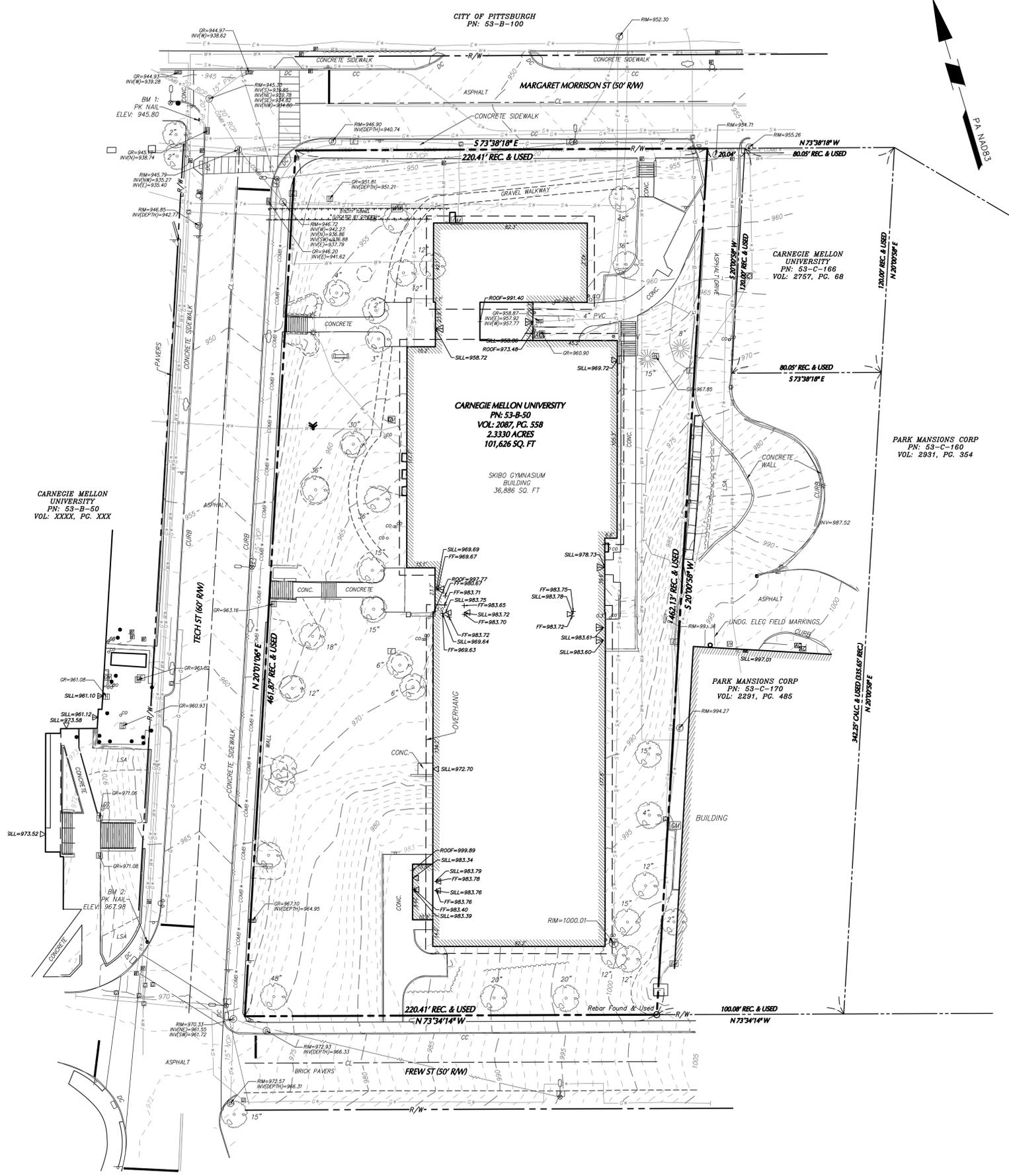


**PROJECT LOCATION MAP**  
SCALE: NOT TO SCALE



**BASIS OF BEARINGS**

MERIDIAN IS REFERENCED TO PENNSYLVANIA STATE PLANE COORDINATE SYSTEM SOUTH ZONE, NAD 83, PER GPS OBSERVATIONS IN SEPTEMBER, 2020.

**DATUM**

VERTICAL DATUM IS NAVD 88 OBTAINED FROM GPS OBSERVATIONS ON 09/24/2020

**BENCHMARK**

BM 1 - PK NAIL, ELEV=945.80  
BM 2 - PK NAIL, ELEV=967.98

**UTILITY INFORMATION**

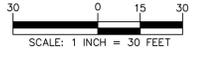
DESIGN TICKET 20202663765-000  
DIG TICKET 20202663760-000

**NOTES**

- THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE SEARCH, THEREFORE THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL EASEMENTS, RIGHTS-OF-WAY, COVENANTS, ETC. AS MAY BE DISCLOSED IN A CURRENT, COMPREHENSIVE TITLE SEARCH.
- THIS PLAN WAS PREPARED WITH THE RESPECT TO THE FOLLOWING REFERENCES:
  - CARNEGIE MELLON UNIVERSITY, ELECTRICAL DISTRIBUTION MANHOLES PLAN, PROJECT NO. 84215-04, DRAWING NO. EMH, DATED JANUARY, 9, 2013.
- BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES FIELD WORK COMPLETED DURING THE MONTH OF OCTOBER 2020.
- UNLESS SPECIFICALLY NOTED HEREON, STORM AND SANITARY SEWER INFORMATION (INCLUDING PIPE INVERT, PIPE MATERIAL, AND PIPE SIZE) WAS OBSERVED AND MEASURED AT FIELD LOCATED STRUCTURES (MANHOLES/CATCH BASINS, ETC.). CONDITIONS CAN VARY FROM THOSE ENCOUNTERED AT THE TIMES WHEN AND LOCATIONS WHERE DATA IS OBTAINED. DESPITE MEETING THE REQUIRED STANDARD OF CARE, THE SURVEYOR CANNOT, AND DOES NOT WARRANT THAT PIPE MATERIAL AND/OR PIPE SIZE THROUGHOUT THE PIPE RUN ARE THE SAME AS THOSE OBSERVED AT EACH STRUCTURE, OR THAT THE PIPE RUN IS STRAIGHT BETWEEN THE LOCATED STRUCTURES.
- ADDITIONAL UTILITY (WATER, GAS, ELECTRIC ETC.) DATA MAY BE SHOWN FROM FIELD LOCATED SURFACE MARKINGS (BY OTHERS), EXISTING STRUCTURES, AND/OR FROM EXISTING DRAWINGS.
- UNLESS SPECIFICALLY NOTED HEREON, THE SURVEYOR HAS NOT EXCAVATED TO PHYSICALLY LOCATE THE UNDERGROUND UTILITIES. THE SURVEYOR MAKES NO GUARANTEE THAT THE SHOWN UNDERGROUND UTILITIES ARE EITHER IN SERVICE, ABANDONED OR SUITABLE FOR USE, NOR ARE IN THE EXACT LOCATION OR CONFIGURATION INDICATED HEREON.
- PRIOR TO ANY DESIGN OR CONSTRUCTION, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
- NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS WERE OBSERVED WHILE CONDUCTING FIELD WORK.
- THIS SURVEY IS NOT VALID WITHOUT THE EMBOSSED OR INKED SEAL OF THE PROFESSIONAL.

