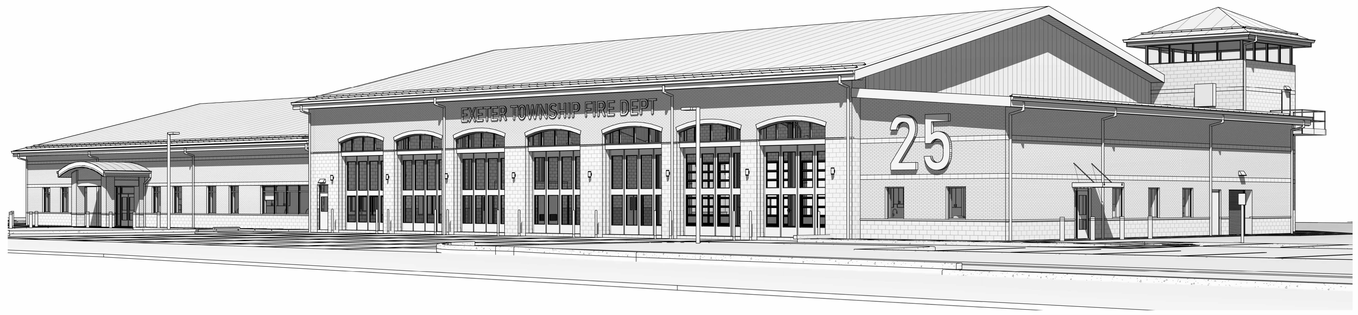
EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

BID SET **10/01/2026**



SYMBOLS & TAGS LEGEND

TAG	DESCRIPTION
100A	DOOR TAG
CASEWORK SERIES, NUMBER OF SHELVES, CABINET DEPTH, CABINET WIDTH, CABINET HEIGHT (30.00 / 24.00 / B4.00)	CASEWORK TAG — *AS OUTLINED IN THE ARCHITECTURAL WOODWORK INSTITUTE (AWI) STANDARDS* — *MINIMUM CLEAR CABINET DEPTH DIMINISHES = DEPTH LESS 1"*
EQ-XX	SPECIALTY EQUIPMENT TAG
1 / A	COLUMN LINE DESIGNATION TAG
REFERENCE 0'-0"	LEVEL ELEVATION TAG
P, T	NORTH ARROW TAG — T = TRUE NORTH, P = PROJECT NORTH
ROOM 101	ROOM NAME & NUMBER TAG
1 / A101	SECTION TAG
1 / A101	CALLOUT / DETAIL
0'-0"	SPOT ELEVATION TAG
1 DRAWING TITLE / DRAWING SCALE	DETAIL / DRAWING TITLE TAG
CLG-T2, TYPE, 1'-0", HEIGHT	CEILING TAG
92	PARTITION TAG
E	MATERIAL TAG
11	WINDOW TAG
12 / 6 / #"/12"	SLOPE ANNOTATION
1 / A101 — 0 / 0.00 / 0	ELEVATION TAG
9 — 9	SPECIFIC NOTE

KEY TO MATERIALS

SECTION PATTERN	DESCRIPTION
	BRICK
	CMU MASONRY
	CONCRETE
	POROUS FILL
	EARTH
	PLYWOOD
	GYPSUM BOARD
	RIGID INSULATION
	BATT INSULATION
	END GRAIN LUMBER
	WOOD BLOCK OR SHIM
	FINISH WOOD

COMMON ABBREVIATIONS

SYMBOLS
& - AND
@ - AT
∅ - DIAMETER
□ - SQUARE

A
AB - ANCHOR BOLT
ABV - ABOVE
ACOUST - ACOUSTICAL
ACT - ACOUSTIC CEILING TILE
AFF - ABOVE FINISH FLOOR
AHJ - AUTHORITY HAVING JURISDICTION
ALUM - ALUMINUM
AP - ACCESS PANEL
APPROX - APPROXIMATELY
ARCH - ARCHITECTURAL

B
B.C. - BOTTOM CHORD
BLK - BLOCK
BLDG - BUILDING
BLKG - BLOCKING
BLKHD - BULKHEAD
BM - BEAM
B.O. - BOTTOM OF
BOD - BASIS OF DESIGN
BOT - BOTTOM
B.R. - BULLET RESISTANT
BRNG - BEARING

C
℄ - CENTER LINE
CFCI - CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFOI - CONTRACTOR FURNISHED, OWNER INSTALLED
CFLS - COUNTER FLASHING
CJ - CONTROL JOINT
CL - CLOSET
CLG - CEILING
CMU - CONCRETE MASONRY UNIT
CND - CONDUIT
COL. - COLUMN
COOR - COORDINATE
CONC - CONCRETE
CONSTR - CONSTRUCTION
CONT - CONTINUOUS
C.T. / CT - CERAMIC TILE
CPT - CARPET / CARPET TILE
CTSK - COUNTERSUNK
CU - CUBIC
CU FT - CUBIC FOOT
CU YD - CUBIC YARD

D
D - DEEP / DEPTH
DEG - DEGREE
DIA - DIAMETER
DIM - DIMENSION
DL - DEAD LOAD
DMPR - DAMPER
DN - DOWN
DR - DOOR
DS - DOWNSPOUT
DTL - DETAIL
DWG - DRAWING

E
EA - EACH
EC - ELECTRICAL PRIME CONTRACTOR
EIFS - EXTERIOR INSULATION AND FINISHING SYSTEM
ELEC - ELECTRICAL
EL - ELEVATION
ELEV - ELEVATION
ELMA - ELEVATOR MACHINE ROOM
EJ - EXPANSION JOINT
ENT - ENTRANCE, ENTRY
EQ - EQUAL
EST - ESTIMATE
ETR - EXISTING TO REMAIN
EW - EACH WAY
EXST - EXISTING
EXT - EXTERIOR
EXP - EXPOSED
EXP JT - EXPANSION JOINT

F
F - FAHRENHEIT
FD - FLOOR DRAIN
F.E. - FIRE EXTINGUISHER
F.E.C. - FIRE EXTINGUISHER CABINET
FF - FINISHED FLOOR
FF EL - FINISHED FLOOR ELEVATION
FG - FINISHED GRADE
FHY - FIRE HYDRANT
FDC - FIRE DEPARTMENT CONNECTION
FIN - FINISH
FIN FL - FINISHED FLOOR
FL - FLOOR
FLEX - FLEXIBLE
FLUOR - FLUORESCENT
FND - FOUNDATION
FPM - FEET PER MINUTE
FRT - FIRE RETARDANT TREATED
FSK - FOIL SCRIM KRAFT
FT - FEET, FOOT
FT - FLOOR TRANSITION
FTG - FOOTING

G
GC - GENERAL PRIME CONTRACTOR
GA - GAGE, GAUGE
GALV - GALVANIZED
GL - GLASS, GLAZING
GND - GROUND
GRTG - GRATING
GWB - GYPSUM WALL BOARD

H
H - HIGH / HEIGHT
HC - HANDICAPPED
HD - HEAD
HM - HOLLOW METAL
HORIZ - HORIZONTAL
HR - HOUR
HT - HEIGHT

I
ID - INSIDE DIAMETER
IN - INCH
INFO - INFORMATION
INSUL - INSULATION

J
JB - JUNCTION BOX
JM - JAMB
JST - JOIST
JT - JOINT

L
LG - LONG
LL - LIVE LOAD
LSC - LIFE SAFETY CODE
LTG - LIGHTING

M
MACH - MACHINE
MAT'L - MATERIAL
MAX - MAXIMUM
MC - MECHANICAL PRIME CONTRACTOR
MBT - MARBLE THRESHOLD
MECH - MECH
MEP - MECHANICAL / ELECTRICAL / PLUMBING
MFGR - MANUFACTURER
MH - MANHOLE
MIN - MINIMUM
MO - MASONRY OPENING
MSNRY - MASONRY
M.T. - METAL THRESHOLD
MTL - METAL
MTD - MOUNTED

N
NA - NOT APPLICABLE
NIC - NOT IN CONTRACT
NO - NUMBER
NTS - NOT TO SCALE

O
O/C - ON CENTER
OD - OUTSIDE DIAMETER
OFCI - OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI - OWNER FURNISHED, OWNER INSTALLED
OPNG - OPENING
OPP - OPPOSITE
OPP HND - OPPOSITE HAND
OV - OVER
OVHD - OVERHEAD

P
P.LAM - PLASTIC LAMINATE
PC - PLUMBING PRIME CONTRACTOR
PLY - PLYWOOD
PLYWD - PLYWOOD
PNLBD - PANELBOARD
PNT/ PT - PAINT
POLYISO - POLYISOCYANURATE
PRESS - PRESSURE
PROJ - PROJECT
PROP - PROPERTY
PSF - POUNDS PER SQUARE FOOT
PSI - POUNDS PER SQUARE INCH
PT - PRESSURE TREATED
PTD - PAINTED
PVC - POLYVINYL CHLORIDE
PVMT - PAVEMENT
PWT - PREFABRICATED WOOD TRUSS

R
R - RADIUS
RCP - REFLECTED CEILING PLAN
REINF - REINFORCING, REINFORCED
RES - RESINOUS
REQD - REQUIRED
REV - REVISION
RGD - RIGID
RM - ROOM
RO - ROUGH OPENING
RST - REINFORCING STEEL

S
SB - SMART BOARD
SC - SITE PRIME CONTRACTOR
SCHED - SCHEDULE
SD - STORM DRAIN
SECT - SECTION
SF - SQUARE FOOT
SI - SQUARE INCH
SIM - SIMILAR
SLP - SLOPE
SPCL - SPECIAL
SPEC - SPECIFICATIONS
SPLY - SUPPLY
SQ - SQUARE
SS - STAINLESS STEEL
ST - STREET
STD - STANDARD
STL - STEEL
STOR - STORAGE
STRUCT - STRUCTURAL
SURF - SURFACE
SUSP - SUSPENDED
SW - SWITCH
SYS - SYSTEM

T
T & B - TOP AND BOTTOM
T.B. - TACK BOARD
T.B.D. - TO BE DETERMINED
TEMP - TEMPERATURE
THK - THICK
THRES - THRESHOLD
T&G - TONGUE & GROOVE
TO - TOP OF
TOB - TOP OF BEARING POINT
TOC - TOP OF CONCRETE
TOF - TOP OF FOOTING
TOM - TOP OF MASONRY
TOP - TOP OF PAVEMENT, PARAPET
TOS - TOP OF STEEL
TRTD - TREATED
T.S. - TRANSITION STRIP
TYP - TYPICAL

U
UGND - UNDERGROUND
UL - UNDERWRITERS LAB
UNO - UNLESS NOTED OTHERWISE
UON - UNLESS OTHERWISE NOTED

V
VB - VAPOR BARRIER
VCT - VINYL COMPOSITION TILE
VERT - VERTICAL
VIF - VERIFY IN FIELD
VOL - VOLUME

W
W - WIDE / WIDTH
W/ - WITH
W/0 - WITHOUT
W.B. - WHITEBOARD
WD - WOOD
WR - WATER RESISTANT
WTRPRF - WATERPROOF
WWF - WELDED WIRE FABRIC
WWM - WELDED WIRE MESH

THIS LIST OF ABBREVIATIONS IS A GUIDE TO ABBREVIATIONS WHICH MAY BE USED IN THESE DOCUMENTS. ABBREVIATIONS NOT LISTED MAY ALSO BE USED.

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CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

THE INTENT OF THE CONSTRUCTION DRAWINGS AND THE CONSTRUCTION SPECIFICATIONS/PROJECT MANUAL IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE CONTRACTOR. THE CONSTRUCTION DRAWINGS AND THE CONSTRUCTION SPECIFICATIONS/PROJECT MANUAL ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL; PERFORMANCE BY THE CONTRACTOR SHALL BE REQUIRED ONLY TO THE EXTENT CONSISTENT WITH THE CONSTRUCTION DRAWINGS AND THE CONSTRUCTION SPECIFICATIONS/PROJECT MANUAL AND REASONABLY INFERABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INDICATED/INTENDED RESULTS. IN THE CASE OF INCONSISTENCIES BETWEEN THE CONSTRUCTION DRAWINGS AND THE CONSTRUCTION SPECIFICATIONS/PROJECT MANUAL OR WITHIN EITHER DOCUMENT NOT CLARIFIED BY ADDENDUM, THE BETTER QUALITY OR GREATER QUANTITY OF WORK SHALL BE PROVIDED IN ACCORDANCE WITH THE ARCHITECT'S INTERPRETATION.



VICINITY MAP
NOT TO SCALE

DRAWING INDEX

SHEET NUMBER	SHEET NAME
GENERAL / CODE	
G000	COVER SHEET
G001	GENERAL PROJECT NOTES
G002	CODE ANALYSIS & DIAGRAM
G003	CODE PLAN
G004	TYPICAL ACCESSIBILITY GUIDELINES
G005	TYPICAL ADA SIGNAGE DETAILS
G006	UL ASSEMBLIES
G007	PENETRATION DETAILS
G008	PENETRATION DETAILS
G009	PENETRATION DETAILS
CIVIL - NEW WORK	
C01	COVER SHEET
C02	NOTES
C03	NOTES
C04	OVERALL BOUNDARY PLAN
C05	EXISTING CONDITIONS & DEMOLITION PLAN
C06	OVERALL SITE PLAN
C07	SITE PLAN
C08	OVERALL GRADING & PCSM PLAN
C09	GRADING AND PCSM PLAN
C10	OVERALL UTILITY PLAN
C11	UTILITY PLAN
C12	STORM PROFILES
C13	STORM AND SANITARY PROFILES
C14	LANDSCAPE & LIGHTING PLAN
C15	SITE DETAILS
C16	SITE DETAILS
C17	SITE DETAILS
C18	SITE DETAILS
C19	SITE DETAILS
C20	SITE DETAILS
C21	SITE DETAILS
C22	SITE DETAILS
C23	SITE DETAILS
C24	SITE DETAILS
C25	SITE DETAILS
C26	SITE DETAILS
CIVIL - EROSION & SEDIMENT CONTROL PLAN	
C101	COVER SHEET
C102	NOTES
C103	OVERALL BOUNDARY PLAN
C104	EXISTING CONDITIONS
C105	OVERALL EROSION & SEDIMENT CONTROL PLAN
C106	EROSION & SEDIMENT CONTROL PLAN
C107	STORM PROFILES
C108	STORM AND SANITARY PROFILES
C109	DETAILS
C110	DETAILS
CIVIL - POST CONSTRUCTION SWM PLAN	
C201	COVER SHEET
C202	NOTES SHEET
C203	OVERALL BOUNDARY PLAN
C204	EXISTING CONDITIONS
C205	OVERALL GRADING & PCSM PLAN
C206	GRADING AND PCSM PLAN
C207	STORM PROFILES
C208	STORM AND SANITARY PROFILES
C209	DETAILS SHEET
C210	DETAILS SHEET
C211	DETAILS SHEET
C212	DETAILS SHEET
ARCHITECTURAL - NEW WORK	
A001	ARCHITECTURAL SITE DIAGRAM
A002	SITE DETAILS
A100	ASSEMBLY TYPES & NOTES
A101	REFERENCE PLAN
A102	DIMENSION PLAN
A103	SLAB/MASONRY DIAGRAM
A104	FINISH PLAN
A105	FINISH SCHEDULE
A106	EQUIPMENT PLAN
A108	MEZZANINE PLAN
A110	PLAN DETAILS
A200	BUILDING ELEVATIONS
A201	BUILDING ELEVATIONS
A300	BUILDING SECTIONS
A301	BUILDING SECTIONS
A400	WALL SECTIONS
A401	WALL SECTIONS
A402	WALL SECTIONS
A403	WALL SECTIONS
A404	FOUNDATION DETAILS
A405	WALL DETAILS
A406	STAIR DETAILS
A407	STAIR DETAILS
A500	ROOF PLAN
A501	ROOF DETAILS
A502	ROOF DETAILS
A503	TYPICAL ROOF DETAILS
A600	DOOR SCHEDULE & TYPES
A601	OVERHEAD DOOR SCHEDULE & TYPES
A602	DOOR DETAILS
A603	STOREFRONT ELEVATIONS
A604	STOREFRONT DETAILS
A700	ENLARGED PLANS & INT. ELEVATIONS
A701	ENLARGED PLANS & INT. ELEVATIONS
A702	ENLARGED PLANS & INT. ELEVATIONS
A703	ENLARGED PLANS & INT. ELEVATIONS
A704	ENLARGED PLANS & INT. ELEVATIONS
A705	ENLARGED PLANS & INT. ELEVATIONS
A706	ENLARGED PLANS & INT. ELEVATIONS
A707	TYPICAL INTERIOR DETAILS
A708	TYPICAL INTERIOR DETAILS
A800	REFLECTED CEILING PLAN
A801	CEILING TYPES & NOTES

DRAWING INDEX

SHEET NUMBER	SHEET NAME
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S002	GENERAL STRUCTURAL NOTES
STRUCTURAL - NEW WORK	
S101	FOUNDATION PLAN
S201	MEZZANINE FRAMING PLAN
S202	ROOF FRAMING PLAN
S301	FOUNDATION DETAILS
S302	FOUNDATION SECTIONS
S401	STRUCTURAL DETAILS
S402	STRUCTURAL SECTIONS
MECHANICAL - GENERAL	
M000	HVAC TITLE SHEET
M001	FIRST FLOOR - HVAC ZONE PLAN
MECHANICAL - NEW WORK	
M101	FIRST FLOOR - HVAC PLAN
M102	MEZZANINE - HVAC PLAN
M103	ROOF - HVAC PLAN
M111	FIRST FLOOR - MECHANICAL PIPING PLAN
M112	MEZZANINE - MECHANICAL PIPING PLAN
M201	FIRST FLOOR - MECHANICAL RCP
M601	MECHANICAL SCHEDULES
M602	MECHANICAL SCHEDULES
M603	MECHANICAL SCHEDULES
M604	MECHANICAL DETAILS
M701	SEQUENCE & CONTROLS DIAGRAMS
M702	SEQUENCE & CONTROLS DIAGRAMS
M703	SEQUENCE & CONTROLS DIAGRAMS
PLUMBING - GENERAL	
P000	PLUMBING TITLE SHEET
PLUMBING - NEW WORK	
P101	FIRST FLOOR - SANITARY PIPING PLAN
P201	FIRST FLOOR - SERVICE PIPING PLAN
P202	MEZZANINE - SERVICE PIPING PLAN
P401	FIRST FLOOR - ENLARGED SANITARY PIPING PLANS
P402	FIRST FLOOR - ENLARGED SERVICE PIPING PLANS
P403	FIRST FLOOR - ENLARGED SERVICE PIPING PLANS
P501	GAS RISER DIAGRAM
P502	DOMESTIC WATER RISER DIAGRAM
P503	SANITARY / VENT RISER DIAGRAM
P601	PLUMBING SCHEDULES & DETAILS
P602	PLUMBING SCHEDULES & DETAILS
P603	PLUMBING SCHEDULES & DETAILS
FIRE PROTECTION - GENERAL	
F000	FIRE PROTECTION TITLE SHEET
FIRE PROTECTION - NEW WORK	
F111	FIRST FLOOR FIRE PROTECTION PLAN
F112	MEZZANINE & APP BAY FIRE PROTECTION PLAN
ELECTRICAL - GENERAL	
E000	ELECTRICAL TITLE SHEET
ELECTRICAL - NEW WORK	
E101	ELECTRICAL SITE POWER PLAN
E102	ELECTRICAL SITE LIGHTING PLAN
E103	ELECTRICAL SITE PHOTOMETRICS
E104	ELECTRICAL SITE PHOTOMETRICS
E105	ELECTRICAL SITE PHOTOMETRICS
E201	FIRST FLOOR POWER PLAN
E202	MEZZANINE POWER PLAN
E203	FIRST FLOOR EQUIPMENT POWER PLAN
E204	MEZZANINE AND ROOF EQUIPMENT POWER PLAN
E301	FIRST FLOOR LIGHTING PLAN
E302	MEZZANINE LIGHTING PLAN
E401	FIRST FLOOR ALERTING PLAN
E402	MEZZANINE ALERTING PLAN
E601	ELECTRICAL SINGLE LINE DIAGRAM
E602	LIGHTING FIXTURE SCHEDULE AND DETAILS
E603	ELECTRICAL DETAILS
E604	ELECTRICAL DETAILS
E605	ELECTRICAL RF GROUNDING DETAILS
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AUDIO/VISUAL	
AV01	GENERAL INFO AND LEGEND
AV02	AV FLOOR PLAN
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FSA-11	EMS AREA
FSA-12	TURNOUT/DECON
FSA-13	GYM/FITNESS ROOM
FSA-14	TRAINING ROOM
FSA-15	ALERTING DISPLAY DETAILS
FSA-16	MISC DETAILS
FSA-17	ISIMET UTILITY CONTROLLER

REVISION SCHEDULE

No.	DATE	DESCRIPTION

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I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF PENNSYLVANIA.

LICENSE NUMBER: #RA405311
EXPIRATION DATE: 6-30-2027

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

COVER SHEET

SHEET NUMBER:
G000

10/1/2026 9:54:50 PM

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GENERAL PROJECT NOTES

1	THE FOLLOWING GENERAL NOTES APPLY TO THE ENTIRE PROJECT.
2	THE CONTRACTOR SHALL EXAMINE ALL CONTRACT DOCUMENTS AND ALL SPECIFICATIONS AND DRAWINGS FOR THE PROJECT, INCLUDING THOSE THAT MAY PRIMARILY PERTAIN TO WORK THAT THE CONTRACTOR NORMALLY DOES NOT PERFORM WITH ITS OWN FORCES. THE CONTRACTOR SHALL USE ALL OF THE PROJECT DRAWINGS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT AND ITS WORK, TO DETERMINE THE TYPE OF CONSTRUCTION AND SYSTEMS, FOR COORDINATION, TO DETERMINE WHAT OTHER WORK MAY BE INVOLVED THROUGHOUT, TO ANTICIPATE AND NOTIFY OTHERS WHEN THEIR COORDINATED EFFORTS WILL BE REQUIRED, AND ALL OTHER RELEVANT MATTERS RELATED TO THE PROJECT AND ITS WORK.
3	IF THERE IS ANY INCONSISTENCY IN THE QUALITY OR QUANTITY OF THE WORK REQUIRED UNDER THE CONTRACT DOCUMENTS, THEN THE CONTRACTOR SHALL (1) IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF SUCH INCONSISTENCY AND (2) PROVIDE THE BETTER QUALITY OF OR GREATER QUANTITY OF WORK OR MATERIALS, UNLESS OTHERWISE ORDERED IN WRITING BY THE OWNER. COMPUTED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE DIMENSIONS. THE CONTRACT DOCUMENTS GENERALLY SET FORTH THE BASIS AND ANALYSIS OF DESIGN, AND THE CONTRACTOR SHALL OBTAIN SUCH INFORMATION AS MAY BE NECESSARY TO SATISFACTORILY PERFORM AND COMPLETE THE WORK.
4	THE ARCHITECTURAL DRAWINGS ARE A PART OF A LARGER SET OF DRAWINGS WHICH, WHEN COMPLETE, CONSISTS OF ALL DRAWINGS LISTED BY THE INDEX OF DRAWINGS AND WITHIN THE SPECIFICATIONS. THE WORK DESCRIBED BY THE DRAWINGS OF ANY ONE DISCIPLINE MAY BE AFFECTED BY THE WORK DESCRIBED ON DRAWINGS OF ANOTHER DISCIPLINE AND MAY REQUIRE REFERENCE TO THE DRAWINGS OF ANOTHER DISCIPLINE. PARTIAL SETS OF DRAWINGS ARE INCOMPLETE AND SHOULD NOT BE DISTRIBUTED OR UTILIZED BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW AND COORDINATE THE WORK OF ALL SUB-CONTRACTORS, TRADES, AND SUPPLIERS WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS BEFORE COMMENCING CONSTRUCTION AND TO ASSURE THAT ALL PARTIES ARE AWARE OF ALL REQUIREMENTS, REGARDLESS OF WHERE THE REQUIREMENTS OCCUR IN THE CONTRACT DOCUMENTS, WHICH MIGHT AFFECT THE WORK OF THAT PARTY. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION BETWEEN SUBCONTRACTORS, SUPPLIERS, AND VENDORS BASED ON THE ENTIRE SET OF THESE DOCUMENTS. NO ADDITIONAL COMPENSATION WILL BE DUE TO A CONTRACTOR FOR ANY ISSUES AS A RESULT OF ANY USE OF AN INCOMPLETE SET OF CONSTRUCTION DOCUMENTS.
5	LINE OF GRADES AS SHOWN ON THE BUILDING ELEVATIONS AND SECTION ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE OR THE SECTION END UNLESS NOTED OTHERWISE. FINISHED GRADE AT THE BUILDING FACE SHALL ALWAYS SLOPE AWAY FROM THE BUILDING.
6	AT WALLS WITH INSULATION, CONTRACTOR SHALL SEAL DOOR FRAMES, GLAZED OPENING FRAMES, INTERSECTIONS, AND OTHER PENETRATIONS WITH ACOUSTICAL SEALANT.
7	VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS. UNLESS NOTED OTHERWISE, ALL MATERIALS AND EQUIPMENT TO BE INSTALLED PER THE APPLICABLE PROVISIONS OF THESE DOCUMENTS AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8	CUTTING INTO NEW WORK OF OTHER TRADES SHALL BE DONE BY THE TRADE REQUIRING THE CUTTING. ALL CUTTING SHALL BE DONE IN A NEAT MANNER USING SAWS WHERE POSSIBLE. ALL PATCHING AND PAINTING REQUIRED AS A RESULT OF THIS CUTTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE ADEQUATE TEMPORARY SUPPORT FOR WORK BEING CUT AND PATCHED TO PREVENT FAILURE. DO NOT ENDANGER OTHER WORK. PROVIDE ADEQUATE PROTECTION OF OTHER WORK DURING CUTTING AND PATCHING TO PREVENT DAMAGE.
9	PROPERLY PREPARE ALL SURFACES FOR NEW FINISHES. PATCH WITH SEAMS WHICH ARE DURABLE AND AS INVISIBLE AS POSSIBLE. COMPLY WITH SPECIFIC TOLERANCES FOR THE TYPE OF WORK BEING DONE.
10	ALL PENETRATIONS OF FIRE RATED ASSEMBLIES SHALL BE SEALED WITH PROPER/APPROVED THROUGH PENETRATION FIRE STOP SYSTEM AS RECOGNIZED BY AND LISTED WITH NATIONALLY AND ACCEPTED TESTING LABORATORIES.
11	OBTAIN ARCHITECT'S SPECIFIC APPROVAL PRIOR TO DEVIATING FROM THE CONTRACT DOCUMENTS. THE ARCHITECT'S RESPONSIBILITY IS LIMITED TO THE ITEMS SHOWN ON THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO COMPLY WITH STANDARD BUILDING AND CONSTRUCTION PRACTICES AND MANUFACTURER'S RECOMMENDATIONS FOR ALL ITEMS NOT SPECIFICALLY INDICATED AND DETAILED ON THE DRAWINGS. FOLLOW THE BEST TRADE PRACTICES AND ENGINEERING FOR THE ITEMS NOT SPECIFICALLY DETAILED AND INDICATED.
12	ALL PARTS OF THE WORK, INCLUDING MATERIALS, METHODS, ASSEMBLIES, ETC, MUST COMPLY WITH THE MINIMUM REQUIREMENTS OF THE GOVERNING REGULATIONS OF ALL FEDERAL, STATE, DISTRICT, AND LOCAL AUTHORITIES HAVING JURISDICTION OVER THE PROJECT AS WELL AS THOSE GREATER REQUIREMENTS INDICATED BY THE CONTRACT DOCUMENTS. NO PART OF THE CONTRACT DOCUMENTS MAY BE CONSTRUED TO REQUIRE OR PERMIT WORK CONTRARY TO A GOVERNING REGULATION.
13	THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A CURRENT SET OF CONSTRUCTION DRAWINGS ON SITE DURING CONSTRUCTION. THE CONTRACTOR SHALL INDICATE ON THESE DRAWINGS ALL APPROVED CHANGES TO THE WORK. THIS SET OF DRAWINGS SHALL BE TURNED OVER TO THE OWNER/CLIENT WHEN THE PROJECT IS COMPLETE.
14	THE BUILDING HAS BEEN DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTORS RESPONSIBILITY TO DETERMINE DEMOLITION, ERECTION PROCEDURES, SEQUENCE, AND TO ENSURE THE STABILITY OF ITS COMPONENTS AND PARTS, AND THE ADEQUACY OF TEMPORARY OR INCOMPLETE CONNECTIONS DURING ERECTION. THIS INCLUDES THE ADDITION OF ANY GUYS, SHORING, SHEETING OR TEMPORARY BRACING AND TIE-DOWNS THAT MIGHT BE NECESSARY. SUCH MATERIALS ARE NOT SHOWN ON THE DRAWINGS. IF APPLIED, THEY SHALL BE REMOVED AS CONDITIONS PERMIT, AND SHALL REMAIN THE CONTRACTORS PROPERTY.
15	CONTRACTOR SHALL COORDINATE THE FRAMING LAYOUT INCLUDING PRE-ENGINEERED TRUSS WEB DESIGN WITH ELECTRICAL AND MECHANICAL WORK.
16	THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL GRADING, MECHANICAL, AND ELECTRICAL PERMITS, AND ALL OTHER RELATED PERMITS REQUIRED TO COMPLETE THE WORK. ALL PLUMBING, ELECTRICAL & MECHANICAL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED BUILDING CODE AND SHALL BE SUBJECT TO FIELD INSPECTION BY THE AGENCIES HAVING JURISDICTION.
17	MANNS WOODWARD STUDIOS, INC. HAS NO EXPERTISE IN, AND TAKES NO RESPONSIBILITY FOR, CONSTRUCTION MEANS AND METHODS OR JOB SITE SAFETY DURING CONSTRUCTION. PROCESSING AND/OR APPROVING SUBMITTALS MADE BY THE CONTRACTOR CONTAINING INFORMATION RELATED TO CONSTRUCTION METHODS, OR SAFETY ISSUES, OR PARTICIPATION IN MEETINGS WHERE SUCH ISSUES MIGHT BE DISCUSSED. IT SHALL NOT BE CONSTRUED AS VOLUNTARY ASSUMPTION BY MANNS WOODWARD STUDIOS, INC. OR ANY RESPONSIBILITY FOR SAFETY PROCEDURES. IT IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING CONSTRUCTION. MANNS WOODWARD STUDIOS, INC. DOES NOT ENGAGE IN, AND DOES NOT SUPERVISE THE CONSTRUCTION PROCESS.
18	THESE DRAWINGS ARE THE PROPERTY OF MANNS WOODWARD STUDIOS, INC. AND MAY NOT BE MODIFIED OR REPRODUCED WITHOUT WRITTEN PERMISSION. REPRODUCTIONS OF THE DRAWINGS MUST BEAR THE NAME OF THE ARCHITECT AND PROJECT LOCATION. THESE DRAWINGS ARE FULLY PROTECTED BY FEDERAL AND STATE COPYRIGHT LAWS; ANY INFRINGEMENT WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.
19	ALL DEVICES INCLUDING SWITCHES, PLATES, THERMOSTATS, CONTROL PANELS, ETC. SHALL BE COORDINATED BY THE CONTRACTOR BASED UPON THE FOLLOWING CRITERIA: A. DEVICES LOCATED WITHIN 36" OF EACH OTHER HORIZONTALLY (IN PLAN VIEW) OF EACH OTHER SHALL BE INSTALLED SUCH THAT THE TOPS OF ALL DEVICES ARE ALIGNED OR THE CENTERLINE OF DEVICES ARE MAINTAINED. B. DEVICES LOCATED VERTICALLY (TWO OR MORE STACKED DEVICES) SHALL BE INSTALLED SUCH THAT THE CENTERLINES ARE MAINTAINED. SEE DIAGRAMS FOR REFERENCE. ADA REACH HEIGHTS AND DEVICE REQUIREMENTS PER CODE SUPERCEDE THIS NOTE AND WHERE IN CONFLICT SHALL REQUIRE COORDINATION AND APPROVAL FROM THE ARCHITECT.
20	FINAL LOCATION OF ALL FIRE ALARM DEVICES, EMERGENCY EGRESS LIGHTING, EXIT SIGNS, FIRE EXTINGUISHERS AND FIRE EXTINGUISHER CABINETS, ETC. SHALL BE REVIEWED AND FIELD COORDINATED WITH CONSIDERATION OF FINAL FINISHES WITH THE ARCHITECT PRIOR TO INSTALLATION. APPROVAL MUST BE OBTAINED BY THE ARCHITECT PRIOR TO INSTALLATION.
21	WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION, THE PRE-ENGINEERED BUILDING/STRUCTURE DESIGNER/CONTRACTOR SHALL BE RESPONSIBLE FOR THE DELEGATED DESIGN RESPONSIBILITY OF PROVIDING CALCULATIONS, DRAWINGS, AND CERTIFICATION, IN THE FORM REQUIRED BY THE AHJ, THAT THE STRUCTURE OF THE PRE-ENGINEERED BUILDING/STRUCTURE IS SUITABLE TO ACCOMMODATE THE INSTALLATION AND OPERATION OF THE SPRINKLER SYSTEM AND ALL SPRINKLER SYSTEM COMPONENTS. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE DEAD LOAD OF THE SYSTEM COMPONENTS AND THE LIVE LOADS AND FORCES IMPOSED UPON THE STRUCTURE BY THE OPERATION OF THE SPRINKLER SYSTEM. CERTIFICATION SHALL BE PROVIDED BY A STRUCTURAL ENGINEER LICENSED WITHIN THE JURISDICTION WHERE THE PROJECT IS LOCATED. THE CERTIFICATION SHALL BE PROVIDED AS PART OF THE PRE-ENGINEERED BUILDING/STRUCTURE DELEGATED DESIGN SUBMITTAL.
22	FIRE STATION ALERTING SYSTEM DELINEATION OF SCOPE IS AS FOLLOWS; OWNER VENDOR SHALL PROVIDE ALL DEVICES, INCLUDING MONITORS AS WELL AS COMPLETING ALL HEAD-END CONNECTIONS AND SYSTEM TESTING. OWNER VENDOR SHALL ALSO PROVIDE ALL ASSOCIATED LOW-VOLTAGE WIRING. EC SHALL BE RESPONSIBLE FOR INSTALLING ALL OWNER VENDOR PROVIDED EQUIPMENT/DEVICES AND ALL ASSOCAITED CONDUIT/CABLE TRAYS/PATHWAYS FROM RACK IN IT ROOM TO DEVICE LOCATION. SEE FSA SERIES DRAWINGS FOR MORE INFORMATION.
23	RADIO COMMUNICATIONS SYSTEM DELINEATION OF SCOPE IS AS FOLLOWS; OWNER VENDOR SHALL PROVIDE AND INSTALL THE ANTENNA, INCLUDING THE POLE TO BE SECURED TO PROVIDED WALL MOUNTS AS WELL AS ALL ASSOCIATED DEVICES AND CABLING/WIRING. EC SHALL PROVIDE AND INSTALL ANTENNA GROUNDING AS WELL AS ALL CONDUIT/CABLE TRAYS/ PATHWAYS FROM ANTENNA AND ASSOCIATED DEVICES BACK TO THE IT ROOM, INCLUDING CABLE ENTRY PORT AT EXTERIOR WALL INTO INTERIOR PLENUM AND CABLE PORT ENTRY IN IT ROOM CEILING. GC SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE EXTERIOR WALL MOUNT BRACKETS TO RECEIVE ANTENNA POLE. SEE ROOF PLAN, STRUCTURAL DRAWINGS AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.
24	MONUMENT SIGN DELINEATION OF SCOPE IS AS FOLLOWS; OWNER VENDOR SHALL PROVIDE AND INSTALL SIGNAGE CABINETS AND MAKE ALL FINAL ELECTRICAL CONNECTIONS. GC SHALL PROVIDE AND INSTALL THE MONUMENT SIGN AND ASSOCIATED STRUCTURE, INCLUDING SIGNAGE CABINET STEEL SUPPORTS. EC SHALL PROVIDE AND INSTALL ALL CABLING AND ASSOCIATED CONDUITS/CABLE TRAYS/PATHWAYS. SEE SITE DETAILS SHEET AND ELECTRICAL DRAWINGS FOR MORE INFORMATION.
25	BUILDING MOUNTED SIGNAGE DELINEATION OF SCOPE IS AS FOLLOWS; OWNER VENDOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL BUILDING MOUNTED SIGNAGE INCLUDING WIRING. EC SHALL BE RESPONSIBLE FOR ALL CONDUIT/CABLE TRAYS/PATHWAYS.
26	LOW-VOLTAGE SYSTEMS, INCLUDING AUDIO/VISUAL, CCTV, ACCESS CONTROL AND LOW-VOLTAGE WIRING DELINEATION OF SCOPE IS AS FOLLOWS; OWNER VENDOR SHALL PROVIDE AND INSTALL ALL LOW-VOLTAGE SYSTEM DEVICES AND WIRING FOR A FULL TURN-KEY SYSTEM. EC SHALL PROVIDE AND INSTALL ALL CONDUIT/CABLE TRAYS/PATHWAYS. SEE EQUIPMENT PLAN AND AV SERIES DRAWINGS FOR MORE INFORMATION.

