

NEW PIPE INFORMATION						
PIPE ID	SIZE (IN)	TYPE	LENGTH (LF)	INVERT IN	INVERT OUT	SLOPE
P1	8	SDR 35 PVC	230	1070.70	1066.00	2.00%
P2	8	SDR 35 PVC	68	FIELD	1070.80	N/A

STRUCTURE INFORMATION					
STRUCTURE ID	SIZE (FT)	TYPE	TOP	TOP ELEV	INVERT OUT
S1	2	CON. RISER COVER	1083.25	1070.80	

SITE NOTES:

- TIE SANITARY SEWER RELOCATION TO EXISTING MANHOLE
- RELOCATION OF SANITARY SEWER
- RELOCATION OF UNDERGROUND ELECTRIC
- SANITARY SEWER MANHOLE PAVED OVER ACCORDING TO SURVEY LOCATION IS APPROXIMATE (FIELD VERIFY INVERT ELEVATIONS)
- 8" RAIN LEADER - TIE TO EXISTING STRUCTURE DI-3
- INSTALL NEW 10'X6' FILTERRA BIOTENTION SYSTEM STRUCTURE TOP - 1079.95' TIE IN TO DI-3 - 1075.50' (SEE DETAIL SHEET C502)
- INSTALL NEW 4" SAN. LATERAL AND GREASE TRAP FROM TENANT #3.
- INSTALL NEW 4" SAN. LATERAL FROM TENANT #4.
- INSTALL NEW 4" SAN. LATERAL FROM TENANT #2.
- SEE PLUMBING SHEET P-5 FOR CONTINUATIONS.
- NEW FIRE HYDRANT. SEE DETAIL SHEET C503.
- NEW WATER SERVICE CONNECTION TO TENANTS #2, #3, AND #4. PROVIDE WATER METER AT EDGE OF EXISTING 20' PUBLIC WATER EASEMENT FOR EACH.
- 2" WATER SERVICE, 8" FIRE MAIN, PIV, FDC, COMMERCIAL METER VAULT, BOLLARDS, AND NO PARKING FIRE SIGNS ON BOLLARDS. SEE DETAIL SH. C503.
- THE NEW FDC SHALL HAVE A KNOX BOX LOCKING CAP INSTALLED. THE NEW FDC SHALL HAVE STORZ COUPLINGS INSTALLED. PROVIDE A 3200 SERIES KNOX BOX AT AN APPROVED LOCATION PER THE FIRE MARSHAL'S OFFICE. SEE PLUMBING SHEET P-4 FOR CONTINUATIONS.

REPLACE PAVEMENT IN ALL UTILITY EXCAVATIONS WITH EQUIVALENT BASE MATERIAL AND ASPHALT TO MATCH EXISTING PAVEMENT. IF EXISTING MATERIAL DEPTHS ARE LESS THAN PAVEMENT SECTION DETAIL ON SHEET C502, TRENCH DETAILS ON THIS SHEET SHALL BE USED FOR REPLACEMENT.

FIRE SERVICE WILL BE ZONED AND PROVIDED VIA PIPING WITHIN EXISTING BUILDING AND EXTENDED TO THE NEW ADDITION TENANTS. SANITARY SEWER: SS-3

SS-1	TOP = 1079.07'
TOP = 1091.32'	INVERT 8" PVC = 1084.7'
INVERT 8" PVC = 1084.7'	INVERT 4" PVC = 1084.8'
INVERT 4" PVC = 1084.8'	INVERT 8" PVC = 1084.6'
SS-2	TOP = 1075.12'
TOP = 1075.12'	INVERT 8" PVC = 1083.7'
INVERT 8" PVC = 1083.7'	INVERT 4" PVC = 1089.9'
INVERT 4" PVC = 1089.9'	INVERT 8" PVC = 1083.2'