**LEGEND (NOT SHOWN TO SCALE)**

<ul style="list-style-type: none"> <li>⊙ MONUMENTATION FOUND (TYPE AS NOTED)</li> <li>⊙ SET BY "X" 30" STEEL PIN WITH CAP "LANGAN"</li> <li>⊙ SET DRILL HOLE</li> <li>⊙ HYDRANT</li> <li>⊙ STAND PIPE</li> <li>⊙ ROOF DRAIN</li> <li>⊙ BOLLARD</li> <li>⊙ STREET LIGHT</li> <li>⊙ AREA LIGHT</li> <li>⊙ SIGNAL POLE</li> <li>⊙ POWER POLE</li> <li>⊙ GUY WIRE</li> <li>⊙ MANHOLE (TYPE AS LABELED)</li> <li>⊙ WATER VALVE</li> <li>⊙ GAS VALVE</li> <li>⊙ UNKNOWN VALVE</li> <li>⊙ CATCH BASIN</li> <li>⊙ CLEAN OUT</li> <li>⊙ SIGN</li> <li>⊙ BOLLARD</li> <li>⊙ ELECTRIC BOX</li> <li>⊙ ELECTRIC METER</li> <li>⊙ GAS METER</li> <li>⊙ WATER METER</li> <li>⊙ TELEPHONE BOX</li> <li>⊙ TRAFFIC SIGNAL POLE</li> <li>⊙ DOOR</li> <li>⊙ DOUBLE DOOR</li> <li>⊙ GARAGE DOOR</li> </ul>	<ul style="list-style-type: none"> <li>— REC. DEED OF RECORD</li> <li>— AC. ACRES</li> <li>— CALC. CALCULATED</li> <li>— OBS. OBSERVED</li> <li>— SQ. FT. SQUARE FEET</li> <li>— CSR. CITY SURVEY RECORD</li> <li>— AFN. AUDITOR'S FILE NUMBER</li> <li>— PN. PARCEL NUMBER</li> <li>— VOL. DEED VOLUME</li> <li>— PG. PAGE</li> <li>— LSA. LANDSCAPE AREA</li> <li>— CP. CONCRETE PAD</li> <li>— CC. CONCRETE CURB</li> <li>— EP. EDGE OF PAVEMENT</li> <li>— FENCE (TYPE AS NOTED)</li> <li>— SUBJECT PROPERTY LINE</li> <li>— ADJOINING PROPERTY LINE</li> <li>— EASEMENT LINE</li> <li>— TREE LINE</li> <li>— GUIDE RAIL (TYPE AS NOTED)</li> <li>— ST—ST. STEAM LINE</li> <li>— OVERHEAD WIRE</li> <li>— COMB. COMBINED SEWER LINE</li> <li>— G. GAS LINE</li> <li>— W. WATER LINE</li> <li>— E. ELECTRIC LINE</li> <li>— T. COMMUNICATION LINE</li> <li>— S. SANITARY LINE</li> <li>— D. DRAINAGE LINE</li> <li>— REFERENCE UTILITY LINE (TYPE AS NOTED) - PLOTTED FROM EXISTING MAPPING</li> </ul>
---	---



05/04/21	Adjoinder Parcels	1
Date	Description	No.

**REVISIONS**


SHAUN F. HIGGINS, PLS DATE SIGNED  
PROFESSIONAL LAND SURVEYOR  
PENNSYLVANIA LIC. No. SU-051088-E

**LANGAN**  
Langan Engineering and Environmental Services, Inc.  
2400 Ansys Drive, Suite 403  
Canonsburg, PA 15317  
T: 724.514.5100 F: 724.514.5101 www.langan.com

Project  
**CMU HEALTH & WELLNESS CENTER**  
PN: 53-B-50  
CITY OF PITTSBURGH  
ALLEGHENY COUNTY PENNSYLVANIA

Drawing Title  
**BOUNDARY, TOPOGRAPHIC, AND UTILITY SURVEY**

Project No. <b>25011201</b>	Drawing No. <b>VL101</b>
Date <b>03/16/2021</b>	Sheet 1 of 1
Drawn By <b>BLR</b>	
Checked By <b>ALM</b>	

**Architect**  
Bohlin Cywinski Jackson  
611 William Penn Place  
Suite 1300  
Pittsburgh, PA 15219  
v. 412.765.3890 f. 412.765.2209

**Civil Engineer**  
Langan Engineering  
2400 Arnsy Drive, Suite 403  
Canonsburg, PA 15317-9540

**Landscape Architects**  
OBJ Landscape Architecture  
3502 Scotts Lane, Suite 1101  
Philadelphia, PA 19129

**Structural Engineer**  
KPFF Consulting Engineers  
1630 Des Peres Rd., Suite 100  
St. Louis, MO 63131

**MEP Engineer**  
Affiliated Engineers, Inc.  
10 S. La Salle St., Suite 2700  
Chicago, IL 60603

**AVIT/Security Consultant**  
BrightTree Studios  
524 Alpha Drive  
Pittsburgh, PA 15238

**Lighting Design Consultant**  
Francis Kratke & Associates, Inc.  
304 South Broadway, Suite 300  
Los Angeles, CA 90013

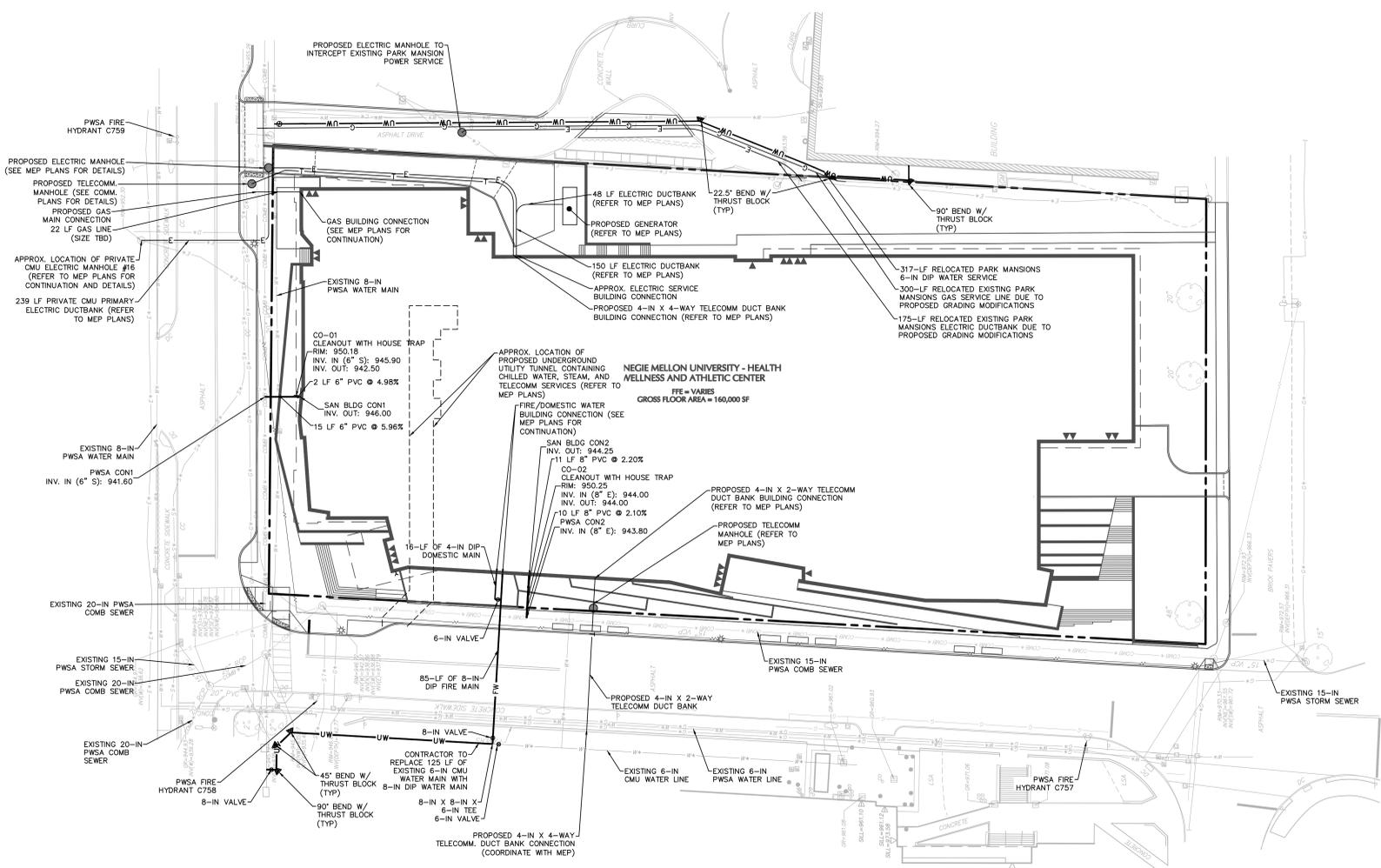
**Code Consultant**  
Holmes Keogh Associates, LLC  
26 East 20th St., Unit 4D  
New York, NY 10009