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LICENSE NUMBER: #RA405311
EXPIRATION DATE: 6-30-2027

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
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GENERAL PROJECT NOTES

SHEET NUMBER:

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CODE ANALYSIS - SUMMARY

PROJECT	APPLICABLE CODES		AREA ANALYSIS
EXETER TOWNSHIP EMERGENCY SERVICES FACILITY	PENNSYLVANIA UNIFORM CONSTRUCTION CODE	2022	TOTAL FOOTPRINT: 29,850 GSF MEZZANINE: 2,170 GSF
	INTERNATIONAL BUILDING CODE	2021	
	INTERNATIONAL MECHANICAL CODE	2021	
	INTERNATIONAL ELECTRIC CODE	2021	
	INTERNATIONAL PLUMBING CODE	2021	
	INTERNATIONAL ENERGY CODE	2021	

PROJECT DESCRIPTION

THE PROPOSED FACILITY IS A NEWLY CONSTRUCTED FIRE STATION TO HOUSE EXETER TOWNSHIP FIRE DEPARTMENT AND EMS. IT WILL CONSIST OF APPARATUS BAYS, OFFICES, BUNKS, AND SUPPORT SPACES. THE CONSTRUCTION WILL BE TYPE IIB, NON-SEPARATED MIXED USE, AND THE ENTIRE FACILITY WILL BE FULLY SPRINKLERED. THE MIXED USES CONSIST OF S-2 STORAGE (APPARATUS BAYS AND SUPPORTING SPACES), A-3 ASSEMBLY (TRAINING ROOM), B BUSINESS (OFFICE AREAS), AND R-1 CONGREGATE LIVING FACILITIES (BUNK AREA). THE BUILDING WILL BE BUILT USING A MIXTURE OF MASONRY, STEEL CONSTRUCTION, AND PEMB CONSTRUCTION. THE APPARATUS AREAS WILL BE MASONRY AND PEMB STEEL. THE REMAINDER OF THE BUILDING WILL BE METAL STUD FRAMED OR MASONRY WITH STEEL STRUCTURAL MEMBERS AND PEMB STEEL. THERE IS ALSO A MEZZANINE LOCATED IN THE BAY AREA CONSTRUCTED WITH SLAB ON DECK AND STEEL STRUCTURE.

INTERNATIONAL BUILDING CODE 2021

USE CLASSIFICATIONS - CHAPTER 3

B: BUSINESS - OFFICE SPACE
R1: RESIDENTIAL - DORMITORY
S2: STORAGE - APPARATUS BAY/ANCILLARY STORAGE AREAS
A-3: ASSEMBLY - TRAINING ROOM

BUILDING HEIGHT & AREA - CH.5

HEIGHT TABULAR	STORIES TABULAR	AREA TABULAR
B - 75'	B - 4	B - 92,000
S-2 - 75'	S-2 - 4	S-2 - 104,000
R-1 - 75'	R-1 - 5	R1 - 64,000
A-3 - 75'	A-3 - 3	A-3 - 38,000

HEIGHT ALLOWED	STORIES ALLOWED	AREA ALLOWED
75'	3	38,000

HEIGHT ACTUAL	STORIES ACTUAL	AREA ACTUAL
45'	1	29,850 GSF

SECTION 505 - MEZZANINES & EQUIPMENT PLATFORMS

505.2.1, EXCEPTION #2 -THE AGGREGATE AREA OF MEZZANINES IN BUILDINGS OF TYPE II CONSTRUCTION SHALL NOT BE GREATER THAN ONE-HALF OF THE FLOOR AREA OF THE ROOM IN BUILDINGS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM.

APPARATUS BAY - 12,400 SF
ALLOWABLE MEZZANINE AREA = 12,400 SF / 2 = 6200 SF
ACTUAL MEZZANINE AREA: 2,170 SF

SECTION 508 - MIXED USE & OCCUPANCY

508.1 - EACH PORTION OF A BUILDING SHALL BE INDIVIDUALLY CLASSIFIED IN ACCORDANCE WITH SECTION 302.1. WHERE A BUILDING CONTAINS MORE THAN ONE OCCUPANCY GROUP, THE BUILDING OR PORTION THEREOF SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF SECTION 508.2, 508.3, OR 508.4.

508.3 NONSEPARATED OCCUPANCIES -
BUILDINGS OR PORTIONS OF BUILDINGS THAT COMPLY WITH THE PROVISIONS OF THIS SECTION SHALL BE CONSIDERED AS NONSEPARATED OCCUPANCIES.

508.3.3 - SEPARATION. NO SEPARATION IS REQUIRED BETWEEN NONSEPARATED OCCUPANCIES.

EXCEPTION 2, GROUP R-1 SHALL BE SEPARATED FROM OTHER DWELLING OR SLEEPING UNITS FROM OTHER OCCUPANCIES CONTIGUOUS TO THEM IN ACCORDANCE WITH REQUIREMENTS OF SECTION 420.

420.2 SEPARATION WALLS - WALLS SEPARATING DWELLING OR SLEEPING UNITS SHALL BE CONSTRUCTED AS FIRE PARTITIONS IN ACCORDANCE WITH SECTION 708.

420.3 HORIZONTAL SEPARATION - FLOOR ASSEMBLIES SEPARATING DWELLING OR SLEEPING UNITS SHALL BE CONSTRUCTED AS HORIZONTAL ASSEMBLIES IN ACCORDANCE WITH SECTION 711.

FIRE PROTECTION SYSTEM REQUIREMENTS (IBC CHAPTER 9)

ELEMENT		REQUIRED
903	AUTOMATIC SPRINKLER	YES
904	FIRE EXTINGUISHER SYSTEM	NO
905	STANDPIPE SYSTEM	NO
906	PORTABLE FIRE EXTINGUISHERS	YES
907	FIRE ALARM & DETECTION SYSTEMS	YES
908	EMERGENCY ALARM SYSTEM	NO
908.7	CARBON MONOXIDE	YES
909	SMOKE CONTROL SYSTEM	NO
910	SMOKE & HEAT REMOVAL	NO
911	FIRE COMMAND CENTER	NO
912	FIRE DEPARTMENT CONNECTION	YES
913	FIRE PUMP	NO
914	EMERGENCY RESPONDER SAFETY	NO

CONSTRUCTION TYPE - CH.6

CONSTRUCTION TYPE: IIB FULLY-SPRINKLERED

CHAPTER 10 - MEANS OF EGRESS

PROPOSED SPACE	USE	OCCUPANCY TABLE 1004.5
APPARATUS BAYS & SUPPORT SPACE	S-2 LOW-HAZ. STORAGE (311.3)	STORAGE 300 SF / OCC
MEP SPACES	S-2 LOW-HAZ STORAGE (311.2)	STORAGE 300 SF / OCC
OFFICE AND SUPPORT SPACES	BUSINESS (304.1)	BUSINESS 150 SF / OCC
KITCHEN/DAYROOM	BUSINESS (304.1)	BUSINESS 150 SF / OCC
TRAINING ROOM	ASSEMBLY (303.4)	TABLES/CHAIRS 15 SF / OCC
FITNESS ROOM	BUSINESS (304.1)	EXERCISE ROOM 50 SF / OCC
BUNK AREA	R-1 CONGREGATE LIV. FAC. (310.2)	DORMITORIES 50 SF / OCC

SECTION 1005.3.1 EGRESS SIZING, STAIRWAYS.
THE CAPACITY, IN INCHES, OF MEANS OF EGRESS STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH STAIRWAYS BY A MEANS OFF EGRESS CAPACITY OF FACTOR OF .2 INCHES, AND NOT LESS THAN 44 INCHES IN WIDTH PER SECTION 1011.2.

SECTION 1005.3.2, MEANS OF EGRESS CAPACITY
THE CAPACITY IN INCHES OF MEANS OF EGRESS COMPONENTS OTHER THAN STAIRWAYS SHALL BE CALCULATED BY MULTIPLYING THE OCCUPANT LOAD SERVED BY SUCH COMPONENT BY A MEANS OF EGRESS CAPACITY FACTOR OR .2 INCHES.

SECTION 1007.1.1, EXIT SEPARATION DISTANCE
EXCEPTION 2: WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM, THE SEPARATION DISTANCE SHALL NOT BE LESS THAN ONE-THIRD OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL OF THE AREA SERVED.

SECTION 1020, CORRIDORS
PER TABLE 1020.1 FIRE RATING IS ONLY REQUIRED FOR ANY CORRIDORS SERVING "R" OCCUPANCY. FIRE RATING SHALL BE 1/2 HOUR. CORRIDORS WITHIN GROUPS B AND S-2 ARE NOT REQUIRED TO BE FIRE RATED.

THE REQUIRED CAPACITY OF CORRIDORS SHALL BE DETERMINED AS SPECIFIED IN SECTION 1005.1 BUT THE MINIMUM WIDTH SHALL NOT BE LESS THAN 44 INCHES.

ENERGY COMPLIANCE - 2021 IECC TABLES C402.1.3 & C402.1.4

PROJECT LOCATION: READING, PENNSYLVANIA - CLIMATE ZONE: 5

BUILDING COMPONENT	CODE REQ.	PROVIDED	TYPE
ATTIC & OTHER:	R-49	R-49	MINERAL-WOOL (BATT)
MASS WALLS ABV GRADE:	R-11.4ci	R-12.5ci	EXTRUDED POLYSTYRENE
METAL FRAMED:	R-13 + R-10ci	R-19 + R-10ci	MINERAL-WOOL (BATT) + EXTRUDED POLYSTYRENE
UNHEATED SLABS:	R-15 for 24" BEL	R-15 for 24" BEL	EXTRUDED POLYSTYRENE
SWINGING DOORS:	U-.45 SHGC-.4	U-.3 SHGC-.23	INSUL HM DOOR
ENTRANCE DOORS:	U-.63 SHGC-.4	U-.29 SHGC-.23	ALUM ENTRANCE DOOR
FIXED FENESTRATION:	U-.36 SHGC-.46	U-.29 SHGC-.27	STOREFRONT/CURTAINWALL
GARAGE DOORS <14% GLAZING:	U-.31	U-.08	INSULATED OVERHEAD SECTIONAL

THE LIST ABOVE HAS BEEN INCLUDED IN THE DOCUMENTS TO DEMONSTRATE MINIMUM REQUIREMENTS FOR CODE COMPLIANCE AS IT PERTAINS TO THE ENERGY CODE(S). THIS LIST IS NOT INTENDED TO SUPERSEDE MORE STRINGENT REQUIREMENTS OF OTHER CONSTRUCTION DOCUMENT REQUIREMENTS. DRAWINGS, DETAILS, AND SPECIFICATIONS, ALL WHICH TAKE PRECEDENCE OVER THIS LIST FROM THE STANDPOINT OF DESIGN CONCEPT AND COST.

AIR LEAKAGE REQUIREMENTS:
THE BUILDING DESIGN UTILIZES THE PRESCRIPTIVE AIR BARRIER COMPLIANCE PATH AS ALLOWED BY C402.5.1.2.

VESTIBULE REQUIREMENTS:
THE BUILDING'S MAIN ENTRANCE IS EQUIPPED WITH A VESTIBULE.

ELECTRICAL & MECHANICAL SYSTEM DESIGN:
THE BUILDING HAS BEEN DESIGNED TO COMPLY WITH THE REQUIREMENTS OF SECTIONS C403, C404, & C405. REFER TO MEP DRAWINGS FOR ADDITIONAL INFORMATION & DETAILS.

DISTANCE REQUIREMENTS

	CLASSIFICATION	IBC REFERENCE	ALLOWABLE	PROPOSED
COMMON PATH	S-2 STORAGE	TABLE 1006.2.1	100'-0"	SEE CODE DISTANCES
	BUSINESS	TABLE 1006.2.1	100'-0"	
	ASSEMBLY	TABLE 1006.2.1	75'-0"	
	R-1 RESIDENTIAL	TABLE 1006.2.1	75'-0"	
TRAVEL DISTANCE	S-2 STORAGE	TABLE 1017.2	400'-0"	SEE CODE DISTANCES
	BUSINESS	TABLE 1017.2	300'-0"	
	ASSEMBLY	TABLE 1017.2	250'-0"	
	R-1 RESIDENTIAL	TABLE 1017.2	250'-0"	
DEAD END CORRIDORS	S-2 STORAGE	1020.5(2)	50'-0"	SEE CODE DISTANCES
	BUSINESS	1020.5(2)	50'-0"	
	ASSEMBLY	1020.5(2)	20'-0"	
	R-1 RESIDENTIAL	1020.5(2)	50'-0"	

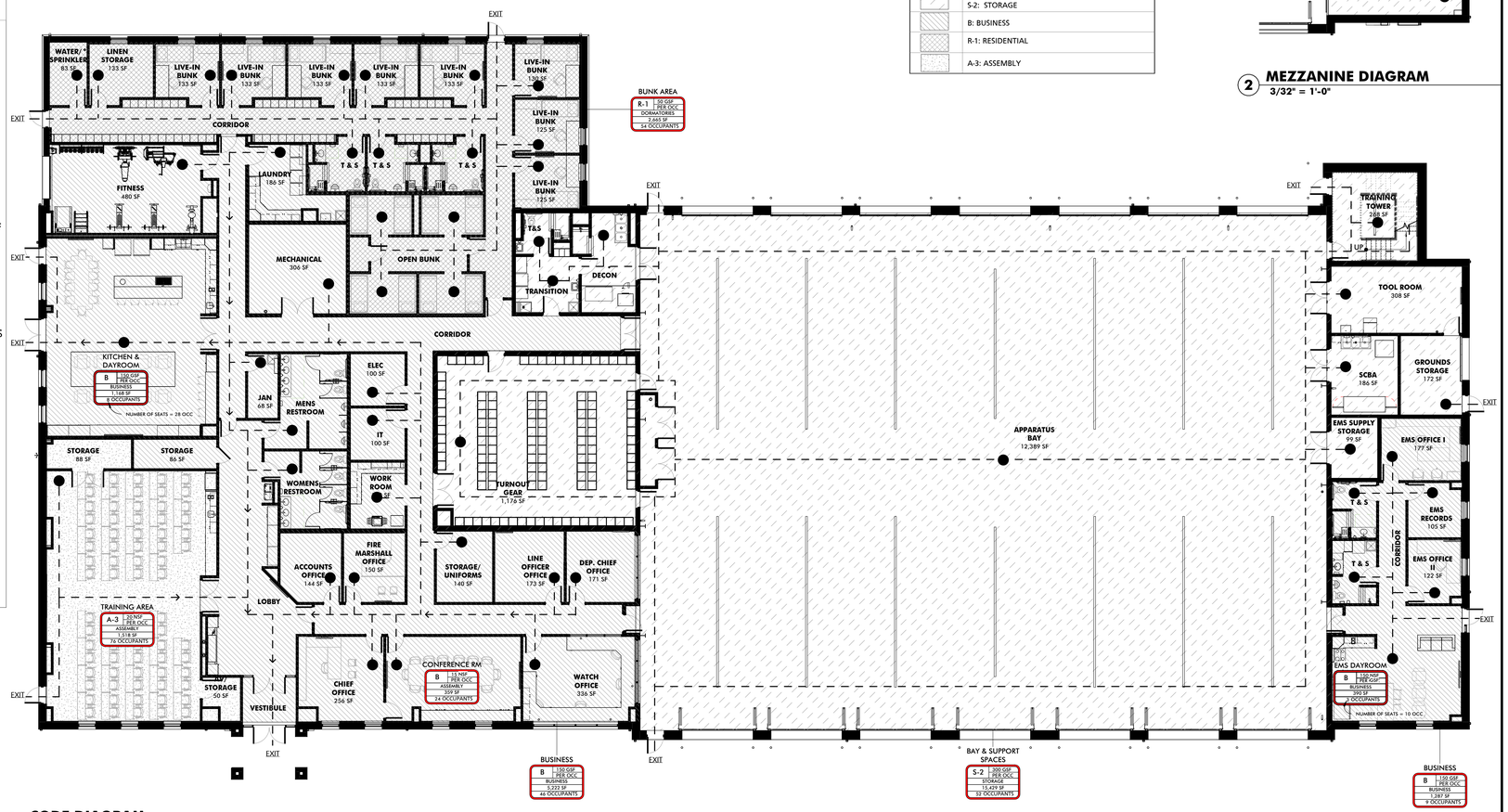
REQUIRED NUMBER OF PLUMBING FIXTURES

AREA	IBC. OCC. #	IPC OCC. #	W.CL. M.	W.CL. F.	LAV. M.	LAV. F.	B/S	DF	OTHER
STORAGE	60	30 M / 30 F	1/100 = 1	1/100 = 1	1/100 = 1	1/100 = 1	-	1/1000 = 1	1 SS
BUSINESS	55	25 M / 25 F	1/25 (50) = 1	1/25 (50) = 1	1/40 (80) = 1	1/40 (80) = 1	-	1/100 = 1	1 SS
ASSEMBLY	76	38 M / 38 F	1/125 = 1	1/65 = 1	1/200 = 1	1/200 = 1	-	1/500 = 1	1 SS
RESIDENTIAL	54	27 M / 27 F	1/10 = 3	1/10 = 3	1/10 = 3	1/10 = 3	1/8 = 7	1/100 = 1	1 SS
		REQUIRED	6	6	6	6	7	2	1 SS
		PROVIDED	8	7	7	7	7	3	4 SS

OCCUPANCY ANALYSIS

NAME	USE	AREA	FACTOR	OCCUPANT LOAD
ACCESSORY STORAGE	S-2	2,147 SF	300 SF	8
BAY & SUPPORT SPACES	S-2	15,429 SF	300 SF	52
BUNK AREA	R-1	2,665 SF	50 SF	54
BUSINESS	B	5,222 SF	150 SF	35
BUSINESS	B	1,287 SF	150 SF	9
CONFERENCE RM	B	359 SF	15 SF	24
TRAINING AREA	A-3	1,518 SF	20 SF	76
				259

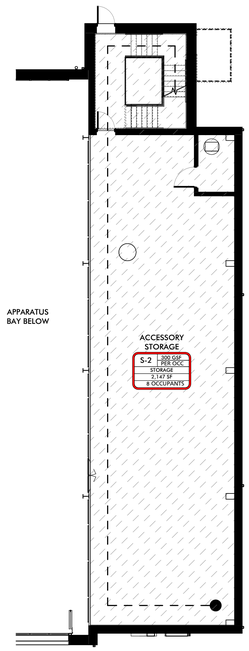
ADD (20) OCCUPANTS TO ACCOUNT FOR NUMBER OF SEATS IN KITCHEN/DAYROOM
ADD (7) OCCUPANTS TO ACCOUNT FOR NUMBER OF SEATS IN EMS DAYROOM
ACTUAL OCCUPANT LOAD WITH ADDED SEATING COUNTS = **286 OCCUPANTS**



1 CODE DIAGRAM
3/32" = 1'-0"

CODE DIAGRAM LEGEND

- DIAGRAMMATIC EGRESS PATH
- S-2: STORAGE
- B: BUSINESS
- R-1: RESIDENTIAL
- A-3: ASSEMBLY



2 MEZZANINE DIAGRAM
3/32" = 1'-0"

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70 GIBRALTAR ROAD
READING, PA 19606

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ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

CODE ANALYSIS & DIAGRAM

SHEET NUMBER:
G002

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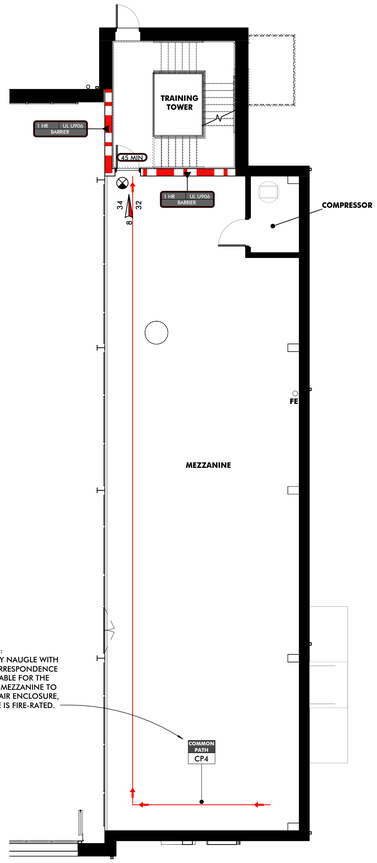
CODE DISTANCES

PATH ID	LENGTH
TRAVEL DISTANCE	
TD1	96'-7"
COMMON PATH	
CP1	51'-8"
CP2	59'-0"
CP3	58'-10"
CP4	100'-0"

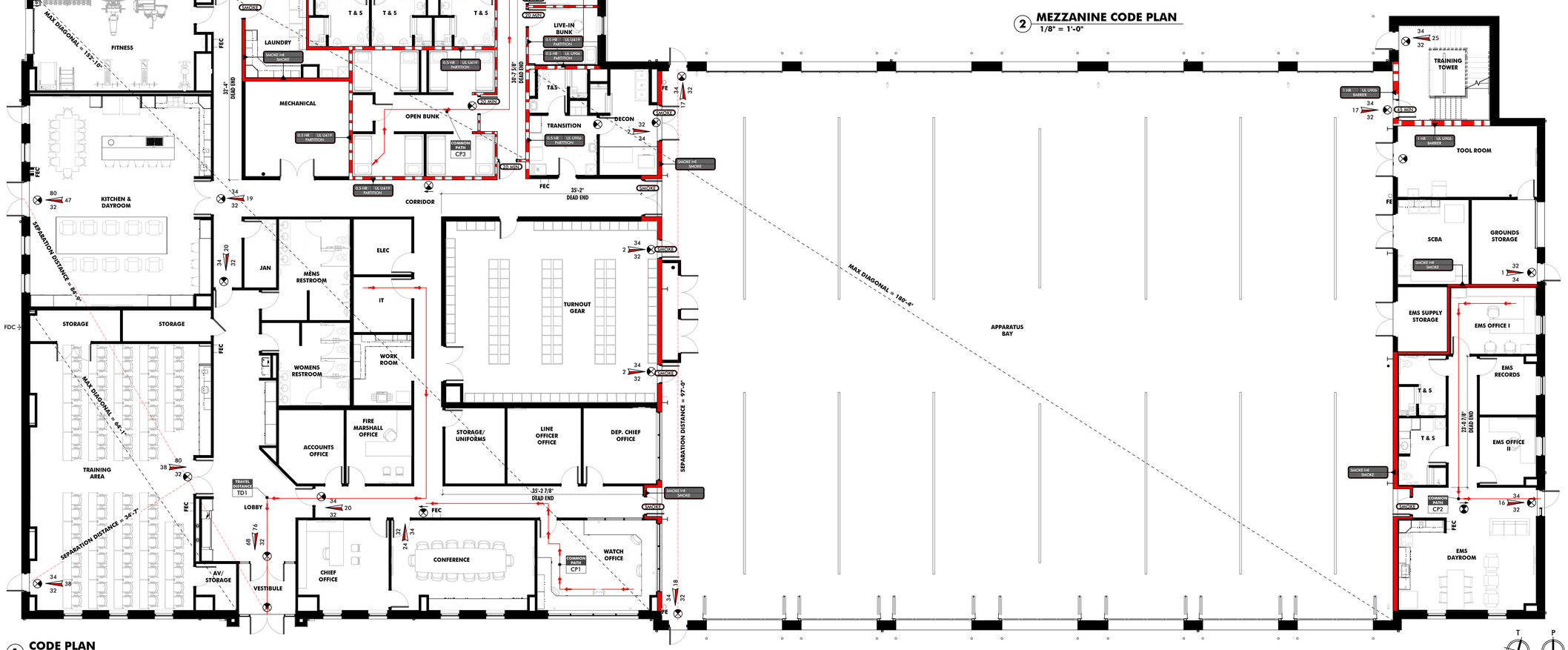
IBC 2021 TABLE 1006.2.1 - EXCEPTION : JURISDICTIONAL CODE OFFICIAL, TERRY NAUGLE WITH GREAT VALLEY CONSULTANTS, PER CORRESPONDENCE ON 10/27/26, HAS DEEMED IT ACCEPTABLE FOR THE COMMON PATH OF TRAVEL FROM THE MEZZANINE TO BE TAKEN UP TO THE ENTRY OF THE STAIR ENCLOSURE, PROVIDED THAT THE STAIR ENCLOSURE IS FIRE-RATED.

