQUIREMENTS. AT ALL TIMES DURING DEMOLITION AND CONSTRUCTION, CONTRACTOR SHALL PROVIDE SAFETY RAILINGS AT ALL AREAS WHERE FALL PROTECTION IS REQUIRED.
8. ALL SIGNAGE SHALL COMPLY WITH THE STATE SUPPLEMENT TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. ALL PAVEMENT MARKINGS AND STRIPING SHALL COMPLY WITH THE STATE DOT AND THE STATE SUPPLEMENT TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
   a. LANE LINE: 6" WHITE
   b. PARKING STALLS: 4" WHITE
   c. STOP LINE: 24" WHITE
   d. CROSSWALKS: TRANSVERSE LINES WITH DIAGONAL MARKINGS (GAP BETWEEN TRANSVERSE LINES SHALL BE 4') ALL PAINTED WHITE.
   e. HANDICAPPED STALLS: 4" YELLOW OUTLINE, WITH 4" BLUE INTERIOR AND BLUE HANDICAPPED SYMBOLS
10. BOLLARDS SHALL BE PLACED TO PROTECT GAS METER, ELECTRICAL AND TELEPHONE EQUIPMENT, AND DUMPSTER ENCLOSURE.
11. PROPOSED CURB TO BE 6" HIGH UNLESS OTHERWISE NOTED.
12. ALL LIGHT POLES TO BE LOCATED 2' FROM BACK OF CURB AS MEASURED FROM THE FACE OF POLE FOUNDATIONS, UNLESS OTHERWISE NOTED ON PLANS.
13. ALL CURB RADII TO BE 5', UNLESS OTHERWISE NOTED ON PLAN.
14. EXTERIOR DISPLAY OR STORAGE OF NEW OR USED AUTOMOBILE PARTS IS PROHIBITED.
15. EQUIPMENT AND VEHICLES STORED OVERNIGHT ON THE PREMISES SHALL BE BEHIND THE FRONT BUILDING LINE OR AT LEAST THIRTY-FIVE (35) FEET FROM THE PUBLIC RIGHT-OF-WAY, WHICHEVER IS GREATER.
16. A ROANOKE COUNTY SIGN PERMIT SHALL BE REQUIRED PRIOR TO ANY INSTALLATION OF SIGNAGE ON SITE. ALL PROPOSED SIGNANGE MUST COMPLY WITH SECTION 30-93 OF THE ROANOKE COUNTY ZONING ORDINANCE.
17. ALL DUMPSTER, GROUND LEVEL AND ROOFTOP EQUIPMENT AND OUTDOOR STORAGE AREAS MUST BE SCREENED PER SECTION 30-92-6 (F) OF THE ROANOKE COUNTY ZONING ORDINANCE.

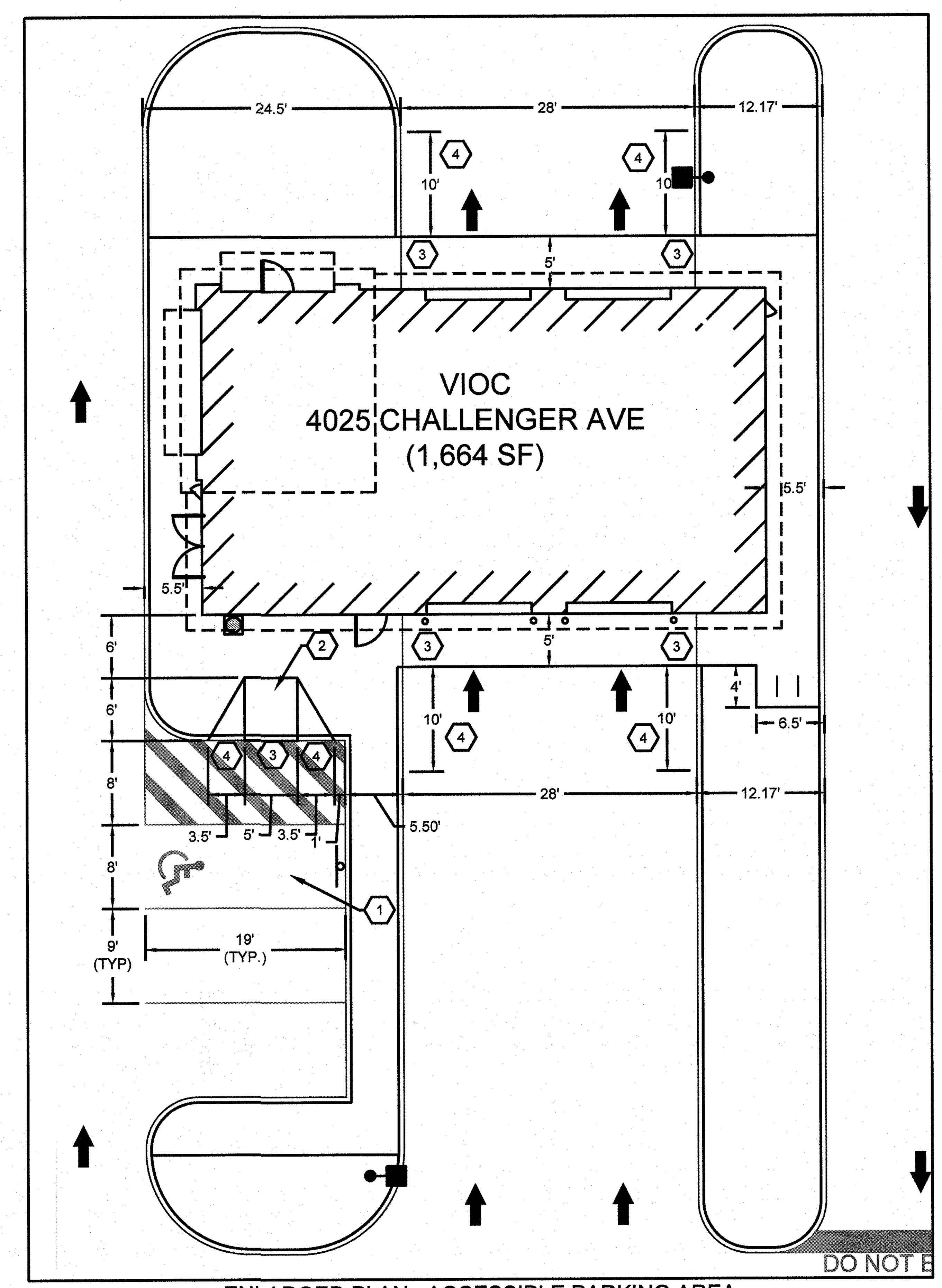
LEGEND

EXISTING

REFER TO TITLE SHEET FOR EXISTING FEATURES LEGEND

PROPOSED

- BUILDING
- CONCRETE CURB
- PAVEMENT/WALK
- CONCRETE PAVEMENT/WALK
- BLACK INTEGRAL CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- PARKING SPACE COUNT
- ADA PARKING SIGN
- ELECTRIC POLE
- CONCRETE BOLLARD



ENLARGED PLAN: ACCESSIBLE PARKING AREA
1" = 10'

PROPERTY DATA:

PARCEL OWNER:	KROGER LIMITED PARTNERSHIP I	
PARCEL ID:	050.01-01-05.12-0000	
ADDRESS:	4025 CHALLENGER AVE ROANOKE, VA 24018	
PROPERTY AREA:	49222.8 SQ. FT. (1.13 AC.)	
ZONING:	C-2, HIGH INTENSITY COMMERCIAL DISTRICT WITH SPECIAL USE	
EXISTING USE:	VACANT FRONT LOT @ KROGER DEVELOPMENT	
PROPOSED USE:	AUTOMOBILE REPAIR SERVICES, MINOR	
	REQUIRED	PROPOSED
BUILDING SETBACKS		
FRONT:	30'	50.5'
SIDE:	0'	0'
REAR:	15'	128.56'
PARKING STALL DIMENSIONS:	9' X 19'	9' X 19'
MAXIMUM BUILDING HEIGHT:	UNLIMITED	22.5'
MAXIMUM LOT COVERAGE:	90%	65%
PARKING CALCULATION:		
TOTAL PARKING SPACES:	8*	8
ADA PARKING SPACES:	1	1
BIKE SPACES	1	1 RACK = 2 SPACES

* 1 SPACE PER BAY + 1 SPACE PER EMPLOYEE = 1(2) + 6 = 8 SPACES

CODED NOTES:

1. ADA ACCESSIBLE PARKING SPACE WITH SIGNAGE. REFER TO CONSTRUCTION DETAILS.
2. ADA ACCESSIBLE RAMP. REFER TO CONSTRUCTION DETAILS.
3. FLUSH CURB
4. TRANSITION CURB FROM FLUSH TO FULL HEIGHT IN 12" (UNLESS TAPER LENGTH NOTED IN PLAN)
5. PROPOSED PAVEMENT MARKINGS.
6. ASPHALT PAVEMENT, PER CONSTRUCTION DETAILS
7. CONCRETE WALK, PER CONSTRUCTION DETAILS
8. BLACK DYED INTEGRAL CONCRETE PAVEMENT
9. PROPOSED MONUMENT SIGN, PER CONSTRUCTION DETAILS
10. DUMPSTER & PAD, WITH REAR SCUPPER IN ENCLOSURE FOR DRAINAGE. REFER TO SHEET C7.1 FOR DETAIL.
11. LIGHT POLE BASE, PER CONSTRUCTION DETAILS.
12. PROPOSED BIKE RACK, PER CONSTRUCTION DETAILS.
13. GENERAL CONTRACTOR TO PROVIDE A $1\frac{1}{2}$" CONDUIT FOR BELL RINGER HOSE.
14. CONDENSING UNIT. REFER TO MECHANICAL PLANS.

APPROVED

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FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: VIRGINIA ONE CALL AT 811 OR (800) 552-7001 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF VIRGINIA ONE CALL.

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	ISSUED FOR FINAL APPROVAL	10.19.18
	BID SET	10.04.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
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COMMONWEALTH OF VIRGINIA
JEFFREY A. [illegible]
Lic. No. [illegible]
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
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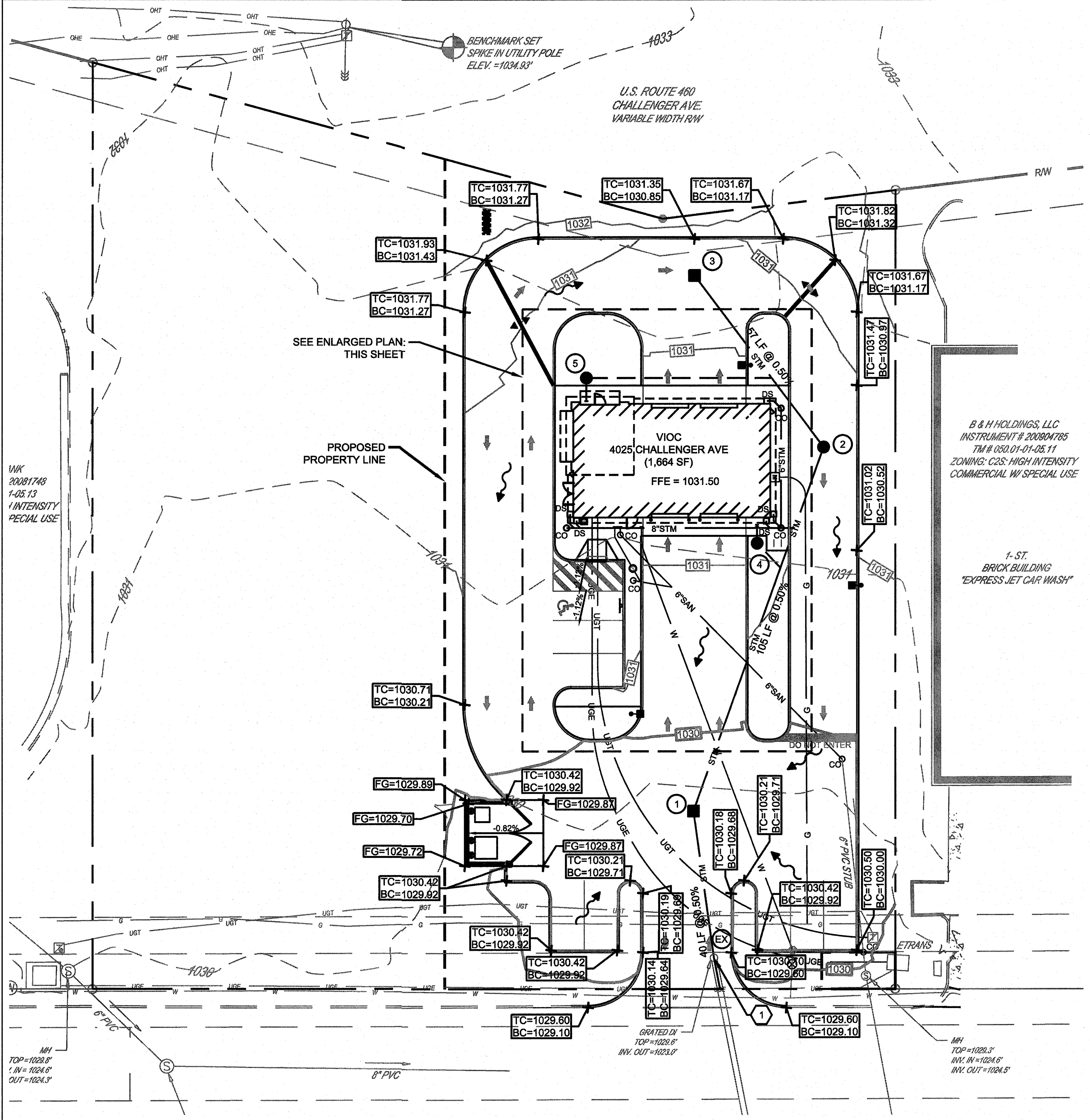
Drawing Title	SITE PLAN
Drawing No.	C4.0



STORM SEWER NOTES:

1. ALL STORM SEWER PIPES SHALL BE MANUFACTURED WITH INTEGRAL BELL AND SPIGOT JOINTS INCLUDING A GASKET, SO AS TO PROVIDE A WATERTIGHT SEAL.
2. ALL STORM SEWER PIPES LESS THAN 12" DIAMETER SHALL BE PVC SDR 35 WATERTIGHT PIPE CONFORMING TO ASTM SPECIFICATION D3034, UNLESS DENOTED OTHERWISE ON PLANS.
3. ALL STORM SEWER PIPES 12" DIAMETER AND GREATER SHALL BE HDPE N-12, WATERTIGHT PIPE AS MANUFACTURED BY ADS, OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLANS.
4. CONNECTIONS TO STRUCTURES SHALL BE MADE WATERTIGHT WITH NON-SHRINKIING AND NON-CORROSIVE GROUT.
5. STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   REINFORCED CONCRETE PIPE (RCP)(PER ASTM C-76 CLASS IV)
   POLYVINYL CHLORIDE (PVC SDR 35)
   HIGH DENSITY POLYETHYLENE PIPE (HDPE)
6. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
7. CONCRETE COLLARS ARE TO BE INSTALLED AROUND ALL STORM STRUCTURES.
8. ALL MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 3" ABOVE FINISH GRADE.
9. ALL DOWNSPOUT DRAINS ARE TO HAVE A 1.00% MINIMUM SLOPE UNLESS OTHERWISE NOTED.
10. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
11. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
12. ALL PROPOSED MODIFICATIONS TO EXISTING CATCH BASINS AND/OR MANHOLES SHALL BE IN ACCORDANCE WITH STATE DOT STANDARDS AND SPECIFICATIONS.

CODED NOTES:

1. CONNECT TO EXISTING GRATED DROP INLET. CONTRACTOR TO VERIFY EXISTING SEWER LOCATION / ELEVATION PRIOR TO ORDERING PROPOSED STRUCTURES. CONTRACTOR TO OBTAIN NECESSARY WORK PERMITS FOR CONNECTIONS TO EXISTING STRUCTURES / PIPES.

GRAPHIC SCALE (IN FEET) 20 0 20 40

LEGEND

EXISTING

REFER TO TITLE SHEET FOR EXISTING FEATURES LEGEND

PROPOSED

	BUILDING
320	MAJOR CONTOUR
322	MINOR CONTOUR
STM	STORM SEWER
(1)	STRUCTURE NUMBER
CO	CLEAN OUT
DS	DOWNSPOUT CONNECTION
●	MANHOLE
■	CATCH BASIN
FG=XXX.XX	FINISHED GRADE ELEVATION
TC=XXX.XX / BC=XXX.XX	TOP OF CURB ELEV. / BOTTOM OF CURB ELEV.
X.XX%	SLOPE ARROW
(M.E.)	MATCH EXISTING ELEVATION
TC	TOP OF CURB
BC	BOTTOM OF CURB
FG	FINISHED GRADE

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FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: VIRGINIA ONE CALL AT 811 OR (800) 552-7001 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF VIRGINIA ONE CALL.