**Acoustics Consultant**  
Babich Acoustics  
1102 S Braddock Ave., Suite 4  
Pittsburgh, PA 15218

## UTILITY NOTES

- THESE PLANS ARE COMPLETED WITH EXISTING BOUNDARY AND TOPOGRAPHY INFORMATION BASED ON A PLAN TITLED "ALTA/NSPS LAND TITLE SURVEY" FOR THE "CMU HEALTH AND WELLNESS CENTER" PROJECT PREPARED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC., DATED OCTOBER 27, 2020.
- THE CONTRACTOR IS RESPONSIBLE TO BECOME THOROUGHLY FAMILIAR WITH THE ENGINEERING, DRAINAGE, AND UTILITY STANDARDS OF THE LOCAL MUNICIPALITY AND COUNTY THAT THE PROJECT IS LOCATED IN. ALL LOCAL MUNICIPALITY AND COUNTY STANDARDS WILL TAKE PRECEDENCE OVER THE DETAILS, SPECIFICATIONS, AND NOTES PROVIDED ON THESE DRAWINGS, UNLESS SPECIFICALLY ADDRESSED OTHERWISE BY LANGAN DURING THE PROJECT UPON REQUEST FROM THE CONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY ONE CALL OF PENNSYLVANIA, AND ANY OTHER UTILITY COMPANIES NOT REPRESENTED BY ONE CALL OF PENNSYLVANIA, 72 HOURS PRIOR TO CONSTRUCTION FOR LOCATION OF EXISTING UTILITIES. NOTIFY ONE CALL OF PENNSYLVANIA AT 1-800-242-1776.
- TRENCH DEPTH REQUIREMENTS MEASURED FROM FINISHED GRADE SHALL MEET THE FOLLOWING:
  - STORM SEWER: DEPTHS, ELEVATIONS, AND GRADES AS INDICATED ON DRAWINGS.
  - SANITARY SEWER: DEPTHS, ELEVATIONS AND GRADES AS INDICATED ON DRAWINGS.
  - WATER MAINS: 48 INCHES TO TOP OF PIPE BARREL OR 6 INCHES BELOW THE FROST LINE OR ESTABLISHED BY THE LOCAL BUILDING OFFICIAL OR WATER COMPANY, WHICHEVER IS DEEPER.
- UTILITY TESTING INCLUDING (BUT NOT LIMITED TO) WATER PRESSURE TESTING, WATER SYSTEM FLUSHING, BACTERIOLOGICAL TESTING, VIDEO CAMERA TESTING, MANHOLE TESTING, OR ANY OTHER TESTING REQUIRED BY LOCAL, COUNTY, OR STATE AGENCIES PRIOR TO FINAL ACCEPTANCE OF THE PROJECT AND CERTIFICATE OF OCCUPANCY BEING ISSUED SHALL BE COORDINATED AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE ENGINEER OF RECORD SHALL BE GIVEN 48 HOURS NOTICE PRIOR TO ALL TESTING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO CONTACT AND COORDINATE THE LOCAL AND COUNTY OFFICIALS THAT ARE REQUIRED TO BE PRESENT AT ALL INSPECTIONS. LOCAL FIRE INSPECTORS SHALL BE INVITED TO INSPECT ALL FIRE SERVICE LINES PRIOR TO BACKFILLING OF TRENCHES.
- THE LOCATIONS (VERTICAL AND HORIZONTAL) OF ALL EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF THE UTILITIES PRIOR TO CONSTRUCTION. ANY UTILITIES (WHETHER THEY ARE SHOWN OR NOT SHOWN ON THE DRAWINGS) DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S COST.
- WHERE CONFLICTS ARISE BETWEEN EXISTING OR PROPOSED WATER LINES AND OTHER UTILITIES, STORMWATER CONVEYANCE SYSTEMS OR STRUCTURES, THE CONTRACTOR SHALL BE RESPONSIBLE TO RESOLVE THE CONFLICT AS NECESSARY IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.
- DUCTILE IRON WATER MAINS SHALL BE PAINTED WITH BLUE BANDS. CONTRACTORS SHALL INSTALL ALL NEW OR ALTERED WATER PIPES IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS AND / OR ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.
- ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED AND DISINFECTED IN ACCORDANCE WITH AWWA STANDARDS, LATEST REVISIONS. DUCTILE IRON MAINS SHALL BE TESTED AT 150 PSI FOR 2 HOURS AND MEET AWWA STANDARD C-600. ALL NEW MAINS SHALL BE DISINFECTED PER AWWA STANDARD C-651. BACTERIOLOGICAL TESTS FOR 2 CONSECUTIVE DAYS SHALL BE APPROVED PRIOR TO PLACING SYSTEM INTO SERVICE. CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER OF RECORD WITH AWWA C906 AND NSF-61 CERTIFICATIONS.
- ALL WATER LINES SHALL HAVE AN "EARLY WARNING" PROTECTION TAPE INSTALLED CONTINUOUSLY ALONG THE ENTIRE LENGTH. THE PROTECTION TAPE SHALL BE INSTALLED DURING THE BACKFILLING NOT LESS THAN TWO FEET ABOVE PIPE AND NOT LESS THAN TWO FEET BELOW FINISHED GRADE DIRECTLY OVER THE PIPE AND BE CONTINUOUSLY MARKED WITH "CAUTION WATER PIPE". THE TAPE SHALL HAVE AN EMBEDDED METALLIC DETECTABLE STRIP AND BE BLUE IN COLOR. PROTECTION TAPE SHALL BE TERRA-TAPE OR APPROVED EQUAL.
- ALL SANITARY SEWER LINES SHALL HAVE AN "EARLY WARNING" PROTECTION TAPE INSTALLED CONTINUOUSLY ALONG THE ENTIRE LENGTH. THE PROTECTION TAPE SHALL BE INSTALLED DURING THE BACKFILLING NOT LESS THAN TWO FEET ABOVE PIPE AND NOT LESS THAN TWO FEET BELOW FINISHED GRADE, AND AT MOST FOUR FEET BELOW THE FINISHED GRADE. THE PROTECTION TAPE SHALL BE PLACED DIRECTLY OVER THE PIPE AND BE CONTINUOUSLY MARKED WITH "SEWER". THE PROTECTION TAPE MUST BE ELECTRONICALLY LOCATABLE AND BE BRIGHTLY COLORED PLASTIC. THE SELECTION AND INSTALLATION OF THE PROTECTION TAPE MUST MEET THE REQUIREMENTS SPECIFIED WITHIN THE PWSA PROCEDURES MANUAL.
- ALL GRAVITY SANITARY SEWER PIPE SHALL BE PVC SDR26 WHEN CONNECTING TO A COMBINED SEWER MAIN.
- AT THE POINT WHERE THE PROPOSED SANITARY SEWER CONSTRUCTION MEETS A LIVE OR EXISTING SEWER, THE NEW SANITARY SEWER SHALL BE SECURELY PLUGGED UNTIL THE ENTIRE NEW SANITARY SEWER CONSTRUCTION IS COMPLETED AND READY FOR FINAL INSPECTION.
- SANITARY SEWER CLEANOUTS SHALL BE PROVIDED WITHIN FIVE FEET OF ALL BUILDING CONNECTIONS FOR ALL SEWER CONNECTIONS TO COMBINED SEWERS.
- GRAVITY SANITARY SEWER LINES SHALL BE TESTED FOR INFILTRATION BY MEASURING FLOW OVER A V-NOTCH OR TESTED FOR EXFILTRATION BY FILLING THE LINE WITH WATER TO 10 FEET ABOVE THE INVERT OF THE MANHOLE. THE LIMITING RATE OF INFILTRATION SHALL NOT EXCEED 200 GALLONS PER 1-INCH DIAMETER PER MILE PER 24 HOURS. AN ALTERNATE TESTING METHOD SHALL BE AIR PRESSURE TESTING AT 5 PSI FOR A DURATION OF 10 MINUTES YIELDING NO OBSERVED DROP IN PRESSURE.
- ANY UTILITY CONFLICTS WITH 18 INCHES OR LESS VERTICAL SEPARATION BETWEEN OUTSIDE OF PIPE AND OUTSIDE OF PIPE SHALL BE CONCRETE ENCASED.
- ONCE EXISTING UTILITIES TO REMAIN ARE LOCATED, ANY POTENTIAL CONFLICTS WITH OTHER UTILITIES, RELOCATED UTILITY POLES, ETC. SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL ALL THE APPROPRIATE UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAYS AT LEAST 72 HOURS BEFORE ANY EXCAVATION OR GRADING TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, UTILITY LOCATIONS, DEPTHS AND INVERTS PRIOR TO CONSTRUCTION. ANY CONDITIONS FOUND TO DIFFER FROM THOSE SHOWN BY THESE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF LANGAN ENGINEERING. CALL PENNSYLVANIA ONE CALL SYSTEM- 1-800-242-1776.
- ADJUST ALL EXISTING AND PROPOSED UTILITY FRAMES, GRATES, MANHOLE COVERS, VALVE BOXES, ETC. TO BE FLUSH WITH THE PROPOSED SURFACE ELEVATIONS WITHIN THE LIMITS OF CONSTRUCTION.
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS AND ANY LOCAL AUTHORITIES.
- INFORMATION RELATED TO ELEVATIONS AND PROPOSED UTILITIES (SUCH AS ROADWAY GRADES, INVERT ELEVATIONS, RIM ELEVATIONS, GRATE ELEVATIONS, BUILDING FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND IN MORE THAN ONE LOCATION IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUFFICIENTLY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION IN THE CONTRACT DOCUMENTS FOR CONSISTENCY PRIOR TO CONSTRUCTION. ANY INCONSISTENCIES OR DISCREPANCIES THAT ARE FOUND BY THE CONTRACTOR OR HIS ASSIGNS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IN WRITING, IN THE FORMAT OF AN RFI PRIOR TO CONSTRUCTION.
- STREET PAVEMENT AFFECTED BY TRENCHING OR OTHER CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL AND PROPER CONDITION. ALL WORK PERFORMED WITHIN THE PUBLIC RIGHT-OF-WAY AND ALL RESTORATION OF STREET PAVEMENTS SHALL ABIDE BY THE POLICES SET FORTH IN THE CITY OF PITTSBURGH RIGHT-OF-WAY PROCEDURES MANUAL.
- CONTRACTOR TO RECEIVE ALLEGHENY COUNTY HEALTH DEPARTMENT APPROVAL PRIOR TO START OF CONSTRUCTION.
- THESE PLANS ARE SUBJECT TO CHANGE PENDING THE FOLLOWING REGULATORY AGENCY REVIEW AND APPROVAL.
  - PENNSYLVANIA DEP
  - ALLEGHENY COUNTY HEALTH DEPARTMENT
  - ALLEGHENY COUNTY CONSERVATION DISTRICT
  - CITY OF PITTSBURGH
  - PITTSBURGH WATER AND SEWER AUTHORITY
  - CITY OF PITTSBURGH DEPARTMENT OF PUBLIC WORKS
- CONTRACTOR TO CONFIRM THE LOCATIONS AND ELEVATIONS OF SANITARY AND STORM SEWERS PRIOR TO INSTALLATION. CONTRACTOR TO NOTIFY ENGINEER OF THE LOCATION AND ELEVATION OF THE EXISTING SEWER PRIOR TO INSTALLATION.