APPEARS TO BE PAVED OVER

- MATERIALS AND FABRICATION IN ACCORDANCE WITH ASTM C478-08.
- WHEN USED AS SAMPLING MANHOLE FLOW SHALL PASS STRAIGHT THROUGH (18" DIA. 180°).
- STEPS SHALL BE VERTICALLY ALIGNED. FIRST STEP SHALL BE WITHIN 12" OF COVER. BOTTOM STEP SHALL BE WITHIN 24" OF BOTTOM OF MANHOLE.
- FRAME AND COVER SHALL BE PROPERLY ALIGNED WITH THE 2 FOOT OPENING OF THE MANHOLE STRUCTURE AND BOLTED IN PLACE.
- FLAT TOP MANHOLES MAY ONLY BE SUBSTITUTED WITH THE PERMISSION OF THE PARTICIPATING UTILITY.
- FLEXIBLE JOINT MANHOLE CONNECTION SHALL BE AS MANUFACTURED BY PRE-SEAL GASKET CORPORATION OR EQUAL.
- GROUT ANNUAL SPACE BETWEEN PIPE AND PRECAST MANHOLE ON INSIDE OF MANHOLE.
- 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.
- 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.
- IF REQUIRED EXTERIOR VERTICAL WALL SURFACES SHALL BE FACTORY COATED IN ACCORDANCE WITH THE MANUFACTURER'S 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.
- 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 IN ACCORDANCE WITH ASTM D412 OR POLYURETHANE BACKED EXTERIOR JOINT WRAP IN ACCORDANCE WITH ASTM E-1745, C-877, AND C-990. EDI SEAL SHALL HAVE A MINIMUM THICKNESS OF 60 MILS. POLYURETHANE BACKED EXTERIOR JOINT WRAP SHALL HAVE A BACKING BAND ELEMENT WITH MINIMUM THICKNESS OF 4 MILS. AND BUTYL ROLLER ADHESIVE WITH MINIMUM THICKNESS OF 60 MILS. SEAL SHALL AGGRESSIVELY BOND TO CONCRETE AND METAL STRUCTURES.
- FOR PIPE LARGER THAN 15 INCHES IN DIAMETER, THE MINIMUM INSIDE DIAMETER OF THE MANHOLE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS BASED ON PIPE SIZE AND ANGLE BETWEEN INLET AND OUTLET PIPING.
- IF MINIMUM DIAMETER MANHOLE SHALL BE REQUIRED WHEN DEPTHS EXCEED 15' UNLESS OTHERWISE APPROVED BY PARTICIPATING UTILITY.

PRECAST HOLE (TYP.)

GROUT ANNUAL SPACE (TYP. INLET & OUTLET)

FLEXIBLE BOOT WITH STAINLESS STEEL BAND (TYP.)

SECTION A-A

2'-0" MAX

1'-4" MAX

4'-0" MAX

6" MIN

8" MIN

MINIMUM SLOPE FOR SERVICE CONNECTION

4" DIA PER 1'-0"

6" DIA PER 1'-0"

PRECAST HOLE WITH FLEXIBLE BOOT & STAINLESS STEEL BAND

SERVICE CONNECTION

SLOPE BENCH 1/4" PER 1'-0"

MANHOLE WITH PRECAST INVERT

3/4" DIA SS THREADED ROD (IF ADJUSTMENT RINGS ARE REQUIRED)