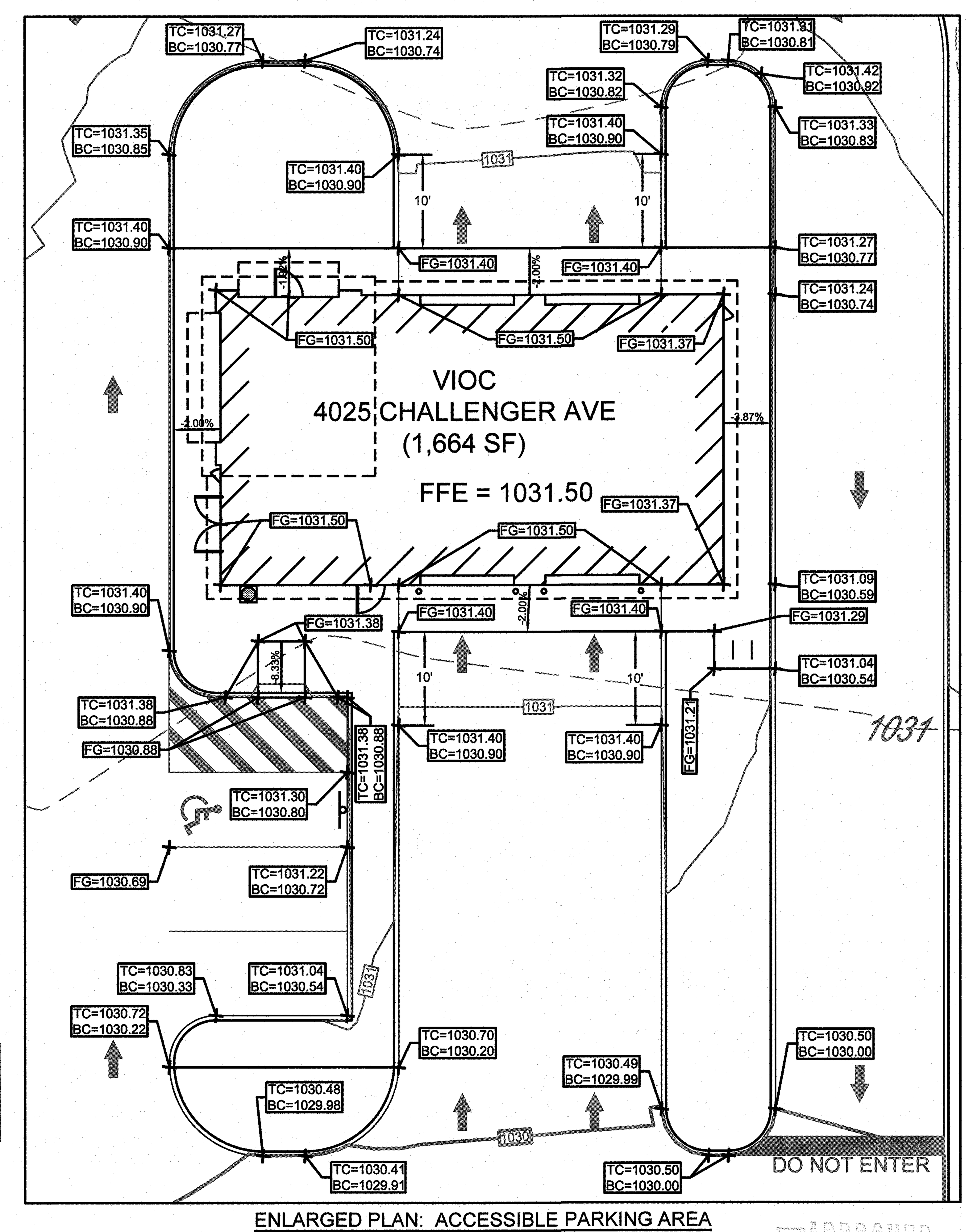
STORM STRUCTURE SCHEDULE

#	STRUCTURE	RIM ELEV.	PIPE INVERT
EX	GRATED DROP INLET	1029.60	INV. 12" E 1023.10 EX. INV. 18" W 1023.00
1	VDOT STANDARD DROP INLET	1029.50	INV. 12" NW 1023.40 INV. 12" E 1023.30
2	VDOT STANDARD PRECAST MANHOLE	1030.74	INV. 12" W 1023.93 INV. 12" SE 1023.83
3	VDOT STANDARD DROP INLET	1030.50	INV. 12" E 1024.11
4	MANHOLE W/ SUMP PUMP (SEE SHEETS P-1 & P-3 FOR DETAILS)	1031.30	4" FOUNDATION DRAIN INV=1021.50, 2" FORCE LINE INV=1029.00
5	MANHOLE W/ SUMP PUMP (SEE SHEETS P-1 & P-3 FOR DETAILS)	1031.38	4" FOUNDATION DRAIN INV=1021.50, 2" FORCE LINE INV=1029.00

BONSACK KROGER DECLARATION INSTRUMENT NUMBER: 200717920

BONSACK KROGER STORMWATER MANAGEMENT AGREEMENT INSTRUMENT NUMBER: 200900676

BONSACK KROGER PLAT INSTRUMENT NUMBER: 200716968



ENLARGED PLAN: ACCESSIBLE PARKING AREA
1" = 10'

GRADING PLAN NOTES:

1. ONLY VIRGIN MATERIALS SHALL BE USED UNLESS APPROVED IN WRITING BY A VALVOLINE INSTANT OIL CHANGE REPRESENTATIVE.
2. ALL SITE WORK, MATERIALS OF CONSTRUCTION, AND CONSTRUCTION METHODS SHALL COMPLY WITH LOCAL MUNICIPALITY, LOCAL COUNTY, AND STATE DEPARTMENT OF TRANSPORTATION MATERIAL AND CONSTRUCTION SPECIFICATIONS.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE STATE ONE CALL SYSTEM AT LEAST THREE (3) WORKING DAYS BEFORE START OF WORK AND VERIFY ALL EXISTING UTILITY LOCATIONS.
4. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
5. THE CONTRACTOR SHALL COMPACT PIPE BACKFILL IN MAX. 6" LOOSE LIFTS TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557, ACCORDING TO THE PIPE BEDDING DETAILS. TRENCH BOTTOM SHALL BE STABLE IN HIGH GROUNDWATER AREAS. A PIPE FOUNDATION SHALL BE USED IN AREAS OF ROCK EXCAVATION.
6. CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC., AS REQUIRED FOR PIPE CONNECTIONS TO BUILDING/CANOPY STUB-OUTS, INCLUDING ROOF/FOOTING DRAIN CONNECTIONS TO ROOF LEADERS AND TO STORM DRAINAGE SYSTEM.
7. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING.
8. MANHOLE RIMS AND STORM INLET GRATES SHALL BE SET TO ELEVATIONS SHOWN. SET ALL EXISTING MANHOLE FRAMES AND COVERS, STORM INLET GRATES, VALVE BOXES, ETC., TO BE RAISED OR LOWERED, TO PROPOSED FINISHED GRADE, FLUSH WITH THE ADJACENT GRADE.
9. UNDERDRAINS MAY BE ADDED, IF DETERMINED NECESSARY BY THE ENGINEER OR CONSTRUCTION MANAGER, AFTER SUBGRADE IS ROUGH GRADED.
10. ALL EXISTING TOPOGRAPHICAL FEATURES (SPOT ELEVATIONS, CONTOURS, INVERTS, ETC.) CAN HAVE A TOLERANCE DIFFERENCE OF 6"+/- DEPENDING ON FIELD CONDITIONS AT THE TIME OF THE FIELD SURVEY. CONTRACTOR TO VERIFY ALL EXISTING TOPOGRAPHICAL FEATURES PRIOR TO CONSTRUCTION, AND ADVISE OWNER OF ANY DISCREPANCIES.
11. THE CONTRACTOR SHALL RESTORE ANY STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS, ETC. DISTURBED DURING CONSTRUCTION TO THE ORIGINAL CONDITION OR BETTER.
12. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF MATERIALS AND STRUCTURES TO THE CONSTRUCTION MANAGER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
13. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON DRAWINGS. REFER TO EROSION AND SEDIMENTATION PLAN FOR LIMIT OF DISTURBANCE AND NOTES.
14. THE CONTRACTOR SHALL COMPACT FILL IN 6" MAXIMUM LIFTS UNDER ALL PARKING, BUILDING, AND DRIVE AREAS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR TEST), OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
15. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL RUBBISH, TRASH, DEBRIS, AND ORGANIC MATERIAL IN A LAWFUL MANNER.
16. THE CONTRACTOR SHALL BE ADVISED THAT ALL EXCAVATION IS CONSIDERED UNCLASSIFIED AND THAT IT SHALL BE RESPONSIBLE FOR ALL MEANS, METHODS, AND MATERIALS OF CONSTRUCTION TO COMPLETE CONSTRUCTION AS DESIGNED. ADDITIONALLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OFF SITE DISPOSAL OF ANY AND ALL EXCESS OR UNSUITABLE MATERIAL UNABLE TO BE PLACED ON SITE AND THE IMPORTATION OF ANY BORROW MATERIAL NECESSARY TO COMPLETE THE JOB.
17. ALL EXCAVATION AND GRADING CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT.
18. SITE GRADING SHALL BE PERFORMED TO PROVIDE POSITIVE DRAINAGE TO STORM INLETS AND TO PRECLUDE THE PONDING OF WATER ON SITE.
19. VERIFY REQUIRED SPOT ELEVATIONS/GRADING IN THE VICINITY OF THE BUILDINGS WITH THE ARCHITECTURAL PLANS.
20. ALL ACCESSIBLE PARKING SPACES TO HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
21. ALL SIDEWALKS, PATIO AREAS, AND ACCESSIBLE ROUTES TO THE BUILDING ARE TO HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM LONGITUDINAL SLOPE OF 5%, UNLESS IN AN APPROVED ADA RAMP.
22. CONTRACTOR TO FIELD VERIFY PROPOSED AND EXISTING GRADES, SLOPES, ETC., FOR PROPOSED ACCESSIBLE PARKING AREAS, RAMPS, ETC., WITH ARCHITECT, PRIOR TO CONSTRUCTION.
23. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE TAKEN FROM FIELD OBSERVATION, UTILITY MAPS, ETC., AND ARE NOT ASSUMED TO BE ACCURATE. PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR TO DIG TEST PITS AT ALL PROPOSED UTILITY CROSSINGS, TO VERIFY LOCATION, DEPTH, SIZE, ETC. OF EXISTING UNDERGROUND UTILITIES, AND CONFIRM NEW UTILITY LINES CAN BE INSTALLED AS PROPOSED. ADVISE VALVOLINE CONSTRUCTION MANAGER IMMEDIATELY OF ANY CONFLICTS OR DISCREPANCIES.

STORMWATER QUANTITY FOR THIS OUTLOT HAS BEEN PROVIDED BY THE KROGER DEVELOPMENT. STORMWATER QUALITY WILL BE ACHIEVED THROUGH THE PURCHASING OF NUTRIENT CREDITS PER PROVIDED VRRM SPREADSHEET DATA

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	ISSUED FOR FINAL APPROVAL	10.19.18
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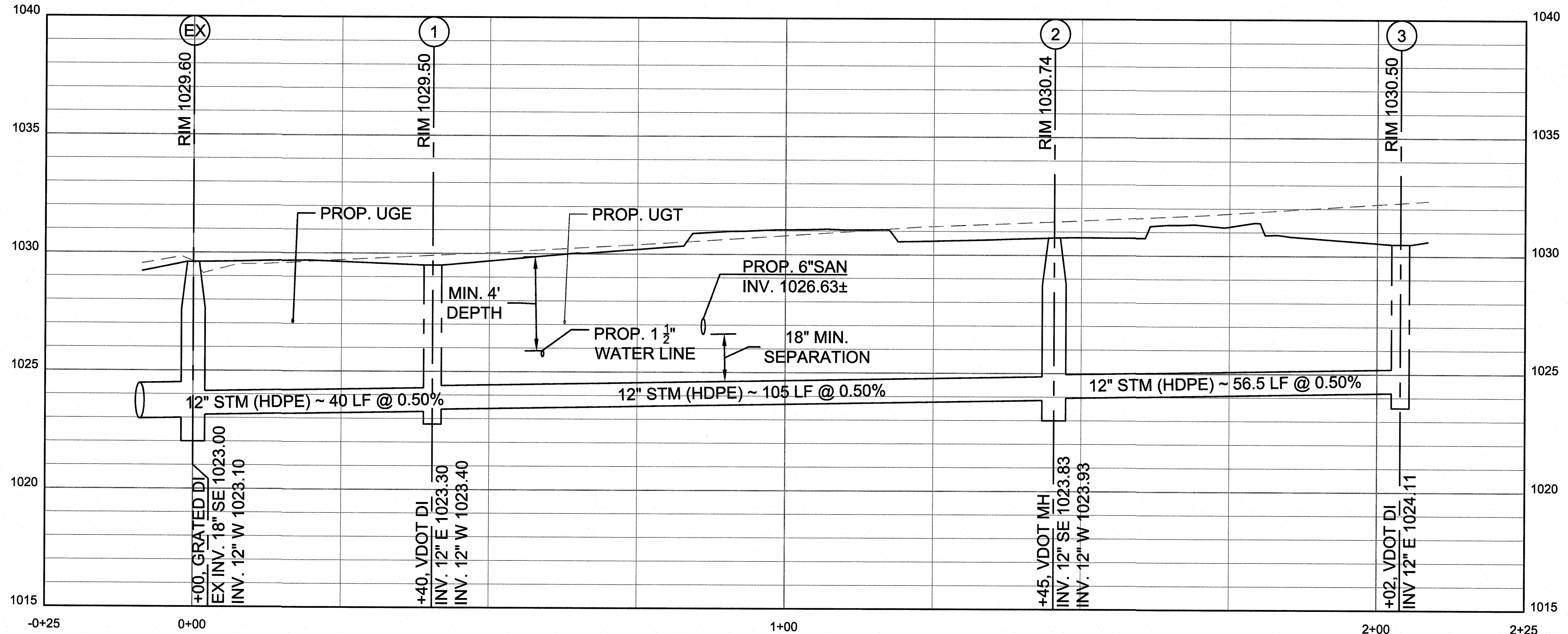
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA
JEFFREY A. [illegible]
Lic. No. [illegible]
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18
Drawing Title	GRADING PLAN
Drawing No.	C5.0

W:\PROJECTS\VALVOLINE\755208-ROANOKE VA (VIOC)\03-CIVIL\PLAN\PLOT SHEETS\755208_C5.0-GRAD, 10/24/2018 10:42:45 AM, LONCHOR

APPROVED



STORM SEWER EX-3 PROFILE
SCALE: 1" = 20' HORIZ.; 1" = 5' VERT.

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	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	BID SET	10.04.18
	ISSUED FOR FINAL APPROVAL	10.19.18

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA
JEFFREY A. [illegible]
Lic. No. [illegible]
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18
Drawing Title	STORM PROFILES
Drawing No.	C5.1