	LEGEND	
	EXISTING	PROPOSED
PROPERTY LINE	—	—
SANITARY SEWER	—	—
SANITARY CLEANOUT	—	—
SANITARY MANHOLE	—	—
STORM SEWER	—	—
CATCH BASIN/INLET	—	—
STORM MANHOLE	—	—
WATER LINE	—	—
FIRE LINE	—	—
WATER HYDRANT	—	—
WATER VALVE	—	—
UTILITY POLE	—	—
ELECTRIC LINE	—	—
COMMUNICATIONS LINE	—	—
GAS LINE	—	—



NOT FOR CONSTRUCTION

**Bohlin Cywinski Jackson**  
Architecture Planning Interior Design  
Wilkes-Barre Pittsburgh Philadelphia Seattle San Francisco  
611 William Penn Place  
Suite 1300  
Pittsburgh  
Pennsylvania 15219  
v. 412.765.3890 f. 412.765.2209

**Carnegie Mellon University**  
CMU Health Wellness and Athletics Center  
100 Tech St., Pittsburgh, PA 15213

Demolition Bid Submission

## UTILITY PLAN

Scale	1" = 30'
Drawn By	NRK
Checked By	SML
Date	April 30, 2021
BCJ Project Number	20201

# CU101



**LEGEND**

PROPERTY LINE	---
SANITARY SEWER	—S—S—
COMBINATION SEWER	—COMB—
SANITARY CLEANOUT	⊙
SANITARY MANHOLE	⊙
STORM SEWER	—D—D—
CATCH BASIN/INLET	⊙
STORM MANHOLE	⊙
WATER LINE	—W—W—
WATER HYDRANT	⊙
WATER VALVE	⊙
WATER LINE TERMINATION	⊙

**SPRINKLER SYSTEM DESIGN INFORMATION**  
 To be completed by the Applicant:  
 LOCATION(S): \_\_\_\_\_ TECH STREET

**TYPE OF SYSTEM** (Check one)  
 13D  
 13R  
 13  
 OTHER: \_\_\_\_\_

**SYSTEM CONFIGURATION** (Check one)  
 STAND-ALONE SPRINKLER SYSTEM  
 MULTI-PURPOSE SPRINKLER SYSTEM

**HOSE DEMANDS** (N/A for 13D systems)  
 INSIDE HOSE DEMAND, GPM \_\_\_\_\_ XXX  
 OUTSIDE HOSE DEMAND, GPM \_\_\_\_\_ XXX

**PEAK OPERATING WATER DEMANDS**  
 To be completed by the Applicant:

I.D.	QUANTITY	SIZE	METER INFORMATION		DOMESTIC SYSTEM		FIRE SYSTEM	
			TYPE	USE	FLOW, GPM	PRESSURE, PSI	FLOW, GPM	PRESSURE, PSI
A	1	X	POSITIVE DISPLACEMENT	DOMESTIC	X	X		
B	1	X	COMPOUND	FIRE			X	X
C								
D								
E								

METER SIZE: 5/8", 3/4", 1", 2", 3", 4", 6", 8", 10", 12", 16"  
 METER TYPE: POSITIVE DISPLACEMENT, COMPOUND, ELECTROMAGNETIC, ULTRASONIC, TURBINE  
 METER USE: DOMESTIC, FIRE, COMBINATION

**HYDRANT FLOW TEST RESULTS**  
 To be completed by the Applicant:  
 DATE OF TEST 10/21/2020  
 HYDRANT PERMIT NUMBER 20-0326  
 PERFORMED BY PWSA, LANGAN

