UTILITY NOTES:

1. G.C. SHALL COORDINATE THE EXACT UTILITY BUILDING TIE-IN LOCATIONS AND ELEVATIONS WITH THE ARCHITECTURAL PLANS.

2. ALL UTILITY SERVICE LATERALS OR LINES, INCLUDING ELECTRIC, SHALL BE INSTALLED UNDERGROUND PER SECTION 36.2-610. WATER & SEWER CONNECTIONS SHALL CONFORM TO WVWA UTILITY STANDARDS AND INTERNATIONAL BUILDING CODE.

3. THE G.C. SHALL COORDINATE TEMPORARY POWER FOR THE PROPOSED BUILDING AND SITE AS REQUIRED.

4. G.C. SHALL PROVIDE ALL REQUIRED COORDINATION, MATERIALS, AND INSTALLATION TIMING BETWEEN AEP, ROANOKE GAS, VERIZON, COX COMMUNICATIONS, AND OTHER PROVIDERS.

GENERAL W.V.W.A. NOTES:

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE LATEST WVWA DESIGN AND CONSTRUCTION STANDARDS.

2. 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.

3. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE WESTERN VIRGINIA WATER AUTHORITY.

4. FIELD CORRECTIONS SHALL BE APPROVED BY THE WESTERN VIRGINIA WATER AUTHORITY PRIOR TO THE START OF CONSTRUCTION.

5. 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.

6. 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.

7. REFER TO PLAN SET AND WVWA DETAILS FOR SPECIFIC CONSTRUCTION STANDARDS.

8. ALL PAVEMENT IN THE PUBLIC RIGHT OF WAY SHALL BE RESTORED BASED ON THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS.

FIRE NOTES

1. G.C. SHALL PROVIDE A 4400 SERIES OR ABOVE KNOX BOX AT THE MAIN ENTRY DOOR PER THE FIRE MARSHAL'S OFFICE. CONTACT THE FIRE MARSHAL'S OFFICE AT 540-853-2795 FOR ORDERING INFORMATION. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DETAILS ON SPECIFIC MOUNTING LOCATIONS, ETC.

2. THE PROPOSED BUILDING SHALL HAVE SPRINKLER SERVICE. G.C. SHALL BE RESPONSIBLE FOR PROVIDING A P.I.V., FIRE DEPARTMENT CONNECTION, KNOX BOXES, AND IN-GROUND WATER VAULT FOR THE DOMESTIC WATER METER, AND DOUBLE DETECTOR CHECK FOR THE FIRE SERVICE.

3. EACH FIRE DEPARTMENT CONNECTION (FDC) IS REQUIRED TO HAVE A KNOX BOX LOCKING CAP INSTALLED WITH SINGLE 5" STORZ COUPLING AND A 30° ELBOW. PLEASE CALL THE NUMBER LISTED ABOVE IN NOTE #1, OR VISIT WWW.KNOXBOX.COM FOR ORDERING INFORMATION.

FIRE FLOW SUMMARY:

2,250 GPM FOR FIRE FLOW

ANTICIPATED PRESSURES AND FIRE FLOW AT PROPOSED FIRE HYDRANTS:

FIRE HYDRANT 'A'
STATIC PRESSURE=71 PSI
2,500 GPM AT 55 PSI RESIDUAL

FIRE HYDRANT 'B'
STATIC PRESSURE=71 PSI
2,500 GPM AT 47 PSI RESIDUAL

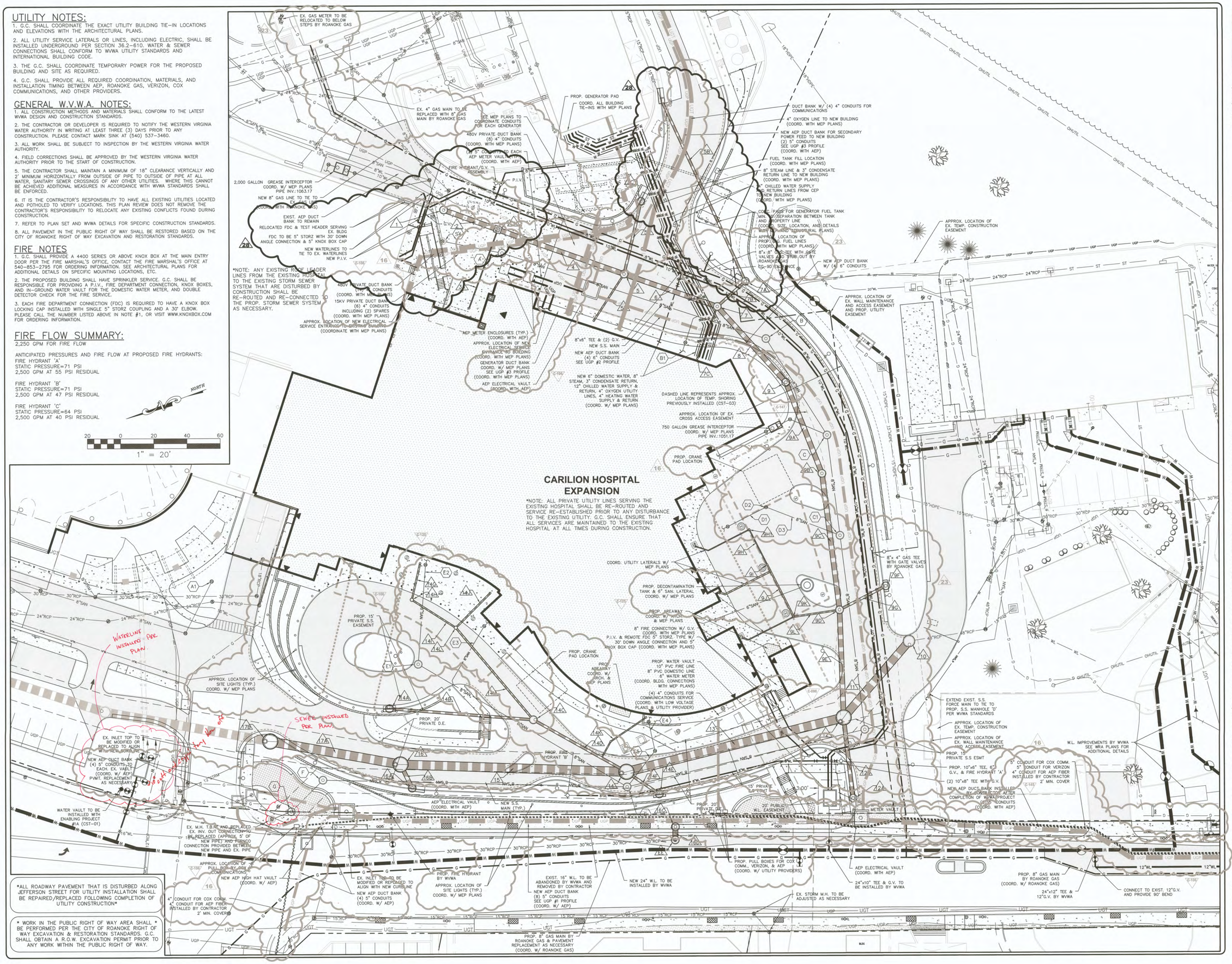
FIRE HYDRANT 'C'
STATIC PRESSURE=64 PSI
2,500 GPM AT 40 PSI RESIDUAL

NORTH

20 0 20 40 60
1" = 20'

ALL ROADWAY PAVEMENT THAT IS DISTURBED ALONG JEFFERSON STREET FOR UTILITY INSTALLATION SHALL BE REPAIRED/REPLACED FOLLOWING COMPLETION OF UTILITY CONSTRUCTION

* WORK IN THE PUBLIC RIGHT OF WAY AREA SHALL * BE PERFORMED PER THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION & RESTORATION STANDARDS. G.C. SHALL OBTAIN A R.O.W. EXCAVATION PERMIT PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY.



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CHRISTOPHER P. BURNS
Lic. No. 47338
8/27/2021
PROFESSIONAL ENGINEER

CARILION ROANOKE MEMORIAL HOSPITAL

CRYSTAL SPRING TOWER ADDITIONS & RENOVATIONS

UTILITY PLAN

CITY OF ROANOKE, VIRGINIA

DRAWN BY	SMD
DESIGNED BY	CPB
CHECKED BY	CPB
DATE	8/24/2020
SCALE	1"=20'
REVISIONS	
10/9/2020	7/9/2021 C-147
10/26/2020 10	8/27/2021 28
1/30/2021 16	
3/30/2021 C-105	
4/23/2021 F.R. #3 C-106	
5/25/2021 C-125	
6/24/2021 C-126	
7/2/2021 23	

12-2-21
Updated 5-11-22

C6.1-CST
PROJECT NO. 04190036.00

* WORK IN THE PUBLIC RIGHT OF WAY AREA SHALL * BE PERFORMED PER THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION & RESTORATION STANDARDS. G.C. SHALL OBTAIN A R.O.W. EXCAVATION PERMIT PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY.