CODE PLAN LEGEND

	ILLUMINATED "EXIT" SIGN ILLUMINATED "EXIT" SIGN W/ DIRECTION INDICATOR
1 HR UL#409 SMOKE PARTITION	RATED WALL TAG
FEC FE	FIRE EXTINGUISHER & CABINET FIRE EXTINGUISHER
	1 HOUR RATED PARTITION SMOKE RATED PARTITION
AW OL RW	AW = ACTUAL EGRESS WIDTH (CLEAR WIDTH) OL = OCCUPANT LOAD RW = REQUIRED EGRESS WIDTH



2 **MEZZANINE CODE PLAN**
1/8" = 1'-0"



1 **CODE PLAN**
1/8" = 1'-0"

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G003

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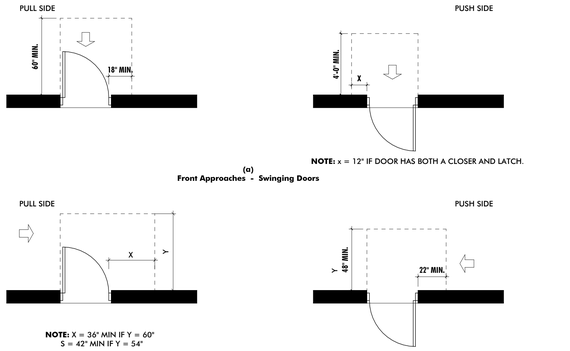
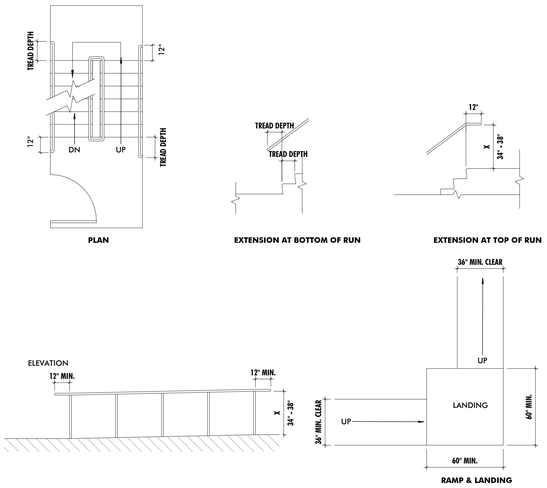


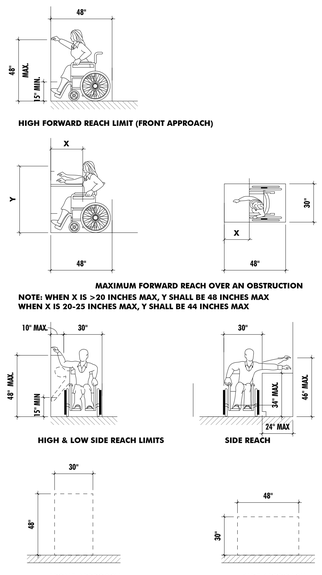
DOOR CLEARANCES (TYPICAL)

NOT TO SCALE



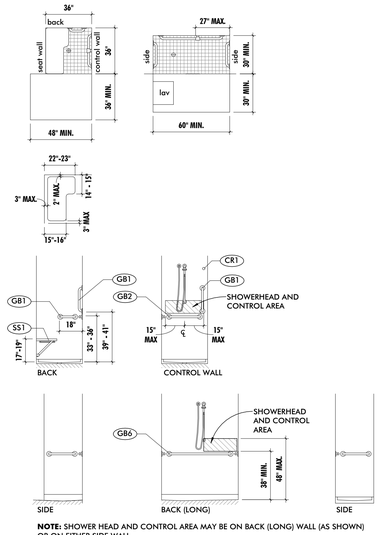
STAIR & RAMP CLEARANCES (TYPICAL)

NOT TO SCALE



REACH RANGES & APPROACHES (TYPICAL)

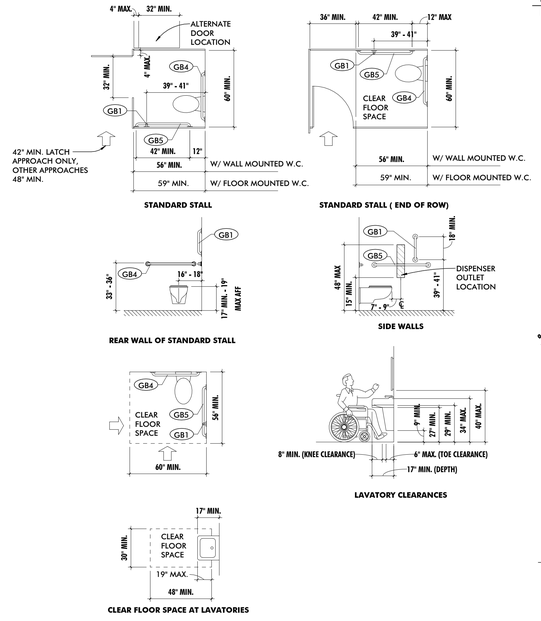
NOT TO SCALE



NOTE: SHOWER HEAD AND CONTROL AREA MAY BE ON BACK (LONG) WALL (AS SHOWN) OR ON EITHER SIDE WALL.

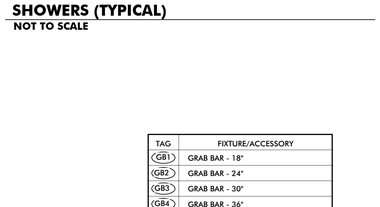
SHOWERS (TYPICAL)

NOT TO SCALE



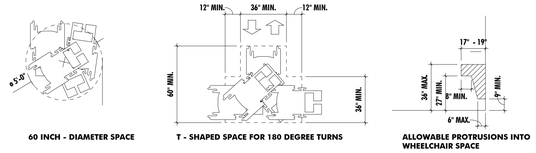
TOILET ROOM CLEARANCES (TYPICAL)

NOT TO SCALE



DRINKING FOUNTAINS (TYPICAL)

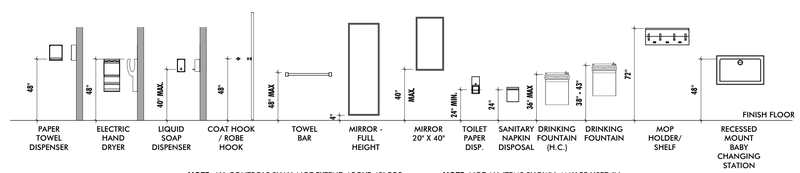
NOT TO SCALE



TAG	FIXTURE/ACCESSORY
GB1	GRAB BAR - 18"
GB2	GRAB BAR - 24"
GB3	GRAB BAR - 30"
GB4	GRAB BAR - 36"
GB5	GRAB BAR - 42"
GB6	GRAB BAR - 48"
CR1	SHOWER CURTAIN ROD
SS1	FOLDING SHOWER SEAT

FLOOR CLEARANCES (TYPICAL)

NOT TO SCALE



NOTE: ALL CONTROLS SHALL NOT EXTEND ABOVE 48" FOR FRONT APPROACH & 54" FOR SIDE APPROACH. (SEE REACH RANGE DIAGRAMS.)

NOTE: NOT ALL ITEMS SHOWN MAY BE USED IN THIS BUILDING.

TYPICAL ACCESSIBLE MOUNTING HEIGHTS

NOT TO SCALE

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
8098 SANDPIPER CIR, SUITE H
NOTTINGHAM, MD 21236
410-344-1460
INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF PENNSYLVANIA.

LICENSE NUMBER: #RA405311
EXPIRATION DATE: 6-30-2027

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

TYPICAL ACCESSIBILITY GUIDELINES

SHEET NUMBER:

G004

10/1/2026 9:55:00 PM

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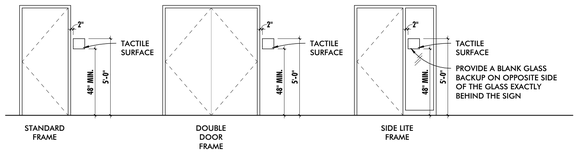
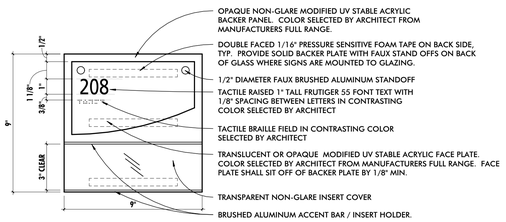


PROVIDE SIGNAGE AT ALL OF THE FOLLOWING LOCATIONS:

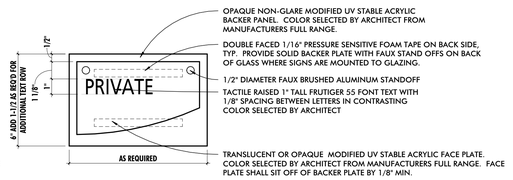
1. ADA COMPLIANT IDENTIFICATION ROOM SIGNAGE WITH REMOVABLE INSERT AT ALL ROOMS OTHER THAN MECHANICAL ROOMS AND TOILET ROOMS. SIGNS SHALL INDICATE ROOM NUMBER AND PROVIDE REMOVABLE INSERT FOR ROOM NAMES.
2. ADA COMPLIANT IDENTIFICATION ROOM SIGNAGE AT MECHANICAL ROOMS AND TOILET ROOMS. SINGLE OCCUPANT TOILET ROOMS SHALL BE IDENTIFIED AS UNI-SEX. SINGLE OCCUPANT TOILET ROOMS WITH CHANGING STATIONS SHALL BE IDENTIFIED AS FAMILY RESTOOMS.
3. ADA COMPLIANT IDENTIFICATION EXIT SIGNAGE AT ALL DOORS LEADING TO RATED EXITS.
4. ADA COMPLIANT IDENTIFICATION FLOOR LEVEL SIGNAGE AT ALL FLOOR LANDINGS OF STAIRS AND RAMPS.
5. ADA COMPLAINT INFORMATIONAL SIGNAGE AT ALL AED STATIONS AND FIRE EXTINGUISHERS.
6. ADA COMPLIANT INFORMATIONAL SIGNAGE INDICATING THE MAXIMUM OCCUPANCY OF ALL ASSEMBLY SPACES.
7. ADA COMPLIANT INFORMATIONAL SIGNAGE SHALL BE PROVIDED AT ALL ELEVATORS.

1 ADA SIGNAGE MOUNTING LOCATIONS

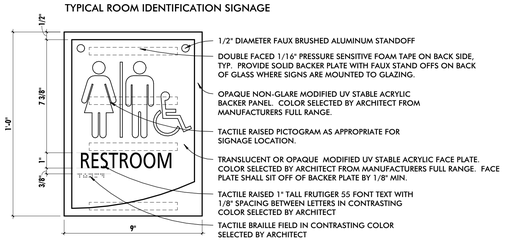
1/4" = 1'-0"



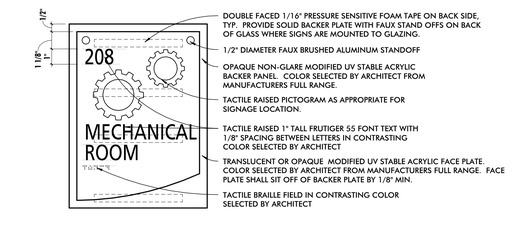
TYPICAL ROOM IDENTIFICATION SIGNAGE



TYPICAL INFORMATIONAL SIGNAGE



TYPICAL RESTROOM SIGN



TYPICAL UTILITY ROOM / STAIRWAY SIGN

2 TYPICAL SIGNAGE DETAILS

3" = 1'-0"

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STUDIOS
ARCHITECTURE + MASTER PLANNING
8098 SANDPIPER CIR, SUITE H
NOTTINGHAM, MD 21236
☎ 410-344-1460
✉ INFO@MWSARCH.COM
🌐 WWW.MWSARCH.COM

SEAL:



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EXETER TOWNSHIP
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PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

TYPICAL ADA SIGNAGE DETAILS

SHEET NUMBER:

G005

10/1/2026 8:55:00 PM

UL-U419

NOT TO SCALE

Design No. U419

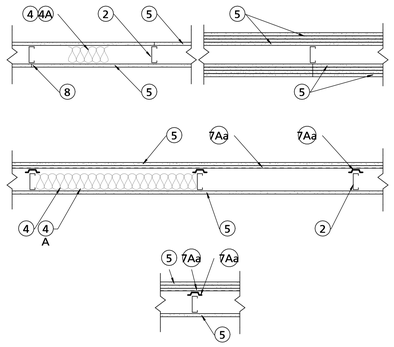
BXUV- Fire Resistance Ratings - ANSI/UL 263
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U419

May 28, 2015

Nonbearing Wall Ratings - 1, 2, 3, or 4 Hr (See Items 4 & 5 through 5K)

*Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



1. **Floor and Ceiling Runners** — (Not shown) — For use with Item 2 - Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* - Floor and Ceiling Runner** — Not shown - In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track

CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

PHILLIPS MFG CO L L C — Viper25™ Track

1B. **Framing Members* - Floor and Ceiling Runner** — Not shown - In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

PHILLIPS MFG CO L L C — Viper20™ Track

1C. **Framing Members* — Floor and Ceiling Runners** — (Not shown) — In lieu of Item 1 - Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

1D. **Floor and Ceiling Runners** — (Not shown)—For use with Item 2A- Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. **Framing Members* — Floor and Ceiling Runners** — (Not shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1F. **Framing Members* - Floor and Ceiling Runner** — Not shown - In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

SUPER STUD BUILDING PRODUCTS — The Edge

1G. **Framing Members* - Floor and Ceiling Runner** — For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.

STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners** — (Not shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100.

1I. **Framing Members* — Floor and Ceiling Runners** — (Not shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.

1J. **Framing Members* - Floor and Ceiling Runner** — Not shown - In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
TELLING INDUSTRIES L L C — Trac-Track

TELLING INDUSTRIES L L C — Viper25™ Track

1K. **Framing Members* - Floor and Ceiling Runner** — Not shown - In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — Viper20™ Track

2. **Steel Studs** — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs** — (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J and 5K) Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. **Framing Members* - Steel Studs** — (As an alternate to Item 2, For use with Items 5C, 5I or 5K) - Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™

CRACO MFG INC — SmartStud25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

PHILLIPS MFG CO L L C — Viper25™

2C. **Framing Members* - Steel Studs** — Not shown - In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

PHILLIPS MFG CO L L C — Viper20™

2D. **Framing Members* — Steel Studs** — In lieu of Item 2 -Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

2E. **Framing Members* — Steel Studs** — (Not shown, As an alternate to Item 2) —For use with Items 5F or 5G or 5I or 5K only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2F. **Framing Members* - Steel Studs** — Not shown - In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.

SUPER STUD BUILDING PRODUCTS — The Edge

2G. **Framing Members* - Steel Studs** — Not shown - In lieu of Item 2 - proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.

STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs** — (Not shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES L L C — TRUE-STUD™

2I. **Framing Members* - Steel Studs** — (As an alternate to Item 2, For use with Items 5C or 5L or 5K) - Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a ½ in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.

TELLING INDUSTRIES L L C — Viper25™

2J. **Framing Members* - Metal Studs** — Not shown - In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.020 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights

TELLING INDUSTRIES L L C — Viper20™

2K. **Framing Members* — Steel Studs** — As an alternate to Item 2 - For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

EB MÉTAL INC — EB Stud

2L. **Framing Members* — Steel Studs** — As an alternate to Item 2 - For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

OLMAR SUPPLY INC — PRIMESTUD

2M. **Framing Members* — Steel Studs** — As an alternate to Item 2 - For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

3. **Wood Structural Panel Sheathing** — (Optional, For use with Item 5 Only) - (Not Shown) - 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, fastener lengths for gypsum panels increased by min. 1/2 in.

4. **Batts and Blankets*** — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

4A. **Batts and Blankets*** — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

4B. **Batts and Blankets*** — For use with Item 5K. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

5. **Gypsum Board*** — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F and 2G	No. of Layers & Thickness of Panel	Min Thickness of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layer, 1/2 in. thick	Optional
2	1-5/8	2 layer, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layer, 1/2 in. thick	Optional
3	1-5/8	2 layer, 3/4 in. thick	Optional
3	1-5/8	3 layer, 5/8 in. thick	Optional
4	1-5/8	4 layer, 5/8 in. thick	Optional
4	1-5/8	4 layer, 1/2 in. thick	Optional
4	2-1/2	2 layer, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Type IP-X3 or ULTRACODE

When Item 7B, Steel Framing Members*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. **Gypsum Board*** — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.

CGC INC — Type SHX.

UNITED STATES GYPSUM CO — Type FRX-G, SHX.

USG MEXICO S A DE C V — Type SHX.

5B. **Gypsum Board*** — (Not Shown) - As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or ¾ in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 in. or ¾ in. may be used as alternate to all 5/8 in, or ¾ in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or ¾ in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).

RAY-BAR ENGINEERING CORP — Type RB-LBG

5C. **Gypsum Board*** — (For Use With Item 2B) Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.

CGC INC — Type SCX.

UNITED STATES GYPSUM CO — Type SCX, SGX.

USG MEXICO S A DE C V — Type SCX.

5D. **Gypsum Board*** — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.

CGC INC — Type USGX.

UNITED STATES GYPSUM CO — Type USGX.

USG MEXICO S A DE C V — Type USGX.

5E. **Gypsum Board*** — (Not Shown) - (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. **Gypsum Board*** — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.

UNITED STATES GYPSUM CO — 5/8 in. thick Type SCX, SGX.

5G. **Gypsum Board*** — (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thickness of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR ; 3/4 in. thick Types IP-X3 or ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. **Gypsum Board*** — (Not Shown) - (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5I. **Gypsum Board*** — (As an alternate to Item 5) - Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5. INC — Type X-Ray Shielded Gypsum

CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

5J. **Gypsum Board*** — (Not Shown) - (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5K. **Gypsum Board*** — (Not Shown) - (As an alternate to Item 5) - Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) need not be staggered. The number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2 through 2L	No. of Layers & Thickness of Panel	Min Thickness of Insulation (Item 4)
1	3-5/8	1 layer, 5/8 in. thick	3-1/2 in.
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

UNITED STATES GYPSUM CO — 5/8 in. thick Type ULIX

6. **Fasteners** — (Not shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.**Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

6A. **Fasteners** — (Not shown) - For use with Item 5K- Type S or S-12 steel screws used to attach panels to studs or furring channels (Item 7). Single layer systems: 1 in. long screws, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long screws, spaced 16 in. OC. Second layer- 1-5/8 in. screws, spaced 8 in. OC with screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long screws, spaced 24 in. OC. Second layer- 1-5/8 in. long screws, spaced 24 in. OC. Third layer- 2-5/8 in. long screws, spaced 8 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long screws, spaced 24 in. OC. Second layer- 1-5/8 in. long screws, spaced 24 in. OC. Third layer- 2-5/8 in. long screws, spaced 24 in. OC. Fourth layer- 3 in. long screws, spaced 8 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels** — (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A and 5E.

7A. **Framing Members*** — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL INC — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members*** — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

KINETICS NOISE CONTROL INC — Type Isomax

7C. **Framing Members*** — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC — Type GENIECLIP

7D. **Steel Framing Members** — (Optional, Not Shown)* - Furring channels and resilient sound isolation clip as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 4. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge. Not for use with Item 5A and 5E.

b. **Steel Framing Members*** — Resilient sound isolation clip used to attach furring channels (Item 7Da) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

8. **Joint Tape and Compound** — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco** — (Optional, not shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants*** — (Optional, not shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO — Type AS

11. **Lead Batten Strips** — (Not Shown, For Use With Item 5B) - Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. **Lead Batten Strips** — (Not Shown, For Use With Item 5H) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. **Lead Discs or Tabs** — (Not Shown, For Use With Item 5B) - Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. **Lead Discs** — (Not Shown, for use with Item 5H) Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. **Lead Batten Strips** — (Not Shown For Use With Item 5E) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. **Lead Tabs** — (Not Shown, For Use With Item 5E) 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

UL-U906

NOT TO SCALE

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Product iQ®

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

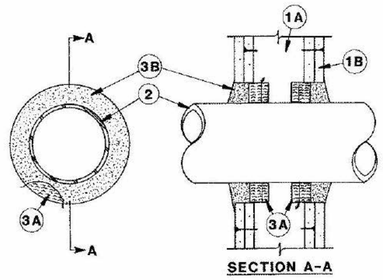
XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-1029

December 09, 2008

F Ratings — 1 and 2 Hr (See Item 1B)
T Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft
L Rating At 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. **Wall Assembly** — The 1 or 2 h fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 and U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.

B. **Gypsum Board*** — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 6 in.
The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through Penetrants** — One metallic pipe, conduit or tubing to be centered within the firestop system. A nom annular space of 3/4 in. is required within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe** — Nom 4 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. **Conduit** — Nom 4 in. diam (or smaller) steel electrical metallic tubing or steel conduit.

C. **Copper Tubing** — Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing.

D. **Copper Pipe** — Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.

3. **Firestop System** — The firestop system shall consist of the following:

A. **Packing Material** — Min 1 in. thickness of min 3.5 pcf fiberglass insulation shall be wrapped around the through-penetrant and secured together by means of No. 24 AWG steel tie wire. Packing material shall be centered at mid-depth of opening and recessed from both surfaces of wall assembly required to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material* — Caulk or Putty** — In 2 hr fire rated assemblies min 3/4 in. thickness fill material applied within the annulus, flush both surfaces of wall. Additional fill material to be installed such that a min 1/4 in. crown is formed around the penetrating item. In 1 h fire-rated assemblies, min 5/8 in. thickness of fill material applied within annulus on both surfaces of wall. Additional fill material to be installed such that a min 3/8 in. crown is formed around the penetrating item and lapping 1 in. beyond the periphery of the opening.
SPECIFIED TECHNOLOGIES INC — SpecSeal Series SSS Sealant, SpecSeal LCI Sealant or SpecSeal Putty

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2008-12-09

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- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHEZ - Through-penetration Firestop Systems
XHEZ7 - Through-penetration Firestop Systems Certified for Canada

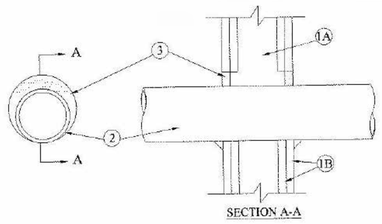
See General Information for Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems Certified for Canada

System No. W-L-1054

December 19, 2025

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1, and 3)
T Rating — 0 and 1/2 Hr (See Item 2)	FT Rating — 0 Hr
L Rating (Without Movement) at Ambient — Less Than 1 CFM/sq ft	FH Ratings — 1 and 2 Hr (See Items 1, and 3)
L Rating (Without Movement) at 400°F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
M Rating (Movement) — See Table 1	L Rating at Ambient — Less Than 5.1 L/s/m^2
	L Rating at 204°C — Less Than 5.1 L/s/m^2



SECTION A-A

1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400, U400, and V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. For M Rating and Penetrants 2G and 2H, steel studs to be min 3-5/8 in. (92 mm) wide. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.

B. **Gypsum Board*** — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.

The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly. The M Rating is applicable only to 1 hr fire rated walls.

2. **Through-Penetrants** — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space for items 2A to 2E shall be min 0 in. to max 2-1/4 in. (57 mm). These pipes/tubing may be installed with continuous point contact. The annular space for Penetrants 2G and 2H shall be min 0 in. to max 1-1/2 in. (38 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe** — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Stainless Steel Pipe** - Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) stainless steel pipe.

C. **Iron Pipe** — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.

D. **Conduit** — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.

E. **Copper Tubing** — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

F. **Copper Pipe** — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.

G. **Aluminum Pipe** — Nom 2 in. (51 mm) diam (or smaller) Schedule 5 (or heavier) aluminum pipe for use in closed (process or supply) piping systems.

H. **Aluminum Conduit** — Nom 2 in. (51 mm) diam (or smaller) aluminum electric metallic tubing (EMT) or rigid aluminum conduit for use in closed (process or supply) piping systems.

The hourly T and FT Ratings of the firestop system are equal to 0 Hr when Penetrants 2A to 2F are used. The T Ratings are equal to 1/2 Hr when Penetrants 2G and 2H are used.

Certification to CAN/ULC -S115 is limited to Penetrants A (Steel Pipe), B (Stainless Steel Pipe), C (Iron Pipe), D (Conduit), E (Copper Tubing), and F (Copper Pipe).

3. **Fill, Void or Cavity Material* — Sealant** — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

The M Rating for the firestop system is dependent on the variables as noted in the Table 1 below.

Table 1

Movement Direction	Penetrant Item	Nominal Penetrant Diameter	Annular Space	Movement	Sealant Depth	F Rating	L Rating with Movement
Y	2A, 2D**	2 in.	Max 2-1/4 in.	5%	5/8 in.	1 hr	N/A
Z	2A, 2D**	2 in.	2-1/4 in.	0.25 in.	5/8 in.	1 hr	N/A

** Rigid steel conduit

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XHEZ - Through-penetration Firestop Systems
XHEZ7 - Through-penetration Firestop Systems Certified for Canada

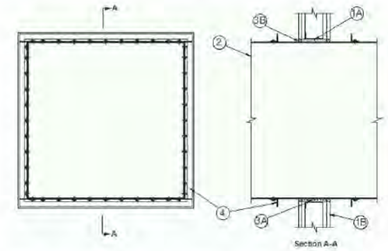
See General Information for Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems Certified for Canada

System No. W-L-7250

October 27, 2017

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Item 1)	F Rating — 1 and 2 Hr (See Item 1)
T Ratings — 0 and 3/4 H (See Item 1)r	FT Rating — 0 and 3/4 Hr (See Item 1)
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Rating — 1 and 2 Hr (See Item 1)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Ratings — 0 and 3/4 Hr (See Item 1)
	L Rating at Ambient — Less Than 5.1 L/s/m^2
	L Rating at 400 F — Less Than 5.1 L/s/m^2



Section A-A

1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Wall framing shall consist of min 3-1/2 in. (89 mm) wide steel channel studs spaced max 24 in. (610 mm) OC. Additional steel studs shall be used to completely frame the opening.

B. **Gypsum Board*** — The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Max area of opening is 1008 in.^{2} (6503 c m^2) with a max dimension of 31-3/8 in. (797 m).

The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T, FT and FTH Ratings are 0 and 3/4 hr for 1 and 2 hr rated assemblies respectively

2. **Steel Duct** — Max 30 in. by 30 in. (762 mm by 762 mm), min 24 gauge galv steel duct to be installed either concentrically or eccentrically within the firestop system. The duct shall be constructed and reinforced in accordance with SMACNA construction standards. The space between the steel duct and periphery of opening shall be min 1/4 in. 6 mm) to max 1-1/8 in. (51 mm). Steel duct to be rigidly supported on both sides of the wall assembly.

2A. **Coated Duct*** — As an alternate to Item 2, nom 30 by 30 in. (762 by 762 mm) (or smaller) steel air duct; duct supplied coated with BW11 coating material. One duct to be installed within the firestop system with an annular space of min 1/4 in. (6 mm) to max 1-1/8 in. (51 mm). Duct sections shall be assembled using bolted flanges or SMACNA approved Transverse Joint Reinforcements. Duct to be rigidly supported on both sides of the wall assembly.
FIRESPRAY INTERNATIONAL LTD — FLAMESAR BW11 FIRE RATED DUCTWORK

3. **Firestop System** — The firestop system shall consist of the following:

A. **Packing Material** — Min 3-1/2 in. (89 mm) or 4-3/4 in. (121 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form for 1 and 2 hr rated walls, respectively. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material* - Sealant** — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

4. **Steel Angles** — Min 1-1/2 in. (38 mm) by 1-1/2 in. (38 mm), min No. 20 gauge galv steel angles secured to duct with No. 10 (or larger) sheet metal screws spaced max 1 in. (25 mm) from ends and max 8 in. (76 mm) OC or min No. 18 gauge galv steel angles secured to duct with No. 10 (or larger) sheet metal screws spaced max 1 in. (25 mm) from ends and max 8 in. (152 mm) OC. Angles attached to steel duct or coated duct on both sides of wall a max of 4 in. (102 mm) from wall.

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EXPIRATION DATE: 6-30-2027

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

PENETRATION DETAILS

SHEET NUMBER:
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XHEZ - Through-penetration Firestop Systems

XHEZ7 - Through-penetration Firestop Systems Certified for Canada

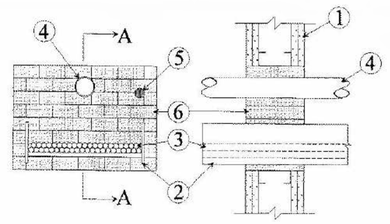
See General Information for Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems Certified for Canada

System No. W-L-8013

July 12, 2016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — 5 CFM/sq ft	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating At 400 F — 2 CFM/sq ft	FTH Rating — 0 Hr
	L Rating At Ambient — 5 CFM/sq ft
	L Rating At 400 F — 2 CFM/sq ft



SECTION A-A

System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. (51 mm) by 4 in. (102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. Additional studs installed to completely frame the opening.

B. **Gypsum Board* —** 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max area of opening is 352 sq in. (2271 sq cm) with max dimension of 22 in. (559 mm) wide.
The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Cable Tray* —** Max 18 in. (457 mm) wide by max 6 in. (152 mm) deep open-ladder or solid-back cable tray with channel-shaped side rails formed of 0.065 in. (1.65 mm) thick aluminum or 0.060 in. (1.52 mm) thick steel and with 1-1/2 in. (38 mm) wide by 1 in. (25 mm) channel shape rungs spaced 9 in. (229 mm) OC or a 0.029 in. (0.74 mm) thick steel solid back, respectively. One cable tray to be installed in the opening. The max annular space between the cable tray and the periphery of the

opening shall be min 1 in. (25 mm) to max 7 in. (178 mm) Cable tray to be rigidly supported on both sides of floor or wall assembly.