**FLOW HYDRANT**  
 HYDRANT NUMBER C758  
 LOCATION TECH ST. & MARGARET MORRISON ST.  
 FLOW OBSERVED, GPM 1,250

**PRESSURE HYDRANT**  
 HYDRANT NUMBER C757  
 LOCATION TECH ST.  
 STATIC PRESSURE, PSI 75  
 RESIDUAL PRESSURE, PSI 74

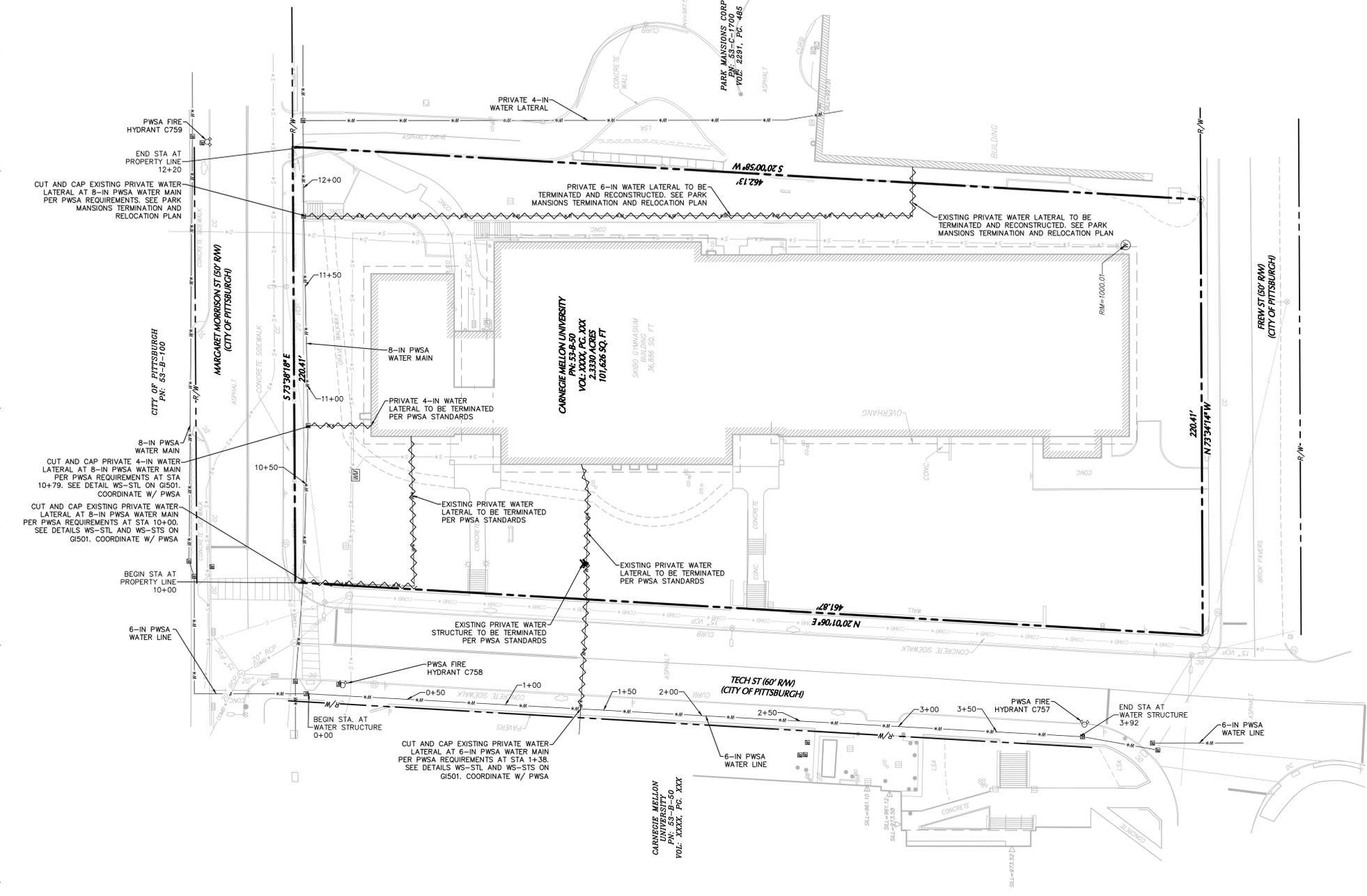
**CALCULATIONS**  
 PROJECTED FLOW AT 20 PSI, GPM 10,883

**HYDRANT FLOW TEST RESULTS**  
 To be completed by the Applicant:  
 DATE OF TEST 10/21/2020  
 HYDRANT PERMIT NUMBER 20-0327  
 PERFORMED BY PWSA, LANGAN

**FLOW HYDRANT**  
 HYDRANT NUMBER C1042  
 LOCATION MARGARET MORRISON ST.  
 FLOW OBSERVED, GPM 1,525

**PRESSURE HYDRANT**  
 HYDRANT NUMBER C758  
 LOCATION TECH ST.  
 STATIC PRESSURE, PSI 135  
 RESIDUAL PRESSURE, PSI 105

**CALCULATIONS**  
 PROJECTED FLOW AT 20 PSI, GPM 3,151



**THE PITTSBURGH WATER & SEWER AUTHORITY APPROVAL BLOCK**  
 To be completed by the Applicant:  
 (Check all that apply)  
 NEW WATER CONNECTION(S)  
 NEW SEWER CONNECTION(S)  
 REUSE EXISTING WATER CONNECTION(S)  
 REUSE EXISTING SEWER CONNECTION(S)  
 TERMINATE EXISTING WATER CONNECTION(S)  
 TERMINATE EXISTING SEWER CONNECTION(S)  
 PRIVATE CONSTRUCTION OF PUBLIC FACILITIES

To be completed by the PWSA:  
 (Required for ALL approvals)

REVIEWER \_\_\_\_\_

CHIEF OF OPERATIONS \_\_\_\_\_

(Required for "Private Construction of Public Facilities" ONLY)

DIRECTOR OF ENGINEERING AND CONSTRUCTION \_\_\_\_\_

PWSA PROJECT NUMBER \_\_\_\_\_

TAP C RECORD NUMBER \_\_\_\_\_

Signatures / Approval by PWSA are for the physical connection(s) to the water and/or sewer system only. Responsibility for the design and work depicted by the drawings, including the flow design for the facilities, is by the Professional Engineer shown by the seal and signature affixed to the drawing. The PWSA does not represent or warrant that the water supply to the facilities is sufficient to support the design.

**PEAK DAILY FLOW DEMANDS**  
 To be completed by the Applicant:

TYPE OF FLOW	SANITARY, GPD	WATER, GPD	STORM, CFS
PROJECT FLOW	15,905	15,905	7.17
EXISTING FLOW	3,263	3,263	7.79
NET FLOW	12,642	12,642	NOT REQUIRED

PWSA W&S USE APPROVAL DATE (if required) \_\_\_\_\_  
 DEP SFPM APPROVAL DATE (if required) \_\_\_\_\_



CALL BEFORE YOU DIG!  
 PENNSYLVANIA LAW  
 REQUIRES 3 WORKING DAYS  
 NOTICE FOR CONSTRUCTION  
 PHASE AND 10 WORKING DAYS  
 IN DESIGN STAGE - STOP CALL  
 Pennsylvania One Call  
 System, Inc.  
**8-1-1**  
 POCs Serial No. 2020XXXXXX

**OWNER/APPLICANT:**  
 CARNEGIE MELLON UNIVERSITY  
 417 CRAIG STREET, 3RD FLOOR  
 PITTSBURGH, PA 15213

Date	Description	No.
REVISIONS		

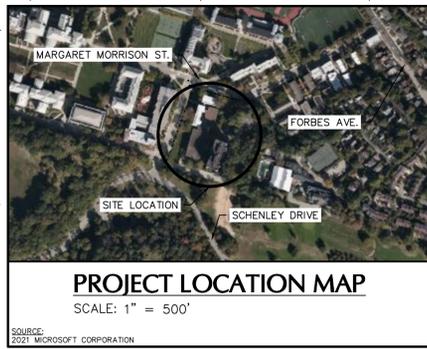
SIGNATURE \_\_\_\_\_ DATE SIGNED \_\_\_\_\_  
 SCOTT ROWLAND  
 PROFESSIONAL ENGINEER PA Lic. No. PE080563

**LANGAN**  
 Langan Engineering and  
 Environmental Services, Inc.  
 2400 Ansys Drive, Suite 403  
 Canonsburg, PA 15317  
 T: 724.514.5100 F: 724.514.5101 www.langan.com

Project  
**CMU HEALTH AND WELLNESS**  
 BLOCK No. 53, LOT No. B-50  
 PITTSBURGH  
 ALLEGHENY PENNSYLVANIA

Drawing Title  
**WATER TERMINATION PLAN**

Project No. <b>250111201</b>	Drawing No. <b>GI101</b>
Date <b>04/15/2021</b>	
Drawn By <b>NRK</b>	
Checked By <b>SML</b>	



### LEGEND

PROPERTY LINE	
SANITARY SEWER	
COMBINATION SEWER	
SANITARY CLEANOUT	
SANITARY MANHOLE	
STORM SEWER	
CATCH BASIN/INLET	
STORM MANHOLE	
WATER LINE	
WATER HYDRANT	
WATER VALVE	
SEWER LINE TERMINATION	

### SPRINKLER SYSTEM DESIGN INFORMATION

To be completed by the Applicant:  
 LOCATION(S): \_\_\_\_\_ TECH STREET

**TYPE OF SYSTEM** (Check one)  
 13D  
 13R  
 13  
 OTHER: \_\_\_\_\_

**SYSTEM CONFIGURATION** (Check one)  
 STAND-ALONE SPRINKLER SYSTEM  
 MULTI-PURPOSE SPRINKLER SYSTEM

**HOSE DEMANDS** (N/A for 13D systems)  
 INSIDE HOSE DEMAND, GPM \_\_\_\_\_ XXX  
 OUTSIDE HOSE DEMAND, GPM \_\_\_\_\_ XXX