*NOTE: ALL EXISTING ROOF LEADER LINES FROM THE EXISTING HOSPITAL TO THE EXISTING STORM SEWER SYSTEM THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RE-ROUTED AND RE-CONNECTED TO THE STORM SEWER SYSTEM.

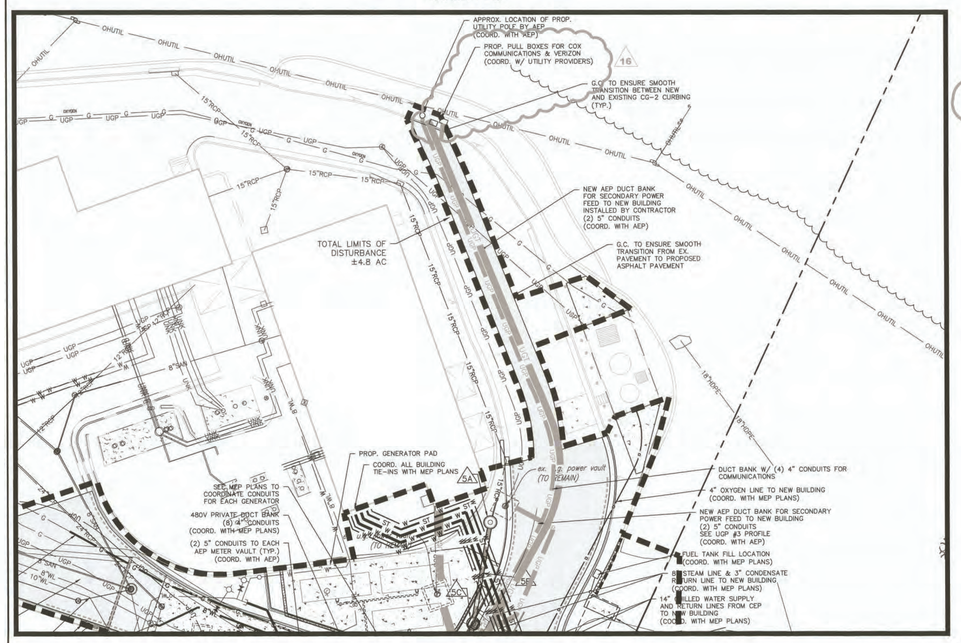
*NOTE: ALL PRIVATE UTILITY LINES SERVING THE EXISTING HOSPITAL SHALL BE RE-ROUTED AND SERVICE RE-ESTABLISHED PRIOR TO ANY DISTURBANCE TO THE EXISTING UTILITY. G.C. SHALL ENSURE THAT ALL SERVICES ARE MAINTAINED TO THE EXISTING HOSPITAL AT ALL TIMES DURING CONSTRUCTION.