3. **Cables —** Aggregate cross-sectional area of cables in cable tray to be max 30 percent of the cross-sectional area of the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:

A. 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and PVC jacket.

B. 100 pair - No. 24 AWG cable with PVC insulation and jacket.

C. 1/C, 750 kcmil (or smaller) with PVC insulation and jacket.

4. **Through-Penetrants —** One or more pipe or tube to be installed within the opening. The total number of through-penetrants is dependent on the size of the opening and types and sizes of the penetrants. Any combination of the penetrants described below may be used provided that the following parameters relative to the annular spaces and the spacings between the pipes are maintained. The space between the pipe or tube and the periphery of the opening shall be min 1-1/2 in. (38 mm) to max 9-1/4 in. (235 mm). Pipe or tube to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of non-metallic or metallic pipes, or tubes may be used:

A. **Polyvinyl Chloride (PVC) Pipe —** Max 3 in. (76 mm) diam Schedule 40 solid core PVC pipe (or smaller) for use in closed (process or supply) or vented (drain, waste or vent) piping system.

B. **Steel Pipe —** Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.

C. **Conduit —** Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) diam steel conduit.

D. **Copper Pipe —** Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

E. **Copper Tube —** Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

4A. **Pipe Covering —** (Not Shown) — Nom 1-1/2 in. (38 mm) thick hollow cylindrical heavy density (min 3.5 pcf) (56kg/m³) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.

See **Pipe and Equipment Covering Materials** (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 may be used.

5. **Cables —** Max 1-1/2 in. (38 mm) diam tight bundle of cables installed within the opening and rigidly supported on both surfaces of wall. The space between the cables and periphery of the opening shall range from 1-3/16 in. (30.2 mm) min to a max of 1-1/2 in. (38 mm). Any combination of the following types and sizes of cables may be used:

A. 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.

B. 25 pair - No. 24 AWG cable with PVC insulation and jacket.

C. Type R GU/59 coaxial cable with PVC outer jacket.

D. 24 fiber optic cable with PVC sub unit and outer jacket.

6. **Firestop System —** The firestop system shall consist of the following:

A. **Fill, Void or Cavity Material* —** Fire Blocks For walls incorporating max 3-5/8 in. (92 mm) steel studs or max 2 (51 mm) by 4 in. (102 mm) wood studs, fire block installed with 5 in. (127 mm) dimension projecting through and centered in opening. For walls constructed of larger steel or wood studs, fire block installed with long dimension passing through and centered in opening. Blocks may or may not be cut flush with both surfaces of wall. When multiple layers of gypsum board are used, blocks may be recessed 1/2 in. (13 mm) from surface of wall. Blocks to be firmly packed in opening. Either one or a combination of the block types specified below may be used.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-BL Firestop Block

B. **Fill, Void or Cavity Material* — Sealant or Putty —** Fill material to be forced into interstices of cables, between cables and cable trays, around each penetrant and where obvious voids are observed to max extent possible on both surfaces of the penetration.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant, FS-ONE MAX Intumescent Sealant, CP 618 Putty Stick, CP 660 Firestop Foam or CP620 Fire Foam

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Last Updated on 2016-07-12

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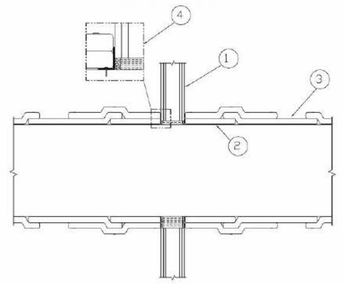
XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-7180

July 24, 2009

F Rating — 2 Hr
T Rating — 2 Hr



1. **Wall Assembly —** The 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing shall consist of steel "C" studs min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC. Additional framing members shall be used to completely frame around opening.

B. **Gypsum Board* —** Min 5/8 in. (15.9 mm) thick, 4 ft (1220 mm) wide with square or tapered edges as specified in the individual U400 or V400 Wall and Partition Design.
Max size of opening is 17.3 sq ft (1.61 m²) with a max width of 89 in. (2.26 m).

See **Gypsum Board** (CKNX) category in the Fire Resistance Directory for names of manufacturers.

2. **Steel Air Duct —** Max 85 by 24 in. (2160 by 610 mm) 0.030 in. (0.76) mm thick (22 GA) galvanized steel duct to be installed either concentrically or eccentrically within the opening. The annular space shall be min 1 in. (25 mm) to max 3 in. (76 mm) within the framed opening. The duct shall be constructed and reinforced in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible. Steel duct to be rigidly supported on both sides of wall assembly.

3. **Duct Wrap Materials* —** Nom 1-1/2 in. (38 mm) thick ceramic fiber batt or blanket (min 6 pcf or 96 kg/m³) jacketed on the outside with a foil-scrim-poly facing, installed in a telescope, checkerboard or butt-joint-and-collar pattern with 3 in. (76 mm) transverse and longitudinal overlaps, in accordance with the requirements of Ventilation Assembly No. V-20. See Ventilation Duct Assemblies in Vol. 2 of the UL Fire Resistance Directory. Longitudinal and transverse joints sealed with aluminum foil tape.
3M COMPANY 3M FIRE PROTECTION PRODUCTS — 3M FireBarrier Duct Wrap 615 or 3M FireBarrier Duct Wrap 615+

4. **Firestop System —** The firestop system shall consist of the following:

A. **Packing Material —** Min 4-3/4 (121 mm) thickness of min 6 pcf (96 kg/m³) duct insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.
3M COMPANY 3M FIRE PROTECTION PRODUCTS — 3M FireBarrier Duct Wrap 615 or 3M FireBarrier Duct Wrap 615+

B. **Fill Void or Cavity Material* - Sealant —** Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall.
3M COMPANY 3M FIRE PROTECTION PRODUCTS — 3M FB-1000 NS

C. **Steel Retaining Angles —** Stiffening angle 1-1/2 by 2 by 1/8 in. (38 by 52 by 3.2 mm), applied around the perimeter of the duct with the 2 in. (52 mm) leg against the sealant (Item 4B above). Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC.

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EXPIRATION DATE: 6-30-2027

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EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

PENETRATION DETAILS

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- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHEZ - Through-penetration Firestop Systems
XHEZ7 - Through-penetration Firestop Systems Certified for Canada

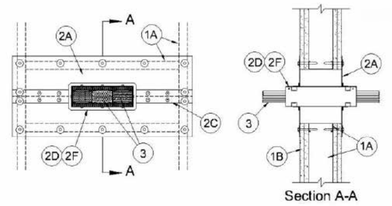
See General Information for Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems Certified for Canada

System No. W-L-3271

July 13, 2012

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Rating — 3/4 Hr	FT Rating — 3/4 Hr
	FH Ratings — 1 and 2 Hr (See Item 1)
	FTH Rating — 3/4 Hr



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described within the individual U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:

A. **Steel Studs** — Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. Additional studs shall be installed horizontally to form a rectangular box around the through penetrants (Item 2D).

B. **Gypsum Board*** — Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max area of opening is 182 sq in. (0.12 m^2) with max dimension of 22-3/4 in. (578 mm).
The hourly F and FH Ratings of the firestop system are dependent upon the hourly fire rating of the wall in which it is installed.

2. **Firestop System** — The firestop system shall consist of the following:

A. **Fill, Void or Cavity Materials*— Composite Sheet** — Foil-faced sheet with galv steel sheet backer. Sheets may be installed as one solid sheet, cut in two pieces (top and bottom) or slit on one side of the penetrant(s). Opening in intumescent sheet to be max 1/4 in. (6 mm) larger than width and height dimensions of firestop device(s). Sheets cut to lap min of 2 in. (51 mm) on the wall on all sides of the opening. Sheets to be installed on each side of wall with foil facing against wall surface and secured to framing, through gypsum board layers, with min 2 in. (51 mm) long steel drywall screws in conjunction with min 1-1/4 (32 mm) diam steel fender washers. Spacing of fasteners not to exceed 6 in. (152 mm) OC.
SPECIFIED TECHNOLOGIES INC — SpecSeal CS Composite Sheet

B. **Fill, Void or Cavity Materials* — Putty or Sealant** — Nom 3/16 in. (5 mm) wide by 3/16 in. (5 mm) thick putty strips or 1/4 in. (6 mm) diam bead of sealant applied beneath composite sheet around entire perimeter of through opening.
SPECIFIED TECHNOLOGIES INC — SpecSeal Putty, SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

C. **Steel Cover Strip** — The steel cover strip is required when the sheet is cut/slit to accommodate the firestop devices (Item 2D). Min 2 in. (51 mm) wide strip of min 0.020 in. (0.51 mm) thick (26 gauge) galv steel centered over entire length of each butted seam or slit made in the intumescent sheet (Item 2A). Prior to installation of the steel strip, the seam or slit in the intumescent sheet shall be covered with a nom 1/8 by 1/2 in. (3.2 by 13 mm) ribbon of putty or a nom 1/4 in. (6 mm) diam bead of sealant (Item 2C). Steel cover strip secured to galv steel sheet backer of intumescent sheet with steel sheet metal screws or rivets spaced max 3 in. (76 mm) OC on each side of seam or slit.

D. **Firestop Device*** — One, two, three, four or seven firestop device modules ganged together. Each firestop device module consists of a 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device modules to be installed in accordance with the accompanying installation instructions. The space between the firestop device module(s) and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/8 in. (3.2 mm) for square or rectangular plates and min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm) when circular wall plates are used. Firestop device module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device by means of steel set screws provided with wall plates. Four- and seven- gang steel wall plates shall be secured to studs through gypsum board layers with steel drywall screws or to composite sheet using steel sheet metal screws. Each firestop device module is to be installed with ends projecting an equal distance beyond each surface of the wall assembly.
SPECIFIED TECHNOLOGIES INC — EZ PATH Series 33 Fire Rated Pathway

E. **Firestop Device* - Extension Module*** — (Optional, Not Shown) — Module attached to ends of 3 by 3 by 10-1/2 in. (76 by 76 by 267 mm) long firestop device (Item 2D) to increase its length to facilitate installation in thicker walls. Each module consists of a 3 by 3 by 6 in. (76 by 76 by 152 mm) long galv steel tube with an intumescent material lining. Extension module to be installed in accordance with the accompanying installation instructions. When module is used, firestop device (Item 2D) and extension module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device or extension module(s) by means of steel set screws provided with wall plates. Firestop device and extension module(s) assembly to be installed with ends projecting an equal distance beyond each surface of the wall assembly.
SPECIFIED TECHNOLOGIES INC — EZ PATH EXTENSION

F. **Firestop Device*** — One firestop device module consisting of a 1.4 by 1.4 by 10-1/2 in. (36 by 36 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device module to be installed in accordance with the accompanying installation instructions. The space between the firestop device module and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/8 in. (3.2 mm). Firestop device module(s) secured in place by means of steel wall plates installed with gasketing material supplied with product. Steel wall plates installed on both sides of wall and secured to each device by means of steel set screws provided with device. The firestop device module is to be installed with ends projecting an equal distance beyond each surface of the wall assembly.
SPECIFIED TECHNOLOGIES INC — EZ PATH Series 22 Fire Rated Pathway

3. **Cables** — The cables may represent a 0 to 100 percent visual fill within the loading area for each firestop device module. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types of cables may be used:

A. Max 400 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation or with plenum rated jacketing and insulation.

B. Max 350 kcmil single copper conductor power cable with XLPE jacket and insulation

C. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

D. Max 3/C No. 10 AWG metal clad or armored cable with steel or aluminum jacket.

E. Max 3/C No. 8 AWG NM cable (Romex) with PVC insulation and jacket.

F. Max four pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.

G. Max four pair No. 22 AWG (or smaller) copper conductor data cable with PVC or plenum rated jacketing and insulation.

H. Max RG/U coaxial cable with fluorinated ethylene insulation and jacketing.

I. Fiber optic cable with PVC or polyethylene (PE) jacket and insulation having a max diam of 5/8 in. (16 mm).

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2012-07-13

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL Solutions' Follow - Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL Solutions' Follow - Up Service. Always look for the Mark on the product.

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MW STUDIOS
ARCHITECTURE + MASTER PLANNING
8098 SANDPIPER CIR, SUITE H
NOTTINGHAM, MD 21236
410-344-1460
INFO@MWSARCH.COM
WWW.MWSARCH.COM

SEAL:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF PENNSYLVANIA.

LICENSE NUMBER: #RA405311
EXPIRATION DATE: 6-30-2027

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

PENETRATION DETAILS

SHEET NUMBER:
G009

10/1/2026 9:55:02 PM

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EMERGENCY SERVICES FACILITY

FOR

EXETER TOWNSHIP

EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

2/18/2026

CERTIFICATE OF MUNICIPAL APPROVAL

AT A MEETING HELD ON _____, 20____, THE BOARD OF SUPERVISORS OF THE TOWNSHIP OF EXETER, BY _____, DULY ENACTED, APPROVED THE LAND DEVELOPMENT PLAN OF THE PROPERTY OF _____, SHOWN HEREON (PLAN DATED _____).

_____

_____

_____

_____

_____

CERTIFICATE OF MUNICIPAL APPROVAL

AT A MEETING HELD ON _____, 20____, THE PLANNING COMMISION OF THE TOWNSHIP OF EXETER, BY _____, DULY ENACTED, APPROVED THE LAND DEVELOPMENT PLAN OF THE PROPERTY OF _____, SHOWN HEREON (PLAN DATED _____).

_____

_____

_____

_____

_____

BERKS COUNTY PLANNING COMMISSION REVIEW CERTIFICATE

THE BERKS COUNTY PLANNING COMMISSION, AS REQUIRED BY THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE, ACT 247 OF 1968, AS AMENDED, REVIEWED THIS PLAN. THIS CERTIFICATE DOES NOT INDICATE APPROVAL OR DISAPPROVAL OF THE PLAN BY THE BERKS COUNTY PLANNING COMMISSION.

DIRECTOR: _____ DATE: _____

RECORDER OF DEEDS CERTIFICATE

THIS PLAN RECORDED IN THE OFFICE OF THE RECORDED OF DEEDS FOR BERKS COUNTY THIS _____ DAY OF _____, 20____

INSTRUMENT # _____

MODIFICATIONS / WAIVERS REQUESTED

(GRANTED: MARCH 23, 2026)

1. BMP OPERATION & MAINTENANCE FUND CONTRIBUTION (320-43)
2. PRELIMINARY PLAN (330-8)
3. FINANCIAL SECURITY (330-10)
4. TRAFFIC IMPACT STUDY (330-47)
5. WATER RESOURCES STUDY (330-48)
6. PARKING LOT PLANTING ISLANDS (330-48.3.B)
7. STREET TREES ALONG THE ROW (330-48.4)

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGEMENT OF PLAN AND OFFER OF DEDICATION

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF BERKS

ON THIS, THE _____ DAY OF _____, 20____, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED _____, WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT _____ IS THE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT ITS DIRECTION, THAT IT DESIRES THE SAME TO BE ITS ACT AND PLAN _____, AND THAT ALL STREETS _____, ARE HEREBY OFFERED FOR DEDICATION TO PUBLIC USE.

_____ _____

_____

MY COMMISSION EXPIRES

_____, _____.

LANDOWNER STORMWATER MANAGEMENT ACKNOWLEDGEMENT

I HEREBY REPRESENT THAT ANY REVISIONS TO THE APPROVED DRAINAGE PLAN MUST BE APPROVED BY THE TOWNSHIP AND BERKS COUNTY CONSERVATION DISTRICT.

SIGNATURE: _____ DATE: _____

CERTIFICATE OF ACCURACY PLAN

I HEREBY CERTIFY THAT THE PLAN SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF THE TOWNSHIP OF EXETER.

_____ _____
SIGNATURE DATE

CERTIFICATE OF ACCURACY SURVEY

I HEREBY CERTIFY THAT THE PLAN SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE OF THE TOWNSHIP OF EXETER AND THAT ALL MONUMENTS AND METAL MARKERS HAVE BEEN PLACED AS REQUIRED BY SECTION 330-140(7) AND 330-59.

_____ _____
SIGNATURE DATE

STORMWATER MANAGEMENT PLAN CERTIFICATION

I, _____ ON THIS DATE, HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE SCHUYLKILL RIVER WATERSHED ACT 167 STORMWATER MANAGEMENT ORDINANCE.

SIGNATURE: _____ DATE: _____

SUPPLEMENTAL DOCUMENTS

EROSION AND SEDIMENTATION CONTROL PLAN
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
POST CONSTRUCTION STORMWATER MANAGEMENT REPORT
INFILTRATION / GEOTECHNICAL REPORT
ENVIRONMENTAL IMPACT ASSESSMENT
TURNING EXHIBITS

PARCEL INFORMATION

DEED REFERENCE: 1483 506
ACCOUNT NUMBER: 43532508897742

OWNER/DEVELOPER

EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606

ENGINEER/SURVEYOR

HERBERT, ROWLAND & GRUBIC, INC.
1275 GLENLIVET DRIVE, SUITE 330
ALLENTOWN, PA 18106

PA ONE CALL

ACT 287, AS AMENDED

PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

PENNSYLVANIA ACT 287 (1974) AS AMENDED, REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH. PA ONE-CALL SERIAL NO. 20252811468 HAS BEEN ASSIGNED TO THIS PROJECT ON 10/08/25.

PA ONE CALL-UTILITY LIST

COMPANY: WINDSTREAM
ADDRESS: 1450 CENTER POINT RD
HIAWATHA, IA. 52233
CONTACT: LOCATE DESK PERSONNEL
EMAIL: locate.desk@windstream.com
PHONE: 800-289-1901

COMPANY: COMCAST
ADDRESS: 1241 PA-66 BUS
GREENSBURG, PA. 15601
CONTACT: ASHLEY DONALDSON
EMAIL: ashley donaldson@comcast.com
PHONE: 412-925-3236

COMPANY: WINDSTREAM ENTERPRISE/WHOLESALE
ADDRESS: 4005 N RODNEY PARHAM RD
LITTLE ROCK, AR. 72212
CONTACT: CLEC LOCATE DESK PERSONNEL
EMAIL: WCI.CLEC.LOCATE@WINDSTREAM.COM
PHONE: 800-941-3430

COMPANY: EXETER TOWNSHIP BERKS COUNTY
ADDRESS: 4975 DEMOSS ROAD
READING, PA. 19606
CONTACT: JASON HUNTER
EMAIL: jhunter@exetertownship.com
PHONE: 610-779-5660EXT. 229

COMPANY: PENNSYLVANIA ELECTRIC CO
ADDRESS: 341 WHITE POND DRIVE
AKRON, OH. 44320
CONTACT: MELLYSSA ADAMS
EMAIL: madams@firstenergycorp.com
PHONE: 330-252-4013

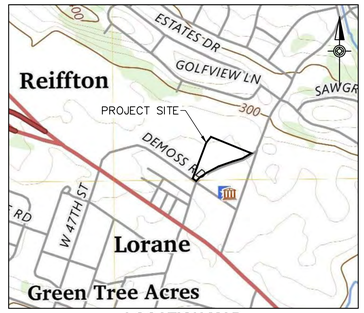
COMPANY: ENERGY TRANSFER
ADDRESS: 1300 MAIN ST
HOUSTON, TX. 77002
CONTACT: SAUL SHAW
EMAIL: saul.shaw@energytransfer.com
PHONE: 713-989-7342

COMPANY: SERVICE ELECTRIC CABLEVISION INC
ADDRESS: PO BOX 8
BIRDSBORO, PA. 19508
CONTACT: MIKE SPAYD
EMAIL: mike.spayd@secv.com
PHONE: 610-582-5317

COMPANY: PENNSYLVANIA AMERICAN WATER
ADDRESS: 171 W JOHNSON HWY
NORRISTOWN, PA. 19401
CONTACT: SITI YEARWOOD
EMAIL: siti. yearwood@amwater.com
PHONE: 610-292-3575

COMPANY: UGI UTILITIES INC
ADDRESS: 225 MORGANTOWN RD
READING, PA. 19611
CONTACT: KURT ZIELASKOWSKI
EMAIL: kzielaskowski@ugi.com
PHONE: 610-736-5571

COMPANY: VERIZON BUSINESS FORMERLY MCI
ADDRESS: 7000 WESTON PKWY
CARY, NC. 27513
CONTACT: VICTOR WOOD
EMAIL: victor.s.wood@verizon.com
PHONE: 919-414-2782



LOCATION MAP

SCALE: 1"=800'

Sheet List Table

Sheet Number	Sheet Title	Description
01	COVER SHEET	CV
02	NOTES	NT
03	NOTES	NT-2
04	OVERALL BOUNDARY PLAN	OVAL
05	EXISTING CONDITIONS & DEMOLITION PLAN	EC-DM
06	OVERALL SITE PLAN	SI-OA
07	SITE PLAN	SI
08	OVERALL GRADING & PCSM PLAN	GR-OA
09	GRADING AND PCSM PLAN	GR
10	OVERALL UTILITY PLAN	UT-OA
11	UTILITY PLAN	UT
12	STORM PROFILES	PR
13	STORM AND SANITARY PROFILES	PR-2
14	LANDSCAPE & LIGHTING PLAN	LA-1
15	SITE DETAILS	DT-01
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23	SITE DETAILS	DT-09
24	SITE DETAILS	DT-10
25	SITE DETAILS	DT-11
26	SITE DETAILS	DT-12

** ALL PLAN SHEETS TO BE RECORDED

HERBERT, ROWLAND & GRUBIC, INC.
1275 GLENLIVET DRIVE
SUITE 145
ALLENTOWN, PA 18106
610.351.0311 | hrg-inc.com

PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

REVISIONS		
NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.06.15	50% CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
5		
6		
7		
8		
9		

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	AS SHOWN
PROJ. MANAGER:	DENNIS REICHEL

SHEET TITLE:
COVER SHEET

SHEET: CV 01

MANNS WOODWARD STUDIOS
ARCHITECTURE + MASTER PLANNING
8098 SANDPIPER CIR, SUITE
NOTTINGHAM, MD 21236
410-344-1460
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CONSULTANT:

HERBERT, ROWLAND & GRUBIC, INC.
1275 GLENLIVET DRIVE
SUITE 145
ALLENTOWN, PA 18106
610.351.0311 | hrg-inc.com

SEAL:

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — DENNIS J. REICHEL — ENGINEER NO. PE070767 — 10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:

C01

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EXISTING LEGEND

- Drill Hole
- Monument
- Iron Pipe/Rebar in Concrete
- Benchmark
- Property Line
- Legal Right-of-Way Line
- Setback Line
- Zoning Boundaries
- Soil Boundaries
- Existing Easement
- 540 Existing Contour Major
- Existing Contour Minor
- x540.3 Existing Ground Elevation
- Existing Shrub
- Existing Coniferous Tree
- Existing Deciduous Tree
- Tree/Brush Line
- Shrub Row
- Existing Edge of Road
- Existing Edge of Gravel
- Existing Fence
- Existing Sign
- Existing Bollard
- Existing Mailbox
- T Existing Above Ground Telephone Line
- Existing Telephone Pole
- E Existing Above Ground Electric Line
- Existing Electric Pole
- Existing Light Standard
- Existing Guy Wire
- G Existing Gas Line
- S Existing Sanitary Sewer Line
- 12" CMP Existing Storm Sewer Line
- Existing Sanitary Sewer Manhole
- CO Existing Cleanout
- Existing Storm Sewer Inlet
- Existing Storm Sewer Manhole
- W Existing Water Line
- Existing Well
- FH Existing Fire Hydrant

PROPOSED LEGEND

- PROPOSED MONUMENT
- PROPOSED REBAR
- PROPOSED PROPERTY LINE
- PROPOSED EASEMENT
- 1010 PROPOSED CONTOUR
- x 410.00 PROPOSED SPOT ELEVATION
- x BC 410.00 PROPOSED BOTTOM OF CURB SPOT ELEVATION
- x TC 410.00 PROPOSED TOP OF CURB SPOT ELEVATION
- x HP 410.00 PROPOSED HIGH POINT SPOT ELEVATION
- x LP 410.00 PROPOSED LOW POINT SPOT ELEVATION
- x TW 410.00 PROPOSED TOP OF WALL SPOT ELEVATION
- x GR 410.00 PROPOSED FINISHED GRADE AT WALL FACE SPOT ELEVATION
- PROPOSED CURB
- PROPOSED CONCRETE SIDEWALK
- PROPOSED ACCESSIBLE RAMP
- PROPOSED TYPE 2-S GUIDE RAIL
- 20 PROPOSED PARKING SPACE QUANTITY TAG
- PROPOSED FENCE
- PROPOSED SIGN
- PROPOSED BOLLARD
- PROPOSED TELEPHONE POLE
- E/U PROPOSED UNDERGROUND ELECTRIC LINE
- E,T,(CTV)/U PROPOSED UNDERGROUND ELECTRIC, TELEPHONE AND CABLE TV LINE
- PROPOSED LIGHT STANDARD
- G PROPOSED GAS LINE
- PROPOSED STORM SEWER & INLET
- CMP CORRUGATED METAL PIPE
- SLCPP SMOOTH LINED CORRUGATED PLASTIC PIPE
- HDPE HIGH DENSITY POLYETHYLENE
- RCP REINFORCED CONCRETE PIPE
- PVC POLYVINYL CHLORIDE
- DIP DUCTILE IRON PIPE
- S PROPOSED SANITARY LINE
- FM PROPOSED FORCEMAIN LINE
- PROPOSED SANITARY/STORM MANHOLE
- PROPOSED SANITARY CLEANOUT
- W PROPOSED WATER LINE
- PROPOSED WATER VALVE
- FH PROPOSED FIRE HYDRANT

GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE DEVELOPMENT OF A 29,960 +/- SQUARE FOOT EMERGENCY SERVICES FACILITY AND ASSOCIATED IMPROVEMENTS.
2. PA ONE CALLS WERE PERFORMED PRIOR TO FIELD SURVEYING, SERIAL NUMBER 20252811468. THE LOCATIONS OF UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE GROUND STRUCTURES, FIELD OBSERVATIONS/SURVEY, AND RECORD DRAWINGS PROVIDED BY UTILITY COMPANIES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION AND DEPTH OF ALL UTILITY LINES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
3. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL LOCAL AND STATE REGULATIONS AND CODES AND OSHA STANDARDS NOTED.
4. ALL DIMENSIONS AND RADII ARE TO THE FACE OF CURB, EDGE OF PAVING OR EDGE OF BUILDING UNLESS OTHERWISE NOTED.
5. EXISTING STRUCTURES WITHIN THE CONSTRUCTION LIMITS SHALL BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY.
6. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCES.
7. ALL CURBED RADII SHALL BE 5 FEET UNLESS OTHERWISE NOTED.
8. ALL NON-IMPERVIOUS AREAS ARE TO RECEIVE SIX INCHES OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED UNLESS OTHERWISE NOTED.
9. THE PROPOSED BUILDING DIMENSIONS SHOWN ON THIS PLAN ARE FOR LAND DEVELOPMENT APPROVAL ONLY. MINOR CHANGES MAY OCCUR AT THE FINAL BUILDING DESIGN PHASE OF THE PROJECT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS NECESSARY FOR THIS PROJECT, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS AND POLES, ETC. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES REQUIREMENTS AND SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COSTS SHALL BE AT THE CONTRACTOR'S EXPENSE AND INCLUDED IN THE BASE BID.
11. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.
12. THE CONTRACTOR IS ENCOURAGED TO OBTAIN COPIES AND BECOME FAMILIAR WITH THE TOWNSHIP ZONING ORDINANCE, SUBDIVISION AND LAND DEVELOPMENT ORDINANCE AND STANDARD CONSTRUCTION AND MATERIAL SPECIFICATIONS AS WELL AS PENNDOT PUBLICATION 408 AND PENNDOT RC STANDARDS. THE CONTRACTOR IS RESPONSIBLE TO MEET THE REQUIREMENTS OF THESE ORDINANCES, SPECIFICATIONS AND STANDARDS FOR VARIOUS PUBLIC IMPROVEMENTS.
13. ALL STREET SIGNS, TRAFFIC CONTROL SIGNAGE AND PERMANENT MARKINGS SHOWN ON THE PLAN SHALL BE AT THE CONTRACTOR'S EXPENSE AND INCLUDED IN THE BASE BID.
14. SITE SOILS INCLUDE ATWOL SILT LOAM HYDRIC SOILS. NO HYDRIC SOILS ARE PRESENT. NO WETLANDS ARE PRESENT PER THE NATIONAL WETLANDS INVENTORY.
15. BASED ON FEMA FLOOD INSURANCE RATE MAP 42011C0536G, DATED JULY 3, 2012, THE SITE IS NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN.
16. ALL CONSTRUCTION SHALL BE SUBJECT TO THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE, AS ADOPTED BY THE MUNICIPALITY AND ADA REQUIREMENTS.
17. NO STRUCTURE, LANDSCAPING OR GRADING MAY BE CONSTRUCTED, INSTALLED OR PERFORMED WITHIN THE AREA OF THE CLEAR SIGHT TRIANGLE WHICH WOULD OBSCURE THE VISION OF MOTORISTS.
18. PROPERTY SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL PERFORMANCE STANDARDS PER ZONING ORDINANCE SECTION 390-35.
19. ALL DRIVEWAYS AND ACCESS DRIVES SHALL BE IN ACCORDANCE WITH THE EXETER TOWNSHIP SALDO & ZONING ORDINANCES.
20. SITE LIGHTING SHALL BE IN CONFORMANCE WITH OUTDOOR LIGHTING ORDINANCE (CHAPTER 235) AND SECTION 390-37.E OF THE ZONING ORDINANCE.
21. NO FACILITIES OR IMPROVEMENTS ARE PROPOSED TO BE DEDICATED TO EXETER TOWNSHIP UNLESS SPECIFICALLY NOTED ON THE PLAN.
22. NO OBSTRUCTION WHICH WILL OBSCURE THE VISION OF A MOTORIST IS PERMITTED WITHIN THE AREA OF THE CLEAR SIGHT TRIANGLE.
23. THE DUMPSTER AND/OR STORAGE FACILITY SHALL COMPLY WITH SECTION 390-30 & 390-34 OF THE TOWNSHIP ZONING ORDINANCE.
24. ALL BUILDING / FREE STANDING SIGNAGE SHALL BE SUBJECT TO APPROVAL BY THE EXETER TOWNSHIP ZONING OFFICER.
25. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE INSPECTING ENGINEER TO COORDINATE THE CONSTRUCTION OBSERVATION SCHEDULE AND RELATED DETAILS. ALL ITEMS NEEDING INSPECTION SHALL BE COORDINATED BY THE OWNER AND/OR CONTRACTOR.
26. PRIOR TO USE AND OCCUPANCY A STREET NUMBER ASSIGNED BY THE BOARD OF SUPERVISORS AND APPROVED BY BERKS COUNTY DEPARTMENT OF EMERGENCY SERVICES SHALL BE PROVIDED. THE STREET NUMBER SHALL BE VISIBLE FROM THE STREET.