### PEAK OPERATING WATER DEMANDS

To be completed by the Applicant:

METER INFORMATION					DOMESTIC SYSTEM		FIRE SYSTEM	
I.D.	QUANTITY	SIZE	TYPE	USE	FLOW, GPM	PRESSURE, PSI	FLOW, GPM	PRESSURE, PSI
A	1	X	POSITIVE DISPLACEMENT	DOMESTIC	X	X		
B	1	X	COMPOUND	FIRE			X	X
C								
D								
E								

METER SIZE: 5/8", 3/4", 1", 2", 3", 4", 6", 8", 10", 12", 16"  
 METER TYPE: POSITIVE DISPLACEMENT, COMPOUND, ELECTROMAGNETIC, ULTRASONIC, TURBINE  
 METER USE: DOMESTIC, FIRE, COMBINATION

### HYDRANT FLOW TEST RESULTS

To be completed by the Applicant:

DATE OF TEST: 10/21/2020  
 HYDRANT PERMIT NUMBER: 20-0326  
 PERFORMED BY: PWSA, LANGAN

**FLOW HYDRANT**  
 HYDRANT NUMBER: C758  
 LOCATION: TECH ST. & MARGARET MORRISON ST.  
 FLOW OBSERVED, GPM: 1,250

**PRESSURE HYDRANT**  
 HYDRANT NUMBER: C757  
 LOCATION: TECH ST.  
 STATIC PRESSURE, PSI: 75  
 RESIDUAL PRESSURE, PSI: 74

**CALCULATIONS**  
 PROJECTED FLOW AT 20 PSI, GPM: 10,883

### HYDRANT FLOW TEST RESULTS

To be completed by the Applicant:

DATE OF TEST: 10/21/2020  
 HYDRANT PERMIT NUMBER: 20-0327  
 PERFORMED BY: PWSA, LANGAN

**FLOW HYDRANT**  
 HYDRANT NUMBER: C1042  
 LOCATION: MARGARET MORRISON ST.  
 FLOW OBSERVED, GPM: 1,525

**PRESSURE HYDRANT**  
 HYDRANT NUMBER: C758  
 LOCATION: TECH ST.  
 STATIC PRESSURE, PSI: 135  
 RESIDUAL PRESSURE, PSI: 105

**CALCULATIONS**  
 PROJECTED FLOW AT 20 PSI, GPM: 3,151

### THE PITTSBURGH WATER & SEWER AUTHORITY APPROVAL BLOCK

To be completed by the Applicant:  
 (Check all that apply)

NEW WATER CONNECTION(S)  
 NEW SEWER CONNECTION(S)  
 REUSE EXISTING WATER CONNECTION(S)  
 REUSE EXISTING SEWER CONNECTION(S)  
 TERMINATE EXISTING WATER CONNECTION(S)  
 TERMINATE EXISTING SEWER CONNECTION(S)  
 PRIVATE CONSTRUCTION OF PUBLIC FACILITIES

To be completed by the PWSA:  
 (Required for ALL approvals)

REVIEWER \_\_\_\_\_

CHIEF OF OPERATIONS \_\_\_\_\_  
 (Required for "Private Construction of Public Facilities" ONLY)

DIRECTOR OF ENGINEERING AND CONSTRUCTION \_\_\_\_\_

PWSA PROJECT NUMBER \_\_\_\_\_  
 TAP C RECORD NUMBER \_\_\_\_\_

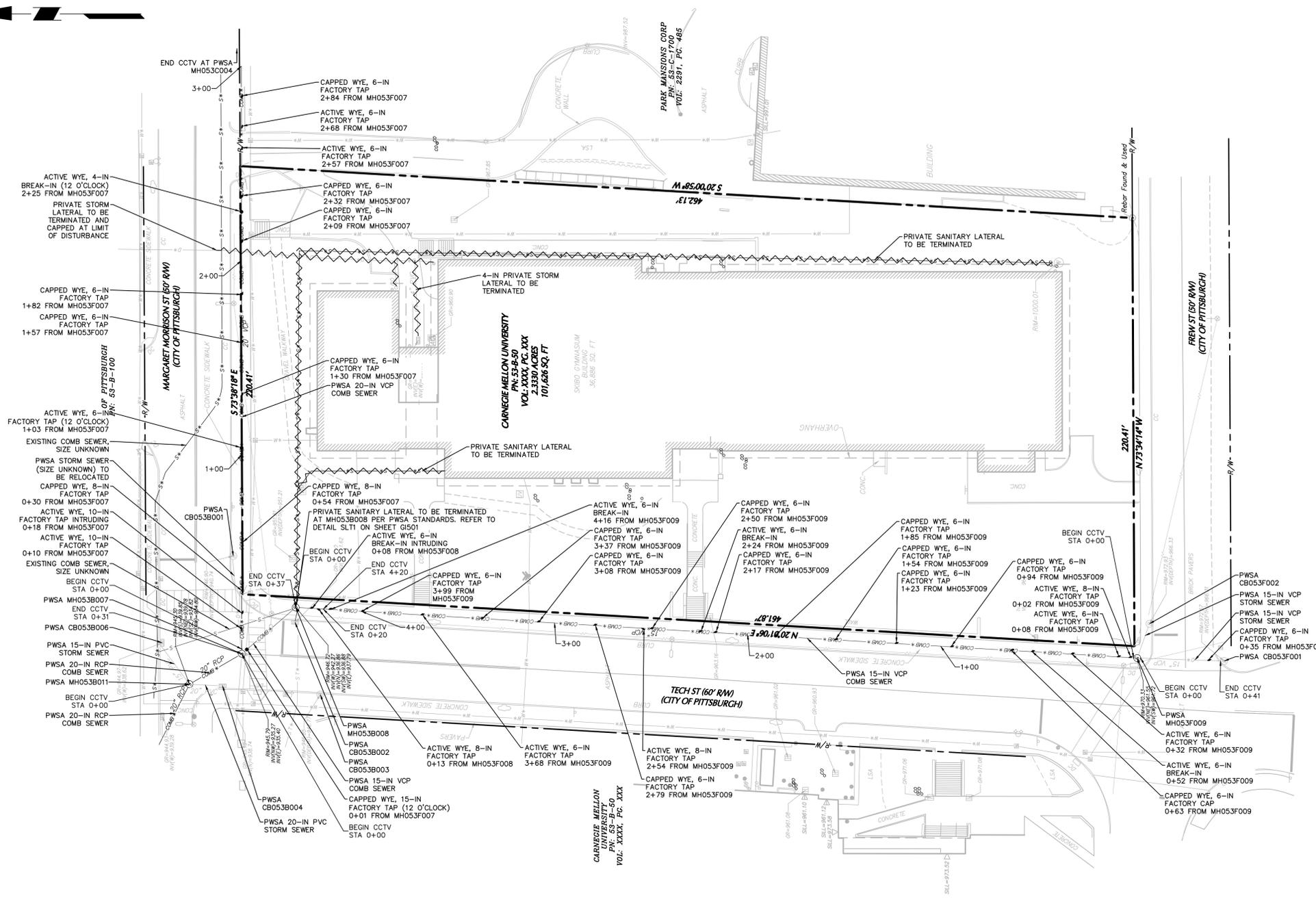
Signatures / Approval by PWSA are for the physical connection(s) to the water and/or sewer system only. Responsibility for the design and work depicted by the drawings, including the flow design for the facilities, is by the Professional Engineer shown by the seal and signature affixed to the drawing. The PWSA does not represent or warrant that the water supply to the facilities is sufficient to support the design.