APPROVED

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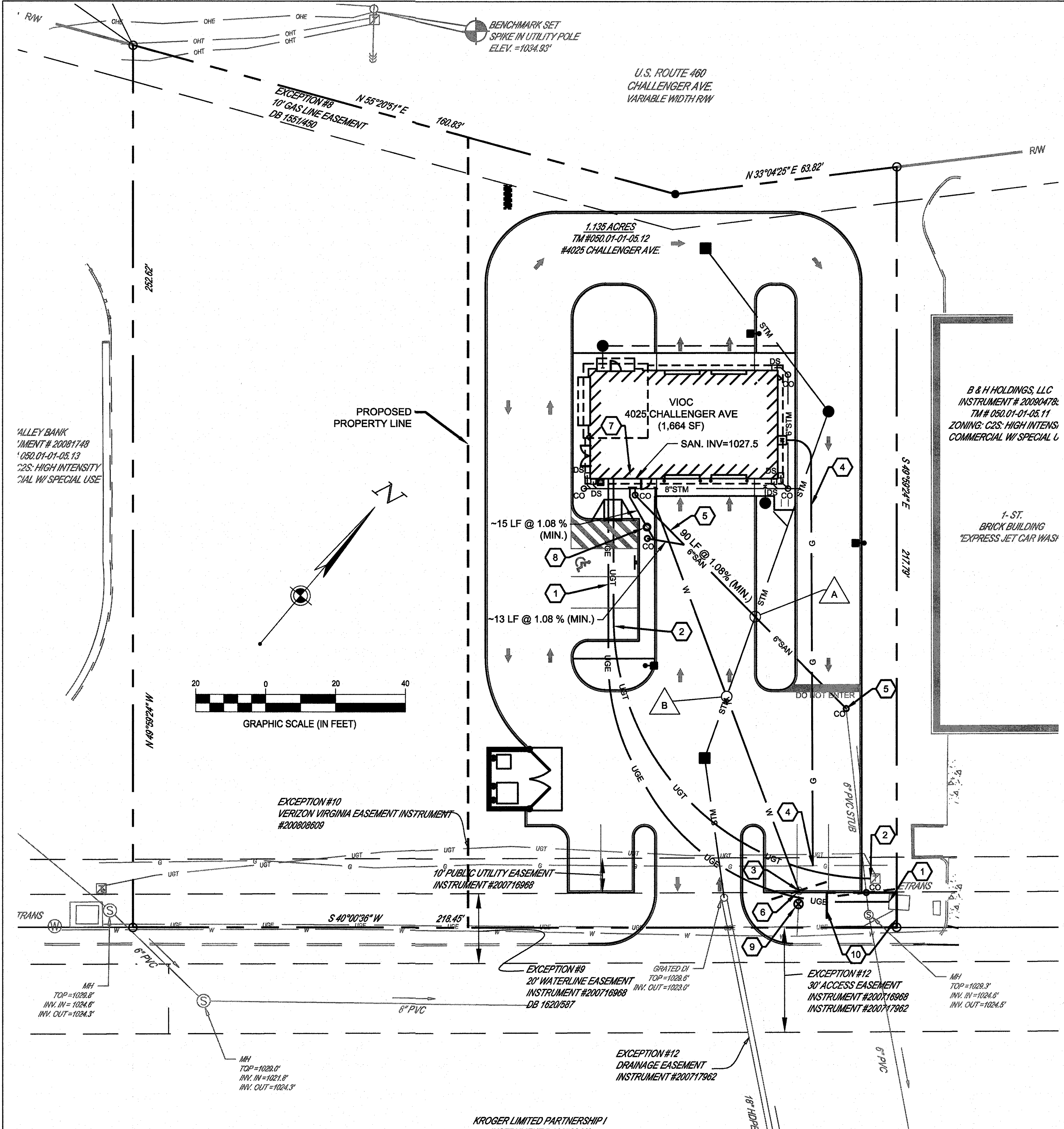
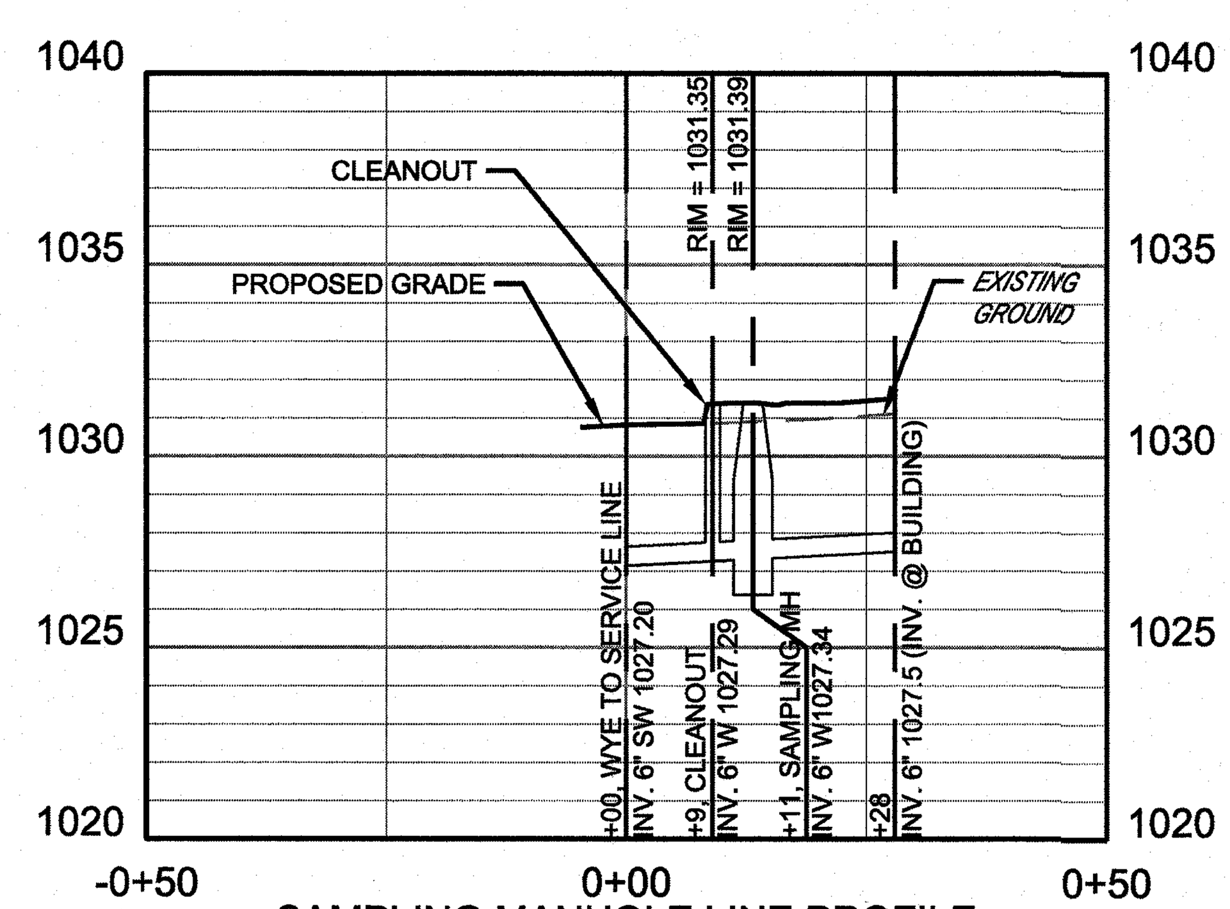
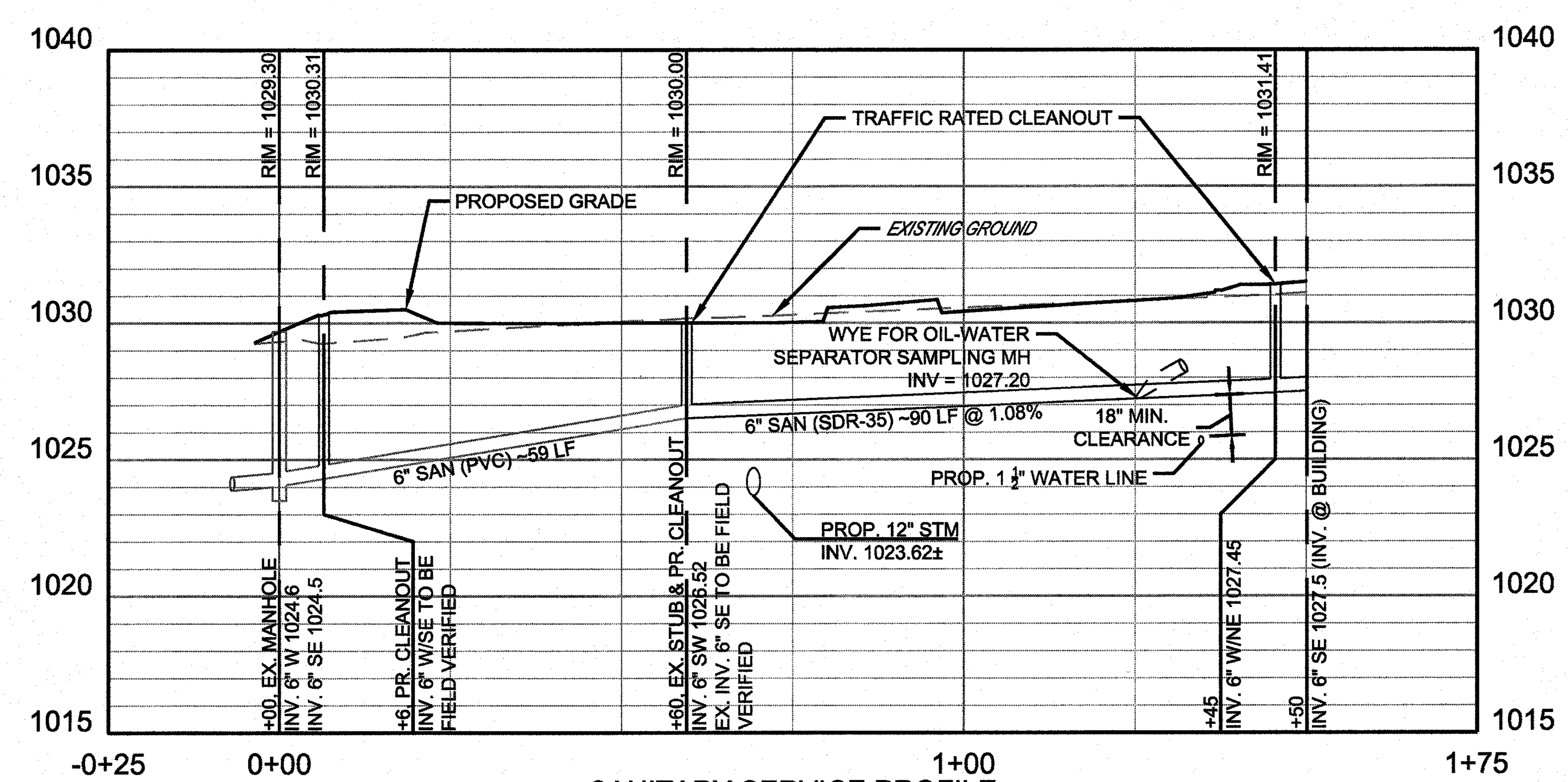
FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: VIRGINIA ONE CALL AT 811 OR (800) 552-7001 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF VIRGINIA ONE CALL.

W:\PROJECTS\VALVOLINE\755208-ROANOKE VA (VIOC)\03-CIVIL\PLAN\PLOT SHEETS\755208_C5.0-GRAD, 10/24/2018 10:42:50 AM, LONCHOR





SAMPLING MANHOLE LINE PROFILE
SCALE: 1" = 20' HORIZ.; 1" = 5' VERT.



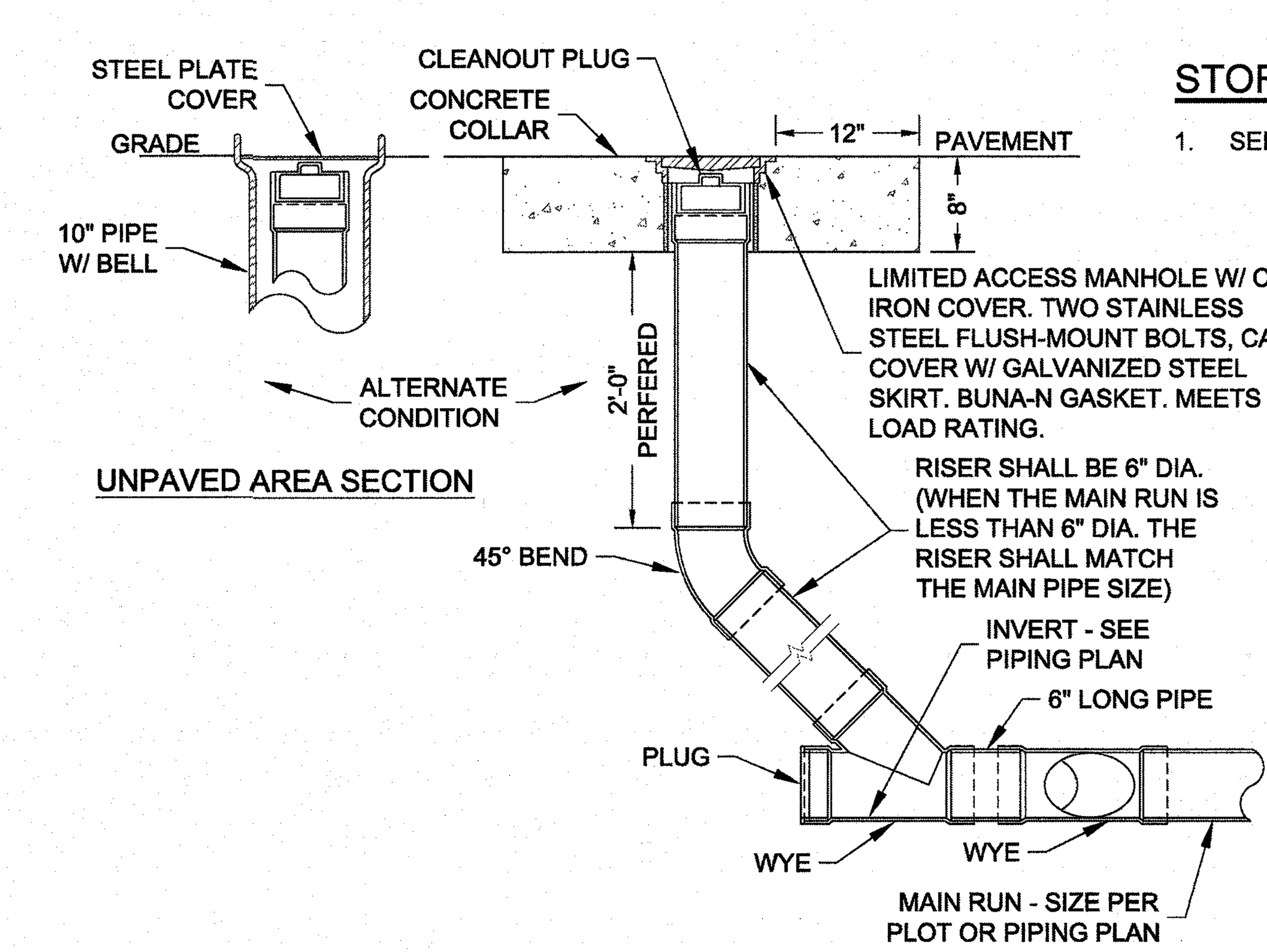
SANITARY SERVICE PROFILE
SCALE: 1" = 20' HORIZ.; 1" = 5' VERT.

GENERAL UTILITY NOTES:

1. COORDINATE ALL SITE UTILITY WORK WITH THE MECHANICAL AND ELECTRICAL DRAWINGS.
2. THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS, AS-BUILT PLANS, AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO STARTING CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY CONTRACTOR'S WORK FORCE.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL FEES ASSOCIATED WITH PERMITS REQUIRED TO PERFORM THE WORK PROPOSED ON THESE PLAN (I.E. TAPPING, INSPECTION, ETC.).
4. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
5. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
6. SANITARY AND WATER LINE SHALL BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE.)
7. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
8. RIMS OF EXISTING STRUCTURES SHALL BE RAISED OR LOWERED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS WITH WATER TIGHT LIDS.
9. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
10. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
11. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION.
12. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICE.
13. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
14. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE, AND GAS SERVICE.
15. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES, IN SUCH A MANNER AS TO AVOID CONFLICTS, AS WELL AS COORDINATING WITH THE AUTHORITY HAVING JURISDICTION UTILITY REQUIREMENTS AS TO ASSURE PROPER LOCATION AND SCHEDULING FOR TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO EXISTING UTILITIES.
16. THE CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE RESPECTIVE UTILITY COMPANIES AND THE OWNER'S INSPECTING AUTHORITIES.
17. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE LATEST WVWA DEIGN AND CONSTRUCTION STANDARDS.
18. THE CONTRACTOR OR DEVELOPER IS REQUIRED TO NOTIFY THE WESTERN VIRGINIA WATER AUTHORITY IN WRITING AT LEAST THREE (3) DAYS PRIOR TO ANY CONSTRUCTION. PLEASE CONTACT MARK SINK AT (540) 537-3460.
19. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE WESTERN VIRGINIA WATER AUTHORITY.
20. FIELD CORRECTIONS SHALL BE APPROVED BY THE WESTERN VIRGINIA WATER AUTHORITY PRIOR TO SUCH CONSTRUCTION.
21. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 18" CLEARANCE VERTICALLY AND 2' MINIMUM HORIZONTALLY FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE AT ALL WATER, SANITARY SEWER CROSSINGS OF ANY OTHER UTILITIES. WHERE THIS CANNOT BE ACHIEVED ADDITIONAL MEASURES IN ACCORDANCE WITH WVWA STANDARDS SHALL BE ENFORCED.
22. ANY EXISTING APPURTENANCES SHOULD BE ADJUSTED TO GRADE AND NEW FRAME AND COVERS INSTALLED WHERE REQUIRED.
23. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE ALL EXISTING UTILITIES LOCATED AND POTHOLED TO VERIFY LOCATIONS. THIS PLAN REVIEW DOES NOT REMOVE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE ANY EXISTING CONFLICTS FOUND DURING CONSTRUCTION.

CODED NOTES:

1. ELECTRIC SERVICE. CONTRACTOR TO COORDINATE WITH POWER COMPANY FOR CONNECTION
2. TELEPHONE SERVICE. CONTRACTOR TO COORDINATE WITH SERVICE PROVIDER FOR CONNECTION.
3. 1.5" WATER SERVICE LINE PER WESTERN VIRGINIA WATER AUTHORITY REQUIREMENTS. CONTRACTOR TO COORDINATE WITH SERVICE PROVIDER FOR CONNECTION.
4. GAS SERVICE. CONTRACTOR TO COORDINATE WITH GAS COMPANY FOR CONNECTION.
5. SANITARY SERVICE LINE PER WESTERN VIRGINIA WATER AUTHORITY REQUIREMENTS. SERVICE TO BE INSTALLED PER COUNTY REGULATIONS AND SPECIFICATIONS. CONTRACTOR TO FIELD LOCATE EXISTING SANITARY SERVICE STUB AND VERIFY INVERT PRIOR TO BEGINNING ANY WORK AND ADJUST CONNECTIONS AS NECESSARY. NOTIFY THE ENGINEER IMMEDIATELY WITH ANY DISCREPANCIES.
6. 1" WATER METER TO BE PLACED WITHIN EXISTING WATER METER VAULT, PER WESTERN VIRGINIA WATER AUTHORITY. CONTRACTOR TO COORDINATE WITH SERVICE PROVIDER FOR CONNECTION.
7. OIL-WATER SEPARATOR LOCATION WITHIN BUILDING. REFER TO PLUMBING PLANS FOR DETAILS.
8. SANITARY SAMPLING MANHOLE, PER WESTERN VIRGINIA WATER AUTHORITY DETAILS.
9. PRESSURE REDUCING VALVE (PRV), PER WESTERN VIRGINIA WATER AUTHORITY DETAILS.
10. PROPOSED 20'X10' SANITARY SEWER EASEMENT.



UNPAVED AREA SECTION

PIPE CLEANOUT DETAIL
NOT TO SCALE

LEGEND

EXISTING

REFER TO TITLE SHEET FOR EXISTING FEATURES LEGEND

PROPOSED

- BUILDING
- STORM SEWER (STM)
- SANITARY SEWER (SAN)
- DOMESTIC WATER SERVICE (W)
- GAS SERVICE (G)
- UNDERGROUND ELEC. LINE (UGE)
- UNDERGROUND TEL. LINE (UGT)
- PROPOSED EASEMENT
- PRIVATE / PUBLIC UTILITY DIVIDE LINE (PRIVATE UTILITY / PUBLIC UTILITY)
- CLEAN OUT (CO)
- METER
- WATER METER
- WATER VALVE
- ELECTRIC TRANSFORMER
- SANITARY SAMPLING MANHOLE

UTILITY CROSSING SCHEDULE

NO.	UTILITY	ELEVATIONS	DIFF.
A	PR. 6" SAN	B/PIPE = 1026.92	2.30
	PR. 12" STM	T/PIPE = 1024.62	
B	PR. 1 1/2" WATER	B/PIPE = 1025.90 ±	1.41
	PR. 12" STM	T/PIPE = 1024.49	

WATER NOTES:

1. WATER SERVICE MATERIAL LARGER THAN 2" SHALL BE DUCTILE IRON IN CONFORMANCE WITH ANSI A21.51 (AWWA C151) DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND LINED MOLDS, FOR WATER OR OTHER LIQUIDS AND ANSI A21.50 (AWWA C150) THICKNESS DESIGN OF IRON PIPE. ALL SERVICE LINES 2" OR LESS SHALL BE COPPER TYPE K. SIZE TO BE AS NOTED IN PLAN VIEW. SERVICE CONNECTION TO HAVE MINIMUM COVER OF 60" COVER.
2. ALL FITTINGS SHALL BE DUCTILE IRON IN CONFORMANCE WITH AWWA C110 OR AWWA C153. ALL FITTINGS SHALL BE RATED FOR 350 PSI WORKING PRESSURE, HAVE MECHANICAL JOINTS AND BE COATED AND CEMENT MORTAR LINED IN ACCORDANCE WITH AWWA C104. ALL BOLTS AND NUTS SHALL BE COR-TEN.
3. WATER LINE SHALL HAVE A MINIMUM BURY DEPTH OF 4'.
4. A SEPARATE GATE VALVE, THE SAME SIZE AS THE METER CONNECTIONS, SHALL BE PLACED ON THE SERVICE PIPE ON BOTH SIDES OF THE METER. SUCH VALVES SHALL BE EQUAL IN QUALITY TO THE SERVICE COCK.
5. ALL WATER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY.
6. ALL WATER AND SANITARY SEWER FACILITIES ARE TO BE INSTALLED ACCORDING TO THE WESTERN VIRGINIA WATER AUTHORITY DESIGN AND CONSTRUCTION STANDARDS.