PRIOR RECORDED PLANS FOR THE SUBJECT SITE:

NAME	INSTRUMENT NUMBER
EXETER TOWNSHIP CAMPUS PROPERTY – ANNEXATION & CONSOLIDATION PLAN	2025004556 (RECORDED 2/18/2025)

INSPECTION REQUIREMENTS:

1. REGULAR INSPECTION OF THE SWM FACILITIES. TO ASSURE PROPER IMPLEMENTATION OF BMPS, MAINTENANCE AND CARE SWM BMPS SHOULD BE INSPECTED BY A QUALIFIED PERSON, WHICH MAY INCLUDE THE LANDOWNER, OR THE OWNER'S DESIGNEE, ACCORDING TO THE FOLLOWING MINIMUM FREQUENCIES:
   i. ANNUALLY FOR THE FIRST 5 YEARS.
   ii. ONCE EVERY 3 YEARS THEREAFTER.
   iii. DURING OR IMMEDIATELY AFTER THE CESSATION OF A 10-YEAR OR GREATER STORM.
   iv. AS SPECIFIED IN THE O&M AGREEMENT.
2. ALL PIPES, SWALES AND DETENTION/INFITLRATION FACILITIES SHALL BE KEPT FREE OF ANY DEBRIS OR OTHER OBSTRUCTION AND IN ORIGINAL DESIGN CONDITION.
3. REMOVAL OF SILT FROM ALL PERMANENT STRUCTURES WHICH TRAP SILT OR SEDIMENT IN ORDER TO KEEP THE MATERIAL FROM BUILDING UP IN GRASS WATERWAYS, PIPES, DETENTION OR RETENTION BASINS, INFILTRATION STRUCTURES, OR BMPS, AND THUS REDUCING THEIR CAPACITY TO CONVEY OR STORE WATER.
4. RE-ESTABLISHMENT OF VEGETATION OF SCOURED AREAS OR AREAS WHERE VEGETATION HAS NOT BEEN SUCCESSFULLY ESTABLISHED. SELECTION OF SEED MIXTURES SHALL BE SUBJECT TO APPROVAL BY THE TOWNSHIP.
5. THE PROPERTY/LOT OWNER, THEIR SUCCESSORS OR ASSIGNS WILL BE RESPONSIBLE FOR OWNERSHIP AND MAINTENANCE OF BOTH TEMPORARY AND PERMANENT SWM AND EROSION AND SEDIMENTATION CONTROL FACILITIES.

GRADING AND STORMWATER NOTES:

1. ALL ELEVATIONS SHOWN ARE REFERENCED TO BENCHMARKS AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO GROUND BREAKING.
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF PENNSYLVANIA ACT 287 (1974) AS AMENDED BY ACT 181 (2006), NOTIFICATION OF UTILITIES PRIOR TO CONSTRUCTION.
3. ALL SPOT ELEVATIONS ARE REFERENCED TO THE FINISHED GROUND SURFACE UNLESS OTHERWISE NOTED.
4. THE STORMWATER MANAGEMENT AND SOIL EROSION AND SEDIMENTATION CONTROL REPORTS SHALL BE REFERENCED FOR ADDITIONAL NARRATIVE, CALCULATIONS AND DETAILS REGARDING STORMWATER AND SOIL EROSION CONTROL.
5. THE CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS. ALL AREAS OF THE SITE MUST BE GRADED TO MAINTAIN POSITIVE DRAINAGE TO A STORMWATER COLLECTION FACILITY. ANY LOCALIZED DEPRESSIONS WITHIN PAVED AREAS MUST BE ELIMINATED.
6. ALL STORMWATER MANAGEMENT FACILITIES SHOWN ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN, CONDITIONS AND SPECIFICATIONS IDENTIFIED ON THIS PLAN. OWNERSHIP AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, HIS SUCCESSORS AND ASSIGNS.
7. MUNICIPAL AND COUNTY OFFICIALS AND THEIR AGENTS OR EMPLOYEES HAVE THE RIGHT OF ACCESS FOR INSPECTION AND, IN THE CASE OF CONSTRUCTION DEFAULT, CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITIES.
8. STORMWATER MANAGEMENT FACILITIES SHALL BE MAINTAINED IN GOOD WORKING CONDITION SO THAT THEY ARE PERFORMING THEIR DESIGN FUNCTION, IN A MANNER ACCEPTABLE TO THE TOWNSHIP. MAINTENANCE SHALL INCLUDE PERFORMING ROUTINE MAINTENANCE AND REPAIR OR REPLACEMENT OF DAMAGED FACILITIES, VEGETATION OR STORMWATER DRAINAGE AREAS TO CONDITIONS AS SHOWN ON THE APPROVED PLAN AND IN ACCORDANCE WITH THE EXETER TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE AND EXETER TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.
9. ANY DRAINAGE AND UTILITY EASEMENTS SHOWN ON THE PLAN SHALL BE CONSTRUCTED, OWNED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLAN AND SHALL BE REFERENCED WITHIN THE PROPERTY DEED.
10. NOTHING SHALL BE PLACED, PLANTED, SET OR PUT WITHIN THE AREA OF AN EASEMENT THAT MAY ADVERSELY AFFECT THE FUNCTION OF THE EASEMENT OR CONFLICT WITH THE EASEMENT AGREEMENT.
11. NOTHING, EXCEPT EROSION CONTROL AND/OR STORMWATER MANAGEMENT FACILITIES SHALL BE PLACED, PLANTED, OR PUT WITHIN THE AREA OF A STORMWATER EASEMENT.
12. REFER TO STORM SEWER PROFILES FOR STORM SEWER DESIGN INFORMATION.
13. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENTATION CONTROL/STORMWATER MANAGEMENT PLAN.
14. THE CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH AND CONTINUOUS GRADE.
15. THE CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS AS OUTLINED IN THE GENERAL NPDES PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES, NO EARTH DISTURBANCE MAY OCCUR OUTSIDE THE PERMITTED NPDES BOUNDARY LINE.
16. THE CONTRACTOR SHALL APPLY A STABILIZATION FABRIC, OR EQUIVALENT, TO ALL SLOPES STEEPER THAN 3:1 FOR ANY TEMPORARY OR PERMANENT CUTS OR FILLS.
17. ALL STORMWATER PIPING ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURES IS WATERTIGHT.
18. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR FLOW CHANNEL FROM INVERT IN TO INVERT OUT.
19. ALL STORM PIPING SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

    TYPE 1: HIGH DENSITY POLYETHYLENE PIPE (SLCPP) SMOOTH INTERIOR, AASHTO DESIGNATION M252 AND M294. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER'S GUIDELINES FOR CULVERT STORM DRAINAGE APPLICATION.

    TYPE 2: RCP. PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT) PUBLICATION 280M (280). PROVIDE RC PIPE CONFORMING TO PENNDOT PUBLICATION BD-601M PENNDOT DESIGN MANUAL PART 4M, APPENDIX H, AND THE PENNSYLVANIA INSTALLATION DIRECT DESIGN (PAIDD) COMPUTER PROGRAM. MANUFACTURE AND TEST ACCORDING TO PUBLICATION 280M (280).
20. ALL PROPOSED STORM DRAINAGE INLETS SHALL BE EQUIPPED WITH HEAVY DUTY BICYCLE SAFE GRATES CONSISTENT WITH PENNDOT PUB 72M, LATEST EDITION.
21. THE PROPERTY OWNER IS RESPONSIBLE FOR KEEPING ALL STORMWATER MANAGEMENT FACILITIES FREE OF DEBRIS.
22. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON UPON RECORDS OF VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST COORDINATE WITH THE VARIOUS UTILITY COMPANIES TO VERIFY THE EXACT LOCATION OF UTILITIES PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
23. A GEOTECHNICAL ANALYSIS SHALL BE PERFORMED TO DETERMINE ANY NECESSARY CONTROLS TO STABILIZE ANY EMBANKMENTS STEEPER THAN 3:1 PRIOR TO EARTH MOVING.
24. INLET TOPS AND BOXES LOCATED WITHIN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO CURRENT PENNDOT RC-45M AND RC-46M REQUIREMENTS.
25. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING ALL INLET BOX SIZES PRIOR TO ORDERING.
26. INFILTRATION FACILITIES SHALL HAVE A MINIMUM DEPTH OF 24" BETWEEN THE BOTTOM OF THE FACILITY AND THE LIMITING ZONE. WHERE LESS THAN 24" OCCURS IN SITUATIONS INVOLVING BEDROCK, ADDITIONAL EXCAVATION SHALL BE PROVIDED.
27. THE PROJECT AREA IS LOCATED WITHIN SUBAREA 522 OF ANITETAM CREEK ACT 167 WATERSHED WHICH IS A 100% OF PREDEVELOPMENT CONDITION RELEASE RATE AREA.
28. CORNER CONNECTIONS OF ANY PIPE TO ANY STORMWATER STRUCTURES ARE PROHIBITED.
29. ALL STORMWATER PIPE CONNECTIONS/JOINTS SHALL BE WATERTIGHT.
30. THE CONTRACTOR IS RESPONSIBLE TO SCHEDULE CONSTRUCTION INSPECTIONS FOR ALL STORMWATER MANAGEMENT FACILITIES WITH THE TOWNSHIP INCLUDING REMOVAL OF IMPERVIOUS SURFACES FULL DEPTH.
31. THE TOWNSHIP SHALL HAVE THE RIGHT, BUT NOT THE DUTY, TO REPLACE OR MAINTAIN ANY DRAINAGE FACILITIES SHOWN WITHIN THE EASEMENT(S) PROVIDED ON THE LOT(S) AT THE LOT OWNERS EXPENSE.
32. ALL DRAINAGE EASEMENTS SHALL REMAIN FREE AND CLEAR OF ALL IMPEDIMENTS, INCLUDING, BUT NOT LIMITED TO, SHEDS, FENCES, TREES, SHRUBS, OR OTHER PLANTINGS OR STRUCTURES. NO GRADING WITHOUT THE PRIOR WRITTEN PERMISSION OF THE EXETER TOWNSHIP BOARD OF SUPERVISORS SHALL BE PERMITTED.
33. REPRESENTATIVES OF EXETER TOWNSHIP SHALL HAVE THE RIGHT TO INSPECT THE DRAINAGE FACILITIES LOCATED ON THE LOT(S) FROM TIME TO TIME AS DEEMED NECESSARY.
34. EXCEPT WHERE LISTED AS A PERMITTED USE, THE STRIPING AND REMOVAL OF TOPSOIL FROM LOTS SHALL NOT BE PERMITTED. TOPSOIL MAY BE REMOVED FROM AREAS OF CONSTRUCTION, GRADING, EXCAVATION AND OTHER EARTH-MOVING ACTIVITIES, BUT SHALL BE STORED ELSEWHERE ON THE SITE AND STABILIZED TO MINIMIZE EROSION. UPON COMPLETION OF EARTH MOVING ACTIVITIES, THE TOPSOIL SHALL BE REDISTRIBUTED TO A MINIMUM DEPTH OF SIX INCHES.

SITE DATA

ZONE:	TOWNSHIP COMMONS DISTRICT (TCD)
PROPOSED USE:	FIRE STATION (PERMITTED BY RIGHT 390-23.B.(8))
MINIMUM LOT AREA:	10,000 SF
PROPOSED LOT AREA:	3.28 ACRES (NET-TRACT NORTH OF GIBRALTAR RD) 8.00 ACRES (NET-TOTAL TRACT NORTH & SOUTH OF GIBRALTAR RD)
MINIMUM LOT WIDTH:	100 FEET
PROPOSED LOT WIDTH:	590 FEET
WATER SUPPLY:	PAWC
SEWER DISPOSAL:	PAWC
MINIMUM SETBACKS:	
FRONT:	30 FEET
SIDE:	30 FEET
REAR:	30 FEET
IMPROVEMENT SETBACK:	25 FEET
STORAGE FACILITY SETBACK:	50 FEET FROM STREET LINE,(APPEARS TO APPLY TO DUMPSTERS)(390-30.B.(1))
MAXIMUM LOT COVERAGE:	80%
PROPOSED LOT COVERAGE:	1.80 ACRES, 54% (NET-TRACT NORTH OF GIBRALTAR RD) 5.28 ACRES, 66% (NET-TRACT NORTH & SOUTH OF GIBRALTAR RD)
MAXIMUM BUILDING HEIGHT:	45 FEET, 30 FOOT +/- PROPOSED
PARKING REQUIRED:	1 SPACE PER EMPLOYEE ON LARGEST SHIFT (390-37.Q) 25 EMPLOYEES ON LARGEST SHIFT PARKING PROVIDED: 50 SPACES ADA SPACES REQUIRED: 3 SPACES ADA SPACES PROVIDED: 3 SPACES
SIDEWALKS:	REQUIRED ALONG STREET FRONTAGE (390-23.K & 330-54)
PARKING LOT LOCATION:	MINIMIZE PARKING IN FRONT OF THE BUILDING (330-48.3C) (PARKING HAS BEEN CONCENTRATED TO THE SIDES AND REAR OF BUILDING.)
PARKING LOT LANDSCAPE:	15 SPACES MAX W/O PLANTING ISLAND
PERIMETER PLANTING:	10 FOOT WIDE PERIMETER PLANTING REQUIRED ALONG ALL LOT LINES AND STREET ROW.(330-48.5.B)
STREET/SHADE TREES:	ONE (1) STREET TREE FOR EVERY THIRTY FEET OF ROW. NO LESS THAN (30) FEET APART. PLUS ONE TREE PER TEN PARKING SPACES.(330-48.4). (SALDO WAIVER IS BEING SOUGHT TO MAXIMIZE FIRE STATION VISIBILITY AND SIGHT LINES)

SURVEY NOTES

1. SUBJECT PROPERTY LINES DEPICTED ON THIS PLAN HAVE BEEN ESTABLISHED BASED UPON SURVEY RECEIVED FROM GVC.
2. RIGHT-OF-WAY DEPICTED HAS BEEN ESTABLISHED REFERENCING THE FOLLOWING PLANS OF RECORD:
   DEMOSS ROAD (T-667) – "FAIRLANE COMMERCIAL LOTS" DATED JUNE 1994.
   FAIRLANE ROAD – "FINAL SUBDIVISION/LAND DEVELOPMENT PLAN FAIRLANE COMMERCIAL LOT 1" DATED APRIL 1992, INST #1992024457.
3. THIS SURVEY HORIZONTALLY REFERENCES THE NORTH AMERICAN DATUM OF 1983 (NAD 83), PENNSYLVANIA STATE PLANE PA SOUTH ZONE, DETERMINED THROUGH GNSS METHODS BASED UPON POSITIONAL INFORMATION REFERENCED THROUGH THE KEYNETGPS GNSS VRS NETWORK.
4. THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEOID 18 DETERMINED THROUGH GNSS METHODS BASED UPON POSITIONAL INFORMATION REFERENCED THROUGH KEYNET GPS GNSS VRS NETWORK. DATUM REFERENCED PROJECT BENCHMARKS LOCATED AS:
   BM1 IS A CONCRETE MONUMENT FND LOCATED ALONG THE NORTHERN RIGHT-OF-WAY LINE OF GIBRALTOR ROAD (T-668) APPROX. 1.35' SOUTHWEST FROM UTILITY POLE ME 52913-36008. BM1 HAS AN ELEVATION OF 260.06.
   BM2 IS A DRILL HOLE LOCATED IN A CURB ALONG DEMOSS ROAD (T-667) APPROX. 33' SOUTHWEST OF A TOWNSHIP WELL MARKER LOCATED IN DEMOSS ROAD. BM2 HAS AN ELEVATION OF 245.33'.
5. TOPOGRAPHIC EXISTING CONDITIONS AND CONTOURS SHOWN ARE DERIVED FROM FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY GVC, AND SUPPLEMENTED FIELD RUN TOPOGRAPHIC SURVEY PERFORMED BY HRG, OCTOBER 2025.
6. NO WETLANDS WERE IDENTIFIED ON THE SITE PER A HERBERT, ROWLAND AND GRUBIC, INC. SEPTEMBER 4, 2025 SITE INVESTIGATION.
7. THE LOCATIONS OF UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND FEATURES, FIELD OBSERVATIONS\SURVEY, AND RECORD DRAWINGS PROVIDED BY UTILITY COMPANIES. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION AND DEPTH OF ALL UTILITY LINES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
8. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES IN COMPLIANCE WITH ACT 187 TO VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES. PA ONE CALL WAS PERFORMED PRIOR TO FIELD SURVEYING. SERIAL NUMBER 20252811468.

UTILITIES NOTES:

1. CONTRACTOR TO CONTACT UTILITY COMPANIES AND COORDINATE UTILITY CONNECTIONS.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOW IN THESE PLANS ARE BASED ON RECORDS OF 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 COORDINATE WITH THE VARIOUS UTILITY COMPANIES TO VERIFY THE EXACT LOCATION OF UTILITIES PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF PENNSYLVANIA ACT 287 (1974) AS AMENDED BY ACT 181 (2006), NOTIFICATION OF PUBLIC UTILITIES, PRIOR TO CONSTRUCTION.
3. NOTHING SHALL BE PLACED, PLANTED, SET, OR PUT WITHIN THE AREA OF AN EASEMENT THAT WOULD ADVERSELY AFFECT THE FUNCTION OF THE EASEMENT.
4. UTILITY EASEMENTS ARE FOR THE BENEFIT OF UTILITY SERVICE PROVIDERS. UTILITY SERVICE PROVIDERS SHALL HAVE THE RIGHT TO ACCESS, INSTALL AND MAINTAIN SERVICE LINES.
5. THE CONSTRUCTION OF UTILITY SERVICE LINES SHALL BE IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND APPROVALS OF THE UTILITY SERVICE PROVIDERS.
6. A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN WATER MAIN AND STORM SEWER. A MINIMUM EIGHTEEN (18) INCH VERTICAL CLEARANCE MUST BE MAINTAINED BETWEEN WATER MAIN AND STORM SEWER. WATER MAINS AND LATERALS THAT ARE LESS THAN EIGHTEEN (18) INCHES FROM A STORM SEWER OR CULVERT SHALL BE INSULATED WITH FOAM WRAP.
7. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF FOUR (4) FEET FROM THE TOP OF THE PIPE TO THE PROPOSED SURFACE ELEVATION.
8. SEWER AND WATER MAINS SHALL HAVE A MINIMUM OF TEN (10) FEET HORIZONTAL AND EIGHTEEN (18) INCHES VERTICAL SEPARATION, OR THE SEWER OR WATER MAIN SHALL BE CONCRETE ENCASED IN THE AREA WHERE THE EIGHTEEN (18) INCHES SEPARATION CANNOT BE MAINTAINED.
9. THE WATER MAIN LAYOUT SHOWN HEREON IS CONCEPTUAL IN NATURE AND WAS PLACED AND SIZED WITHOUT BUILDING DEMANDS. SIZE AND LOCATION SHALL BE VALIDATED BY THE WATER UTILITY, SPRINKLER CONTRACTOR AND BUILDING ARCHITECT PRIOR TO CONSTRUCTION.
10. CONNECTION TO PUBLIC SEWER IS REQUIRED FOR ALL LOTS.
11. ALL WATER DISTRIBUTION FACILITIES AND SERVICE CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS AND PA AMERICAN WATER COMPANY.
12. ALL SANITARY SEWER FACILITIES SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND THE PA AMERICAN WATER COMPANY SPECIFICATIONS FOR ADDITIONS AND EXTENSIONS TO THE SEWER SYSTEM.
13. THE CONTRACTOR SHALL CONTACT PA AMERICAN WATER COMPANY, FOR AN INSPECTION OF THE SEWER MAIN AND THE SEWER SERVICE LATERAL.
14. THE GAS MAIN LAYOUT SHOWN HEREON IS CONCEPTUAL IN NATURE. LOCATION AND SIZE SHALL BE VALIDATED BY THE GAS PROVIDER.
15. THE ELECTRIC LAYOUT SHOWN HEREON IS CONCEPTUAL IN NATURE. LOCATION SHALL BE VALIDATED BY THE ELECTRIC PROVIDER.
16. THIS PLAN HAS BEEN REVIEWED FOR THE CONFORMANCE WITH THE REQUIREMENTS OF THE TOWNSHIP OF EXETER FOR FIRE DEPARTMENT ACCESS TO AND WITHIN THE SITE, AND FOR COMPLIANCE WITH THE REQUIREMENTS FOR FIRE WATER SERVICE ON THE SITE OR TO THE BUILDING IF REQUIRED. THIS REVIEW DOES NOT INCLUDE NOR APPROVE ANY FIRE PROTECTION SYSTEMS WITHIN THE BUILDING(S) OR STRUCTURE(S). THIS REVIEW ALSO NEITHER INCLUDES NOR APPROVES ANY FIRE PROTECTION.

DEMOLITION NOTES

1. ALL DEMOLITION SHALL BE CONDUCTED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
2. ALL UTILITIES SHALL BE TERMINATED AND SECURED PRIOR TO DEMOLITION ACTIVITIES. DISCONNECT, CUT, CAP AND/OR ABANDON SERVICE LINES TO BE DEMOLISHED IN ACCORDANCE WITH THE UTILITY COMPANY REQUIREMENTS.
3. UTILITY SERVICE TO ADJACENT PROPERTIES MUST REMAIN CONTINUOUSLY OPERABLE UNLESS SERVICE DISRUPTION IS AGREED TO IN ADVANCE BY THOSE AFFECTED.
4. ITEMS TO REMAIN SHALL BE PROTECTED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. IF ANY ITEM TO REMAIN IS DAMAGED OR MADE INOPERABLE FOR ITS INTENDED FUNCTION, IT SHALL BE REPAIRED OR REPLACED TO A CONDITION EQUAL TO OR BETTER THAN ITS CONDITION WHEN DAMAGED.
5. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK.
6. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND/OR ENGINEER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES IN THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
7. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACT

POST-CONSTRUCTION STORMWATER MANAGEMENT LONG-TERM OPERATION AND MAINTENANCE SCHEDULE:

THE MAINTENANCE OF ALL BEST MANAGEMENT PRACTICES (BMPS) SHOWN HEREIN WILL BE OPERATED AND MAINTAINED BY EXETER TOWNSHIP THEIR HEIRS, SUCCESSORS OR ASSIGNS.

1. INFILTRATION BASIN
   - CATCH BASINS AND INLETS (UPGRADIENT OF INFILTRATION BASIN) SHOULD BE INSPECTED AND CLEANED AT LEAST TWO TIMES PER YEAR AND AFTER RUNOFF EVENTS.
   - THE VEGETATION ALONG THE SURFACE OF THE INFILTRATION BASIN SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED AS SOON AS POSSIBLE.
   - VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON AN INFILTRATION BASIN, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
   - SNOW STORAGE PROHIBITED: SNOW REMOVED FROM ANY ON-SITE OR OFF-SITE AREAS MAY NOT BE STORED WITHIN THE INFILTRATION BASINS/RAINGARDENS.
   - INSPECT THE BASIN AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS. MOSQUITO'S SHOULD NOT BE A PROBLEM IF THE WATER DRAINS IN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STATIC WATER LEVELS.
   - ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS.
   - REMOVE ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE. PROPERLY DISPOSE OF SEDIMENT.
   - SEDIMENT MUST BE REMOVED FROM THE SEDIMENT FOREBAYS BEFORE IT OCCUPIES 50 PERCENT OF THE VOLUME.
   - BMP FAILURE: IF THE BMP FAILS TO DEWATER IN 72 HOURS FROM THE END OF A STORM, THE SYSTEM MUST BE REHABILITATED OR REPLACED. CONTACT THE ENGINEER/ GEOTECHNICAL ENGINEER FOR DIRECTION.
   - WHILE VEGETATION IS BEING ESTABLISHED, MAINTENANCE SHALL BE AS FOLLOWS:

     NATIVE DETENTION AREA MIX (ERNMX-183)

   - FIRST GROWING SEASON MAINTENANCE: WHENEVER CANOPY (OVERALL VEGETATION) REACHES A HEIGHT OF 18"-24", USE A MOWER OR STRING TRIMMER TO TRIM THE MEADOW TO A HEIGHT OF 8". THIS WILL REDUCE COMPETITION BY FAST-GROWING WEEDS FOR SUNLIGHT, WATER AND NUTRIENTS NEEDED BY SLOWER GROWING, PERENNIAL NATIVES. MOWING SHOULD NOT BE DONE WITH A LAWN MOWER AS THE MOWER HEIGHT WILL BE TOO LOW AND NATIVE SEEDLINGS WILL BE KILLED. IF BIOENGINEERING OR CONTAINERIZED WOODY MATERIALS ARE USED ON THE SITE, MOWING SHOULD BE ABOVE THE NEW GROWTH OF THESE MATERIALS. MOWING SHOULD CEASE BY MID-SEPTEMBER. PROBLEM WEEDS SHOULD BE SPOT SPRAYED WITH AN APPROVED HERBICIDE (SUCH AS RODEO®) OR HAND PULLED.
   - SECOND AND SUBSEQUENT GROWING SEASON MAINTENANCE: PRIOR TO NEW SPRING GROWTH REACHING A HEIGHT OF 2" (I.E., SHORTLY AFTER FORSYTHIA OR REDBUD BLOOMS), TRIM ANY MATERIAL STANDING FROM THE PREVIOUS YEAR CLOSE TO THE GROUND (APPROXIMATELY 2"). THIS WILL ALLOW THE SOIL TO WARM MORE QUICKLY WHICH WILL STIMULATE EMERGENCE AND GROWTH OF NATIVE SEEDLINGS. IT WILL ALSO REDUCE THE LIKELIHOOD OF THE MEADOW BEING INVADED BY SHRUBS. PROBLEM WEEDS SHOULD BE SPOT SPRAYED OR HAND PULLED.
   - SPECIAL CIRCUMSTANCES SECOND GROWING SEASON: IF A HEAVY INFESTATION OF RAGWEED OR FOXTAIL IS NOTICED IN THE SECOND GROWING SEASON, TRIM THE MEADOW TO A HEIGHT OF 8". IF BIOENGINEERING OR CONTAINERIZED WOODY MATERIALS WERE USED, TRIMMING SHOULD BE ABOVE OR AROUND NEW GROWTH OF THE PLANTS. TRIMMING SHOULD CEASE AFTER MID-SEPTEMBER.
2. VEGETATED SWALES

   IN GENERAL, MAINTENANCE STRATEGIES FOR SWALES FOCUS ON SUSTAINING THE HYDRAULIC AND POLLUTANT REMOVAL EFFICIENCY OF THE CHANNEL, AS WELL AS MAINTAINING A DENSE VEGETATIVE COVER. THE FOLLOWING SCHEDULE OF INSPECTION AND MAINTENANCE ACTIVITIES IS RECOMMENDED:

   MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY OR 48 HOURS AFTER EVERY MAJOR STORM EVENT (> 1 INCH RAINFALL DEPTH):

   - INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION (WHEN >3 IN. AT ANY SPOT OR WHERE IT COVERS VEGETATION).
   - INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES, CORRECT AS NEEDED.
   - INSPECT FOR POOLS OF STANDING WATER; DEWATER AND DISCHARGE TO A STORM SEWER AT AN APPROVED LOCATION AND RESTORE TO DESIGN GRADE.
   - MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER SWALE OPERATION, OR TO SUPPRESS WEEDS AND INVASIVE VEGETATION; DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY; MOW ONLY WHEN SWALE IS DRY TO AVOID RUTTING.
   - INSPECT FOR LITTER; REMOVE PRIOR TO MOWING.
   - INSPECT FOR UNIFORMITY IN CROSS-SECTION AND LONGITUDINAL SLOPE, CORRECT AS NEEDED.
   - INSPECT SWALE INLET (CURB CUTS, PIPES, ETC.) AND OUTLET FOR SIGNS OF EROSION OR BLOCKAGE, CORRECT AS NEEDED.

   MAINTENANCE ACTIVITIES TO BE DONE AS NEEDED:

   - PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT.
   - RESEED BARE AREAS; INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED OR EROSION CHANNELS ARE FORMING.
   - ROTOTILL AND REPLANT SWALE IF DRAW DOWN TIME IS LESS THAN 48 HOURS.
   - INSPECT AND CORRECT CHECK DAMS WHEN SIGNS OF ALTERED WATER FLOW (CHANNELIZATION, OBSTRUCTIONS, ETC.) IS IDENTIFIED.
   - WATER DURING DRY PERIODS, FERTILIZE, AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY NECESSARY.

   - WINTER CONDITIONS ALSO NECESSITATE ADDITIONAL MAINTENANCE CONCERNS, WHICH INCLUDE THE FOLLOWING:

   - INSPECT SWALE IMMEDIATELY AFTER THE SPRING MELT, REMOVE RESIDUALS (E.G. SAND) AND REPLACE DAMAGED VEGETATION WITHOUT DISTURBING REMAINING VEGETATION.
   - IF ROADSIDE OR PARKING LOT RUNOFF IS DIRECTED TO SWALE, MULCHING AND/OR SOIL AERATION/MANIPULATION MAY BE REQUIRED IN THE SPRING TO RESTORE SOIL STRUCTURE AND MOISTURE CAPACITY AND TO REDUCE THE IMPACTS OF DEICING AGENTS.
   - USE NONTOXIC, ORGANIC DEICING AGENTS, APPLIED EITHER AS BLENDED, MAGNESIUM CHLORIDE-BASED LIQUID PRODUCTS OR AS PRETREATED SALT.
   - USE SALT-TOLERANT VEGETATION IN SWALES.
3. SNOUT INLET FILTER
   - SUMPS SHOULD BE EMPTIED WHEN OVER HALF FULL OF SEDIMENT AND/OR TRASH.
   - CLEAN DURING SUMP EMPTYING SERVICE BY RINSING WITH A HOSE OR PRESSURE WASHER DURING THE CLEANING SEQUENCE OF THE CATCH BASIN AND FLUSHING THE ANTI-SIPHON VENT WITH WATER OR AIR TO VERIFY THAT IT IS CLEAR.
   - INSPECT AFTER RUNOFF EVENTS.
   - SAND AND SALT ARE SIGNIFICANTLY INCREASED IN THE WINTER, AND MAY WARRANT MORE FREQUENT MAINTENANCE.
4. SUBSURFACE INFILTRATION BED
   - DURING THE FIRST SERVICE YEAR, A VISUAL INSPECTION SHOULD BE COMPLETED EVERY SIX MONTHS TO ESTABLISH A PATTERN OF SEDIMENT AND DEBRIS BUILDUP.