### PEAK DAILY FLOW DEMANDS

To be completed by the Applicant:

TYPE OF FLOW	SANITARY, GPD	WATER, GPD	STORM, CFS
PROJECT FLOW	15,905	15,905	7.17
EXISTING FLOW	3,263	3,263	7.79
NET FLOW	12,642	12,642	NOT REQUIRED

PWSA W&S USE APPROVAL DATE (if required) \_\_\_\_\_  
 DEP SFPM APPROVAL DATE (if required) \_\_\_\_\_



CALL BEFORE YOU DIG!  
 PENNSYLVANIA LAW  
 REQUIRES 3 WORKING DAYS  
 NOTICE FOR CONSTRUCTION  
 PHASE AND 10 WORKING DAYS  
 IN DESIGN STAGE - STOP CALL  
 Pennsylvania One Call  
 System, Inc.  
 8-1-1  
 POCs Serial No. 2020XXXXXX

**OWNER/APPLICANT:**  
 CARNEGIE MELLON UNIVERSITY  
 417 CRAIG STREET, 3RD FLOOR  
 PITTSBURGH, PA 15213

Date	Description	No.
REVISIONS		

SIGNATURE \_\_\_\_\_ DATE SIGNED \_\_\_\_\_  
 SCOTT ROWLAND  
 PROFESSIONAL ENGINEER PA Lic. No. PE080563

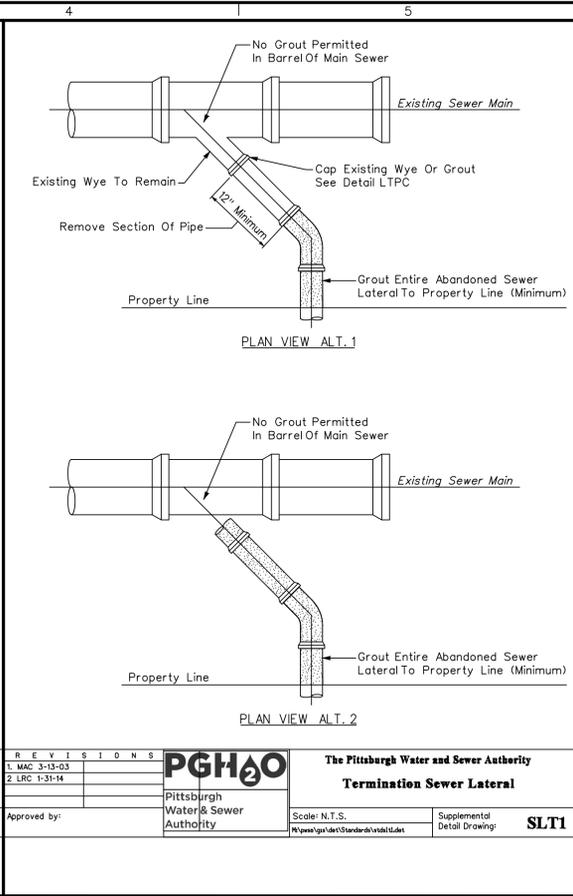
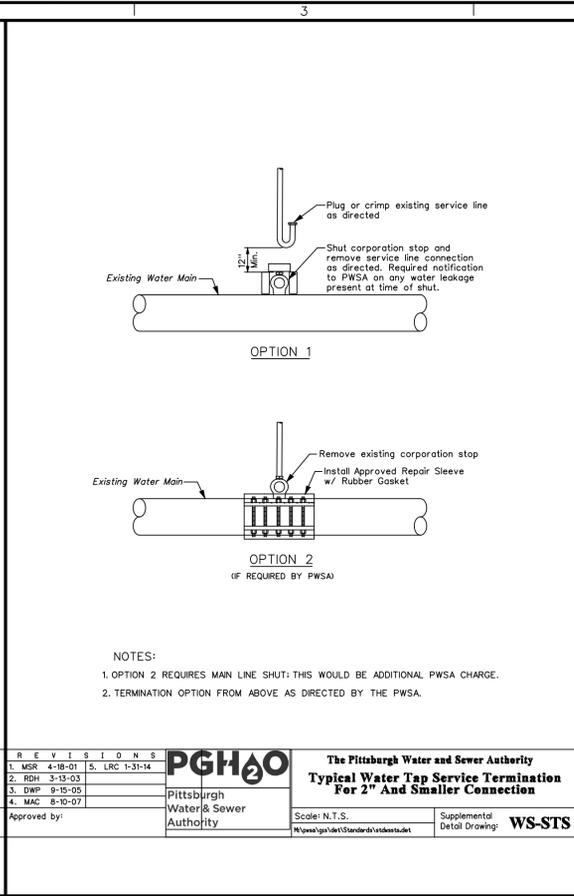
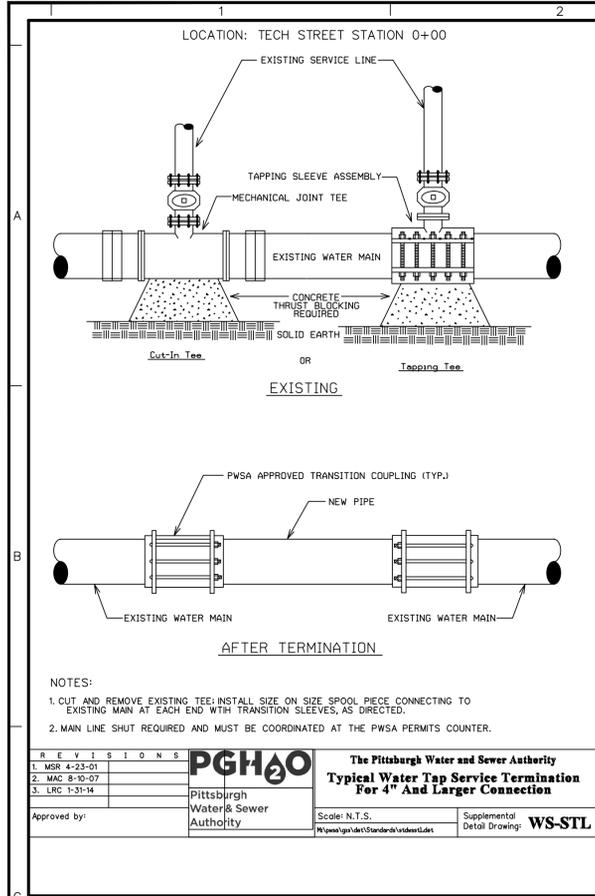
**LANGAN**  
 Langan Engineering and  
 Environmental Services, Inc.  
 2400 Ansys Drive, Suite 403  
 Canonsburg, PA 15317  
 T: 724.514.5100 F: 724.514.5101 www.langan.com

Project  
**CMU HEALTH AND WELLNESS**  
 BLOCK No. 53, LOT No. B-50  
 PITTSBURGH  
 ALLEGHENY PENNSYLVANIA

Drawing Title  
**SEWER TERMINATION PLAN**

Project No.	250111201	Drawing No.	<b>G1102</b>
Date	04/15/2021		
Drawn By	NRK		
Checked By	SML		





REVISIONS	PGH&O	The Pittsburgh Water and Sewer Authority
1. MSR 4-23-01		Typical Water Tap Service Termination For 4" And Larger Connection
2. MAC 8-10-07		
3. LRC 1-31-14		
Approved by:	Pittsburgh Water & Sewer Authority	Scale: N.T.S. Supplemental Detail Drawing: <b>WS-STL</b>

REVISIONS	PGH&O	The Pittsburgh Water and Sewer Authority
1. MSR 4-18-01		Typical Water Tap Service Termination For 2" And Smaller Connection
2. RHM 3-13-03		
3. DWP 9-15-05		
4. MAC 8-10-07		
Approved by:	Pittsburgh Water & Sewer Authority	Scale: N.T.S. Supplemental Detail Drawing: <b>WS-ST5</b>

REVISIONS	PGH&O	The Pittsburgh Water and Sewer Authority
1. MAC 3-13-03		Termination Sewer Lateral
2. LRC 1-31-14		
Approved by:	Pittsburgh Water & Sewer Authority	Scale: N.T.S. Supplemental Detail Drawing: <b>SLT1</b>