ECCENTRIC CONE HEIGHT VARIES

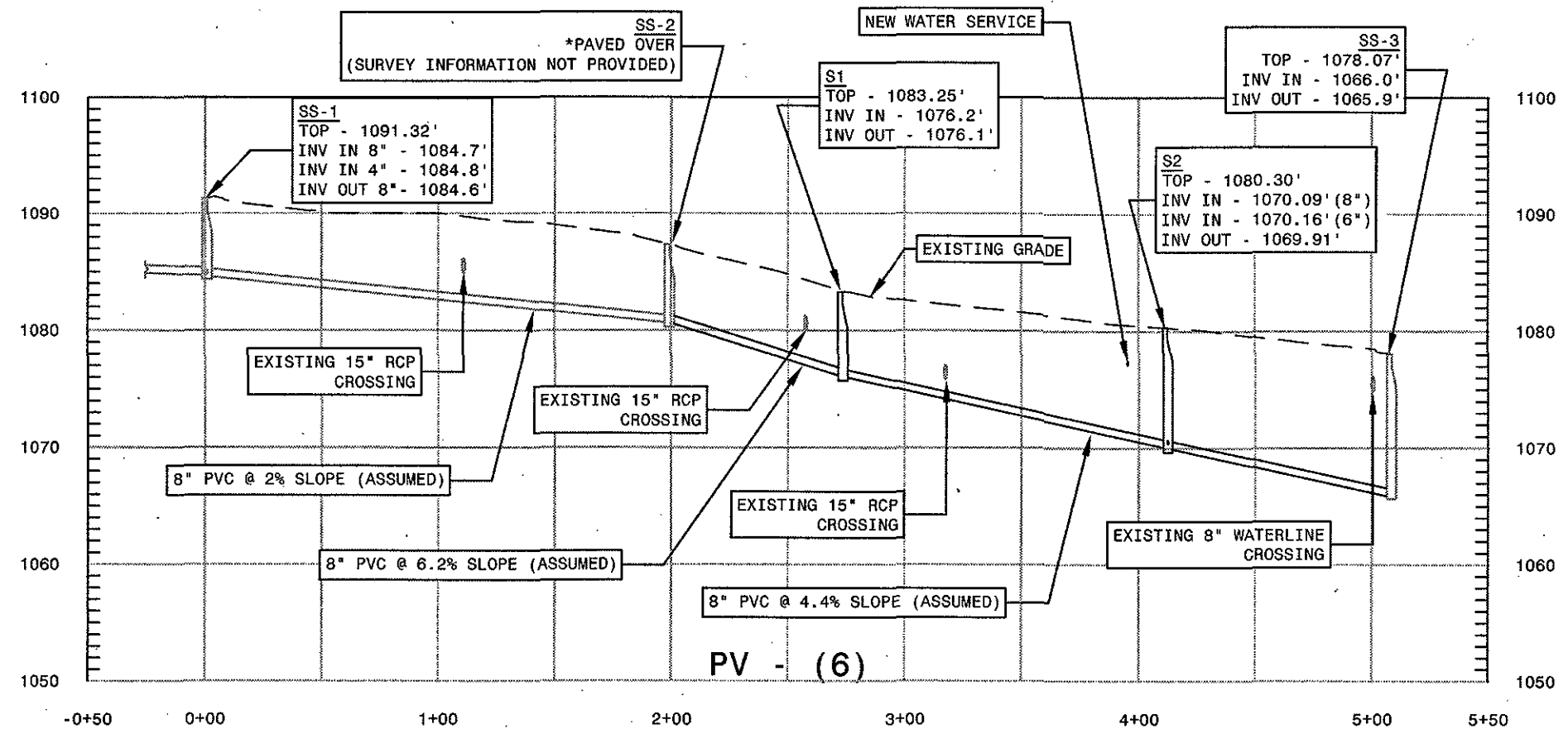
RISER SECTIONS HEIGHT VARIES

BASE HEIGHT VARIES

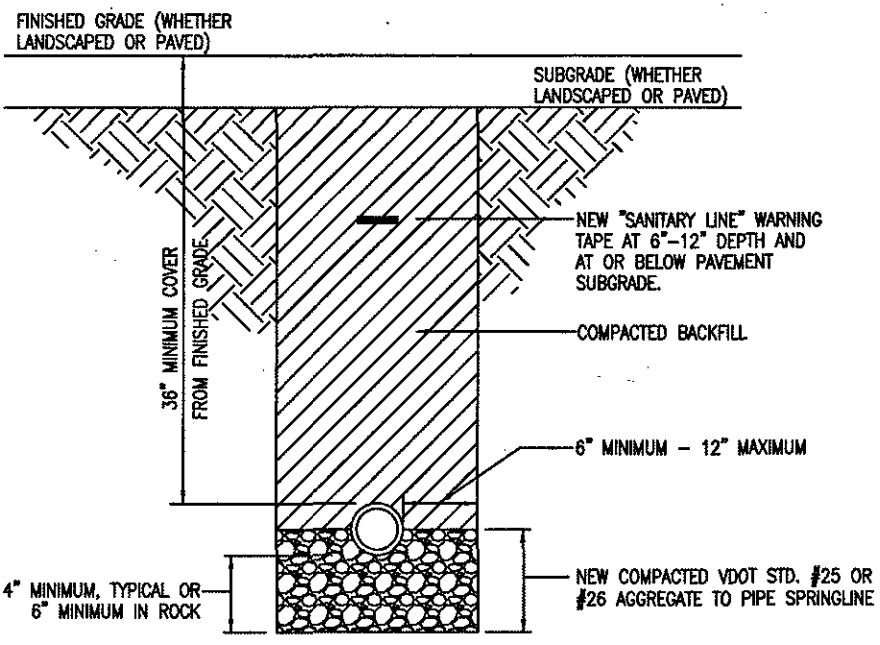
6" MIN

STONE BASE (6" MIN DEPTH) #57 OR EQUIVALENT

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
4" STANDARD MANHOLE FOR PIPE 15" OR SMALLER (FOR DEPTHS UP TO 15 FEET)
09/01/16 S-1
N.T.S.