NORTH

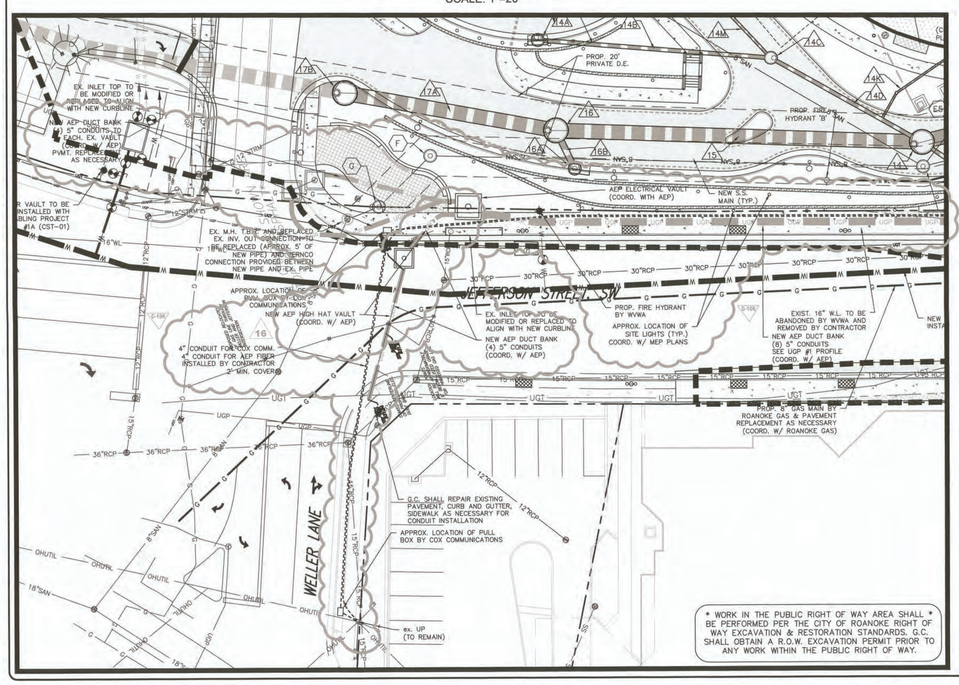
20 0 20 40 60

1" = 20'

OFF-SITE AREA #1
(ADJACENT TO CENTRAL ENERGY PLANT)
SCALE: 1"=20'

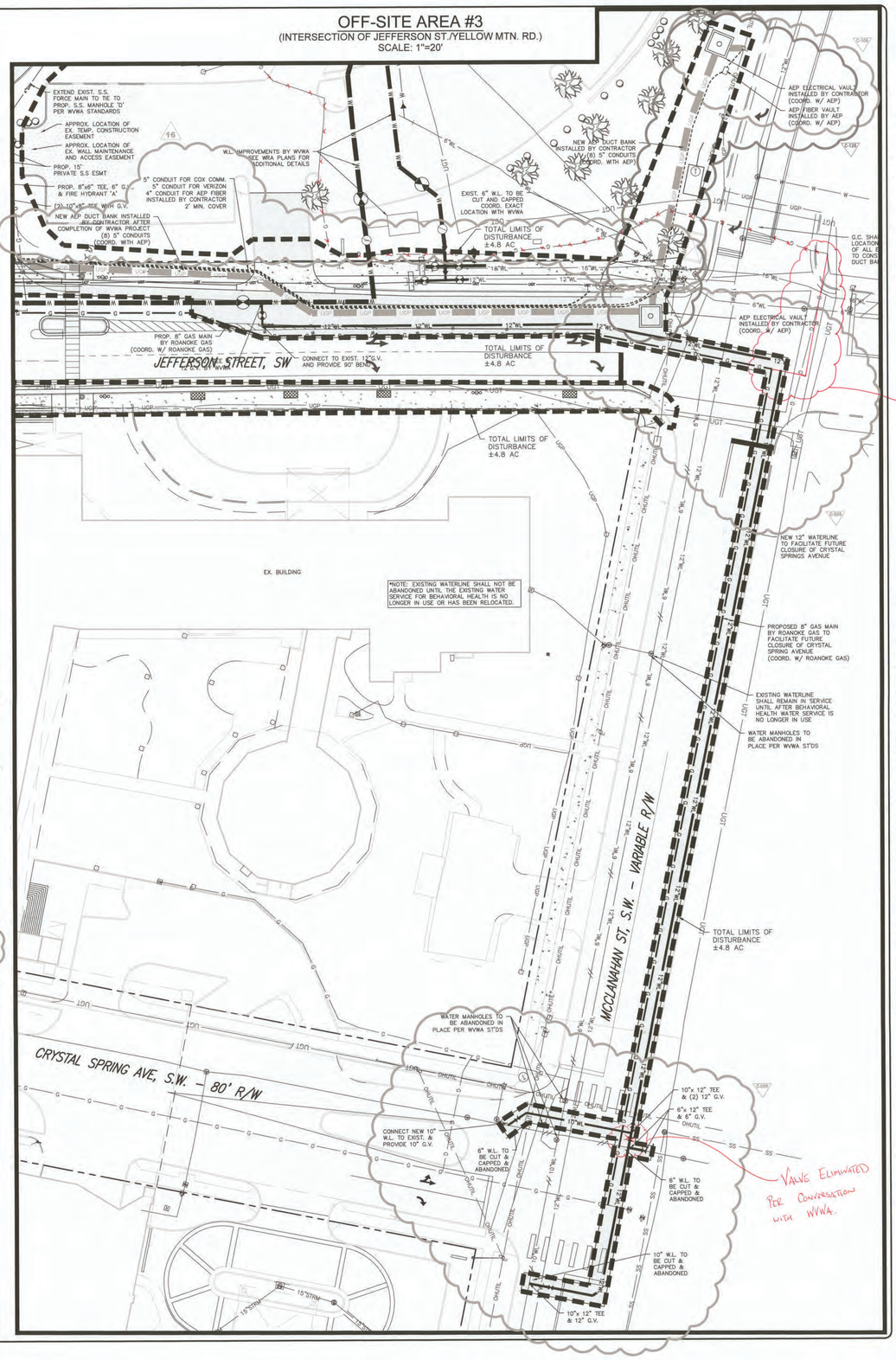


OFF-SITE AREA #2
(INTERSECTION OF JEFFERSON ST./WELLER AVE.)
SCALE: 1"=20'