     INSPECTION

     a. INSPECT ALL OBSERVATION PORTS, INFLOW AND OUTFLOW CONNECTIONS, AND THE DISCHARGE AREA.
     b. IDENTIFY AND LOG ANY SEDIMENT AND DEBRIS ACCUMULATION, SYSTEM BACKUP, OR DISCHARGE RATE CHANGES.
     c. IF THERE IS A SUFFICIENT NEED FOR CLEANOUT, CONTACT A LOCAL CLEANING COMPANY FOR ASSISTANCE.

     CLEANING

     a. USING A VACCUM PUMP TRUCK, EVACUATE DEBRIS FROM THE INFLOW AND OUTFLOW POINTS.
     b. FLUSH THE SYSTEM WITH CLEAN WATER, FORCING DEBRIS FROM THE SYSTEM.

ALTERNATE 6 -IN-LIEU OF PROVIDING PENNDOT FORMULA B SEED IN AREAS REFERENCED (SEE SHEET 14), PROVIDE SOD

POST-CONSTRUCTION STORMWATER MANAGEMENT LONG-TERM OPERATION AND MAINTENANCE SCHEDULE (CONTINUED):

c. REPEAT STEPS a AND b UNTIL NO DEBRIS IS EVIDENT.

- DURING AND AFTER THE SECOND YEAR OF SERVICE, AN ESTABLISHED ANNUAL INSPECTION FREQUENCY, BASED ON THE INFORMATION COLLECTED DURING THE FIRST YEAR, SHOULD BE FOLLOWED. AT A MINIMUM, AN INSPECTION SHOULD BE PERFORMED SEMI-ANNUALLY.
- ALL CATCH BASINS AND INLETS SHOULD BE INSPECTED AND CLEANED AT LEAST 2 TIMES PER YEAR.
- BMP FAILURE: IF THE BMP FAILS TO DEWATER IN 72 HOURS FROM THE END OF A 2-YEAR, 24-HOUR STORM EVENT (2.89"), THE SYSTEM MUST BE REHABILITATED OR REPLACED. CONTACT THE ENGINEER/ GEOTECHNICAL ENGINEER FOR DIRECTION.

CRITICAL STAGES OF CONSTRUCTION

LISTED BELOW ARE THE CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN FOR WHICH A LICENSED PROFESSIONAL OR DESIGNEE WILL BE PRESENT ON SITE TO OBSERVE CONSTRUCTION OR CERTIFY CONSTRUCTION:

CONSTRUCTION OF INFILTRATION BASINS, OUTLET STRUCTURES AND CONVERSION FROM E&S BASIN / TRAP TO INFILTRATION BASINS / INFILTRATION BEDS

DURING CONSTRUCTION OF THE INFILTRATION BEDS

BMP PERFORMANCE TESTING

UPON FINAL COMPLETION TO VERIFY ALL PCSM MEASURES ARE INSTALLED AND FUNCTIONING AS DESIGNED.

BMP PERFORMANCE TESTING

1. IN ACCORDANCE WITH NPDES PERMIT REQUIREMENTS THE CONTRACTOR IS REQUIRED TO CONTACT THE GEOTECHNICAL ENGINEER TO PERFORM INFILTRATION TESTING TO ENSURE THE BMP PERFORMS TO THE DESIGN STANDARD LISTED BELOW.
2. TESTING SHOULD OCCUR AS INDICATED IN THE SEQUENCE FOR INDIVIDUAL BMP CONSTRUCTION.
3. THE ENGINEER SHALL PERFORM THE REQUIRED NUMBER OF TESTS AT EACH BMP AS SHOWN BELOW AND ENSURE THE AVERAGE OF THE TEST RESULTS MEET THE REQUIRED INFILTRATION RATES.
4. IF THE TEST RESULTS DO NOT MEET THE MINIMUM REQUIRED INFILTRATION RATE, THE CONTRACTOR SHALL BE REQUIRED TO MAKE FURTHER IMPROVEMENTS AS DIRECTED BY THE ENGINEER. RETESTING OF THE INFILTRATION RATE WILL BE REQUIRED BY THE ENGINEER FOLLOWING ANY SOIL AMENDMENT OR RESTORATION ACTIVITY.
5. THIS PROJECT INCLUDES INFILTRATION FACILITIES DESIGNED TO INFILTRATE STORMWATER INTO THE GROUND. CONTRACTOR SHALL PROTECT ALL PROPOSED INFILTRATION FACILITIES FROM EROSION, SEDIMENTATION AND COMPACTION DURING CONSTRUCTION. INFILTRATION TESTING WAS CONDUCTED BY DAVID BLACKMORE & ASSOCIATES, INC.(DBA) AND DESIGN INFILTRATION RATES WERE DETERMINED BASED UPON THE TEST RESULTS. THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT THE INFILTRATION FACILITIES TO ACHIEVE THE FOLLOWING DESIGN INFILTRATION RATES:

   SUBSURFACE INFILTRATION BED (SCM-3): 1.10 IN/HR

   INFILTRATION BASIN (SCM-2): 0.71 IN/HR

SEQUENCE OF CONSTRUCTION FOR INDIVIDUAL BMP INSTALLATION

INFILTRATION BASINS:

1. PROTECT INFILTRATION BASIN AREA FROM COMPACTION PRIOR TO INSTALLATION.
2. PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PREVENT SEDIMENT-LADEN WATER FROM ENTERING INLETS AND PIPES.
3. INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
4. EXCAVATE INFILTRATION BASIN TO THE BASIN BOTTOM OR TO THE DEPTH OF INFILTRATION MEDIA, AS REQUIRED, TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
5. SCARIFY THE EXISTING SOIL SURFACES. DO NOT COMPACT IN-SITU SOILS.
6. PERFORM BMP PERFORMANCE TESTING.
7. INSTALL OUTLET CONTROL STRUCTURES.
8. SEED AND MULCH TOPSOIL.
9. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.

SNOUT

INSTALL AFTER TRIBUTARY DRAINAGE AREA TO THE INLET HAS REACHED PERMANENT STABILIZATION.

SEQUENCE OF CONSTRUCTION FOR INDIVIDUAL BMP INSTALLATION (CONTINUED)

CHANNELS

VEGETATED:

1. ROUGH GRADE THE CHANNEL. EQUIPMENT SHALL AVOID EXCESSIVE COMPACTION AND/OR LAND DISTURBANCE. EXCAVATING EQUIPMENT SHALL OPERATE FROM THE SIDE OF THE CHANNEL AND NEVER ON THE BOTTOM. IF EXCAVATION LEADS TO SUBSTANTIAL COMPACTION OF THE SUBGRADE, 18 INCHES SHALL BE REMOVED AND REPLACED WITH A BLEND OF TOPSOIL AND SAND TO PROMOTE INFILTRATION AND BIOLOGICAL GROWTH. AT THE VERY LEAST, TOPSOIL SHALL BE THOROUGHLY DEEP PLOWED INTO THE SUBGRADE IN ORDER TO PENETRATE THE COMPACTED ZONE AND PROMOTE AERATION AND THE FORMATION OF MICROPORES. FOLLOWING THIS, THE AREA SHOULD BE DISKED PRIOR TO FINAL GRADING OF TOPSOIL.
2. FINE GRADE THE VEGETATED CHANNEL. ACCURATE GRADING IS CRUCIAL FOR SWALES. EVEN THE SMALLEST NON-CONFORMITIES MAY COMPROMISE FLOW CONDITIONS.
3. SEED, VEGETATE AND INSTALL PROTECTIVE LINING AS PER APPROVED PLANS AND ACCORDING TO THE SEEDING SCHEDULE. PLANT THE CHANNEL AT A TIME OF THE YEAR WHEN SUCCESSFUL ESTABLISHMENT WITHOUT IRRIGATION IS MOST LIKELY. HOWEVER, TEMPORARY IRRIGATION MAY BE NEEDED IN PERIODS OF LITTLE RAIN OR DROUGHT. VEGETATION SHOULD BE ESTABLISHED AS SOON AS POSSIBLE TO PREVENT EROSION AND SCOUR.
4. ONCE ALL TRIBUTARY AREAS ARE SUFFICIENTLY STABILIZED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS. IT IS VERY IMPORTANT THAT THE CHANNEL BE STABILIZED BEFORE RECEIVING UPLAND STORMWATER FLOW.
5. REGRADE AND RESEED IMMEDIATELY AFTER CONSTRUCTION AND STABILIZATION HAS OCCURRED. ANY DAMAGED AREAS SHOULD BE FULLY RESTORED TO ENSURE FUTURE FUNCTIONALITY OF THE CHANNEL.

UNDERGROUND DETENTION BASIN/UNDERGROUND INFILTRATION BED

- INSTALL AND MAINTAIN ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
- THE EXISTING SUBGRADE UNDER THE BEDS SHOULD NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO GEOTEXTILE AND STONE BED PLACEMENT.
- WHERE EROSION OF SUBGRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHOULD BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YAKE RAKE AND LIGHT TRACTOR. ALL FINE GRADING SHALL BE DONE BY HAND. ALL BED BOTTOMS SHOULD BE A LEVEL GRADE.
- INSTALL UPSTREAM AND DOWNSTREAM CONTROL STRUCTURES, CLEANOUTS, PERFORATED PIPING, AND ALL OTHER NECESSARY STORMWATER STRUCTURES.
- GEOTEXTILE AND BED AGGREGATE SHOULD BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION AND INSTALLATION OF STRUCTURES, GEOTEXTILE SHOULD BE PLACED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDATIONS, ADJACENT STRIPS OF GEOTEXTILE SHOULD OVERLAP A MINIMUM OF 16 INCHES. IT SHOULD ALSO BE SECURED AT LEAST 4 FEET OUTSIDE OF BED IN ORDER TO PREVENT ANY RUNOFF OR SEDIMENT FROM ENTERING THE STORAGE BED. THIS EDGE STRIP SHOULD REMAIN IN PLACE UNTIL ALL BARE SOILS CONTIGUOUS TO BEDS ARE STABILIZED AND VEGETATED. AS THE SITE IS FULLY STABILIZED, EXCESS GEOTEXTILE ALONG THE BED EDGES CAN BE CUT BACK TO THE EDGE OF THE BED.
- BEGIN PLACING AASHTO #1 STONE IN MAXIMUM 8-INCH LIFTS OVER LINER TO THE DEPTH INDICATED ON THE DETAILS.
- INSTALL PERFORATED PIPE AS SHOWN ON THE DETAILS.
- BEGIN BACKFILLING PIPES WITH AASHTO #1 STONE TO THE DEPTH INDICATED ON THE DETAILS.
- WRAP NON-WOVEN GEO-TEXTILE AND OVERLAP A MINIMUM OF 3' OVER TOP OF STONE BACKFILL.
- BACKFILL WITH STRUCTURAL FILL OVER THE BED IN MAXIMUM 6-INCH LIFTS.
- PLACE PAVEMENT SECTION IN ACCORDANCE WITH THE DETAIL.
- DO NOT REMOVE EROSION AND SEDIMENT CONTROL BMP'S UNTIL TRIBUTARY AREAS ARE STABILIZED.

SOILS TABLE - NRCS SOIL SURVEY

SOIL TYPE	HYDROLOGIC SOIL GROUP	AVG. SLOPE
AsB - Athol silt Loam	B	3-8%
UgB - Urban Land	N/A	0-8%

ERNST SEED MIX SPECIFICATIONS

NOTE: SPECIFICATIONS OF SEED MIXES ARE SUBJECT CHANGE AT THE DISCRETION OF ERNST CONSERVATION SEEDS, INC. CONTACT THE MANUFACTURER FOR CURRENT SEED MIX SPECIFICATIONS.

FORMULA B

- 20% PERENNIAL RYEGRASS MIXTURE (LOLIUM PERENNE). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL RYEGRASS COMPONENT.
- 30% CREEPING RED FESCUE OR CHEWINGS FESCUE (FESTUCA RUBRA OR SSP COMMUTATE) (IMPROVED AND CERTIFIED)
- 45% KENTUCKY BLUEGRASS MIXTURE (POA PRATENSIS). A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL BLUEGRASS COMPONENT.
- 5% ANNUAL RYEGRASS (LOLIUM MULTIFLORUM)

NATIVE DETENTION AREA MIX - ERNMX-183

- 25.0% PANICUM VIRGATUM, 'SHELTER' (SWITCHGRASS, SHELTER)
- 24.0% PANICUM CLANDESTINUM, 'TIOGA' (DEERTONGUE, 'TIOGA')
- 22.0% CAREX VULPINOIDEA, PA ECOTYPE (FOX SEDGE, PA ECOTYPE)
- 21.0% ELYMUS VIRGINICUS, PA ECOTYPE (VIRGINIA WILDRYE, PA ECOTYPE)
- 6.0% AGROSTIS PERENNIANS, ALBANY PINE BUSH-NY ECOTYPE (AUTUMN BENTGRASS, ALBANY PINE BUSH - NY ECOTYPE)
- 1.0% JUNCUS EFFUSUS (SOFT RUSH)
- 1.0% PANICUM RIGIDULUM, PA ECOTYPE (REDTOP PANICGRASS, PA ECOTYPE)

SOIL LIMITATIONS

SOIL NAME	CUTBACKS CAVE	CORROSIVE TO CONCRETE \ STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE \ SEASONAL HIGH WATER TABLE	HYDRIC\HYDRIC INCLUSIONS	LOW STRENGTH \ LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK-SWELL	POTENTIAL SINKHOLE	PONDING	WETNESS
ATHOL	X	C							X	X	X	X				
URBAN						X						X				

SOIL LIMITATION RESOLUTIONS

LIMITATION	RESOLUTION
CUTBANKS CAVE	CONDUCT TRENCHING OPERATIONS IN ACCORDANCE WITH OSHA TECHNICAL MANUAL FOR TRENCHING. STABILIZE BANKS IMMEDIATELY WITH SEED, MULCH, EROSION CONTROL MATS, BONDED FIBER MATRIX, OR A COMBINATION OF THESE AND/OR OTHER METHODS.
CORROSIVE TO CONCRETE OR STEEL	PROTECT CONCRETE AND STEEL WITH PROTECTIVE COATINGS, SELECT ALTERNATIVE MATERIALS IN LIEU OF CONCRETE OR STEEL, OR A COMBINATION OF THESE AND OR OTHER METHODS.
DROUGHTY	SELECT VEGETAIVE SPECIES TOLERANT TO DRY CONDITIONS, IRRIGATE VEGETATED AREAS, OR IMPLEMENT COMBINATIONS OF THESE AND/OR OTHER METHODS.
EASILY ERODIBLE	PROVIDE TEMPORARY OR PERMANENT CHANNEL LINING, DECREASE CHANNEL GRADE, INCREASE CHANNEL WIDTH, SELECT VEGETATION WITH A GREATER RETARDANCE, SELECT PERMANENT LININGS OTHER THAN GRASSES, OR IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
HYDRIC SOILS	SELECT VEGETATIVE SPECIES TOLERANT TO WET CONDITIONS, TILE VEGETATED AREAS, OR IMPLEMENT COMBINATIONS OF THESE AND/OR OTHER METHODS. UTILIZE PUMPED WATER FILTER BAGS TO DEWATER DISTURBED ARES DURING CONSTRUCTION.
LOW STRENGTH \ LANDSLIDE PRONE	LOCATE ROADWAYS TO OTHER SOIL TYPESS, IMPORT OTHER SOILS FOR THESE ROADWAY CONSTRUCTION, OR IMPLEMENT A COMBINATION OF THESE AND/OR OTHER METHODS. FOR CUT/FILL SLOPES, REDUCE SLOPE, INSTALL EROSION CONTROL MATTING, OR IMPLEMENT A COMBINATION OF THESE AND/OR OTHER METHODS.
SLOW PERCOLATION	LOCATE INFILTRATION FACILITIES TO ANOTHER SOIL TYPE, RESTRICT CONSTRUCTION TRAFFIC AT THOSE LOCATIONS, TILL SOIL IN THOSE LOCATIONS, ADD SOIL AMENDMENTS SUCH AS COMPOST AT THOSE LOCATIONS.
PIPING	IMPORT OTHER SOIL FOR EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORM WATER RETENTION BASINS AND STORM WATER DETENTION BASINS, LOCATE THOSE FACILITIES ON OTHER SOIL TYPES, LIMIT EMBANKMENT SLOPE STEEPNESS, OR IMPLEMENT COMBINATIONS OF THESE AND/OR OTHER METHODS.
POOR SOURCE OF TOPSOIL	IDENTIFY AND RESOLVE CHARACTERISTICS THAT RENDER THE SOIL TYPES POORLY SUITED AS TOPSOIL. PERFORM SOIL TESTS TO DETERMINE THE REQUIRED SOIL AMENDMENTS AND APPLICATION RATES. IDENTIFY SOILS ON-SITE THAT ARE ADEQUATE SOURCES OF TOPSOIL AND STOCKPILE THESE FOR USE DURING RESTORATION.
FROST ACTION	IMPORT OTHER SOIL FOR EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORM WATER RETENTION BASINS AND STORM WATER DETENTION BASINS, LOCATE THOSE FACILITIES ON OTHER SOIL TYPES, DO NOT CONSTRUCT EMBANKMENTS DURING PERIODS PRONE TO FROST, OR IMPLEMENT COMBINATIONS OF THESE AND/OR OTHER METHODS.

SEEDING SCHEDULE

APPLICATION	TOPSOIL PLACEMENT DEPTH	SPECIES	% PURE LIVE SEED	SEEDING APPLICATION RATE	* FERTILIZER TYPE	* FERTILIZER APPLICATION RATE	* LIMING RATE	MULCH TYPE	MULCHING RATE	ANCHOR MATERIAL	ANCHOR METHOD	RATE OF ACHOR MATERIAL APPLICATION	SEEDING DATES
TEMPORARY	N/A	FORMULA E (ANNUAL RYEGRASS)	PER PENNDOT 408 SPECS	10 LB/1000 SY	10-10-20 FERTILIZER	25 LB/1000 SF	2480 LB/1000 SY	STRAW	3 T/AC	WOOD FIBER	TACKTIFIERS (2.5-3.5% BY WEIGHT)	2000 LB/AC	3/15 TO 10/15
MAINTAINED LAWN, <3:1 SLOPES	6" ±1"	PENNDOT FORMULA B	PER PENNDOT 408 SPECS	44 LB/1000 SY	10-10-20 COMMERCIAL FERTILIZER & 31-0-0 IBDU	210 LB/1000 SY & 61 LB/1000 SY	2480 LB/1000 SY	STRAW	3 T/AC	WOOD FIBER	TACKTIFIERS (2.5-3.5% BY WEIGHT)	2000 LB/AC	3/15 TO 6/1 & 8/1 TO 10/15
MAINTAINED LAWN, 3:1 SLOPES	6" ±1"	PENNDOT FORMULA B	PER PENNDOT 408 SPECS	44 LB/1000 SY	10-10-20 COMMERCIAL FERTILIZER & 31-0-0 IBDU	210 LB/1000 SY & 61 LB/1000 SY	2480 LB/1000 SY	TENSAR HYDRA-CM STEEP SLOPE MATRIX	3500 LB/AC	TACKIFIER	HYDRAULICALLY APPLIED	PER MFR SPECS	3/15 TO 6/1 & 8/1 TO 10/15
VEGETATED CHANNEL	6" ±1"	PENNDOT FORMULA B	PER PENNDOT 408 SPECS	50 LB/1000 SY	10-10-20 COMMERCIAL FERTILIZER & 31-0-0 IBDU	210 LB/1000 SY & 61 LB/1000 SY	2480 LB/1000 SY	PER DETAILS	PER DETAILS	PER DETAILS	PER DETAILS	PER DETAILS	3/15 TO 6/1 & 8/1 TO 10/15
SWM BASIN INTERIOR	SEE DETAIL	*ERNST ERNMX-183 - NATIVE DETENTION AREA MIX	PER MFR SPECS	20 LB/AC	N/A	N/A	N/A	STRAW	3 T/AC	NETTING	STAPLES PER MFR SPECS	N/A	3/15 TO 6/1 & 8/1 TO 10/15

- LIMESTONE, FERTILIZER, SEEDING AND MULCHING SHOULD CONFORM TO THE E&S MANUAL, UNLESS SPECIFIC TESTING IS PERFORMED AND SPECIFIES AN ALTERNATE. THE TEST RESULTS MAY BE SUBSTITUTED IN LIEU OF THE APPLICATION TYPE AND RATES SHOWN ON THIS SEEDING SCHEDULE. FERTILIZER TYPES AND RATES SHOWN IN PENNDOT PUBLICATION 408 OR THE RECOMMENDATIONS OF ERNST CONSERVATION SEED MANUFACTURE MAY ALSO BE SUBSTITUTED FOR ITS SEED MIX IN THE ABSENCE OF SOIL TESTING.
- CONTACT ERNST CONSERVATION SEED MANUFACTURER TO PROVDE AN ANNUAL RYEGRASS COMPONENT (OR APPROVED EQUIVALENT) FOR EACH OF THE SEED MIXES. THE ANNUAL RYEGRASS COMPONENT OF APPROVED EQUIVALENT IS INTENED TO COMPLEMENT THE ERNEST SEED MIXES SPECIFIED AND ENSURE TEMPORARY STABILIZATION OF DISTURBED AREAS CAN BE ACHIEVED WITHIN THE FIRST GROWING SEASON UNTIL THE SPECIFIED ERNST CONSERVATION MIXES CAN GERMINATE AND PROVIDE PERMANENT STABILIZATION.

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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J. REICHEL
ENGINEER
PE070767
10/01/2026

PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER: R006367.0427
PLAN DATE: 2026.02.18
DRAWING SCALE: AS SHOWN
PROJ. MANAGER: DENNIS REICHEL

NO.	DATE	REVISIONS DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.06.15	50% CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
5		
6		
7		
8		
9		

SHEET TITLE:
NOTES

SHEET: NT-2 03

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION: BID SET

ORIGINAL ISSUE DATE: 10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:
C03

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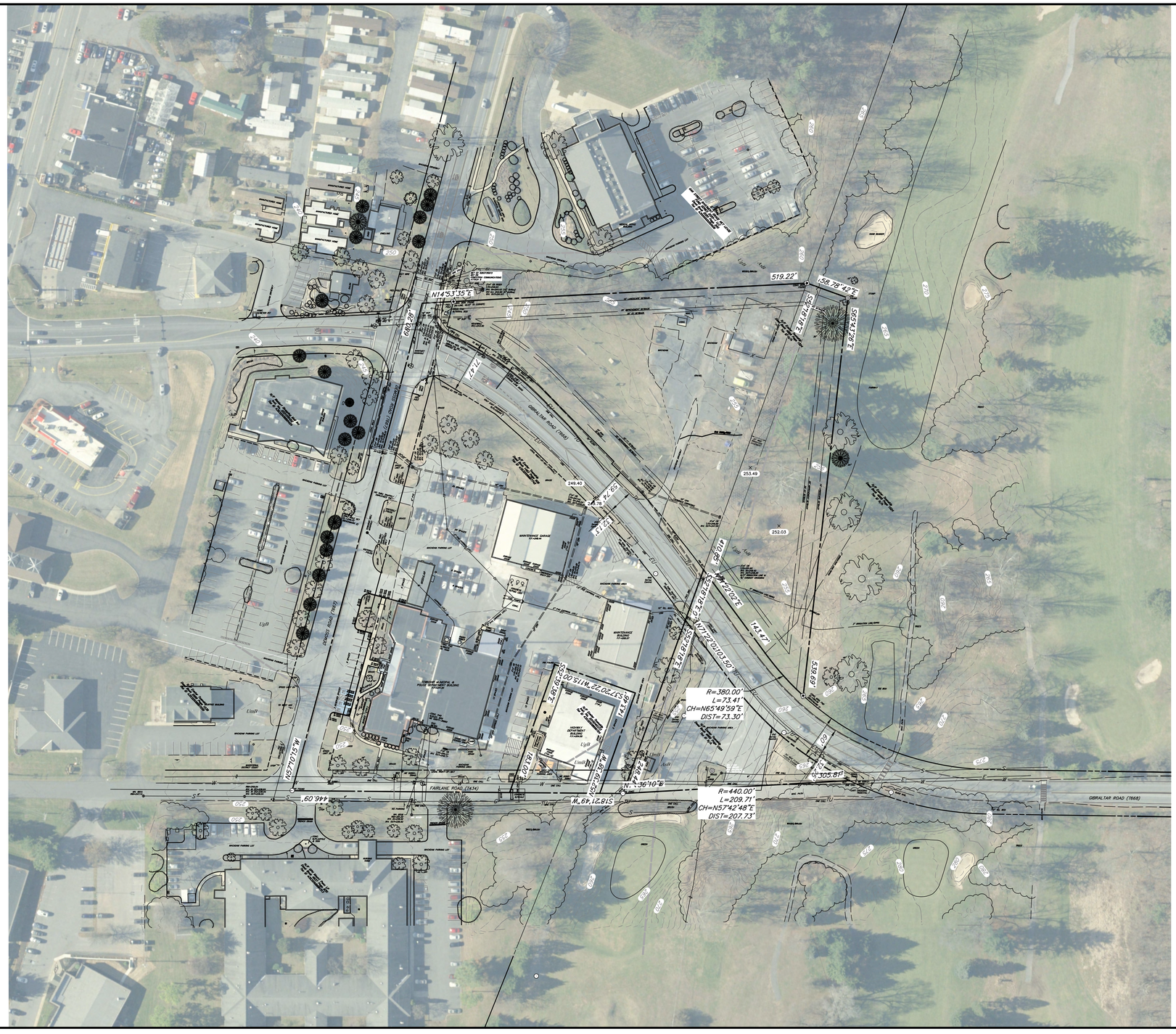

GRAPHIC SCALE
60' 30' 0' 60'
SCALE: 1"=60'

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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
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HRG PROJECT NUMBER: R006367.0427
PLAN DATE: 2026.02.18
DRAWING SCALE: AS SHOWN
PROJ. MANAGER: DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.16	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.04.15	SCM AS PER CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
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SHEET TITLE:
OVERALL BOUNDARY PLAN

SHEET: OVAL 04

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CONSULTANT:

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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J REICHEL
ENGINEER
No. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:

C04

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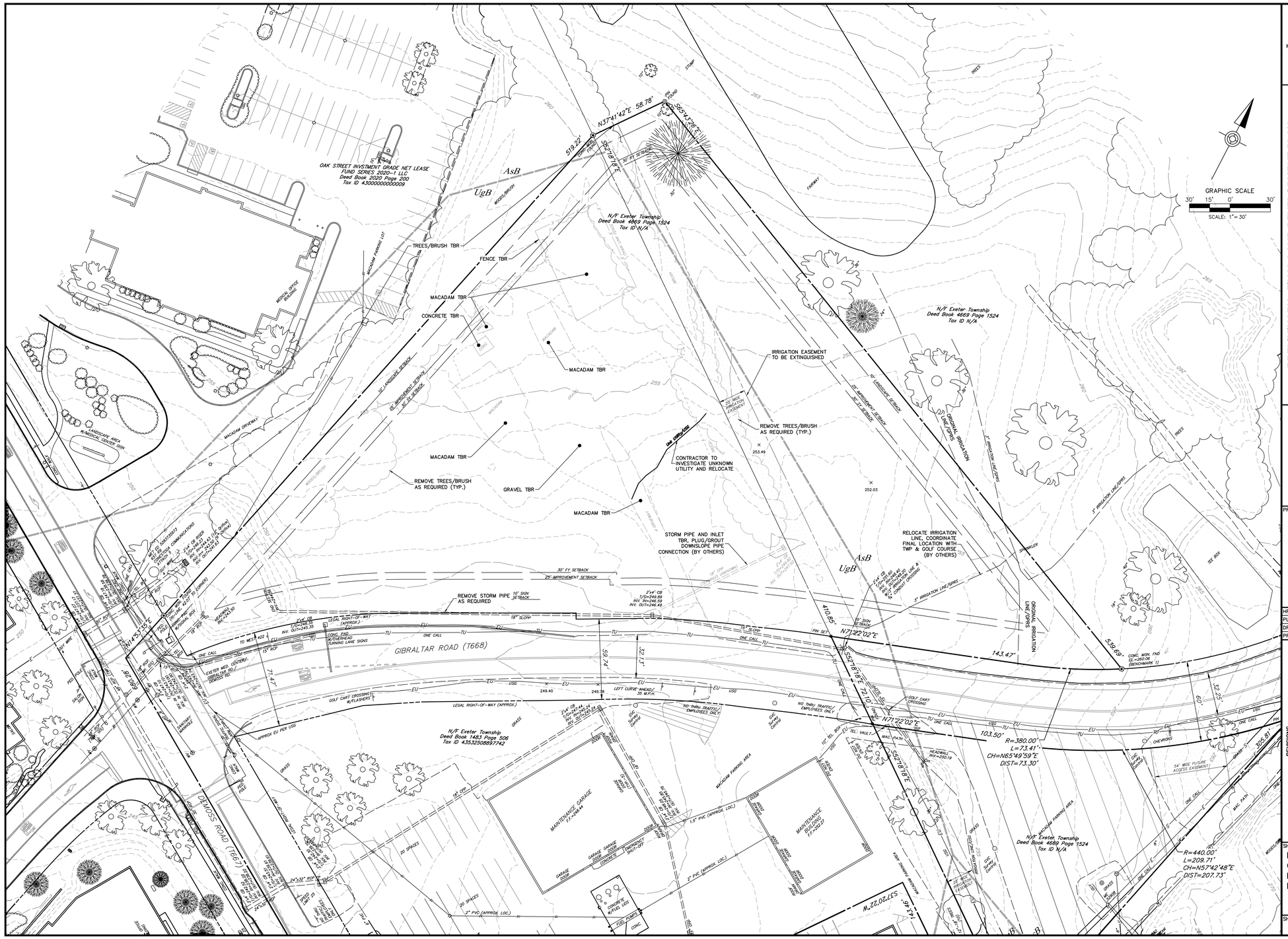