SANITARY SEWER NOTES:

1. ALL SANITARY SEWERS SHALL BE PVC, SDR 35 MATERIAL, CONFORMING TO ASTM SPECIFICATION D3034 WITH 3/4IN STONE BEDDING.
2. PVC PIPE SHALL HAVE AN INTEGRAL BELL AND JOINTS SHALL BE PREMIUM GASKETED JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 TO PROVIDE A WATERTIGHT SEAL AND SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. ALL SANITARY SEWER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY.
4. ALL WATER AND SANITARY SEWER FACILITIES ARE TO BE INSTALLED ACCORDING TO THE WESTERN VIRGINIA WATER AUTHORITY DESIGN AND CONSTRUCTION STANDARDS.

STORM SEWER NOTES:

1. SEE GRADING PLAN FOR STORM SEWER NOTES.

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APPROVED

CESO
WWW.CESOINC.COM

No.	Revisions/Submissions	Date
	ISSUED FOR FINAL APPROVAL	10.19.18
	BID SET	10.04.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	ISSUED FOR DEVELOPMENT PLAN REVIEW	08.01.18
	ISSUED FOR OWNER REVIEW	07.17.18

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

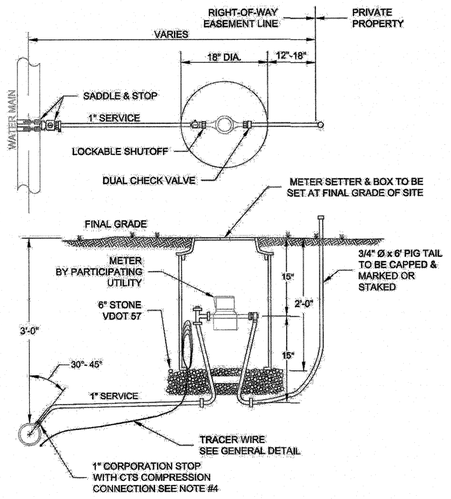
COMMONWEALTH OF VIRGINIA
JEFFREY A. [illegible]
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18

Drawing Title: UTILITY PLAN

Drawing No. C6.0

1. SETTER TO BE A.Y. McDONALD 720-215WDDD33, FORD VBHH72-15W-11-33 OR APPROVED EQUAL.
2. SADDLES MUST BE USED WITH ALL PLASTIC & DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH WATER DISTRIBUTION PIPING SPECIFICATION. SERVICE SADDLES FOR PLASTIC PIPE SHALL BE: POWERSEAL 3417, OR 3412AS, ROMAC 202S, OR 306, OR FORD METER FS202 OR FS303. FOR DUCTILE IRON PIPE USE THE ABOVE OR POWERSEAL 3413, ROMAC 202 OR FORD METER F202.
3. METER BOX SHALL BE CARSON/MID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD "A" DOMESTIC SERIES FRAME WITH A NICOR DOMESTIC 12.25 CX LID WITH SENSUS RECESS AND WVWA LOGO, ADS CORRUGATED HDPE BOX WITH FORD "A" DOMESTIC SERIES FRAME WITH A NICOR DOMESTIC 12.25 CX LID WITH SENSUS RECESS AND WVWA LOGO OR APPROVED EQUAL. METER BOX SHALL NOT BE PLACED IN AREAS SUBJECT TO VEHICULAR TRAFFIC, IF TRAFFIC BEARING BOX IS REQUIRED, DESIGN ENGINEER SHALL CONSULT WITH PARTICIPATING UTILITY TO DETERMINE SITE SPECIFIC REQUIREMENTS.
4. CORPORATION STOP SHALL BE FORD FB1000-4-G-NL, MUELLER B-25008 OR APPROVED EQUAL.
5. SERVICE SHALL BE "K" TYPE COPPER, OR COPPER TUBE SIZE POLYETHYLENE (PE) 4710, SODR-9 (200 psi).
6. WHENEVER SIDEWALK EXISTS OR IS PROPOSED, MODIFY METER LOCATION AS DIRECTED.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

SINGLE RESIDENTIAL
WATER SERVICE - (NEW DEVELOPMENT)
(LINE PRESSURE UNDER 120 PSI)

09/07/17 — **W-1**

1. ALL METERS ARE TO BE PROVIDED AND INSTALLED BY PARTICIPATING UTILITY AT OWNER/DEVELOPER'S EXPENSE. METER BOX, SERVICE, AND SETTER TO BE FURNISHED AND INSTALLED BY OWNER/DEVELOPER IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS SHOWN BELOW.
2. SADDLES MUST BE USED WITH ALL PLASTIC & DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH WATER DISTRIBUTION PIPING SPECIFICATION. SERVICE SADDLES FOR PLASTIC PIPE SHALL BE: POWERSEAL 3417, OR 3412AS, ROMAC 202S, OR 306, OR FORD METER FS202 OR FS303. FOR DUCTILE IRON PIPE USE THE ABOVE OR POWERSEAL 3413, ROMAC 202 OR FORD METER F202.
3. CORPORATION STOP SHALL BE FORD FB1000-4-G-NL, MUELLER B-25008 OR APPROVED EQUAL.
4. METER BOXES LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE CONCRETE WITH H-20 RATED TRAFFIC BEARING HATCH. ALL OTHER METER BOXES SHALL BE CARSON/MID-STATES PLASTICS, INC. PLASTIC BOX, ADS CORRUGATED HDPE BOX, OR APPROVED EQUAL. MINIMUM METER BOX & LID DIAMETERS SHALL BE IN ACCORDANCE WITH SIZING CHART BELOW.
5. SERVICE SHALL BE "K" TYPE COPPER OR P.E. 4710 ,CTS O.D., MINIMUM CELL CLASS 445474E AND 445474D.
6. COPPER METER SETTER TO BE FORD, A.Y. MCDONALD OR APPROVED EQUAL WITH ANGLE DUAL CHECK VALVE AND BYPASS HAVING LOCKABLE SHUTOFF VALVE.
7. SERVICES REQUIRING METERS LARGER THAN 2-INCH SHALL BE REVIEWED BY THE PARTICIPATING UTILITY ON A CASE BY CASE BASIS.

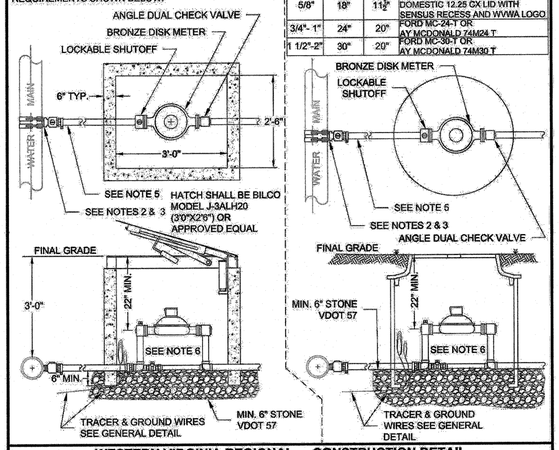
TRAFFIC BEARING LOCATION

TRAFFIC BEARING VAULT AND H-20 RATED HATCH SHALL BE SIZED IN ACCORDANCE WITH DIMENSIONAL REQUIREMENTS SHOWN BELOW.

NON TRAFFIC BEARING LOCATION

SIZING CHART LID

METER SIZE	BOX DIA (MIN.)	LID DIA. (MIN.)	COVER & LID MODEL (OR APPROVED EQUAL)
5/8"	18"	11½"	FORD "A" SERIES FRAME & NICOR DOMESTIC 12.25 CX LID WITH SENSUS RECESS AND WVWA LOGO
3/4"- 1"	24"	20"	FORD MC-24-T OR AY MCDONALD 74M24 T
1 1/2"-2"	30"	20"	FORD MC-30-T OR AY MCDONALD 74M30 T

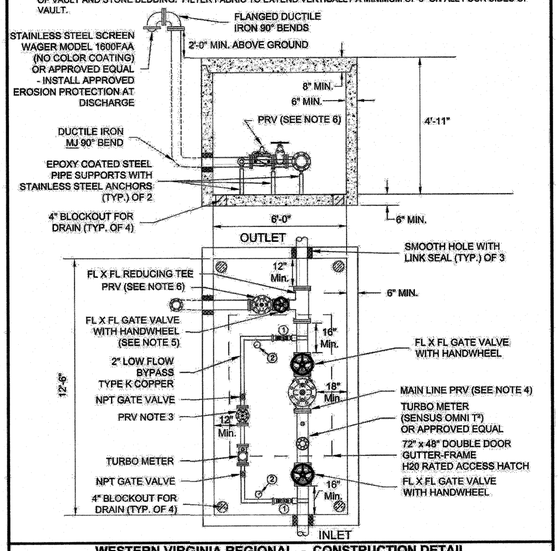


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

COMMERCIAL
WATER SERVICE
METER SIZES 5/8" - 2"

09/07/17 — **W-5**

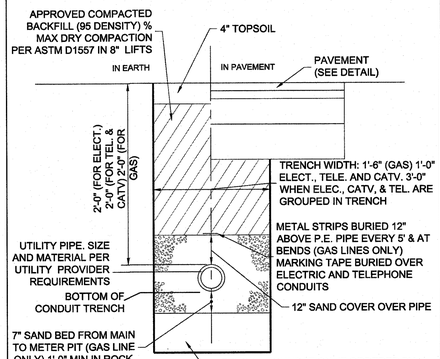
1. 2" CORPORATION STOP, MUELLER B-25008, FORD FB1000-4-G-NL OR EQUIVALENT.
2. LIQUID FILLED PRESSURE GAUGE.
3. 2" FLANGED PRESSURE REGULATING VALVE (CLA-VAL MODEL 90-01 OR APPROVED EQUAL) SET AT WORKING PRESSURE.
4. FLANGE x FLANGE MAIN LINE PRESSURE REGULATING VALVE (CLA-VAL MODEL 90-01 OR APPROVED EQUAL) SET AT 5 psi LESS THAN #3. (CLA-VAL 690-01 OR APPROVED EQUAL) MAY BE ALLOWED IN SOME INSTALLATIONS, CONFIRM WITH PARTICIPATING UTILITY.
5. FLANGE x FLANGE GATE VALVE, WITH HAND WHEEL. ONE SIZE LESS THAN MAIN LINE.
6. FLANGE x FLANGE PRESSURE RELIEF VALVE, ONE SIZE LESS THAN MAIN LINE (CLA-VAL MODEL 650-01 OR APPROVED EQUAL) SET AT 5 psi GREATER THAN #3.
7. VAULT SHALL BE PRE-CAST 5,000 PSI REINFORCED CONCRETE.
8. MAIN LINE (INLET, OUTLET, AND INTERIOR) PIPING SHALL BE FLANGED - PLAIN END, OR PLAIN END DUCTILE IRON PIPE WITH APPROVED FLANGE ADAPTER, MIN. PRESSURE CLASS 350 OR THICKNESS CLASS 50.
9. VAULT TO BE INSTALLED ON MIN. 6" COMPACTED VDOT #57 STONE WITH FILTER FABRIC PLACED BETWEEN BOTTOM OF VAULT AND STONE BEDDING. FILTER FABRIC TO EXTEND VERTICALLY A MINIMUM OF 6" ON ALL FOUR SIDES OF VAULT.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

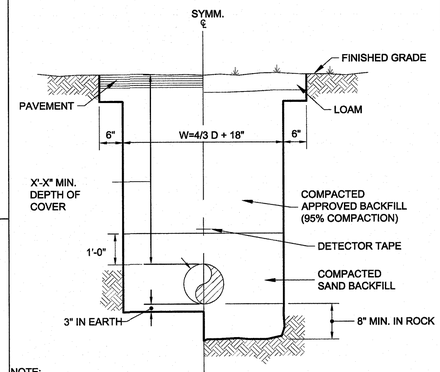
MAIN LINE - PRESSURE REDUCING VALVE ASSEMBLY

1/26/16 — **W-14**



ELECTRICAL, TELEPHONE AND GAS TRENCH SECTION

NOT TO SCALE

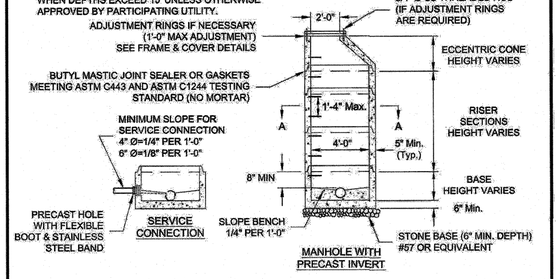


NOTE:
1. FIRE LINE PIPING AND SERVICE PIPING > 3" I.D. TO BE CLASS 53 DUCTILE IRON WITH RESTRAINED JOINTS 40 FT. EACH SIDE OF ALL FITTINGS, ELBOWS AND APPURTENANCES. DOMESTIC PIPING < 3" I.D. TO BE TYPE K COPPER PER ASTM B 88.
2. NOTE: PIPING TO BE HYDROSTATIC TESTED 2 HOURS @ 100 PSI. OVER NORMAL OPERATING PRESSURE AFTER INSTALLATION

TYPICAL WATER MAIN & SERVICE TRENCH SECTION

NOT TO SCALE

1. MATERIALS AND FABRICATION IN ACCORDANCE WITH ASTM C478-09.
2. WHEN USED AS SAMPLING MANHOLE FLOW SHALL PASS STRAIGHT THROUGH, i.e., 180°.
3. STEPS SHALL BE VERTICALLY ALIGNED. FIRST STEP SHALL BE WITHIN 12" OF COVER, BOTTOM STEP SHALL BE WITHIN 24" OF BOTTOM OF MANHOLE.
4. FRAME AND COVER SHALL BE PROPERLY ALIGNED WITH THE 2 FOOT OPENING OF THE MANHOLE STRUCTURE AND BOLTED IN PLACE.
5. FLAT TOP MANHOLES MAY ONLY BE SUBSTITUTED WITH THE PERMISSION OF THE PARTICIPATING UTILITY.
6. FLEXIBLE JOINT MANHOLE CONNECTION SHALL BE AS MANUFACTURED BY PRES-SEAL GASKET CORPORATION OR EQUAL.
7. GROUT ANNULAR SPACE BETWEEN PIPE AND PRECAST MANHOLE ON INSIDE OF MANHOLE.
8. WHEN REPLACING AN EXISTING MANHOLE OR INSTALLING A NEW PRECAST MANHOLE ON AN EXISTING SEWER, A MINIMUM OF SIX FEET (6') OF EXISTING PIPE SHALL BE REMOVED AND REPLACED WITH NEW MATERIAL ON INLET AND OUTLET OF MANHOLE.
9. MANHOLES WHERE THE INVERT IS LOWER THAN THE NORMAL GROUNDWATER ELEVATION (I.E., ALONG CREEKS, RIVERS, LOW-LYING AREAS, ETC.) SHALL HAVE A FULL EXTERIOR COATING AND JOINT WRAP APPLIED IN ADDITION TO JOINT SEALANT. SEE NOTES 10 & 11.
10. IF REQUIRED EXTERIOR VERTICAL WALL SURFACES SHALL BE FACTORY COATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION. COATING SHALL BE HIGH BUILD COAL TAR EPOXY MEETING ASTM D1227. COATING SHALL BE APPLIED IN TWO COATS TO A MINIMUM TOTAL THICKNESS OF 16 MILS.
11. IF REQUIRED ALL MANHOLES SHALL UTILIZE AN EXTERNAL FRAME AND JOINT SEAL AT ALL JOINTS AND AT THE FRAME/CHIMNEY INTERFACE. SEAL SHALL BE MADE OF EPDM RUBBER INACCORDANCE WITH ASTM D412 OR POLYOLEFIN BACKED EXTERIOR JOINT WRAP IN ACCORDANCE WITH ASTM E-1745, C-877, AND C-990. EDM SEAL SHALL HAVE A MINIMUM THICKNESS OF 60 MILS. POLYOLEFIN BACKED EXTERIOR JOINT WRAP SHALL HAVE A BACKING BAND ELEMENT WITH MINIMUM THICKNESS OF 4 MILS. AND BUTYL ROLLER ADHESIVE WITH MINIMUM THICKNESS OF 80 MILS. SEAL SHALL AGGRESSIVELY BOND TO CONCRETE AND METAL STRUCTURES.
12. FOR PIPE LARGER THAN 15 INCHES IN DIAMETER, THE MINIMUM INSIDE DIAMETER OF THE MANHOLE SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS BASED ON PIPE SIZE AND ANGLE BETWEEN INLET AND OUTLET PIPING.
13. 6' MINIMUM DIAMETER MANHOLE SHALL BE REQUIRED WHEN DEPTHS EXCEED 15' UNLESS OTHERWISE APPROVED BY PARTICIPATING UTILITY.