* WORK IN THE PUBLIC RIGHT OF WAY AREA SHALL * BE PERFORMED PER THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION & RESTORATION STANDARDS. G.C. SHALL OBTAIN A R.O.W. EXCAVATION PERMIT PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY.

OFF-SITE AREA #3
(INTERSECTION OF JEFFERSON ST./YELLOW MTN. RD.)
SCALE: 1"=20'



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5/20/2021
PROFESSIONAL ENGINEER

GAS LINE RE-ROUTED PER ROANOKE GAS

CARILION ROANOKE MEMORIAL HOSPITAL
CRYSTAL SPRING TOWER ADDITIONS & RENOVATIONS
OFF-SITE UTILITY IMPROVEMENTS
CITY OF ROANOKE, VIRGINIA

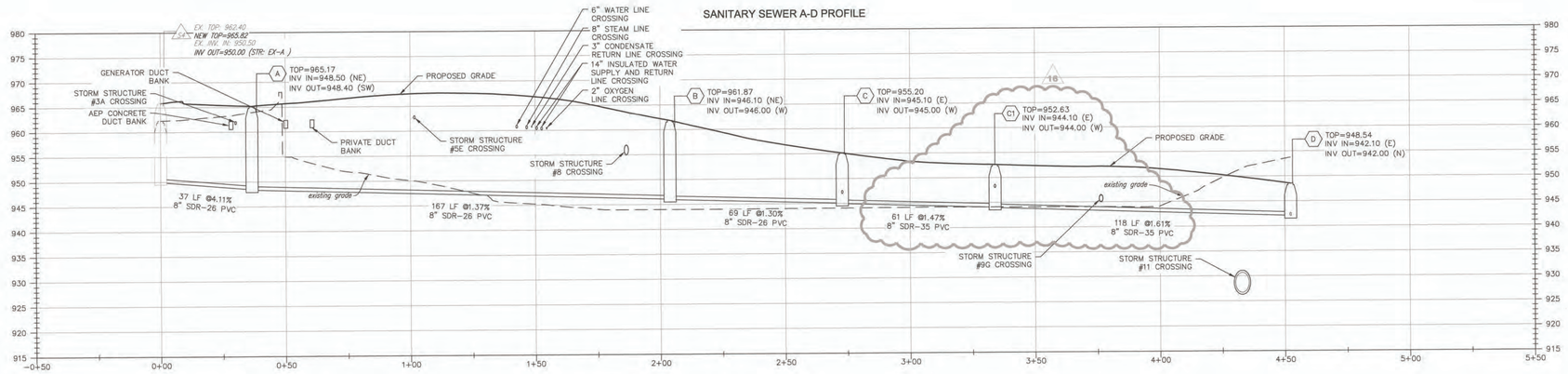
DRAWN BY	SMD
DESIGNED BY	CPB
CHECKED BY	CPB
DATE	8/24/2020
SCALE	1"=20'
REVISIONS	
10/9/2020	
10/26/2020	10
1/30/2021	16
3/18/2021 F.R. #2	CST-01
4/23/2021 F.R. #3	CST-01
5/20/2021	CST-01