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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	AS SHOWN
PROJ. MANAGER:	DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.06.15	50% CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
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SHEET TITLE:
EXISTING CONDITIONS & DEMOLITION PLAN

SHEET: EC-DM 05

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DENNIS U REICHEL
ENGINEER
No. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:

C05

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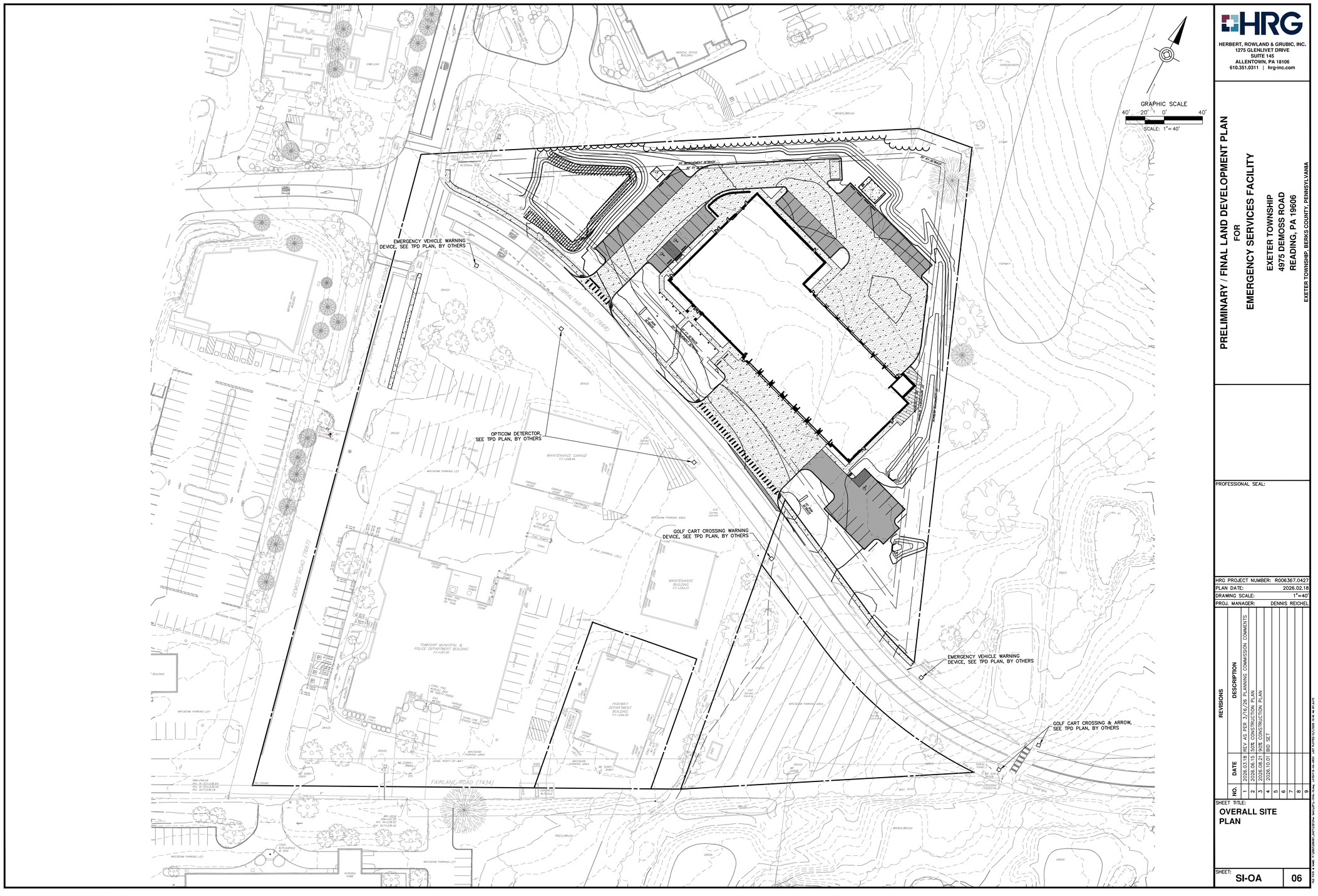

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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY

EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606

EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER: R006367.0427
PLAN DATE: 2026.02.18
DRAWING SCALE: 1"=40'
PROJ. MANAGER: DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.06.15	50% CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
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SHEET TITLE:
OVERALL SITE PLAN

SHEET: **SI-OA** | **06**

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REGISTERED PROFESSIONAL
DENNIS U REICHEL
ENGINEER NO. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:

C06

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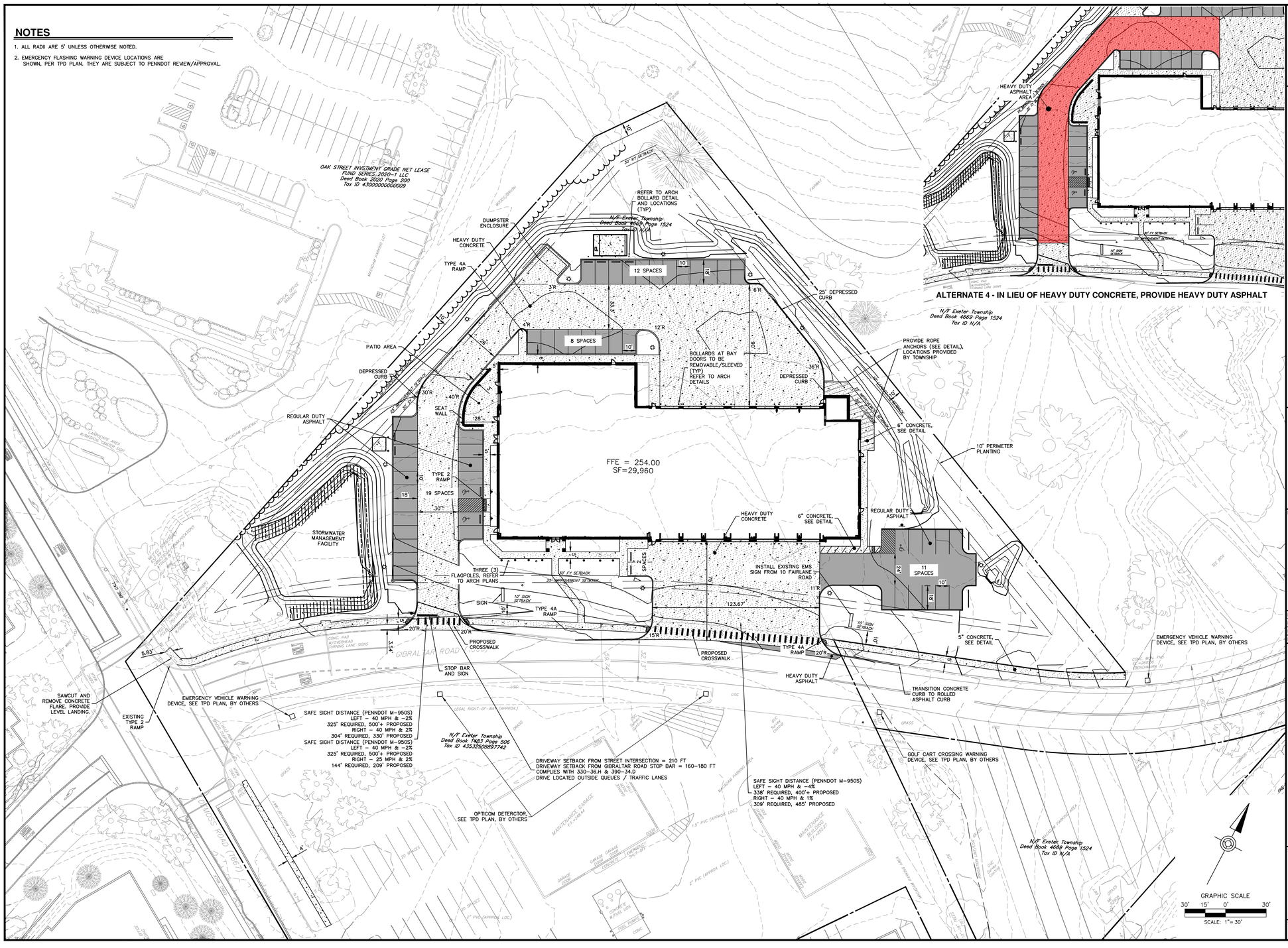
NOTES

1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
2. EMERGENCY FLASHING WARNING DEVICE LOCATIONS ARE SHOWN, PER TPD PLAN. THEY ARE SUBJECT TO PENNDOT REVIEW/APPROVAL.



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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	AS SHOWN
PROJ. MANAGER:	DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.04.15	50% CONSTRUCTION PLAN
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4	2026.10.01	BID SET
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SHEET TITLE:
SITE PLAN

SHEET: SI 07

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DENNIS J REICHEL
ENGINEER NO. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTER ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
100% CONSTRUCTION DOCUMENTS

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:
C07

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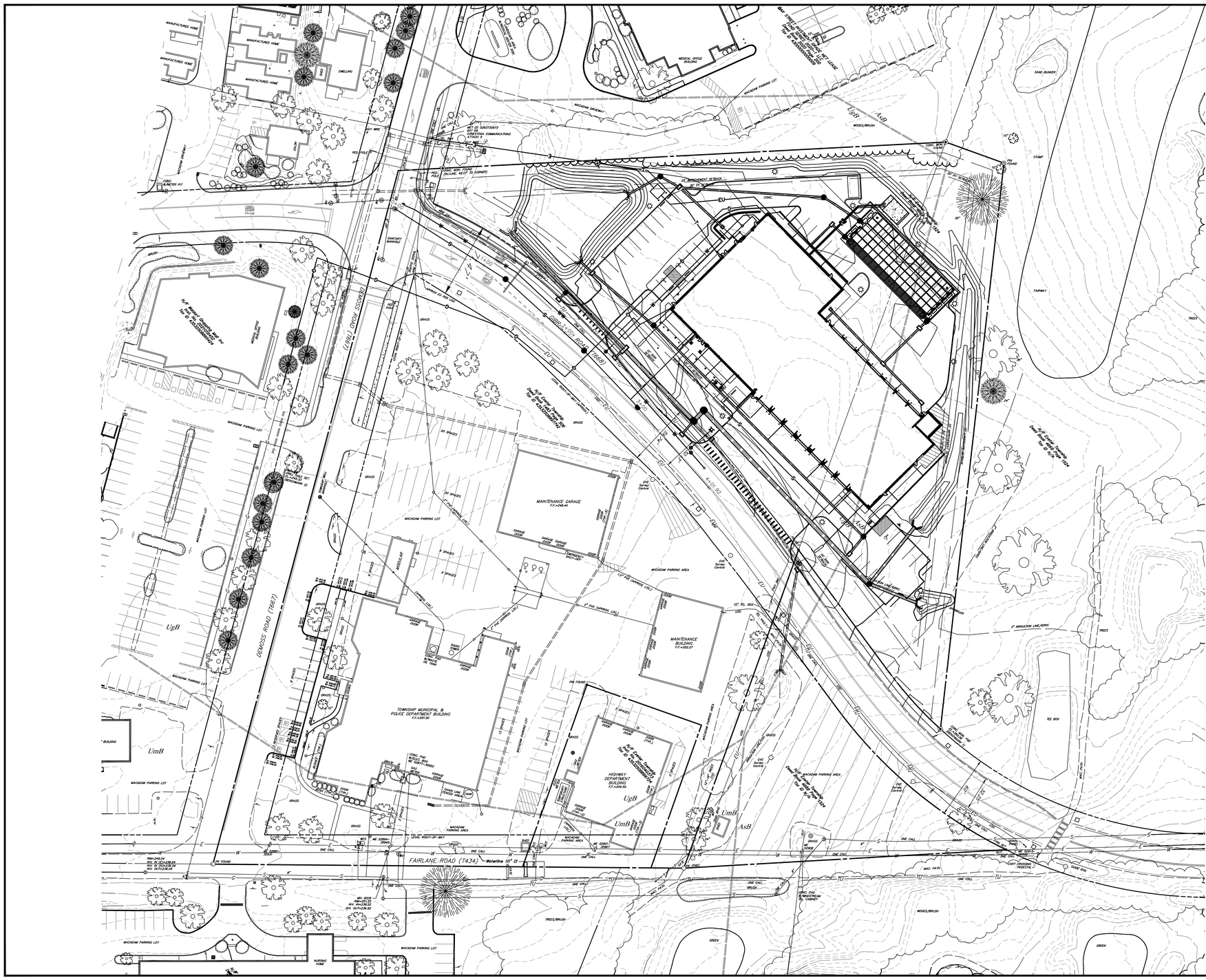

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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY

EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606

EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER: R006367.0427
PLAN DATE: 2026.02.18
DRAWING SCALE: 1"=40'
PROJ. MANAGER: DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.04.15	50% CONSTRUCTION PLAN
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SHEET TITLE:
OVERALL GRADING & PCSM PLAN

SHEET: GR-OA 08

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DENNIS J REICHEL
ENGINEER NO. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:

C08

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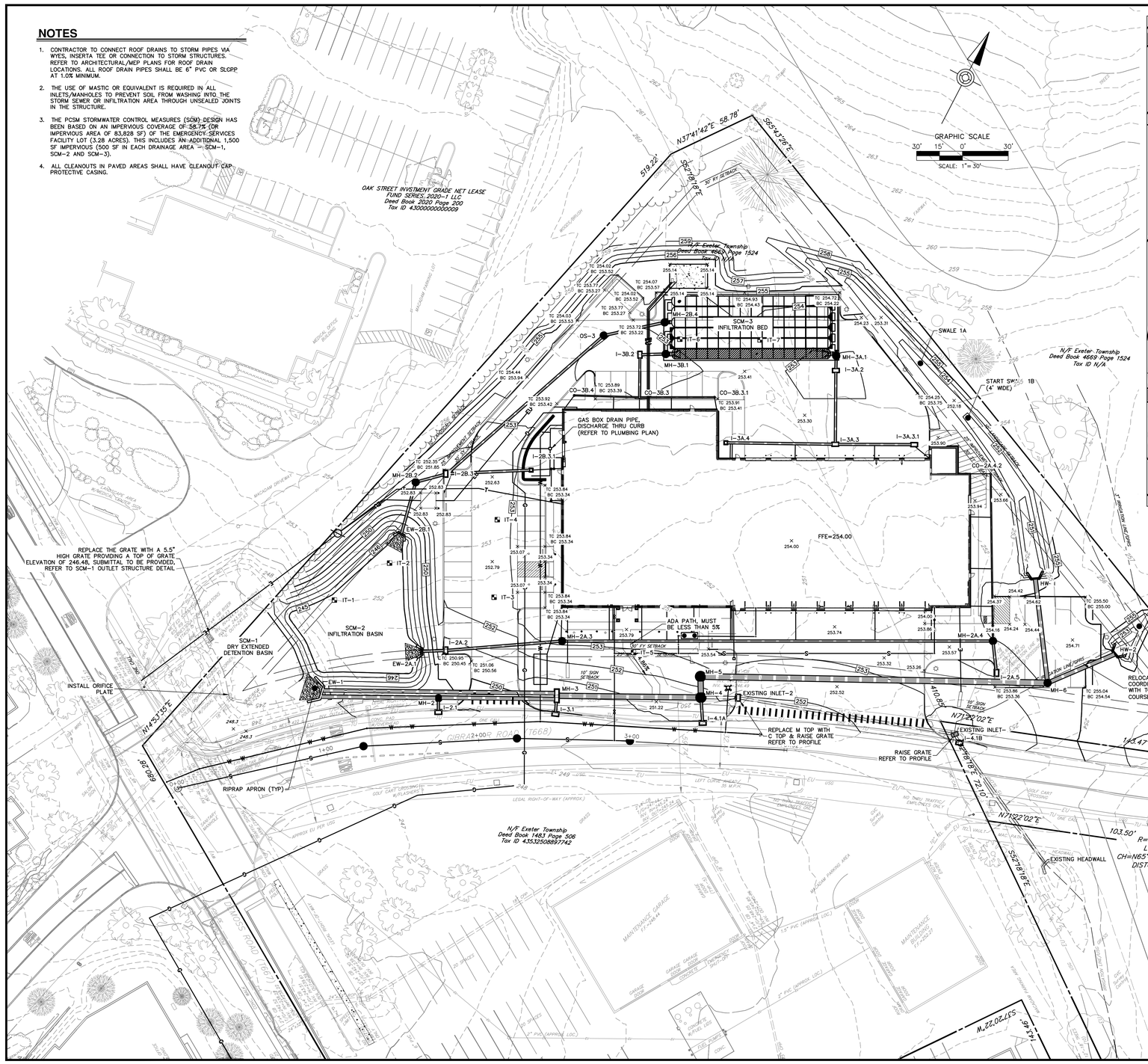
NOTES

1. CONTRACTOR TO CONNECT ROOF DRAINS TO STORM PIPES VIA WYES, INSERTA TEE OR CONNECTION TO STORM STRUCTURES. REFER TO ARCHITECTURAL/MEP PLANS FOR ROOF DRAIN LOCATIONS. ALL ROOF DRAIN PIPES SHALL BE 6" PVC OR SLCPP AT 1.0% MINIMUM.
2. THE USE OF MASTIC OR EQUIVALENT IS REQUIRED IN ALL INLETS/MANHOLES TO PREVENT SOIL FROM WASHING INTO THE STORM SEWER OR INFILTRATION AREA THROUGH UNSEALED JOINTS IN THE STRUCTURE.
3. THE PCSM STORMWATER CONTROL MEASURES (SCM) DESIGN HAS BEEN BASED ON AN IMPERVIOUS COVERAGE OF 58.7% (OR IMPERVIOUS AREA OF 83,828 SF) OF THE EMERGENCY SERVICES FACILITY LOT (3.28 ACRES). THIS INCLUDES AN ADDITIONAL 1,500 SF IMPERVIOUS (500 SF IN EACH DRAINAGE AREA – SCM-1, SCM-2 AND SCM-3).
4. ALL CLEANOUTS IN PAVED AREAS SHALL HAVE CLEANOUT CAP-PROTECTIVE CASING.



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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY

EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606

EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	AS SHOWN
PROJ. MANAGER:	DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.06.15	50% CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
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SHEET TITLE:
GRADING AND PCSM PLAN

SHEET: **GR** **09**

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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS U REICHEL
ENGINEER
PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:

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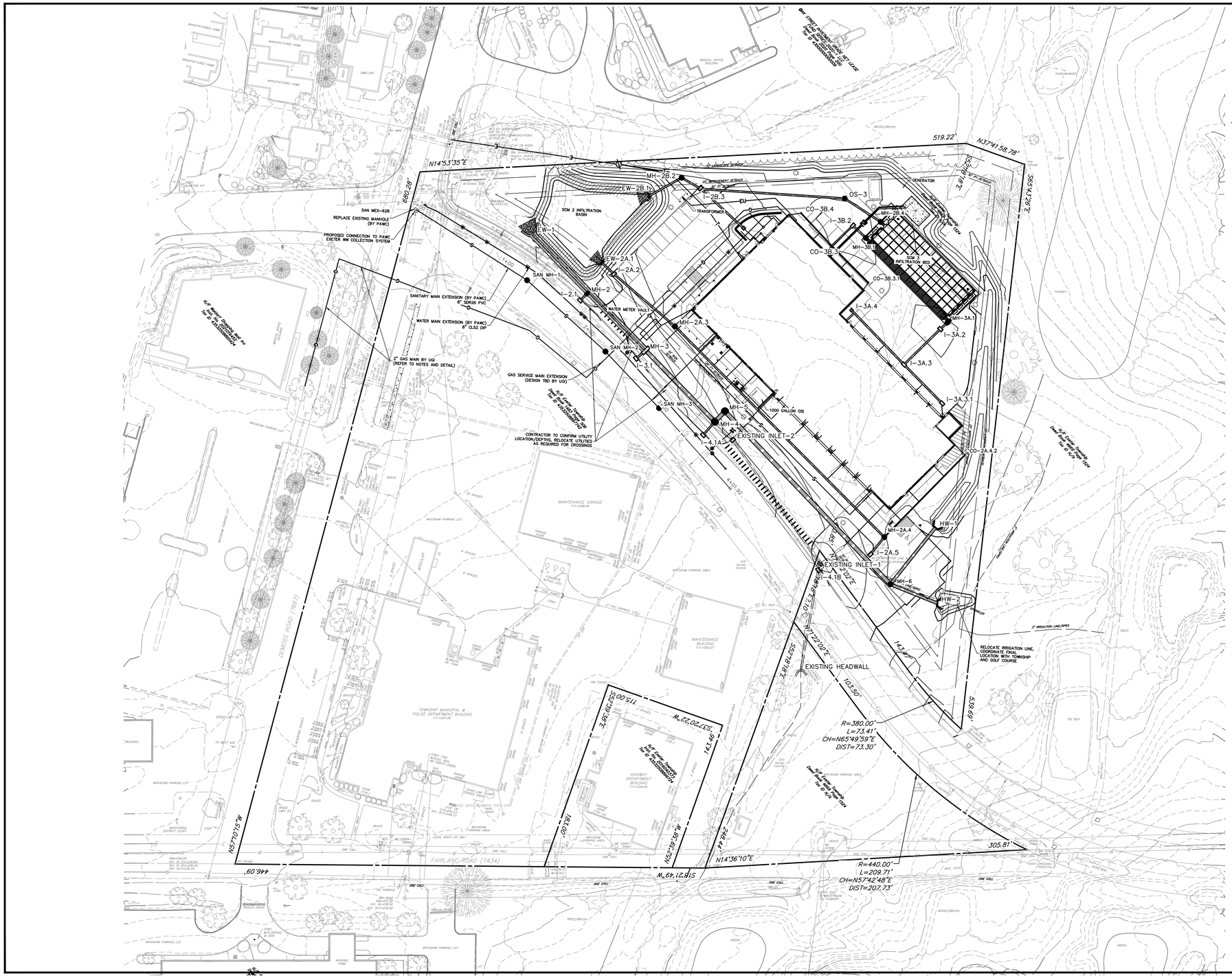

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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY

EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606

EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	1"=40'
PROJ. MANAGER:	DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV. AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.04.15	CONSTRUCTION PLAN
3	2026.08.21	SITE CONSTRUCTION PLAN
4	2026.10.01	BID SET
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SHEET TITLE:
OVERALL UTILITY PLAN

SHEET: **UT-OA** **10**

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CONSULTANT:

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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J REICHEL
ENGINEER NO. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

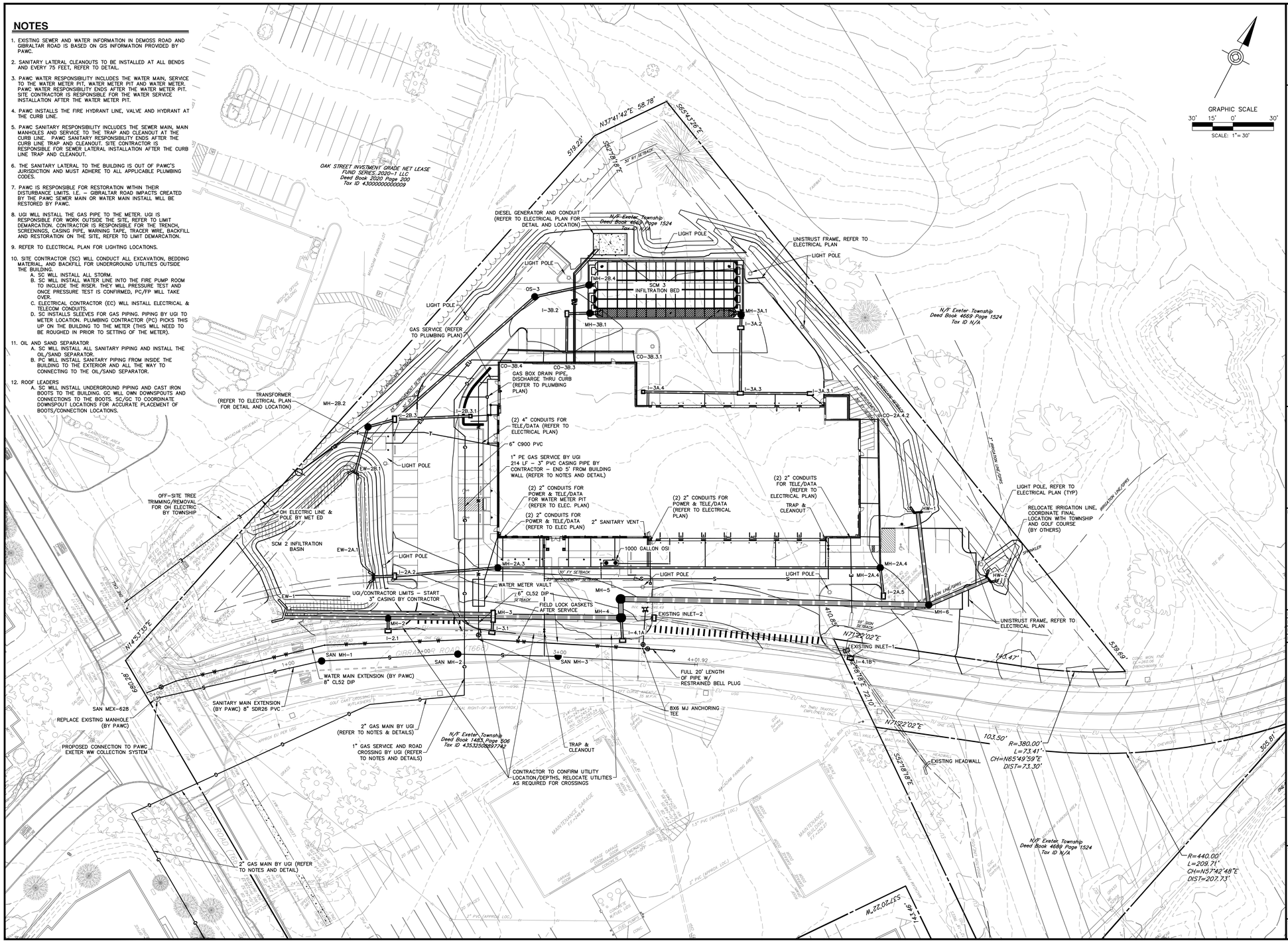
REFERENCE PLAN

SHEET NUMBER:

C10

NOTES

1. EXISTING SEWER AND WATER INFORMATION IN DEMOSS ROAD AND GIBRALTAR ROAD IS BASED ON GIS INFORMATION PROVIDED BY PAWC.
2. SANITARY LATERAL CLEANOUTS TO BE INSTALLED AT ALL BENDS AND EVERY 75 FEET, REFER TO DETAIL.
3. PAWC WATER RESPONSIBILITY INCLUDES THE WATER MAIN, SERVICE TO THE WATER METER PIT, WATER METER PIT AND WATER METER. PAWC WATER RESPONSIBILITY ENDS AFTER THE WATER METER PIT. SITE CONTRACTOR IS RESPONSIBLE FOR THE WATER SERVICE INSTALLATION AFTER THE WATER METER PIT.
4. PAWC INSTALLS THE FIRE HYDRANT LINE, VALVE AND HYDRANT AT THE CURB LINE.
5. PAWC SANITARY RESPONSIBILITY INCLUDES THE SEWER MAIN, MAIN MANHOLES AND SERVICE TO THE TRAP AND CLEANOUT AT THE CURB LINE. PAWC SANITARY RESPONSIBILITY ENDS AFTER THE CURB LINE TRAP AND CLEANOUT. SITE CONTRACTOR IS RESPONSIBLE FOR SEWER LATERAL INSTALLATION AFTER THE CURB LINE TRAP AND CLEANOUT.
6. THE SANITARY LATERAL TO THE BUILDING IS OUT OF PAWC'S JURISDICTION AND MUST ADHERE TO ALL APPLICABLE PLUMBING CODES.
7. PAWC IS RESPONSIBLE FOR RESTORATION WITHIN THEIR DISTURBANCE LIMITS. I.E. – GIBRALTAR ROAD IMPACTS CREATED BY THE PAWC SEWER MAIN OR WATER MAIN INSTALL WILL BE RESTORED BY PAWC.
8. UGI WILL INSTALL THE GAS PIPE TO THE METER. UGI IS RESPONSIBLE FOR WORK OUTSIDE THE SITE, REFER TO LIMIT DEMARCATION. CONTRACTOR IS RESPONSIBLE FOR THE TRENCH, SCREENINGS, CASING PIPE, WARNING TAPE, TRACER WIRE, BACKFILL AND RESTORATION ON THE SITE, REFER TO LIMIT DEMARCATION.
9. REFER TO ELECTRICAL PLAN FOR LIGHTING LOCATIONS.
10. SITE CONTRACTOR (SC) WILL CONDUCT ALL EXCAVATION, BEDDING MATERIAL, AND BACKFILL FOR UNDERGROUND UTILITIES OUTSIDE THE BUILDING.
    A. SC WILL INSTALL ALL STORM.
    B. SC WILL INSTALL WATER LINE INTO THE FIRE PUMP ROOM TO INCLUDE THE RISER. THEY WILL PRESSURE TEST AND ONCE PRESSURE TEST IS CONFIRMED, PC/FP WILL TAKE OVER.
    C. ELECTRICAL CONTRACTOR (EC) WILL INSTALL ELECTRICAL & TELECOM CONDUITS.
    D. SC INSTALLS SLEEVES FOR GAS PIPING. PIPING BY UGI TO METER LOCATION. PLUMBING CONTRACTOR (PC) PICKS THIS UP ON THE BUILDING TO THE METER (THIS WILL NEED TO BE ROUGHED IN PRIOR TO SETTING OF THE METER).
11. OIL AND SAND SEPARATOR
    A. SC WILL INSTALL ALL SANITARY PIPING AND INSTALL THE OIL/SAND SEPARATOR.
    B. PC WILL INSTALL SANITARY PIPING FROM INSIDE THE BUILDING TO THE EXTERIOR AND ALL THE WAY TO CONNECTING TO THE OIL/SAND SEPARATOR.
12. ROOF LEADERS
    A. SC WILL INSTALL UNDERGROUND PIPING AND CAST IRON BOOTS TO THE BUILDING. GC WILL OWN DOWNSPOUTS AND CONNECTIONS TO THE BOOTS. SC/GC TO COORDINATE DOWNSPOUT LOCATIONS FOR ACCURATE PLACEMENT OF BOOTS/CONNECTION LOCATIONS.