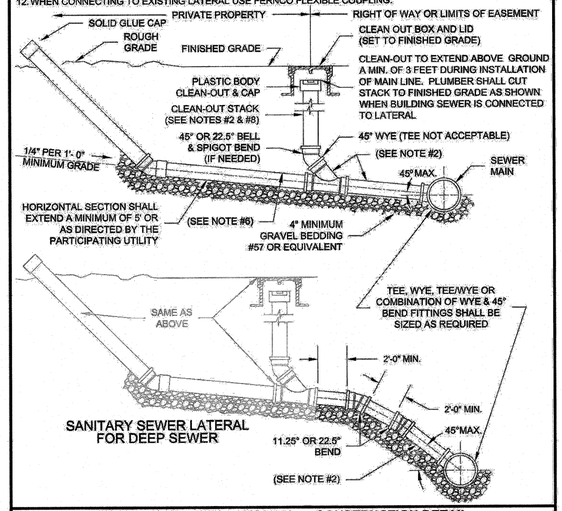


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

4' STANDARD MANHOLE
FOR PIPE 15" OR SMALLER
(FOR DEPTHS UP TO 15 FEET)

08/01/15 — **S-1**

1. TRAFFIC BEARING BOX AND LID REQUIRED IN TRAFFIC AREAS (CAPITOL FOUNDRY VB-9"S).
2. SEWER LATERAL AND CLEANOUT PIPING SHALL BE ASTM D3034 SDR 26. SEWER LATERAL FITTINGS SHALL BE OF SAME SDR RATING AS THE SEWER MAIN. SCHEDULE 40 SOLVENT WELD PIPE AND FITTINGS MAY BE USED FOR THE SEWER LATERAL AND CLEANOUT ASSEMBLY WITH APPROVAL FROM THE PARTICIPATING UTILITY.
3. ALL PIPE SHALL BE OF SAME SIZE.
4. NO BENDS ARE ALLOWED IN THE LATERAL FROM THE MAIN TO THE CLEANOUT STACK WYE. (EXCEPT FOR DEEP SEWER, AS SHOWN BELOW).
5. ALL MAIN LINE TAPS ON ACTIVE MAINS SHALL BE PERFORMED BY PARTICIPATING UTILITY.
6. PIPING ON PRIVATE SIDE OF CLEANOUT TO BE INSTALLED PER GOVERNING JURISDICTION REQUIREMENTS.
7. MINIMUM LATERAL SIZE: 4" FOR RESIDENTIAL SERVICE, 6" FOR NON-RESIDENTIAL SERVICE.
8. SEWER CLEANOUTS SHALL BE SAME SIZE AS SEWER LATERAL.
9. MINIMUM COVER FOR ALL SEWER LATERALS SHALL BE THREE (3') FEET.
10. PROPERTY OWNER RESPONSIBLE FOR INSTALLING CLEANOUT ON PROPERTY LINE (IN ACCORDANCE WITH THIS DETAIL) WHEN MAINTENANCE OCCURS.
11. LOWEST SERVED FINISHED FLOOR ELEVATION SHALL BE A MINIMUM OF THREE FEET (3') ABOVE THE TOP OF THE MAIN AT THE POINT WHERE THE SERVICE LATERAL CONNECTS TO THE MAIN.
12. WHEN CONNECTING TO EXISTING LATERAL USE FERNCO FLEXIBLE COUPLING.

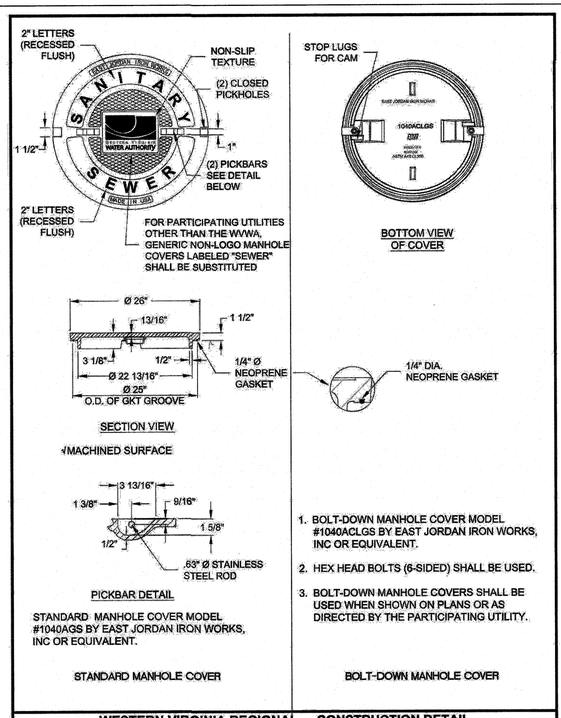


SANITARY SEWER LATERAL
FOR DEEP SEWER

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

SANITARY SEWER LATERAL

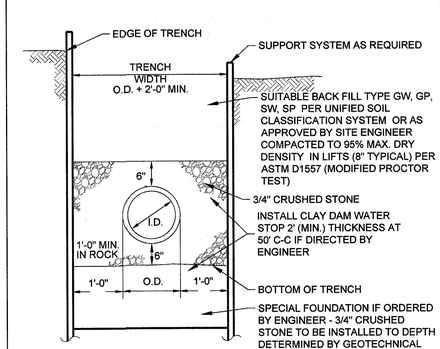
01/01/14 — **S-6**



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

WATERTIGHT
MANHOLE COVER

01/01/14 — **S-5**



TYPICAL SANITARY SEWER TRENCH SECTION

NOT TO SCALE

APPROVED

CESO
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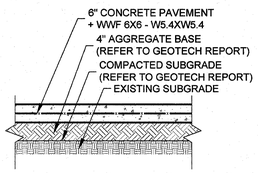
VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

No.	Revisions/Submissions	Date
	ISSUED FOR OWNER REVIEW	07.17.18
	ISSUED FOR DEVELOPMENT PLAN REVIEW	08.01.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	BID SET	10.04.18
	ISSUED FOR PERMIT APPROVAL	10.19.18

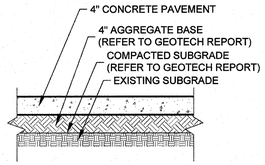
COMMONWEALTH OF VIRGINIA
JEFFREY A. TOBLER
Lic. No.
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18
Drawing Title	UTILITY DETAILS
Drawing No.	C6.1

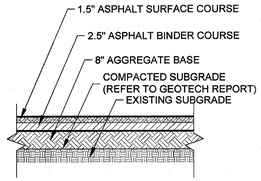
W:\PROJECTS\VALVOLINE\755208-ROANOKE VA (VOC)\03-CIVIL\PLAN\PLOT SHEETS\755208_C6.0-UTIL 10/24/2018 10:43:18 AM LONGHOR



CONCRETE DUMPSTER PAD SECTION
NTS



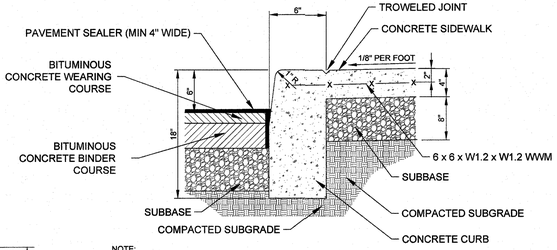
CONCRETE PAVEMENT SECTION
NTS



ASPHALT PAVEMENT SECTION
NTS

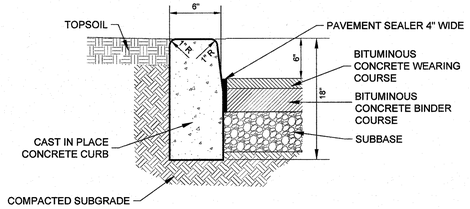
NOTE:
1. ALL PAVEMENT WORK SHALL COMPLY WITH SOILS INVESTIGATION/RECOMMENDATIONS PREPARED FOR THIS PROJECT.

2. ALL MATERIALS SHALL BE PROVIDED & ALL WORK BE PERFORMED PER STATE DEPARTMENT OF TRANSPORTATION STANDARDS.



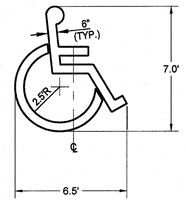
NOTE:
1. ALL CONCRETE CURBS TO BE F'C 4000 P.S.I. CONCRETE AT 28 DAYS
2. CURB EXPANSION JOINTS TO MATCH SIDEWALK EXPANSION JOINT SPACING

INTEGRAL CURB & SIDEWALK DETAIL
NTS



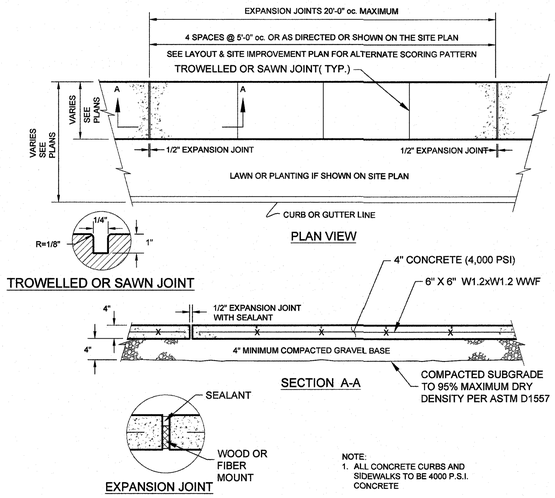
NOTE:
1. ALL CONCRETE CURBS TO BE F'C 4000 P.S.I. CONCRETE AT 28 DAYS.
2. CURB EXPANSION JOINT SPACING IS 10'-0" MAXIMUM. FILL WITH ½" PREFORMED EXPANSION JOINT RECESSED ½ INCH BELOW TOP OF CURB.
3. MAXIMUM HEIGHT OF CURB TO PAVING IS 6".

STRAIGHT CURB DETAIL
NTS



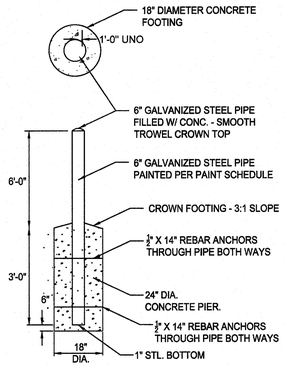
LOCATE AT EDGE OF PARKING
SPACE UNLESS ACCOMPANIED
BY "VAN" LETTERING

ADA PARKING SYMBOL DETAIL
NTS

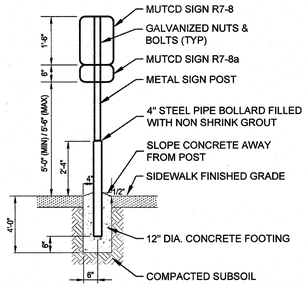


NOTE:
1. ALL CONCRETE CURBS AND SIDEWALKS TO BE 4000 P.S.I. CONCRETE

CONCRETE SIDEWALK DETAIL
NTS

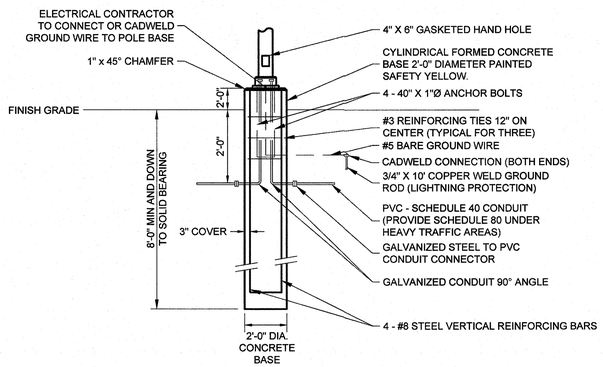


BOLLARD DETAIL
NTS



NOTE:
1. ACCESSIBLE PARKING SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH STATE AND FEDERAL ADA STANDARDS AND REQUIREMENTS.

HANDICAPPED PARKING SIGNAGE DETAIL
NTS



TYPICAL LIGHTING POLE BASE
NTS

NOTES:
1. PROVIDE EXPANSION JOINT MATERIAL WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER PLUS SEALANT FLUSH WITH ADJACENT CONCRETE SURFACE.

2. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.

3. PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMPS.

4. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK PITCH. SEE TABLE A J-SIC-207 FOR TYPICAL RAMP DIMENSIONS.

5. WHENEVER POSSIBLE, CONSTRUCT THE TRANSITION SLOPE FROM THE CURB RAMP AND FLARE SIDES TO ADJOINING SURFACES WITH A GRADUAL CURVE RATHER THAN AN ABRUPT ANGLE.

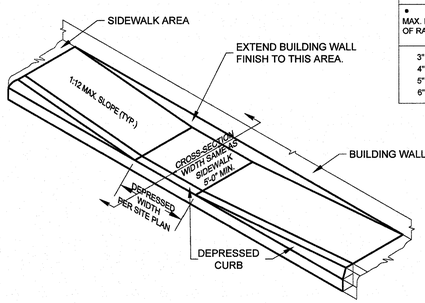
6. ALL CONCRETE CURBS AND SIDEWALKS TO BE 4000 P.S.I. CONCRETE

CURB RAMP DIMENSIONS NEW CONSTRUCTION				
• RISE OF RAMP	MAX. RAMP SLOPE	NOMINAL RAMP LENGTH (1 : 12)	SIDE FLARE DIMENSION AT CURB (1 : 10)	SIDE FLARE DIMENSION AT CURB (1 : 12)
3"	1 : 12	3.0 FT.	2.5 FT.	3.0 FT.
4"	1 : 12	4.0 FT.	3.3 FT.	4.0 FT.
5"	1 : 12	5.0 FT.	4.2 FT.	5.0 FT.
6"	1 : 12	6.0 FT.	5.0 FT.	6.0 FT.
7"	1 : 12	7.0 FT.	5.8 FT.	7.0 FT.
8"	1 : 12	8.0 FT.	6.7 FT.	8.0 FT.
9"	1 : 12	9.0 FT.	7.5 FT.	9.0 FT.
10"	1 : 12	10.0 FT.	8.4 FT.	10.0 FT.
11"	1 : 12	11.0 FT.	9.2 FT.	11.0 FT.
12"	1 : 12	12.0 FT.	10.0 FT.	12.0 FT.
CURB RAMP DIMENSIONS EXISTING CONDITION ☆				
• MAX. RISE OF RAMP	MAX. RAMP SLOPE	NOMINAL RAMP LENGTH	SIDE FLARE DIMENSION AT CURB (1 : 10)	SIDE FLARE DIMENSION AT CURB (1 : 12)
3"	1 : 8	2.0 FT.	2.5 FT.	3.0 FT.
4"	1 : 10	3.3 FT.	3.3 FT.	4.0 FT.
5"	1 : 10	4.2 FT.	4.2 FT.	5.0 FT.
6"	1 : 10	5.0 FT.	5.0 FT.	6.0 FT.

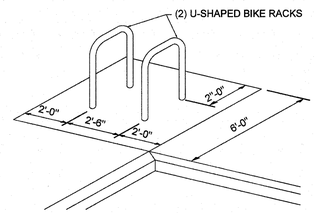
☆ USE ONLY WHEN SPACE LIMITATIONS PROHIBIT THE CONSTRUCTION OF 1 : 12 OR FLATTER SLOPES.

• CURB HEIGHT PLUS RISE OF SIDEWALK CROSS SLOPE

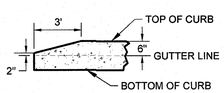
TABLE A



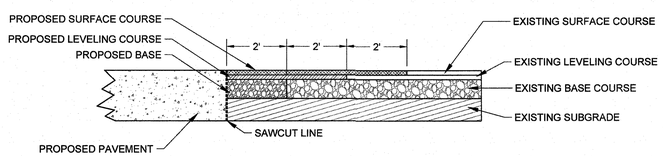
HANDICAPPED RAMP DETAIL AND RAMP SCHEDULE
NTS



U-SHAPED BIKE RACK DETAIL
NOT TO SCALE



CURB TAPER
NTS



TYPICAL SAWCUT DETAIL
NTS

APPROVED

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No.	Revisions/Submissions	Date
	ISSUED FOR FINAL APPROVAL	10.19.18
	BID SET	10.04.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	ISSUED FOR DEVELOPMENT PLAN REVIEW	08.01.18
	ISSUED FOR OWNER REVIEW	07.17.18

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA
JEFFREY A. JOHNS
LICENSE NUMBER
PROFESSIONAL ENGINEER

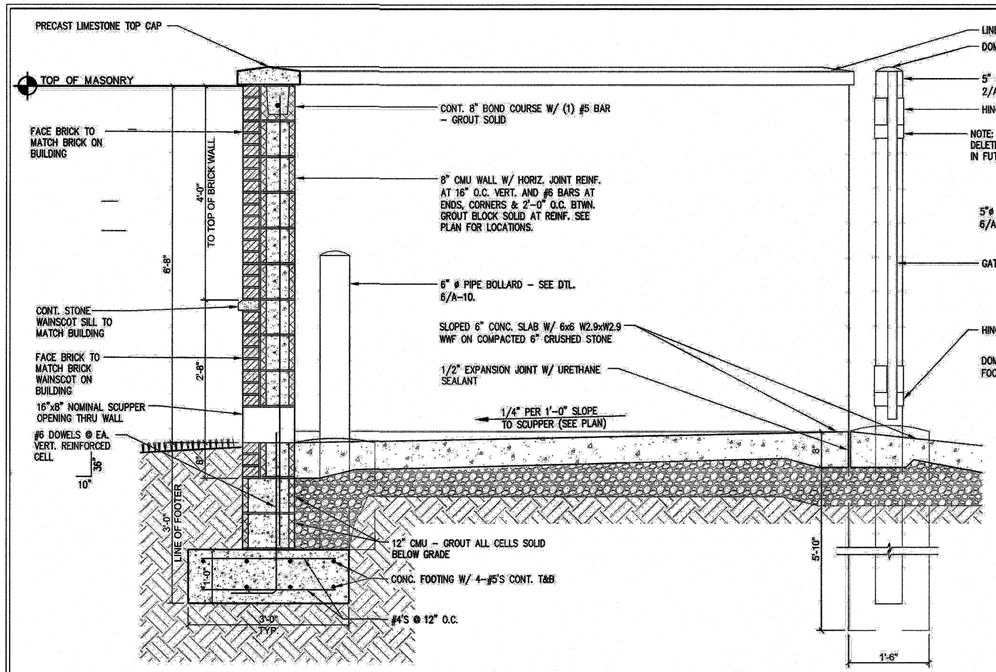
Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18

Drawing Title

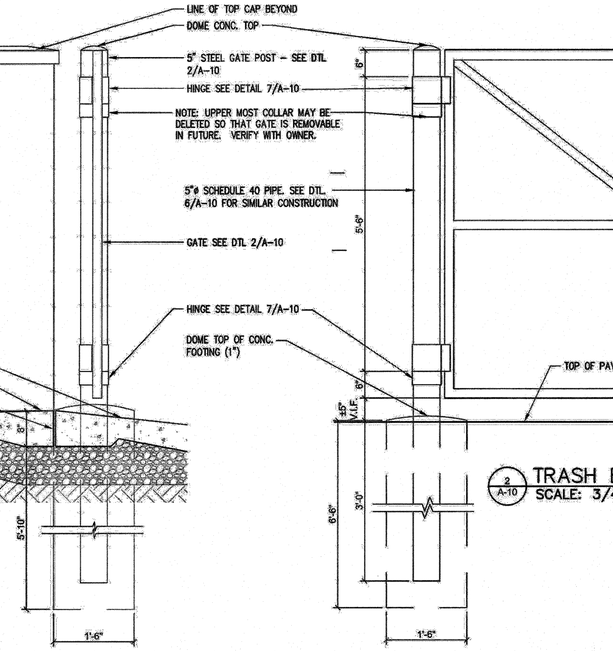
CONSTRUCTION DETAILS

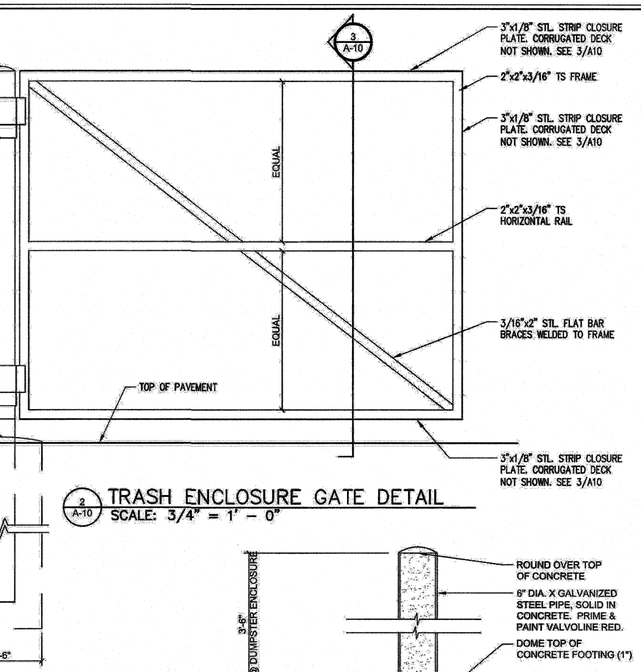
Drawing No.