14A Rev 12-2-21

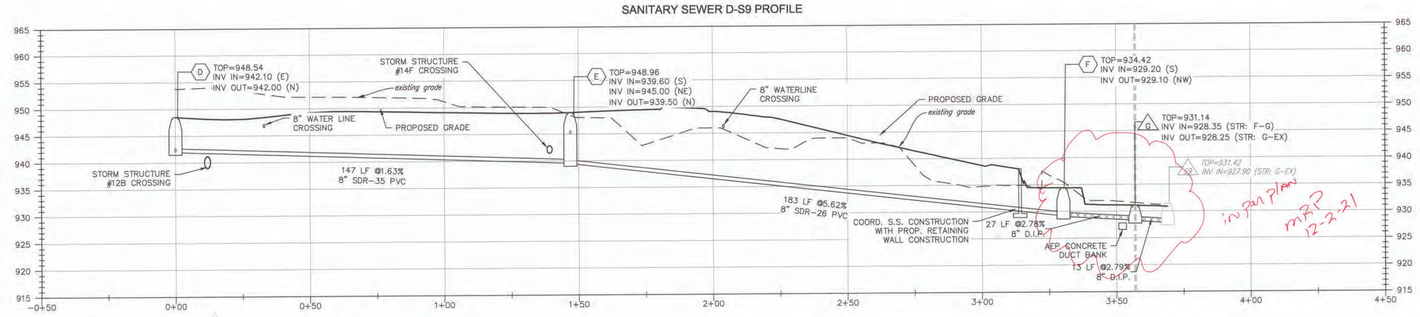
C6.2-CST

PROJECT NO. 04190036.00

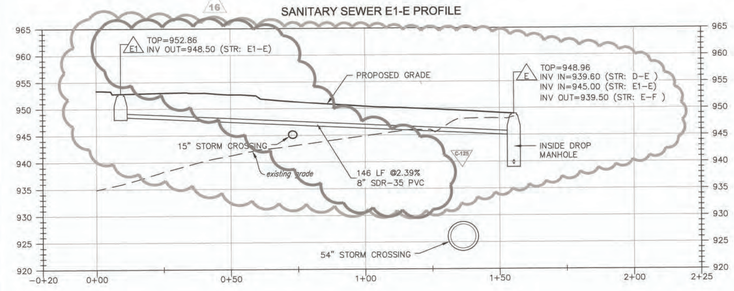
SANITARY SEWER A-D PROFILE



SANITARY SEWER D-S9 PROFILE



SANITARY SEWER E1-E PROFILE



SANITARY SEWER SCHEDULE:

- S4 A — 37 LF OF 8" PVC SDR-26 AT 4.11%
- A — S.S. MANHOLE (PRIVATE) TOP=965.17 INV. IN=948.50 (S4-A) INV. OUT=948.40 (A-B)
- A B — 167 LF OF 8" PVC SDR-26 AT 1.37%
- B — S.S. MANHOLE (PRIVATE) TOP=961.87 INV. IN=946.1 (STR. A-B) INV. OUT=946.0 (STR. B-C)
- B C — 69 LF OF 8" PVC SDR-26 AT 1.30%
- C — S.S. MANHOLE (PRIVATE) TOP=955.20 INV. IN=947.0 (GREASE TRAP) INV. IN=945.1 (STR. B-C) INV. OUT=945.0 (STR. C-D)
- C C1 — 61 LF OF 8" PVC SDR-35 AT 1.47%
- C1 — S.S. MANHOLE (PRIVATE) TOP=952.63 INV. IN=948.0 (FROM BLDG.) INV. IN=944.1 (STR. C-C1) INV. OUT=944.0 (STR. C1-D)
- C1 D — 118 LF OF 8" PVC SDR-35 AT 1.61%
- D — S.S. MANHOLE (PRIVATE) TOP=948.54 INV. IN=942.1 (STR. C-D) INV. OUT=942.0 (STR. D-E)
- D E — 147 LF OF 8" PVC SDR-35 AT 1.63%
- E — INSIDE DROP S.S. MANHOLE (5' DIA.) (PRIVATE) TOP=948.96 INV. IN=945.0 (STR. E1-E) INV. IN=944.5 (STR. E5) INV. IN=939.6 (STR. D-E) INV. OUT=939.5 (STR. E-F)
- E1 — S.S. MANHOLE (PRIVATE) TOP=952.86 INV. IN=948.60 INV. OUT=948.50
- E1 E — 146 LF OF 8" PVC SDR-35 AT 2.39%
- E F — 183 LF OF 8" PVC SDR-26 AT 5.62%
- F — S.S. MANHOLE (PRIVATE) TOP=934.42 INV. IN=929.2 (STR. E-F) INV. OUT=929.1 (STR. F-G)
- F G — 27 LF OF 8" D.I. PIPE AT 2.78%
- G — S.S. MANHOLE (PUBLIC) TOP=931.14 INV. IN=928.35 (STR. F-G) INV. OUT=928.25 (STR. G-S9)
- G S9 — 13 LF OF 8" D.I. PIPE AT 2.79% INV. OUT=927.9 (MANHOLE S9 TO BE REMOVED AND REPLACED)

LATERALS:

- A1 — OMITTED
- A2 — OMITTED
- A3 — OMITTED
- B1 — 17 LF OF 8" PVC SDR-35 AT 12.9% INV. IN AT BLDG.=949.0 INV. OUT AT (A-B)=946.80
- B2 — 25 LF OF 8" PVC SDR-35 AT 4% INV. IN AT BLDG.=950.5
- D2 — CLEANOUT (STANDARD LID) TOP=953.27 INV.=949.5
- D3 — 47 LF OF 8" PVC SDR-35 AT 3.19% INV. OUT AT C1=948.0
- E2 — 60 LF OF 8" PVC SDR-35 AT 3.17% INV. IN AT BLDG.=950.5 INV. OUT AT C1=948.6
- E4 — 39 LF OF 8" PVC SDR-35 AT 5.64% INV. IN AT BLDG.=950.5 INV. IN AT (E1-E)=947.9
- E4 — 47 LF OF 8" PVC SDR-35 INV. IN AT BLDG.=950.5 INV. OUT AT (E5)=945.5
- E5 — 23 LF OF 8" PVC SDR-35 INV. IN=945.5 INV OUT AT (E)=944.5

(G.C. TO CONFIRM & COORDINATE ALL TIE IN LOCATIONS W/M.E.P. & ARCH. DRAWINGS PRIOR TO ANY INTERIOR OR EXTERIOR S.S. PIPE BEING INSTALLED. NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED PRIOR TO ANY CONSTRUCTION)

10 0 10 20 30
VERTICAL SCALE: 1" = 10'

20 0 20 40 60
HORIZONTAL SCALE: 1" = 20'

SANITARY SEWER NOTES

1. SIZE AND DEPTH OF SANITARY SEWER MAIN SUBJECT TO CHANGE BASED UPON THE REQUIRED SIZE AND INVERT ELEVATION OF BUILDING CONNECTION.
2. ADDITIONAL SANITARY SEWER MAIN REPLACEMENT ACROSS JEFFERSON STREET, SW MAY BE REQUIRED DEPENDENT UPON SIZE OF REQUIRED BUILDING CONNECTION. SEE OFF-SITE AREA #2 ON SHEET C6.2-CST.

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5/25/2021
PROFESSIONAL ENGINEER

CARILION ROANOKE MEMORIAL HOSPITAL

CRYSTAL SPRING TOWER ADDITIONS & RENOVATIONS

UTILITY PROFILES 2

CITY OF ROANOKE, VIRGINIA

DRAWN BY	SMD
DESIGNED BY	CPB
CHECKED BY	CPB
DATE	8/24/2020
SCALE	AS SHOWN
REVISIONS	
10/9/2020	
10/26/2020	10
1/30/2021	16
4/29/2021	C-157
5/25/2021	C-157