Date	Description	No.
REVISIONS		

SIGNATURE: SCOTT ROWLAND  
 DATE SIGNED: PROFESSIONAL ENGINEER PA Lic. No. PE080563

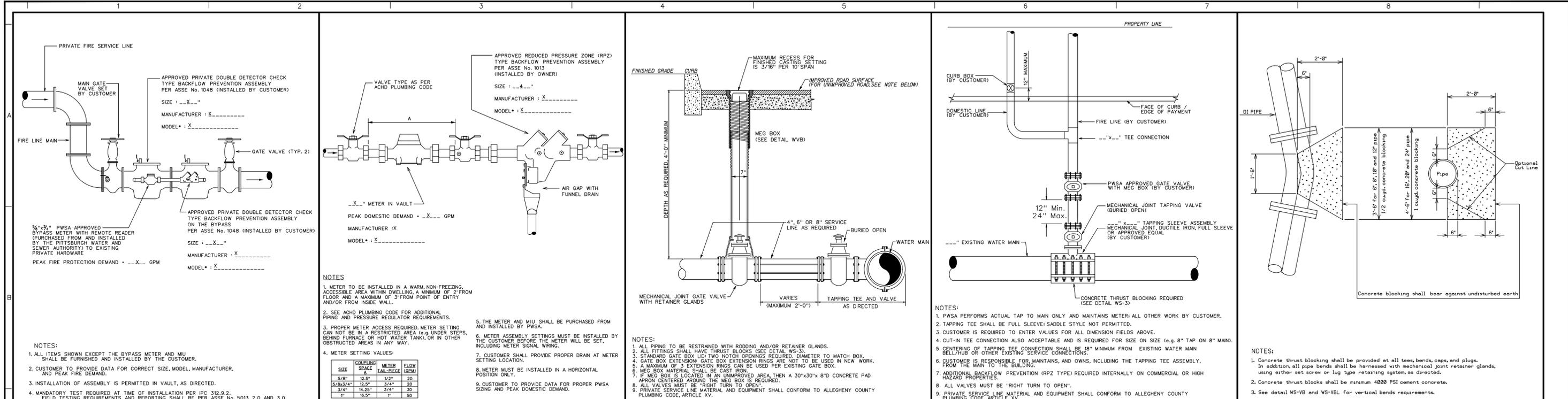
**LANGAN**  
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 Canonsburg, PA 15317  
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Project: **CMU HEALTH AND WELLNESS**  
 BLOCK No. 53, LOT No. B-50  
 PITTSBURGH PENNSYLVANIA

Drawing Title: **TERMINATION DETAILS**

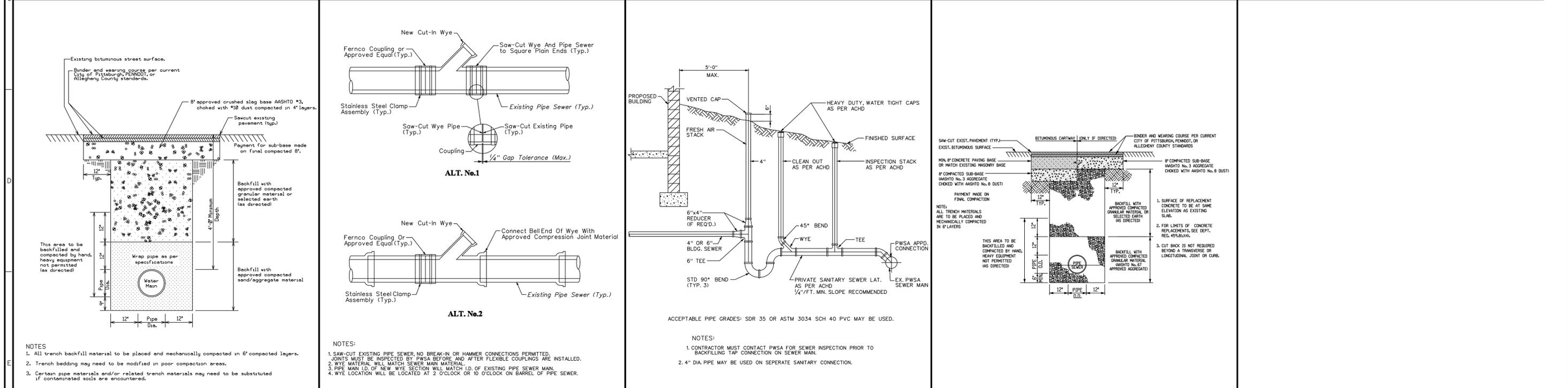
Project No. **250111201**  
 Date: **04/16/2021**  
 Drawn By: **NRK**  
 Checked By: **SML**  
 Drawing No. **GI501**

LANEAN PROJECT NO. 250111201



<b>REVISIONS</b> 1. MSR 4-23-01 2. DWP 9-15-05 3. MAC 8-13-07 4. LRC 1-31-14 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>Typical Plumbing Schematic Low Hazard Fire Protection Service</b> Scale: N.T.S. Supplemental Detail Drawing: <b>WS-5FPLH</b>	<b>REVISIONS</b> 1. MSR 4-23-01 5. LRC 1-31-14 2. DWP 9-15-05 3. MAC 8-13-07 4. MAC 4-14-08 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>Domestic Service Internal Meter Setting Commercial And Multi-Family</b> Scale: N.T.S. Supplemental Detail Drawing: <b>WS-5CDI</b>	<b>REVISIONS</b> 1. MSR 4-23-01 2. MAC 11-2-07 3. LRC 1-31-14 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>Service Connection 4" Through 8"</b> Scale: N.T.S. Supplemental Detail Drawing: <b>WS-A</b>	<b>REVISIONS</b> 1. MSR 4-23-01 5. MAC 11-1-07 2. MAC 9-9-05 6. LRC 1-31-14 3. DWP 9-15-05 4. MAC 12-13-05 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>Single Service Connection (4" And Larger)</b> Scale: N.T.S. Supplemental Detail Drawing: <b>WS-C1</b>	<b>REVISIONS</b> 1. MSR 4-23-01 2. MAC 8-13-07 3. LRC 1-31-14 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>Concrete Blocking For Pressure Pipe</b> Scale: N.T.S. Supplemental Detail Drawing: <b>WS-3</b>
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**WS-5FPLH - TYPICAL PLUMBING SCHEMATIC LOW HAZARD FIRE PROTECTION SERVICE**     **WS-5CDI - DOMESTIC SERVICE INTERNAL METER SETTING COMMERCIAL AND MULTI-FAMILY**     **WS-A - SERVICE CONNECTION 4" THROUGH 8-IN**     **WS-C1 - SINGLE SERVICE CONNECTION (4-IN AND LARGER)**     **WS-3 - CONCRETE BLOCKING FOR PRESSURE PIPE**



<b>REVISIONS</b> 1. MSR 4-23-01 2. MAC 8-13-07 3. LRC 1-31-14 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>Water Line Trench And Bituminous Repaving</b> Scale: N.T.S. Supplemental Detail Drawing: <b>WS-2</b>	<b>REVISIONS</b> 1. JLK 8-14-02 2. MAC 1-5-04 3. LRC 1-31-14 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>Cut-In Wye Pipe Transition</b> Scale: N.T.S. Supplemental Detail Drawing: <b>ST-7</b>	<b>REVISIONS</b> 1. MSR 4-18-01 2. LRC 1-31-14 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>House Sewer Lateral</b> Scale: N.T.S. Supplemental Detail Drawing: <b>SLD</b>	<b>REVISIONS</b> 1. MAC 3-1-04 2. LRC 1-31-14 Approved by: Pittsburgh Water & Sewer Authority	<b>PGH20</b> The Pittsburgh Water and Sewer Authority <b>Sewer Line Trench</b> Scale: N.T.S. Supplemental Detail Drawing: <b>SA-1B</b>
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**WS-2 - WATER LINE TRENCH AND BITUMINOUS REPAVING**     **ST-7 - CUT-IN WYE PIPE TRANSITION**     **SLD-1 - HOUSE SEWER LATERAL**     **SA-1B - SEWER LINE TRENCH**

<b>LANGAN</b> Langan Engineering and Environmental Services, Inc. 2400 Ansys Drive, Suite 403 Canonsburg, PA 15317 T: 724.514.5100 F: 724.514.5101 www.langan.com			Project <b>CMU HEALTH AND WELLNESS</b> BLOCK No. 53, LOT No. B-50 PITTSBURGH ALLEGHENY PENNSYLVANIA	Drawing Title <b>TAP-IN DETAILS</b>	Project No. <b>250111201</b>	Drawing No. <b>GI502</b>
Signature: SCOTT ROWLAND Date Signed: _____ PROFESSIONAL ENGINEER PA Lic. No. PE080563			Date <b>04/19/2021</b>	Drawn By <b>NRK</b>	Checked By <b>SML</b>	