C7.0

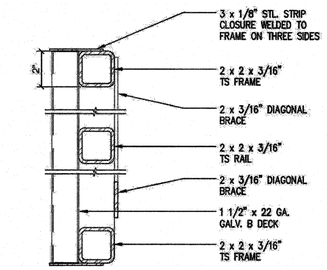


1 A-10 SECTION @ TRASH ENCLOSURE
SCALE: 3/4" = 1' – 0"

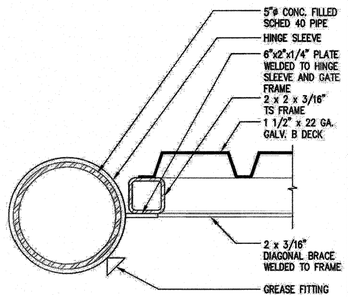




2 A-10 TRASH ENCLOSURE GATE DETAIL
SCALE: 3/4" = 1' – 0"



3 A-10 GATE SECTION
SCALE: 3" = 1' - 0"

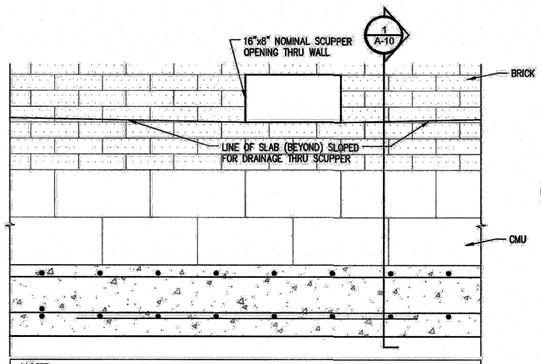


4 A-10 DUMPSTER ENCLOSURE FRONT ELEVATION
SCALE: 1/2" = 1' – 0"

5 A-10 TYP. SIDE ELEVATION
SCALE: 1/2" = 1' – 0"

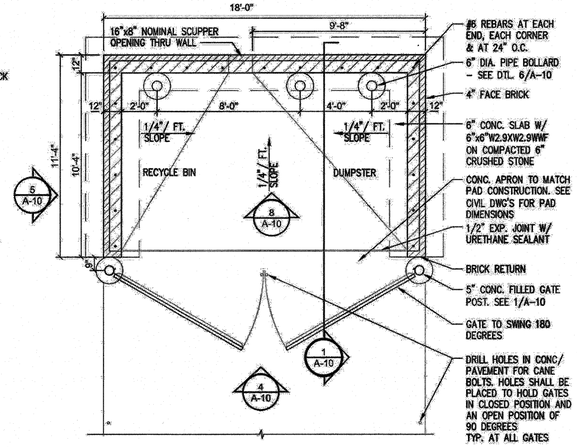
6 A-10 BOLLARD DETAIL
SCALE: 1" = 1' - 0"

7 A-10 HINGE DETAIL
SCALE: 3" = 1' - 0"

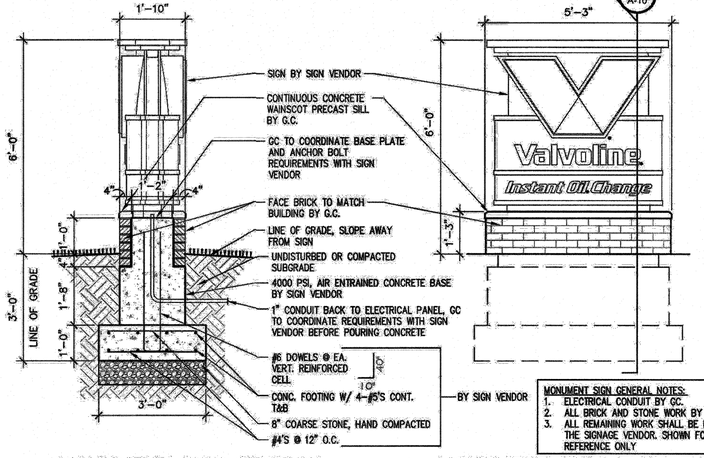


NOTE:
GATES SHALL BE EQUIPPED WITH DROP (CANE) BOLTS, HEAVY DUTY HINGES AND LATCHES (WITH PADLOCK) DRILL HOLES 2" DEEP IN CONC. / PAVING TO ALLOW DROP BOLTS TO HOLD GATES IN CLOSED POSITION AND AT AN OPEN POSITION OF 90°. POSITION VERTICAL HOLD TO KEEP CANE BOLTS FROM DRAGGING CONC.

8 A-10 FOOTING DETAIL
SCALE: 1" = 1' – 0"



9 A-10 DUMPSTER ENCLOSURE PLAN
SCALE: 1/4" = 1' – 0"



MONUMENT SIGN GENERAL NOTES:
1. ELECTRICAL CONDUIT BY GC.
2. ALL BRICK AND STONE WORK BY GC.
3. ALL REMAINING WORK SHALL BE BY THE SIGNAGE VENDOR. SHOWN FOR REFERENCE ONLY

10 A-10 MONUMENT SIGN SECTION
SCALE: 1/2" = 1' – 0"

11 A-10 MONUMENT SIGN ELEVATION
SCALE: 1/2" = 1' – 0"

DUMPSTER EXTERIOR FINISH NOTES

REFER ALSO TO "EXTERIOR FINISHES", SHEET A-3.

EIFS:	MATCH BUILDING EIFS
BRICK:	MATCH BUILDING BRICK
MORTAR:	MATCH BUILDING MORTAR
COPING:	PRECAST LIMESTONE CAP. COLOR TO MATCH BUILDING STONE WAINSCOT
SEALER:	ALL BRICK SURFACES SHALL BE TREATED W/ SEALER. REFER TO SPECIFICATIONS.
BOLLARDS / GUARD POSTS:	FIELD PAINT w/SHERWIN-WILLIAMS B66-310 PRO-CYRL PRIMER FOLLOWED BY (2) FINISH COATS OF B66-300 SHER-CYRL HPA. COLOR SHALL BE "VALVOLINE RED".
GATES & GATE POSTS:	FIELD PAINT w/SHERWIN-WILLIAMS B66-310 PRO-CYRL PRIMER FOLLOWED BY (2) FINISH COATS OF SHERWIN WILLIAMS 7515 HOMESTEAD BROWN. SEMI-GLOSS DTM ACRYLIC B66-200.

APPROVED

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No.	Revisions/Submissions	Date
	ISSUED FOR FINAL APPROVAL	10.19.18
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	ISSUED FOR OWNER REVIEW	07.17.18

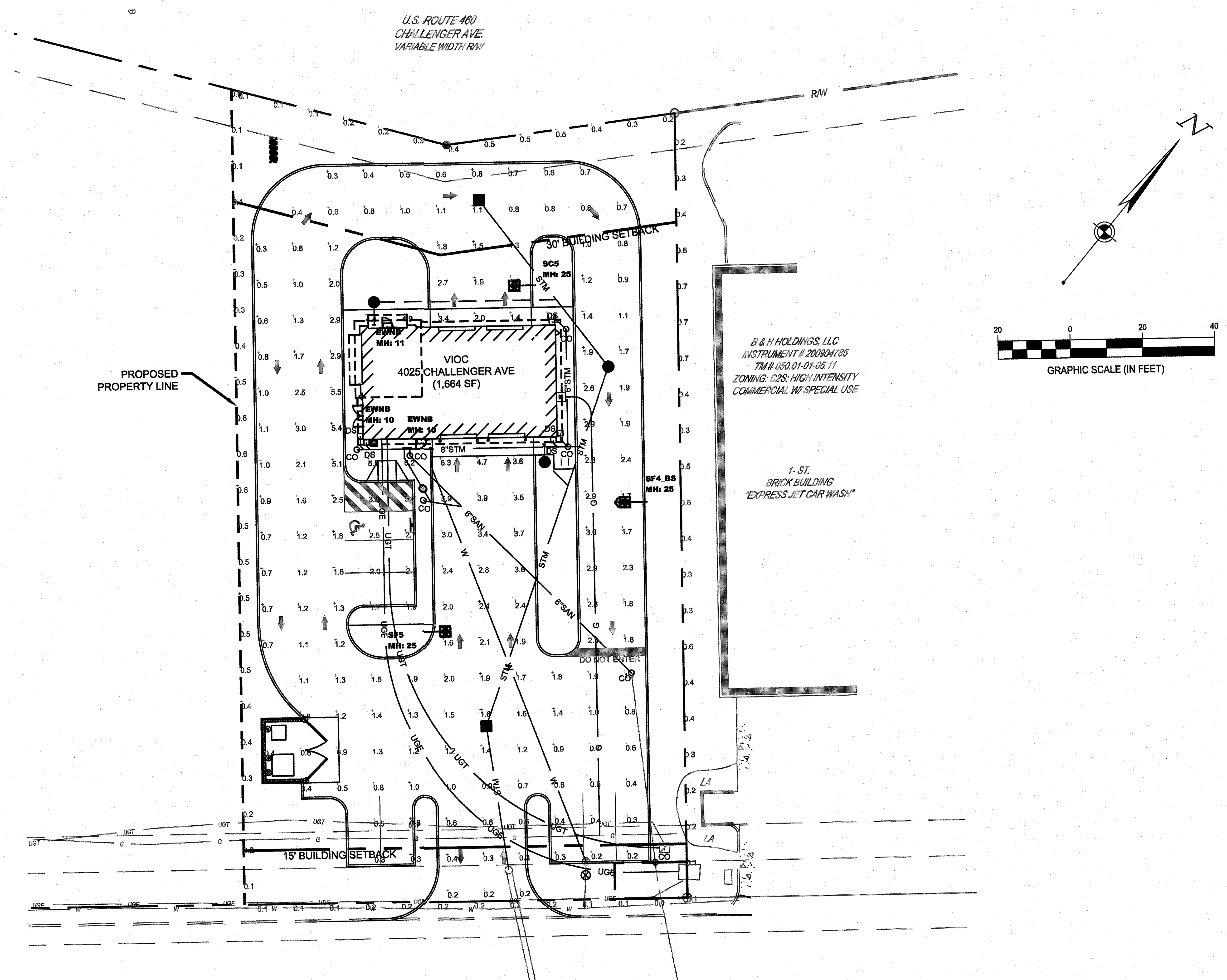
VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA
JEFFREY J. LEWIS
Reg. No. 043285
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18

Drawing Title
CONSTRUCTION DETAILS

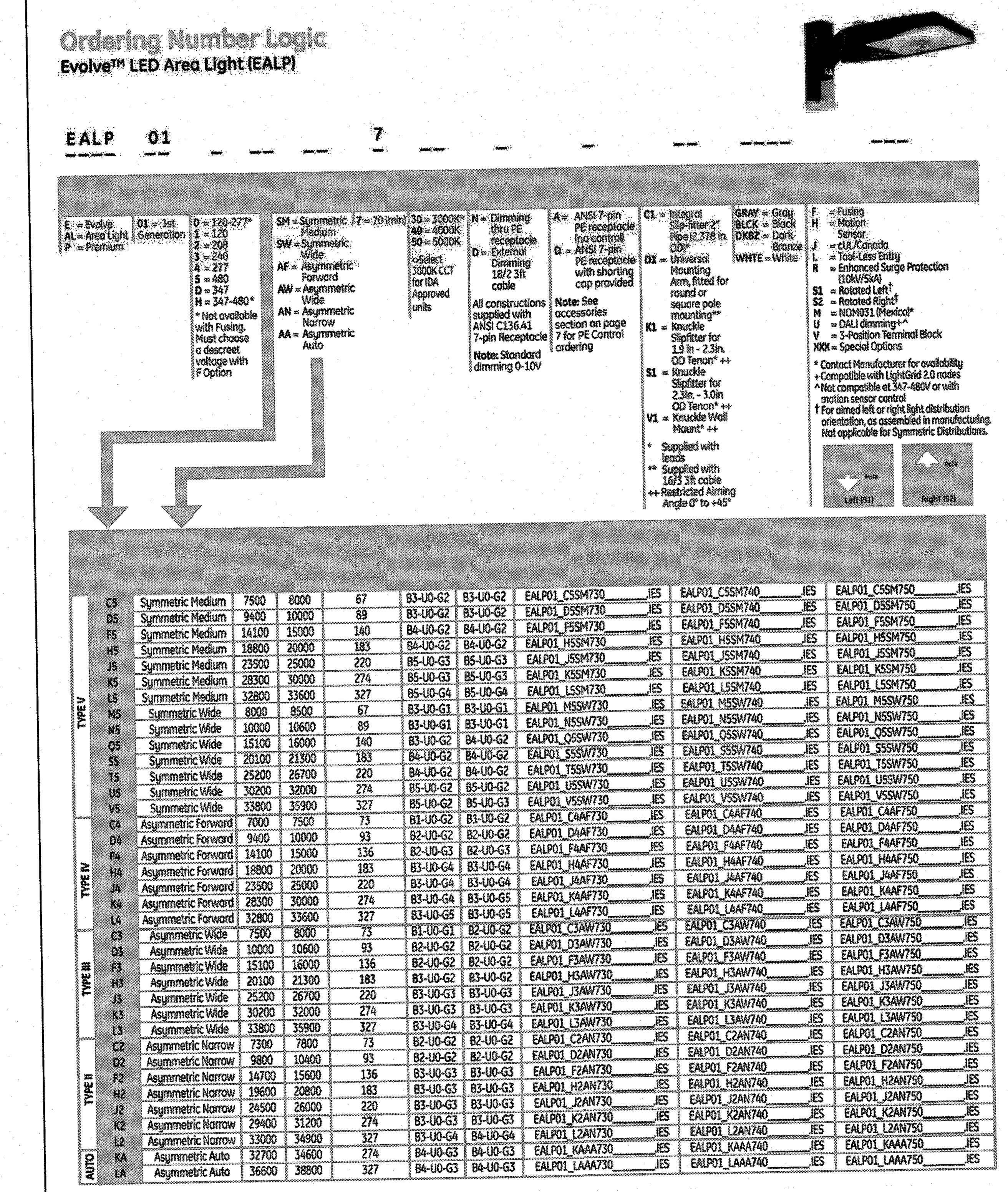
Drawing No.
C7.1

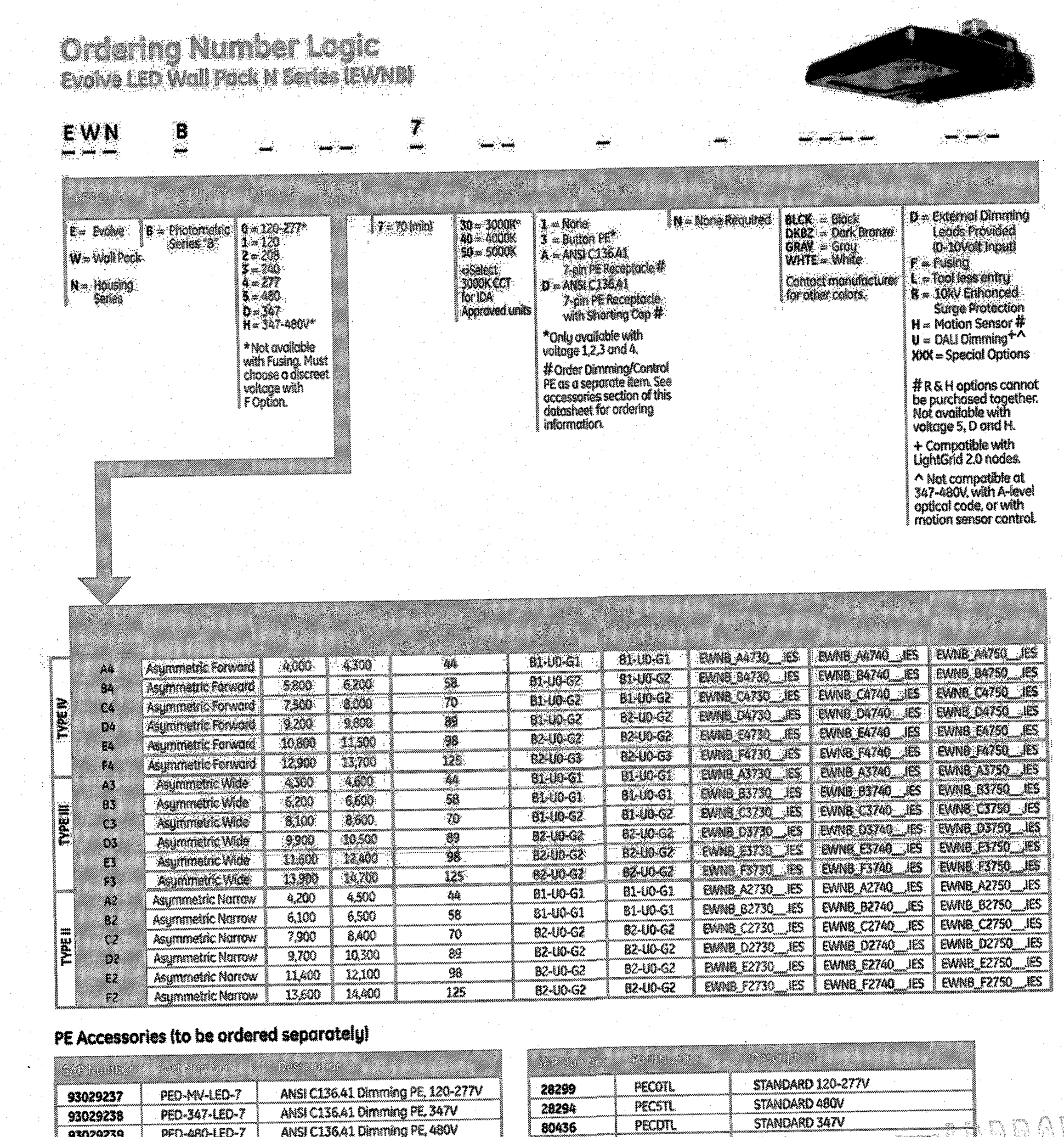


Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Horz Spill @ Prop Line	Illuminance	Fc	0.32	0.7	0.0	N.A.	N.A.
Pavement Area	Illuminance	Fc	1.50	5.9	0.2	7.50	29.50
Sidewalk Area	Illuminance	Fc	3.97	6.3	1.3	3.05	4.85