mkP 12-2-21

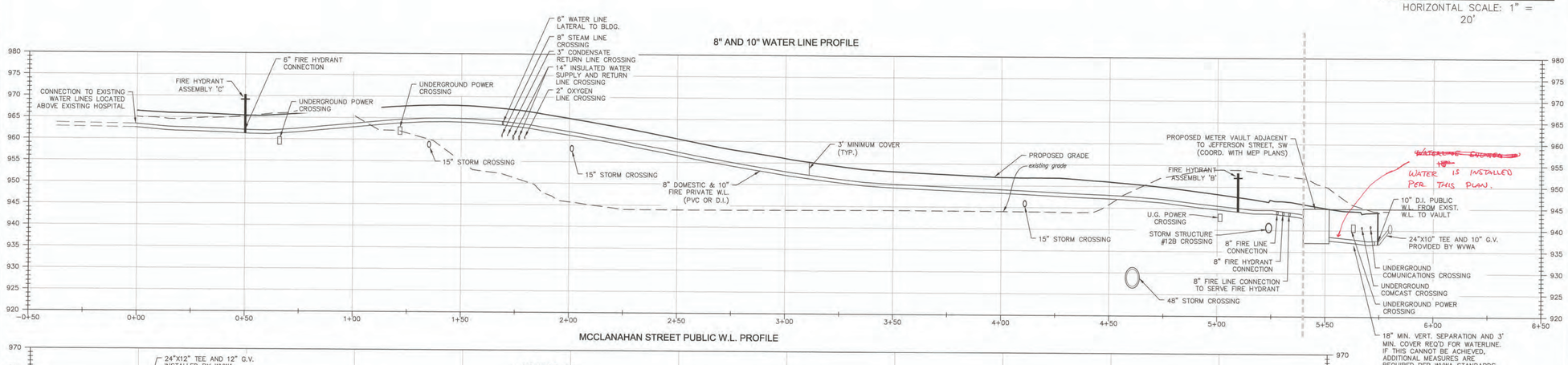
C9.2-CST

PROJECT NO. 04190036.00

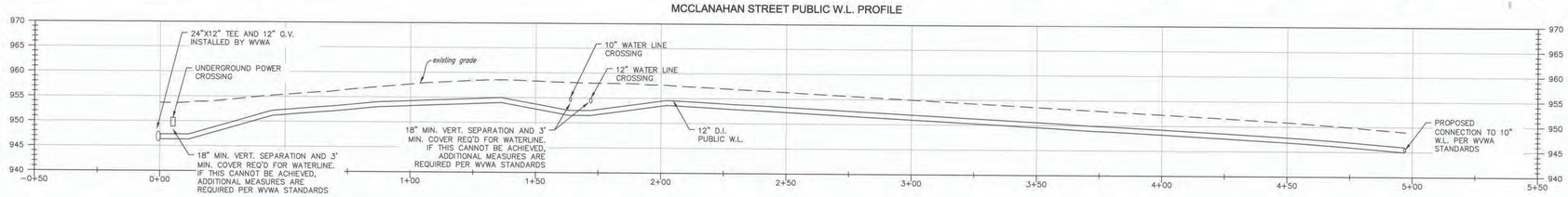
VERTICAL SCALE: 1" = 10'

HORIZONTAL SCALE: 1" = 20'

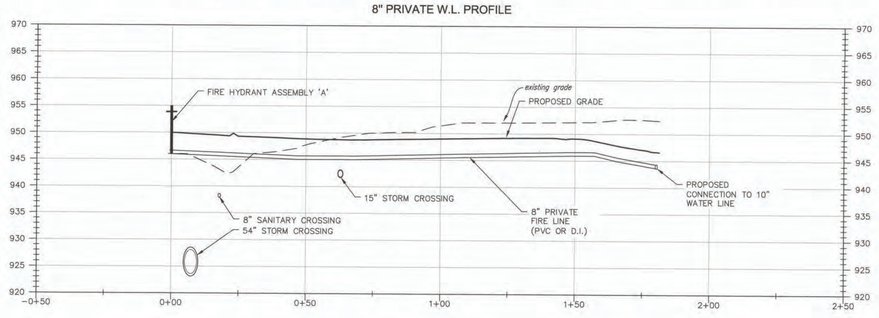
8" AND 10" WATER LINE PROFILE



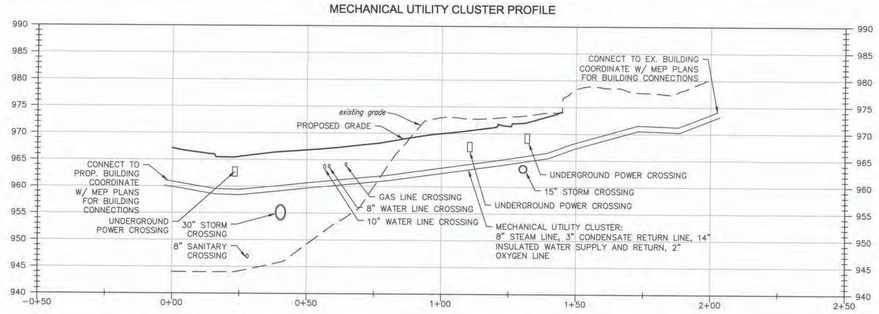
MCCLANAHAN STREET PUBLIC W.L. PROFILE



8" PRIVATE W.L. PROFILE



MECHANICAL UTILITY CLUSTER PROFILE



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CHRISTOPHER P. BURNS
Lic. No. 47338
10/26/2020
PROFESSIONAL ENGINEER

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN
APPROVED
by Adrian Gilbert 12/15/2020

CARILION ROANOKE MEMORIAL HOSPITAL

CRYSTAL SPRING TOWER ADDITIONS & RENOVATIONS

UTILITY PROFILES 4

CITY OF ROANOKE, VIRGINIA

DRAWN BY	SMD
DESIGNED BY	CPB
CHECKED BY	CPB
DATE	8/24/2020
SCALE	AS SHOWN
REVISIONS	

10/9/2020
10/26/2020 10

12-2-21

C9.4-CST

PROJECT NO. 04190036.00