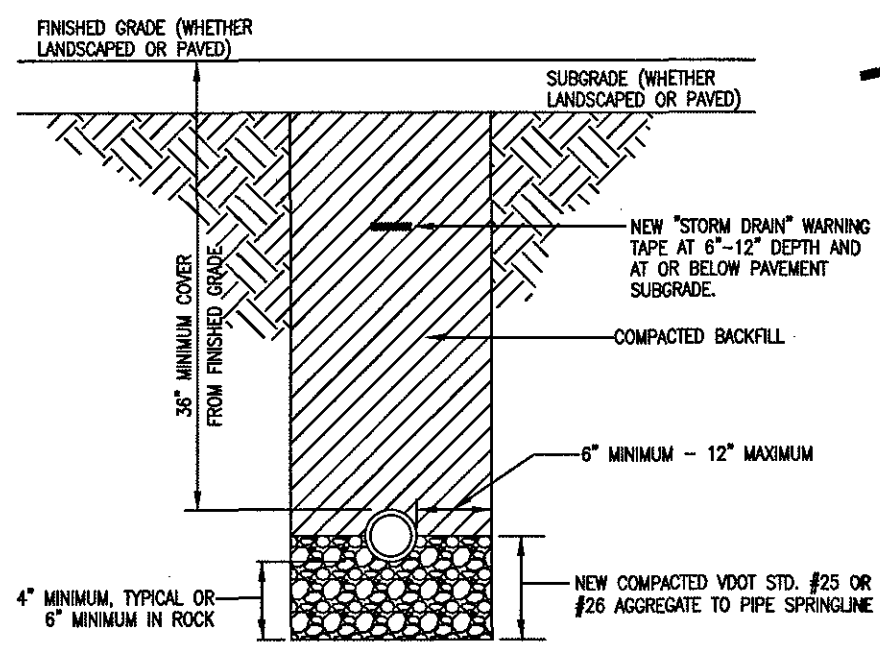


SANITARY SEWER PROFILE



NEW SANITARY LINE TRENCH SECTION

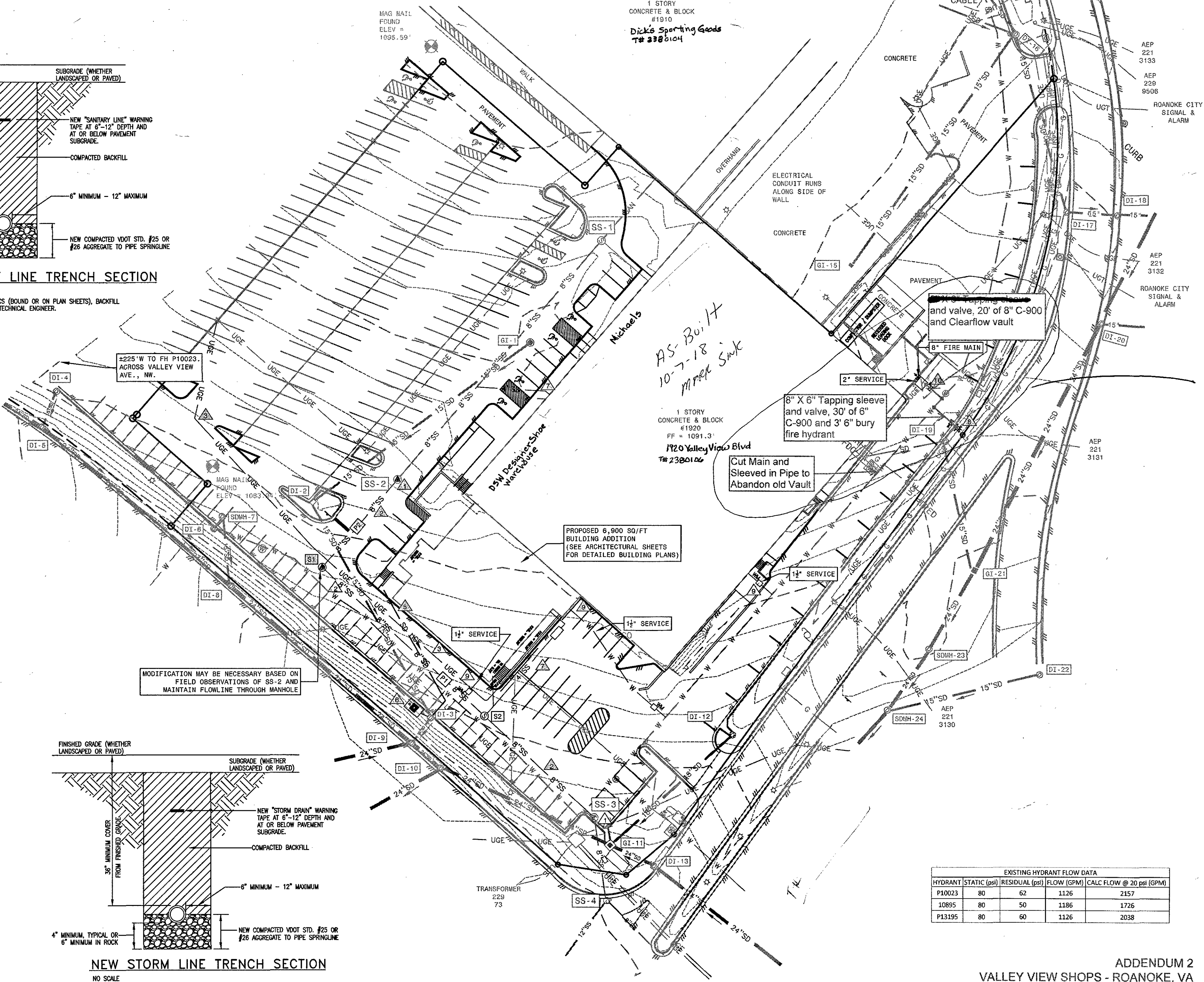
UNLESS DEFINED ELSEWHERE BY SPECS (BOUND OR ON PLAN SHEETS), BACKFILL SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER.



NEW STORM LINE TRENCH SECTION

UNLESS DEFINED ELSEWHERE BY SPECS (BOUND OR ON PLAN SHEETS), BACKFILL AND SELECT BACKFILL SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER.

NOTES:
SANITARY SEWER SECTION FROM SS-1 THROUGH S1 TO SS-3 ASSUMED BASED UPON LIMITED FIELD SURVEY OF SS-2. SS-2 LOCATION AND INVERT ELEVATIONS TO BE FIELD VERIFIED PRIOR TO BEGINNING ANY SANITARY SEWER DEMOLITION OR RELOCATION. CHANGES NECESSARY TO SANITARY SEWER DESIGN TO BE VERIFIED OR PERFORMED BY ENGINEER.



EXISTING HYDRANT FLOW DATA				
HYDRANT	STATIC (psi)	RESIDUAL (psi)	FLOW (GPM)	CALC FLOW @ 20 psi (GPM)
P10023	80	62	1126	2157
10895	80	50	1186	1726
P13195	80	60	1126	2038

ADDENDUM 2
VALLEY VIEW SHOPS - ROANOKE, VA
12/15/16
ADTA PROJECT NO: 16004.11

KEY PLAN

GENERAL NOTES

Phase 1

eec earth environmental and civil

SPECTRUM DESIGN architects | engineers

10 CHURCH AVE SE, PLAZA SUITE 1 ROANOKE, VIRGINIA 24011 540.342.8000

1920 VALLEY VIEW BLVD NW

COMMERCIAL BUILDING UPGRADE

ROANOKE, VIRGINIA

STATE PROJECT NO. N/A

SPECTRUM DESIGN PROJECT NO.

DATE 3/29/2016

DESIGN ARCHITECT

PROJECT ARCHITECT

CHECKED BY

REVISIONS

DATE

SHEET TITLE

UTILITY RELOCATION PLAN

C102