POLES MOUNTED AT 25FT

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	3	EWNB	SINGLE	N.A.	1.000	1-EWNB0A47301NBLCKD
	1	SC5	SINGLE	N.A.	0.855	1-EALP012C5SM750NDD1BLCKF
	1	SF4_BS	SINGLE	N.A.	0.855	1-EALP012F4AF750NDD1BLCKF with 1-ELS-EAL-RBL-BLCK
	1	SF5	SINGLE	N.A.	0.855	1-EALP012F5SM750NDD1BLCKF





FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: VIRGINIA ONE CALL AT 811 OR (800) 552-7001 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF VIRGINIA ONE CALL.

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No.	Revisions/Submissions	Date
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	BID SET	10.04.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	ISSUED FOR DEVELOPMENT PLAN REVIEW	08.01.18
	ISSUED FOR OWNER REVIEW	07.17.18

Valvoline Instant Oil Change

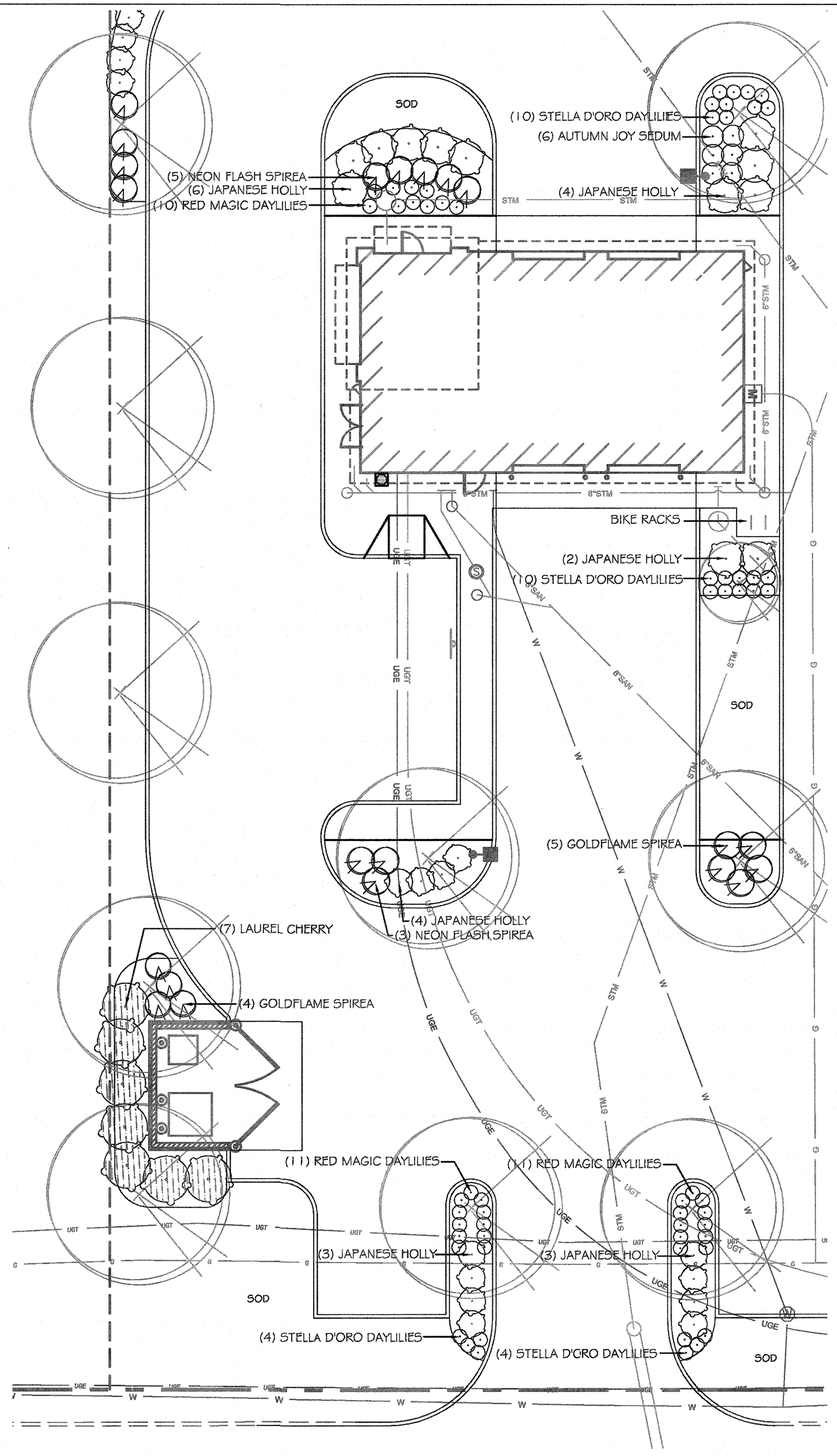
VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA
JEFFREY A. HIBBITS
Lic. No. 045283
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18

Drawing Title
PHOTOMETRIC PLAN

Drawing No. C8.0



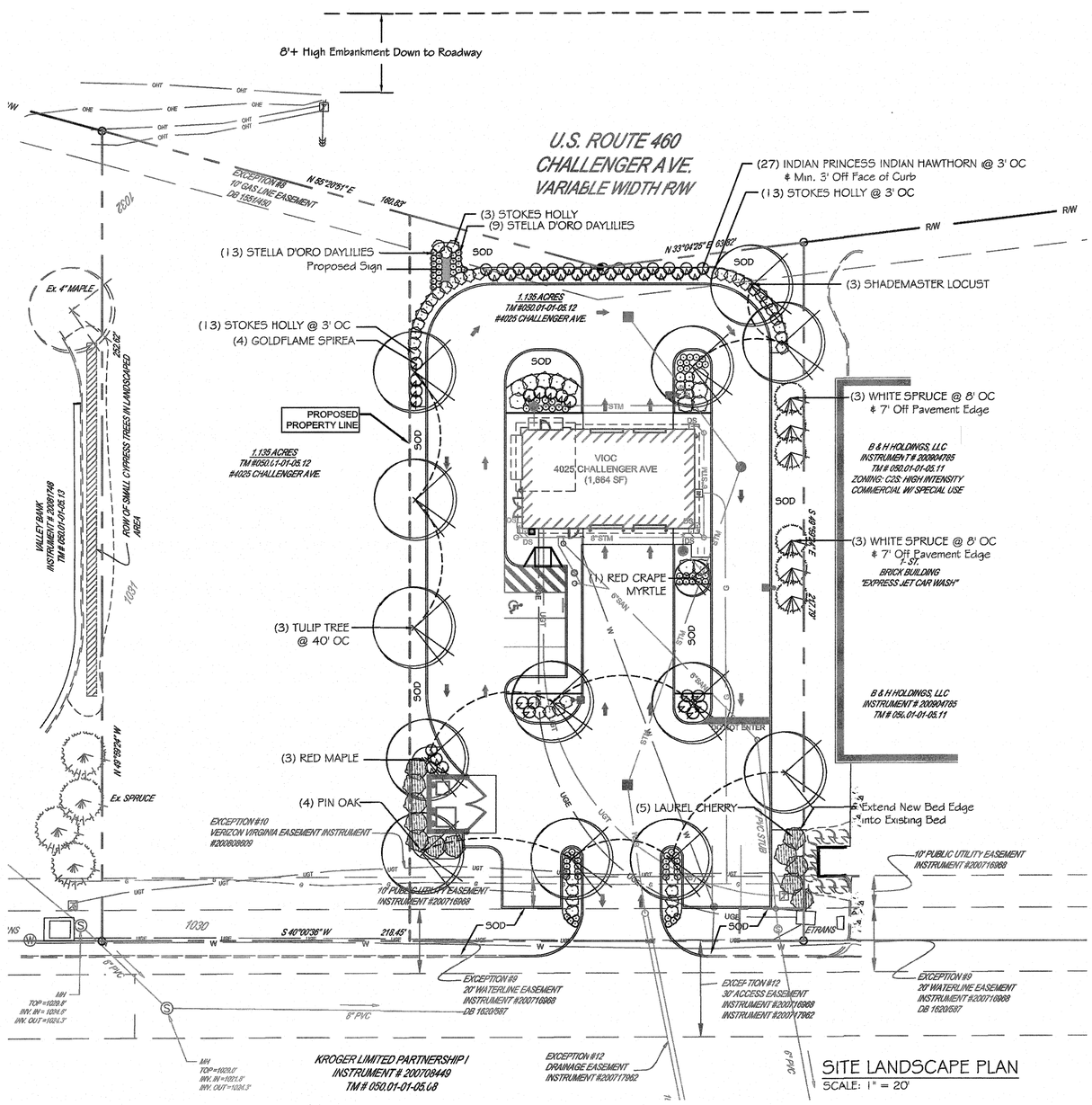
DETAIL LANDSCAPE PLAN

SCALE: 1" = 10'

NORTH

10 0 10 20

GRAPHIC SCALE (IN FEET)



SITE LANDSCAPE PLAN

SCALE: 1" = 20'

NORTH

20 0 20 40

GRAPHIC SCALE (IN FEET)

REFER TO SHEET L-1.1 FOR:
LANDSCAPE REQUIREMENTS, INSTALLATION DETAILS, PLANT MATERIALS LIST AND CANOPY COVERAGE CALCULATIONS.

APPROVED

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No.	Revisions/Submissions	Date
	ISSUED FOR FINAL APPROVAL	10.29.18
	ISSUED FOR OWNER	

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE.
ROANOKE, VA 24012

COMMONWEALTH OF VIRGINIA
ROGER E. BEAL
1955
LANDSCAPE ARCHITECT
NAME: ROGER E. BEAL
REGISTRATION NO: LA 4060001955

Project No.	755208
Scale	AS NOTED
Drawn	REB
Checked	TJV
Date	07/13/18

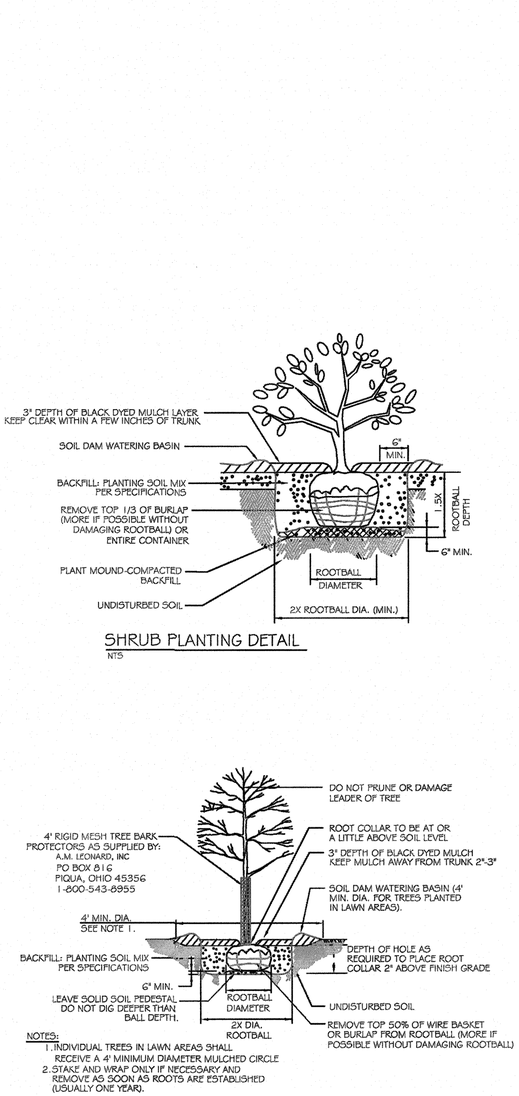
Drawing Title

LANDSCAPE PLAN

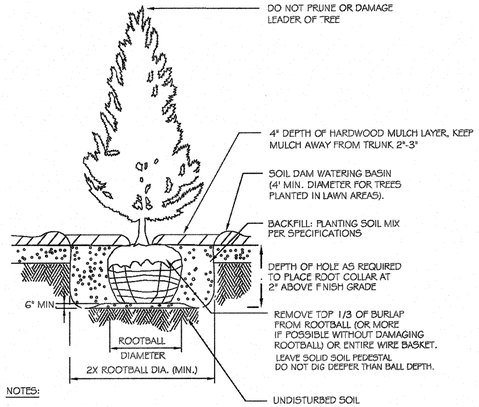
Drawing No.

L-1.0

SHRUB PLANTING DETAIL
NTS



SHADE TREE PLANTING DETAIL
NTS



EVERGREEN TREE PLANTING DETAIL
NTS

PLANT INSTALLATION DETAILS

PLANT MATERIALS LIST

TOTAL QTY.	PLANT NAME	MINIMUM INSTALLED SIZE	TREE CANOPY COVERAGE	LOT AREA COVERAGE TOTAL	PAVEMENT AREA COVERAGE TOTAL*
	LARGE TREES				
3	RED MAPLE - Acer rubrum* 'October Glory'	2" cal. B/B	314	314	628
3	SHADEMASTER LOCUST - Gleditsia triacanthos inermis 'Shademaster'	2" cal. B/B	314	628	314
3	TULIP POPLAR - Linodendron Tulipfera*	2" cal. B/B	254	762	762
4	PIN OAK -Quercus palustris*	2" cal. B/B	254	508	508
	ORNAMENTAL TREES				
1	RED CRAPE MYRTLE - Lagerstroemia indica x faunei 'Tuscarora'	5' ht. B/B or cont.	113	-----	113
	EVERGREEN TREES				
6	WHITE SPRUCE - Picea glauca	5' ht. B/B	113	678	678
			TOTALS	2890	3003
	SHRUBS				
12	CHERRY LAUREL - Prunus laurocerasus 'Schipkaensis'	36" ht. B/B or cont.			
22	JAPANESE HOLLY - Ilex crenata 'Helleri'	30" ht. B/B or cont.			
27	INDIAN PRINCESS INDIAN HAWTHORN -Rhapholepis indica 'Monito'	30" ht. B/B or cont.			
29	STOKES DWARF HOLLY - Ilex vomitona 'Stoke's Dwarf'	# 5 cont.			
13	GOLDFLAME SPIREA - Spirea bumalda 'Goldflame'	# 3 cont.			
8	NEON SPLASH SPIREA - Spirea bumalda 'Neon Splash'	# 3 cont.			
	PERENNIALS				
50	STELLA D' ORO DAYLILIES - Hemerocallis x 'Stella d' Oro'	# 1 cont.			
22	RED MAGIC DAYLILIES - Hemerocallis x 'Red Magic'	# 1 cont.			
6	AUTUMN JOY SEDUM - Sedum telephinum 'Autumn Joy'	# 2 cont.			
	** Denotes Virginia Native Tree*				

*NOTE: TREES WITHIN 8' OF PAVEMENT EDGE CAN BE COUNTED FOR PAVEMENT CANOPY COVERAGE.

CANOPY COVERAGE DATA

CANOPY COVERAGE SUMMARY

LOT AREA COVERAGE
10% REQUIRED COVERAGE:
TOTAL PARCEL AREA 26,491 SF±
26,491± @ 10% = 2,650 SF REQUIRED
AS SHOWN: 2,890 SF

PAVEMENT AREA COVERAGE
10% REQUIRED COVERAGE:
PAVEMENT AREA 15,357 SF±
1,535.7± @ 10% = 1,536 SF REQUIRED
AS SHOWN: 3003 SF

GENERAL LANDSCAPE REQUIREMENTS

1. ALL PLANT MATERIALS SHALL BE NURSERY GROWN AND SHALL BE PLANTED IN ACCORDANCE WITH THE LANDSCAPE SPECIFICATIONS ADOPTED JOINTLY BY THE VIRGINIA NURSERYMEN'S ASSOCIATION, THE VIRGINIA SOCIETY OF LANDSCAPE DESIGNERS AND THE VIRGINIA CHAPTER F THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.
2. DIAMETERS OF PLANT MATERIALS AS DRAWN ARE REPRESENTATIVE OF PLANTS AT OR NEAR MATURITY RATHER THAN AT INITIAL PLANTING.
3. THE PLANT LST IS INTENDED AS A GUIDE FOR THE LANDSCAPE CONTRACTOR. IN THE EVENT OF DISCREPANCY BETWEEN THE NUMBER OF PLANTS ON THE PLANT LIST AND ON THE DRAWING, THE GREATER NUMBER SHALL APPLY.
4. *LANDSCAPE CONTRACTOR SHALL COORDINATE PLANT INSTALLATION SEQUENCE WITH IRRIGATION CONTRACTOR.*
5. ADJUSTMENTS IN LOCATIONS OF PLANT MATERIALS MAY BE NECESSARY DUE TO NEW OR EXISTING UTILITIES OR SITE OBSTRUCTIONS. SET NEW TREES OUTSIDE NEW OR EXISTING UTILITY EASEMENTS. ADVISE PROJECT MANAGER BEFORE THE ADJUSTMENTS ARE MADE.
6. ALL SHRUBS OCCURRING IN CONTINUOUS ROW OR FORMAL ARRANGEMENT SHALL HAVE UNIFORM HEIGHT, SPREAD AND HABIT OF GROWTH. FOR PERENNIAL LOCATIONS, FILL AREA WITH QUANTITY OF PLANTS DESIGNATED; EVENLY SPACED.
7. A MINIMUM OF 24" DEPTH OF NEW TOPSOIL SHALL BE PLACED IN ALL BED AREAS BY LANDSCAPE CONTRACTOR PRIOR TO PLANT NSTALLATION. BACKFILL ALL SHRUBS AND TREES WITH BACKFILL MIX OF ONE PART COMPOST TO THREE PARTS TOPSOIL.
8. MULCH TREES AND SHRUBS WITH MIN. 3" DEPTH OF "BLACK GOLD" OR APPROVED EQUAL, BLACK DYED SHREDDED HARDWOOD MULCH. MULCH PERENNIALS WITH 2" DEPTH OF MULCH. MULCH SHALL EXTEND IN A CONTINUOUS LAYER WITHIN PLANTING BEDS FROM FACE TO FACE OF SITE STRUCTURES - WALKS, BUILDING, CURBS, OR OTHER PLANT BED LIMITS.
9. ALL BED EDGES SHALL BE SPADE-CUT AND CLOSELY ALIGN AS POSSIBLE WITH EDGES AS SHOWN ON DRAWING. KEEP MULCH A MIN. 1/2" BELOW ADJACENT PAVED SURFACES.
10. SOD ALL LAWN DISTURBED AREAS WITHIN PROJECT LIMITS AS NOTED ON CIVIL DRAWINGS; INCLUDING OUT TO PAVEMENT EDGES. REFER TO CIVIL DRAWINGS AND VERIFY EXTENT WITH PROJECT MANAGER.
11. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE-YEAR FROM DATE OF OF ACCEPTANCE. PRIOR TO END OF WARRANTY PERIOD CONTRACTOR SHALL REPLACE ALL TREES, SHRUBS OR PLANTINGS NOT ALIVE OR IN A HEALTHY GROWING CONDITION.

APPROVED

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No.	Revisions/Submissions	Date
	ISSUED FOR OWNER	07.13.18
	ISSUED FOR FINAL APPROVAL	10.29.18

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE.

COMMONWEALTH OF VIRGINIA
ROGER E. BEAL
1955
LANDSCAPE ARCHITECT

NAME: ROGER E. BEAL
REGISTRATION NO: LA #0601001955

Project No.	755208
Scale	AS NOTED
Drawn	REB
Checked	TJV
Date	07/13/18

Drawing Title

LANDSCAPE DETAILS

Drawing No. **L-1.1**

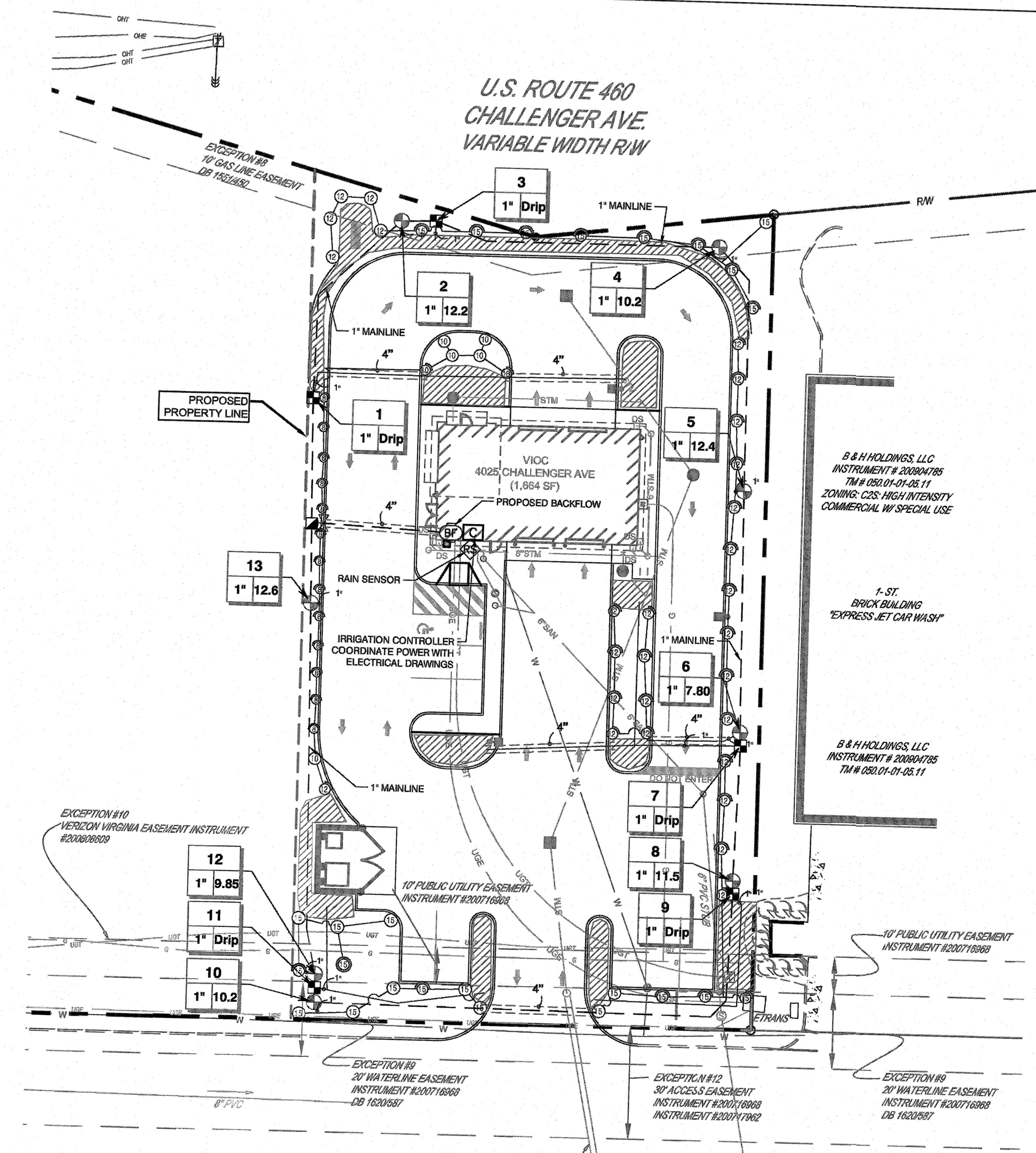
IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL
(Q T H F)	Rain Bird 1804 8 Series MPR
(Q T H F)	Rain Bird 1804 10 Series MPR
(Q T H TQ F)	Rain Bird 1804 12 Series MPR
(Q T H TQ F)	Rain Bird 1804 15 Series MPR
08HE-VAN, 10HE-VAN, 12HE-VAN, 15HE-VAN	Rain Bird 1804 ADJ

SYMBOL	MANUFACTURER/MODEL
◩	Rain Bird XCZ-100-PRF
(hatched area)	Area to Receive Dripline Rain Bird XFD-06-18 (22)

SYMBOL	MANUFACTURER/MODEL
◐	Rain Bird PGA Globe
◪	Rain Bird 5-RC
⋈	Nibco TI-8
BF	Zurn 375 1"
C	Rain Bird ESP4ME with (3) ESP-SM3
RS	Rain Bird WR2-RS
———	Irrigation Lateral Line: PVC Class 200 SDR
— — —	Irrigation Mainline: PVC Class 200 SDR 21
═ ═ ═	Pipe Sleeve: PVC Schedule 40

Valve Callout
- Valve Number
- Valve Flow
- Valve Size



SITE IRRIGATION PLAN

SCALE: 1" = 20'

NORTH

20 0 20 40

GRAPHIC SCALE (IN FEET)

GENERAL IRRIGATION SPECIFICATIONS

1. The irrigation system is diagrammatic based upon the information provided by the owner or the owner's representative. The successful contractor is responsible to install a system that will properly cover all areas indicated on the design. Actual layout of piping, sprinkler heads, valves, controllers and other related equipment shall be determined on site. Minor field changes shall be made at no additional cost to the owner.

It is the responsibility of the irrigation contractor to be familiar with all grade differences, locations of walls, structures and utilities and make the necessary adjustments to accommodate the irrigation system as shown on the drawings. There may be times when it is obvious in the field that unknown obstructions, grades or dimensions that exist might not have been considered in the engineering, such obstructions should be brought to the attentions of the owner's authorized representative. In the event that this notification is not performed, the irrigation contractor shall assume full responsibility for any revisions and costs that occur.

2. This system shall be installed using accepted and quality installation standards as used in the industry. All manufacturers specifications will be followed.

3. Mainline shall be buried a minimum of 12" of cover and a maximum of 18" of cover. Lateral line piping a minimum of 12" of cover. All backfill surrounding the pipe shall be cleaned of materials larger than 1" in size. Backfill shall be added in 6" increments and mechanically tamped.

4. There will be no substitutions or changes to the irrigation design allowed without direct, written approval from the Landscape Architect.

5. System design is based on pressure and flow information provided by others, static pressure was given as 70 psi and the size of the P.O.C. is as indicated on the drawing. The irrigation contractor shall verify water pressures prior to construction. Report differences between requirements and the actual readings to the owner's representative. A booster pump may be necessary if the required pressure is not available. Additional costs shall be submitted to the owner as a change order.

6. Piping shown in paved area without sleeve is diagrammatic and shall be located inside of the planted area or turf area approximately 1' from any hardscape.

7. All valves shall be placed in valve boxes as shown in the details and all electrical connections shall be sealed with waterproof connectors. Control wire shall be solid copper wire U.L. approved for direct burial in the ground. See details.

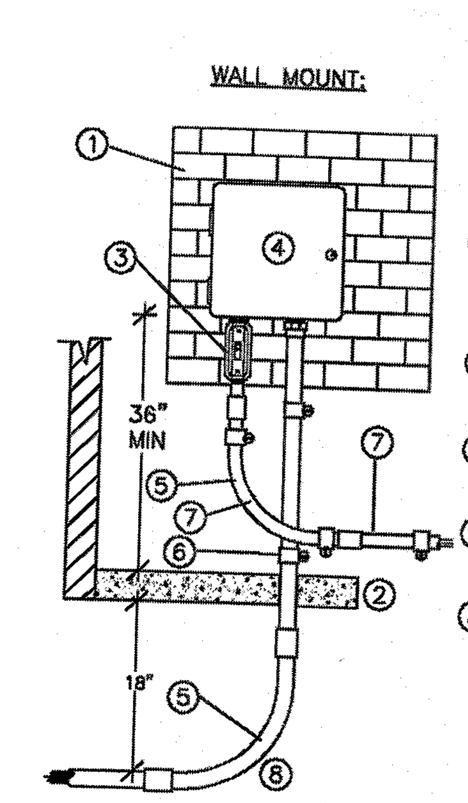
8. Controller, rain sensor, meter, tap and backflow locations are as shown on the plan or as stated in the details and legend. All information is to be verified prior to any installation of the project.

9. The Irrigation Contractor is responsible for all clean up associated with his work.

10. Irrigation contractor shall all provide the first winterization, spring turn on, head adjustments and controller maintenance in bid.

IRRIGATION DETAILS

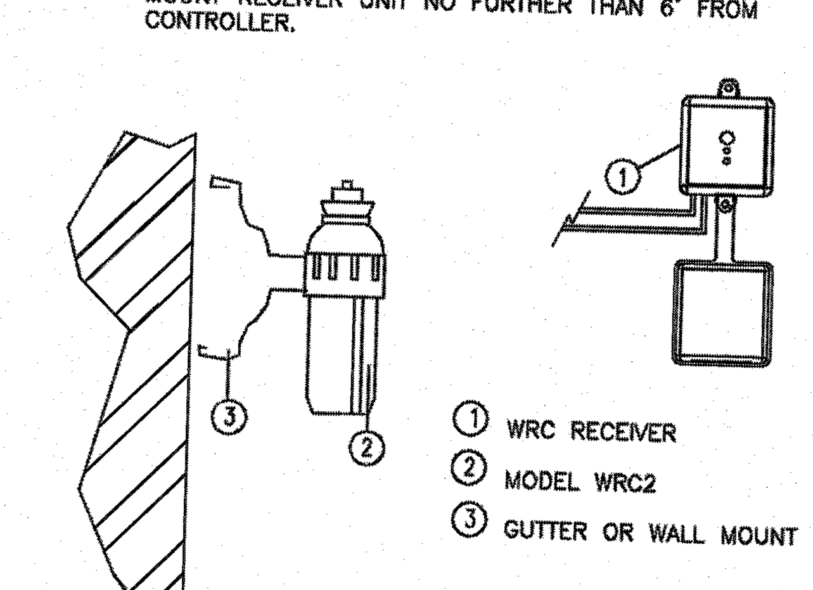
WALL MOUNT:



1. INSIDE WALL CLOSEST TO OUTSIDE LAWN & PLANTER AREAS.
2. FLOOR INSIDE BUILDING.
3. GFI RECEPTACLE AND LOCKING SWITCH. 110V POWER SOURCE FOR IRRIGATION TIMER. SEE LOCAL CODE.
4. IRRIGATION CONTROLLER, MOUNT ON INSIDE WALL OF BUILDING. INSTALL WITH PVC ELECTRICAL CONDUIT (GRAY), WITH LONG SWEEP ELBOWS.
5. LONG SWEEP ELBOW, ELECTRICAL CONDUIT (GRAY) SCH40 PVC. SEE ELECTRIC CODE.
6. WALL BRACKET STAND OFF TO ANCHOR CONDUIT TO WALL. SEE LOCAL ELEC. CODES.
7. ELECTRICAL CONDUIT (GRAY), SIZE 1" MINIMUM. FOR 110V POWER SUPPLY. SEE LOCAL ELECT. CODES.
8. ELECTRIC CONDUIT (GRAY) SCH40, FOR LOW VOLTAGE IRRIGATION CONTROL WIRE TO REMOTE CONTROL ZONE VALVE. SIZE TWICE THE SIZE OF WIRE BUNDLE.

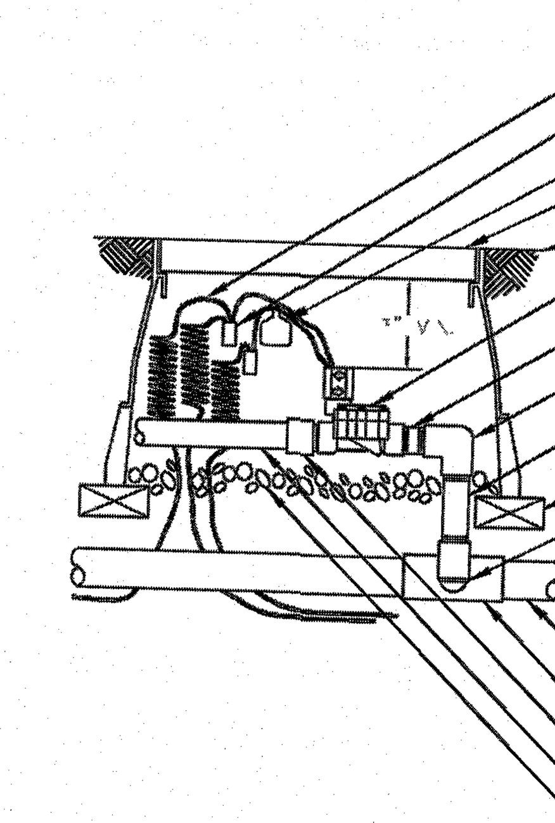
(1) RAINBIRD ESP CONTROLLER — NTS — SECTION

NOTE:
MOUNT SENSOR ON ANY SURFACE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN PATH OF SPRINKLER SPRAY.
NO MORE THAN 300' FROM RECEIVER UNIT.
MOUNT RECEIVER UNIT NO FURTHER THAN 6' FROM CONTROLLER.



1. WRC RECEIVER
2. MODEL WRC2
3. GUTTER OR WALL MOUNT

(2) RAINBIRD RAIN SENSOR — NTS — SECTION



(3) RAINBIRD DV-100 ELECTRIC VALVE — NTS — SECTION

APPROVED

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10.29.18 ISSUED FOR FINAL APPROVAL
ISSUED FOR OWNER

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE.
ROANOKE, VA 24012

COMMONWEALTH OF VIRGINIA — ROGER E. BEAL 1955 — LANDSCAPE ARCHITECT
NAME: ROGER E. BEAL REGISTRATION NO. LA 406001955

Project No.	755208
Scale	AS NOTED
Drawn	REB
Checked	TJV
Date	07/13/18
Drawing Title	IRRIGATION PLAN
Drawing No.	L-2.0