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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

REVISIONS		
NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
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HRG PROJECT NUMBER: R006367.0427
PLAN DATE: 2026.02.18
DRAWING SCALE: AS SHOWN
PROJ. MANAGER: DENNIS REICHEL

SHEET TITLE:
UTILITY PLAN

SHEET: UT 11

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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J REICHEL
ENGINEER NO. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION: BID SET

ORIGINAL ISSUE DATE: 10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:
C11

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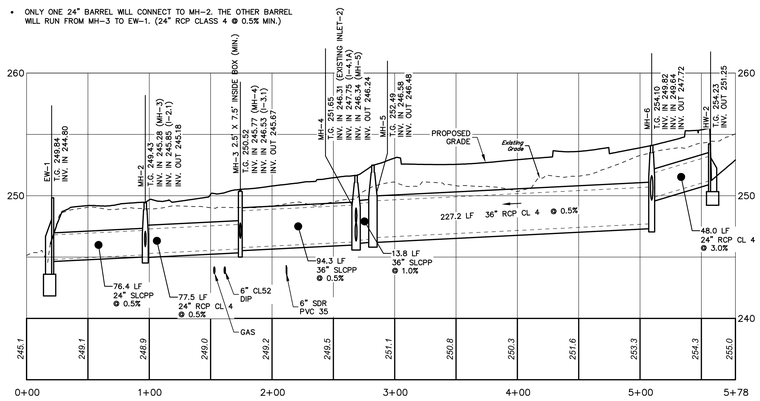
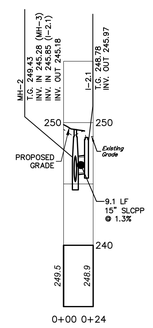
DUAL STORM PIPE NOTE

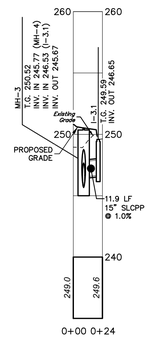
- ONLY ONE 24" BARREL WILL CONNECT TO MH-2. THE OTHER BARREL WILL RUN FROM MH-3 TO EW-1. (24" RCP CLASS 4 @ 0.5% MIN.)



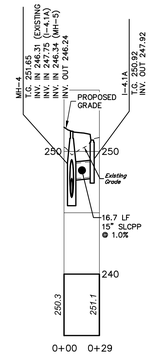
EW-1 TO HW-2



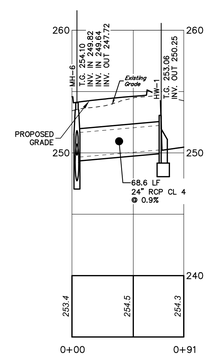
MH-2 TO I-2.1



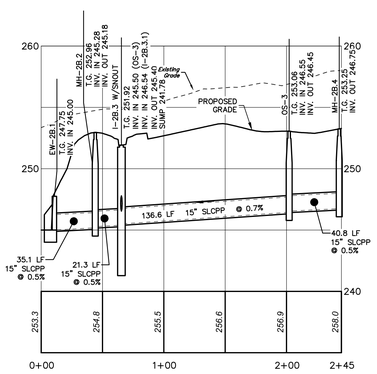
MH-3 TO I-3.1



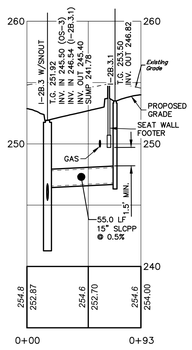
MH-4 TO I-4.1A



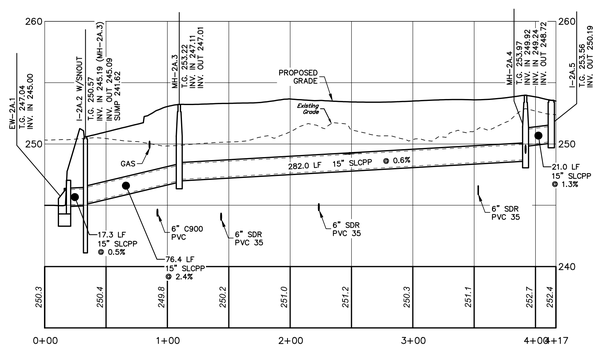
MH-6 TO HW-1



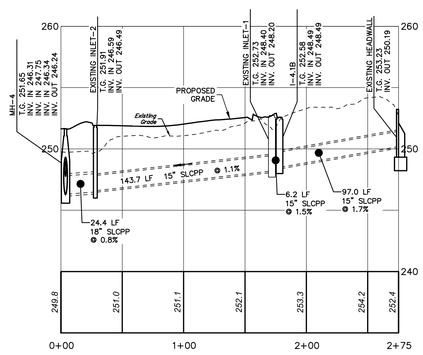
EW-2B.1 TO SCM-3



I-2B.3.1 TO I-2B.3



EW-2A.1 TO I-2A.5



EXISTING RUN

HORIZ: 50' 25' 0' 50'
VERT: 5' 2.5' 0' 5'
SCALE IN FEET

HERBERT, ROWLAND & GRUBIC, INC.
1275 GLENLIVET DRIVE
SUITE 145
ALLENTOWN, PA 18106
610.351.0311 | hrg-inc.com

PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY

EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606

EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER: R006367.0427
PLAN DATE: 2026.02.18
DRAWING SCALE: AS SHOWN
PROJ. MANAGER: DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV. AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.04.15	ADDITIONAL REVISIONS AS PER AGENCY REVIEW
3	2026.08.21	95% CONSTRUCTION PLAN
4	2026.10.01	BID SET
5		
6		
7		
8		
9		

SHEET TITLE:
STORM PROFILES

SHEET: PR 12

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
8098 SANDPIPER CIR, SUITE
NOTTINGHAM, MD 21236
☎ 410-344-1460
✉ INFO@MWSARCH.COM
WWW.MWSARCH.COM

CONSULTANT:

HERBERT, ROWLAND & GRUBIC, INC.
1275 GLENLIVET DRIVE
SUITE 145
ALLENTOWN, PA 18106
610.351.0311 | hrg-inc.com

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
DENNIS U REICHEL
NO. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:

C12

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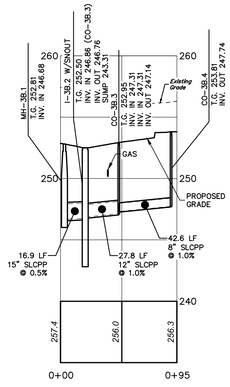
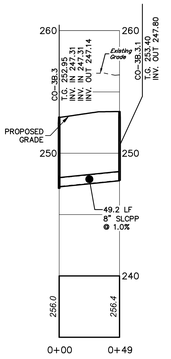
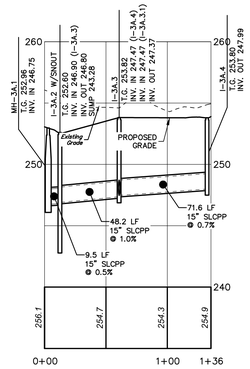


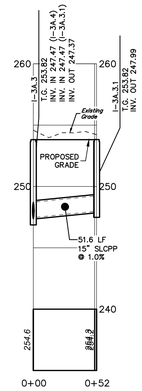
SCM-3 TO CO-3B.4



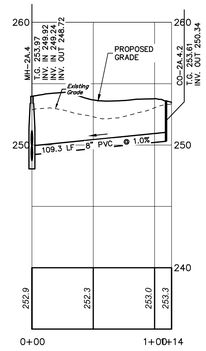
I-3B.3 TO CO-3B.3.1



SCM-3 TO I-3A.4

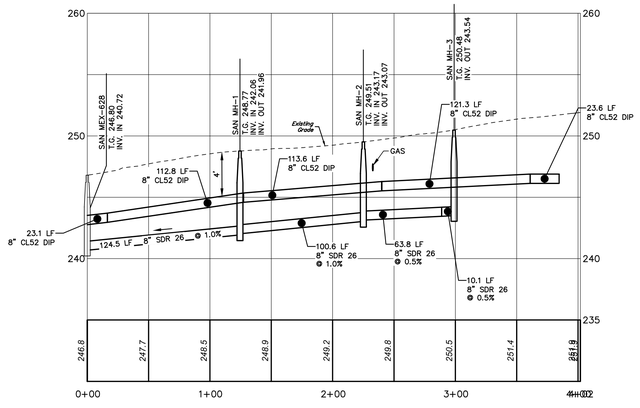


I-3A.3 TO I-3A.3.1

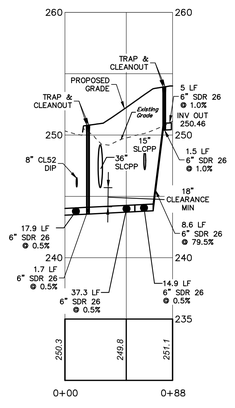


MH-2A.4 TO CO-2A.4.2

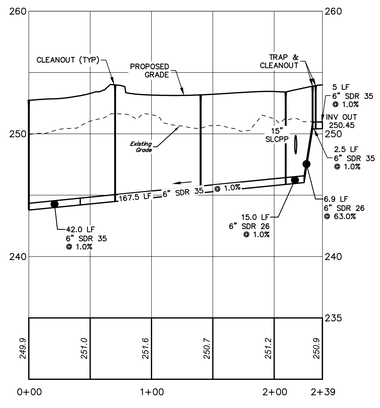
HORIZ: 50' 25' 0' 50'
VERT: 5' 2.5' 0' 5'
SCALE IN FEET



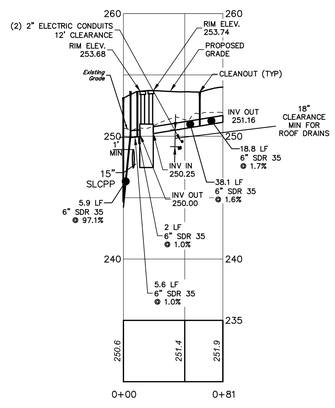
GIBRALTAR ROAD



LATERAL TO OFFICE



LATERAL TO EMS



LATERAL TO APPARATUS BAY

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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN FOR EMERGENCY SERVICES FACILITY

EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606

EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	AS SHOWN
PROJ. MANAGER:	DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV. AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.04.15	SCM CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
5		
6		
7		
8		
9		

SHEET TITLE:
STORM AND SANITARY PROFILES

SHEET: PR-2 | 13

MW STUDIOS
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☎ 410-344-1460
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CONSULTANT:

HRG
HERBERT, ROWLAND & GRUBIC, INC.
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SUITE 145
ALLENTOWN, PA 18106
610.351.0311 | hrg-inc.com

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J REICHEL
ENGINEER NO. PE070787
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION: BID SET

ORIGINAL ISSUE DATE: 10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:
C13

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LANDSCAPE DATA

PARKING LOT LANDSCAPE: 12% REQUIRED FOR 20 OR MORE SPACES, WITH 10' X 20' PLANTING ISLANDS (ORD. SECTION 330.48.3)

3,488 SF REQUIRED (29,074 SF X 12%)

5,163 SF PROVIDED

NOTES:
1. REFER TO ELECTRICAL PLANS FOR LIGHTING. PARKING LOT LIGHTING SHOWN FOR REFERENCE.

PLANT LIST:

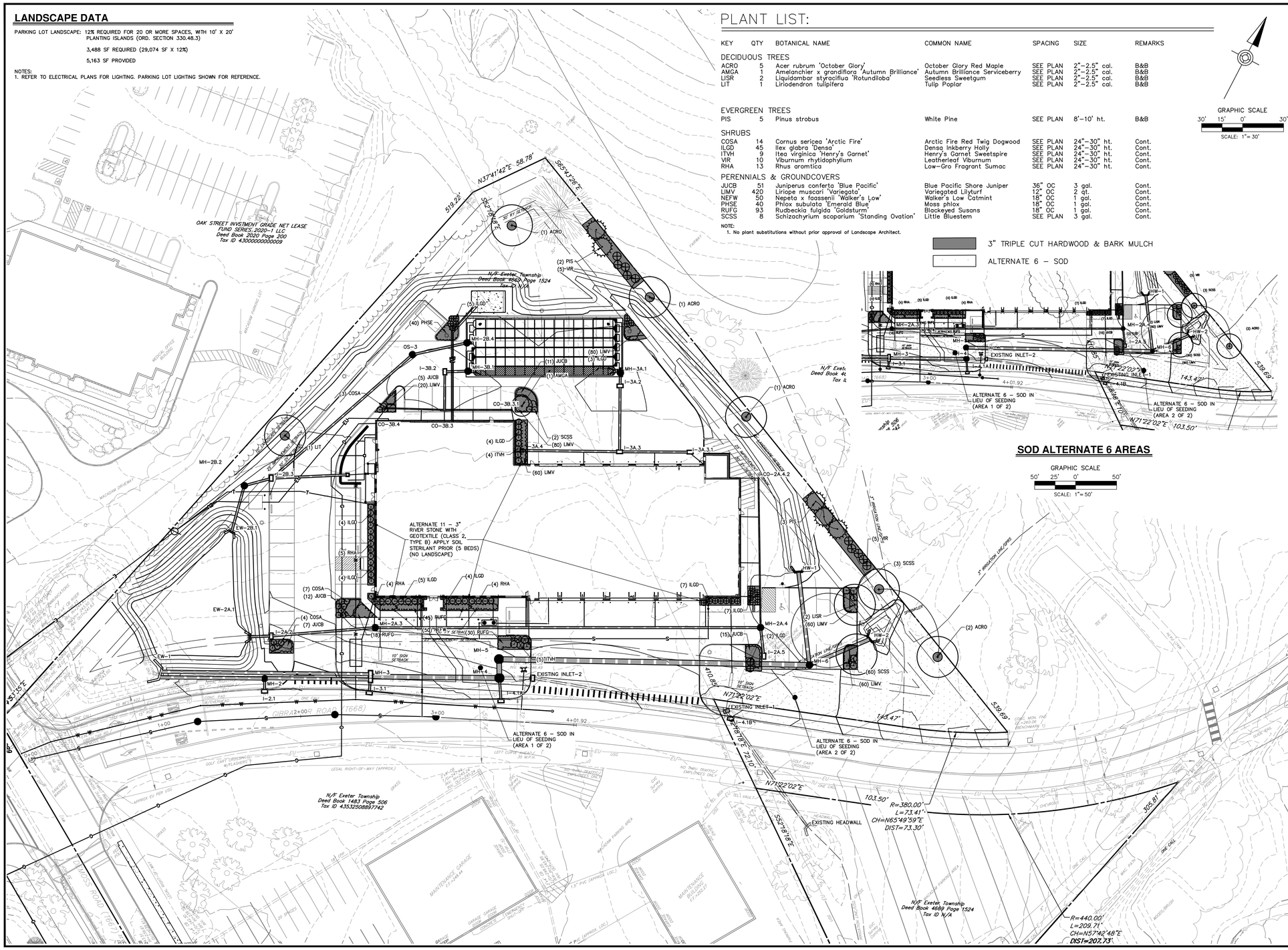
KEY	QTY	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS
DECIDUOUS TREES						
ACRO	5	Acer rubrum 'October Glory'	October Glory Red Maple	SEE PLAN	2"–2.5" cal.	B&B
AMGA	1	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	SEE PLAN	2"–2.5" cal.	B&B
LISR	2	Liquidambar styraciflua 'Rotundiloba'	Seedless Sweetgum	SEE PLAN	2"–2.5" cal.	B&B
LIT	1	Liriodendron tulipifera	Tulip Poplar	SEE PLAN	2"–2.5" cal.	B&B
EVERGREEN TREES						
PIS	5	Pinus strobus	White Pine	SEE PLAN	8'–10' ht.	B&B
SHRUBS						
COSA	14	Cornus sericea 'Arctic Fire'	Arctic Fire Red Twig Dogwood	SEE PLAN	24"–30" ht.	Cont.
ILGD	45	Ilex glabra 'Densa'	Densa Inkberry Holly	SEE PLAN	24"–30" ht.	Cont.
ITVH	9	Itea virginica 'Henry's Garnet'	Henry's Garnet Sweetspire	SEE PLAN	24"–30" ht.	Cont.
VIR	10	Viburnum rhytidophyllum	Leatherleaf Viburnum	SEE PLAN	24"–30" ht.	Cont.
RHA	13	Rhus aromtica	Low–Gro Fragrant Sumac	SEE PLAN	24"–30" ht.	Cont.
PERENNIALS & GROUNDCOVERS						
JUCB	51	Juniperus conferta 'Blue Pacific'	Blue Pacific Shore Juniper	36" OC	3 gal.	Cont.
LIMV	420	Liriope muscari 'Variegata'	Variegated Lilyturf	12" OC	1 gt.	Cont.
NEFW	50	Nepeta x faassenii 'Walker's Low'	Walker's Low Catmint	18" OC	1 gal.	Cont.
PHSE	40	Phlox subulata 'Emerald Blue'	Moss phlox	18" OC	1 gal.	Cont.
RUFG	93	Rudbeckia fulgida 'Goldsturm'	Blackeyed Susans	18" OC	1 gal.	Cont.
SCSS	8	Schizachyrium scoparium 'Standing Ovation'	Little Bluestem	SEE PLAN	3 gal.	Cont.

NOTE:
1. No plant substitutions without prior approval of Landscape Architect.

GRAPHIC SCALE
30' 15' 0' 30'
SCALE: 1" = 30'

3" TRIPLE CUT HARDWOOD & BARK MULCH

ALTERNATE 6 – SOD


OAK STREET INVSTMENT GRADE NET LEASE FUND SERIES, 2020–1 LLC
Deed Book 2020 Page 220
Tax ID 43000000000009
N/F Exeter Township
Deed Book 4562 Page 1524
Tax ID N/A
N/F Exeter Township
Deed Book 1483 Page 506
Tax ID 435325085977A2
N/F Exeter Township
Deed Book 4680 Page 1524
Tax ID N/A
N37°41'42"E 58.78'
S05°43'26"E
519.22'
S27°18'19"E
S52°18'19"E
N71°22'02"E 103.50'
143.47'
539.69'
305.81'
410.65'
R=380.00'
L=73.41'
CH=N65°49'59"E
DIST=73.30'
R=440.00'
L=209.71'
CH=N57°42'48"E
DIST=207.73'
ALTERNATE 11 – 3" RIVER STONE WITH GEOTEXTILE (CLASS 2, TYPE B) APPLY SOIL STERILANT PRIOR (5 BEDS) (NO LANDSCAPE)
ALTERNATE 6 – SOD IN LIEU OF SEEDING (AREA 1 OF 2)
ALTERNATE 6 – SOD IN LIEU OF SEEDING (AREA 2 OF 2)
EXISTING INLET–1
EXISTING INLET–2
EXISTING HEADWALL
MH–2B.4
MH–3B.1
MH–3A.1
MH–2B.2
MH–2B.3
MH–2A.3
MH–2A.4
MH–2A.5
MH–5
MH–4
MH–3
MH–2
MH–1
MH–6
I–3B.2
I–3A.2
I–3A.3
I–3A.4
I–3A.1
I–2B.3
I–2A.2
I–2A.4
I–2A.5
I–3.1
I–2.1
I–4.1A
I–4.1B
CO–3B.4
CO–3B.3
CO–3B.5.1
CO–2A.4.2
EW–2B.1
EW–2A.1
EW–1
HW–1
HW–2
(1) ACRO
(2) PIS
(5) VIR
(40) PHSE
OS–3
(11) JUCB
(80) LIMV
(7) COSA
(5) JUCB
(20) LIMV
(1) LIT
(4) ILGD
(4) ITVH
(2) SCSS
(60) LIMV
(5) RHA
(7) COSA
(12) JUCB
(4) COSA
(7) JUCB
(18) RUFG
(44) RUFG
(50) NEFW
(5) ITVH
(15) JUCB
(2) ILGD
(2) LISR
(60) LIMV
(3) SCSS
(60) SCSS
(60) LIMV
(3) PIS
(5) VIR
(2) ACRO
(7) ILGD
(4) RHA
(5) ILGD
(10) LIMV
(15) AMGA
(10) VIR
(7) LISR
(5) SCSS
(2) ACRO
(80) LIMV
(60) SCSS
(5) RHA
(4) RHA
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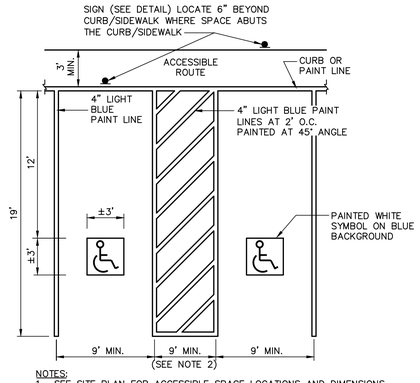
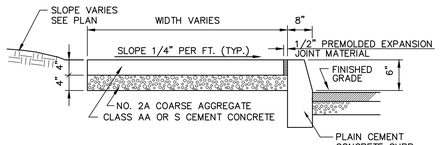


NOTES:
1. SEE SITE PLAN FOR ACCESSIBLE SPACE LOCATIONS AND DIMENSIONS.
2. ACCESS AISLE SHALL BE 9'-0" MIN. WIDTH FOR VAN ACCESSIBLE SPACES.
3. APPLY TWO COATS OF PAINT ON ALL SURFACES.
4. FOR CURB APPLICATIONS, STALL DIMENSIONS SHALL BE MEASURED FROM FACE OF CURB. FOR PAINT APPLICATIONS, STALL DIMENSIONS SHALL BE MEASURED FROM THE CENTERLINE OF THE PAINT LINE.
5. PARKING SPACES AND ACCESS AISLE AREAS SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION.

ACCESSIBLE PARKING PAVEMENT MARKINGS

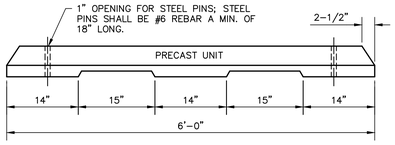
NOT TO SCALE

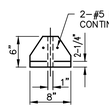


NOTE:
1. SIDEWALK TO HAVE MEDIUM BROOM FINISH PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAFFIC
2. CONSTRUCT IN ACCORDANCE WITH PENNDOT PUBLICATION 408.
3. SEE SITE PLAN FOR SIDEWALK LOCATION.

4" SITE SIDEWALK DETAIL ADJACENT TO CURB (OUTSIDE ROW)

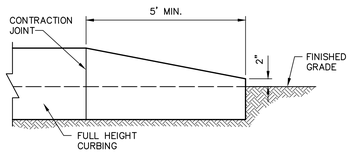
NOT TO SCALE





CONCRETE CURB STOP

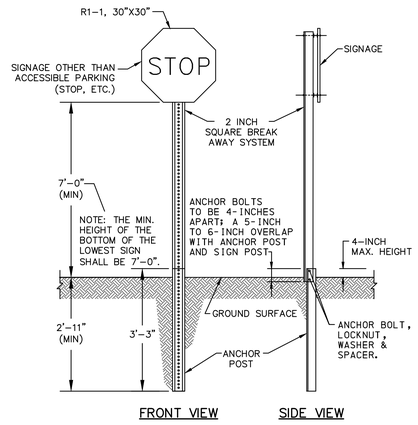
NOT TO SCALE



NOTE:
1. APPLY CURB END TRANSITION AT END OF CURB LOCATIONS.

CURB END TRANSITION

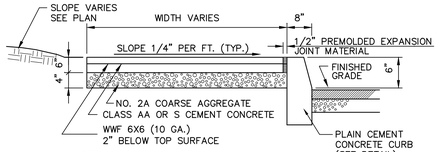
NOT TO SCALE



FRONT VIEW SIDE VIEW

SIGN POST

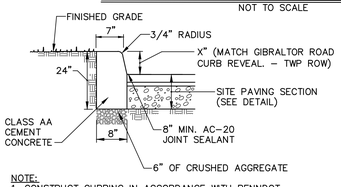
NOT TO SCALE



NOTE:
1. SIDEWALK TO HAVE MEDIUM BROOM FINISH PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAFFIC
2. CONSTRUCT IN ACCORDANCE WITH PENNDOT PUBLICATION 408.
3. SEE SITE PLAN FOR SIDEWALK LOCATION.

6" SITE SIDEWALK DETAIL ADJACENT TO CURB / PAVING (OUTSIDE ROW)

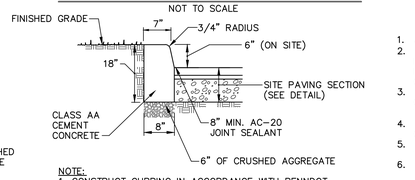
NOT TO SCALE



NOTE:
1. CONSTRUCT CURBING IN ACCORDANCE WITH PENNDOT SPECIFICATIONS PUBLICATION 408 AND ROADWAY CONSTRUCTION DRAWINGS (RC-64)
2. CAST CURB SECTIONS SHALL BE PROVIDED WITH 0.5" PREMOLDED EXPANSION JOINT EVERY 20' AND CONTROL JOINTS EVERY 10'.
3. SLIP FROM CURB SECTIONS SHALL BE PROVIDED WITH 0.5" PREMOLDED EXPANSION JOIN EVERY 50' AND CONTROL JOINTS EVERY 10'.
4. EXISTING PAVEMENT SHALL BE CUT STRAIGHT PRIOR TO EXCAVATION.
5. CURBS SHALL BE TIED INTO INLETS WITH REINFORCING BARS TO PREVENT CURB SETTLEMENT.

PUBLIC TYPICAL CONCRETE CURB DETAIL (INSIDE ROW)

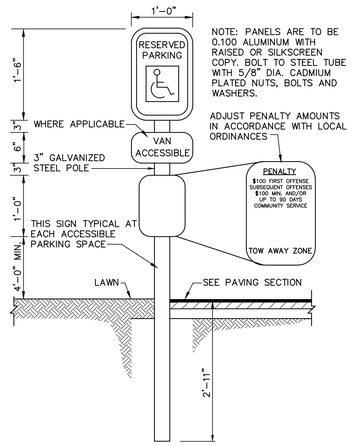
NOT TO SCALE



NOTE:
1. CONSTRUCT CURBING IN ACCORDANCE WITH PENNDOT SPECIFICATIONS PUBLICATION 408 AND ROADWAY CONSTRUCTION DRAWINGS (RC-64)
2. CAST CURB SECTIONS SHALL BE PROVIDED WITH 0.5" PREMOLDED EXPANSION JOINT EVERY 20' AND CONTROL JOINTS EVERY 10'.
3. SLIP FROM CURB SECTIONS SHALL BE PROVIDED WITH 0.5" PREMOLDED EXPANSION JOIN EVERY 50' AND CONTROL JOINTS EVERY 10'.
4. CURBS SHALL BE TIED INTO INLETS WITH REINFORCING BARS TO PREVENT CURB SETTLEMENT.

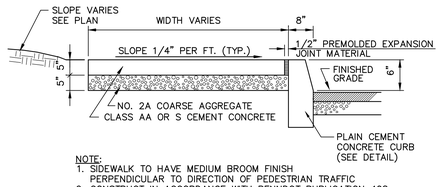
PRIVATE TYPICAL CONCRETE CURB DETAIL (OUTSIDE ROW)

NOT TO SCALE



TYPICAL ACCESSIBLE PARKING SIGN

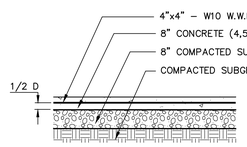
NOT TO SCALE



NOTE:
1. SIDEWALK TO HAVE MEDIUM BROOM FINISH PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAFFIC
2. CONSTRUCT IN ACCORDANCE WITH PENNDOT PUBLICATION 408.
3. SEE SITE PLAN FOR SIDEWALK LOCATION.

5" SITE SIDEWALK DETAIL ADJACENT TO CURB (INSIDE ROW)

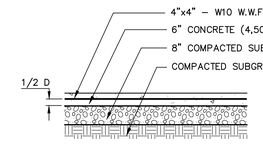
NOT TO SCALE



NOTE:
1. ALL CONCRETE TO BE 4500 PSI 28-DAY COMPRESSIVE STRENGTH.
2. COMPACT SUBGRADE TO AT LEAST 98% OF IT'S MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D698. SUBGRADE TO BE PROOF ROLLED BY A TANDEM-AXLE DUMP TRUCK UNDER THE DIRECT OBSERVATION OF A GEOTECHNICAL ENGINEER.
3. EXPANSION JOINTS SHALL BE PROVIDED WHERE ABRUPT CHANGES IN GEOMETRY OR IMMOVABLE STRUCTURES AND WHERE THERE ARE CURBS, TRAFFIC SEPARATORS, MANHOLES OR DRAINAGE STRUCTURES.
4. WELDED WIRE FABRIC, (WWF 4X4-W10) INSTALLED TO MAINTAIN A 3" CONCRETE COVER.
5. TRANSVERSE AND LONGITUDINAL JOINT SPACING SHALL BE NO MORE THAN 15 FEET OR 24 TIMES THE SLAB THICKNESS.
6. ALL JOINTS ARE TO BE SEALED TO PREVENT THE INFLOW OF WATER.

CONCRETE PAVEMENT (HEAVY DUTY)

NOT TO SCALE



NOTE:
1. ALL CONCRETE TO BE 4500 PSI 28-DAY COMPRESSIVE STRENGTH.
2. COMPACT SUBGRADE TO AT LEAST 98% OF IT'S MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D698. SUBGRADE TO BE PROOF ROLLED BY A TANDEM-AXLE DUMP TRUCK UNDER THE DIRECT OBSERVATION OF A GEOTECHNICAL ENGINEER.
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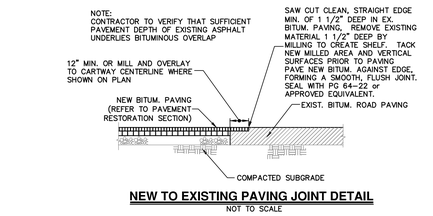
5. TRANSVERSE AND LONGITUDINAL JOINT SPACING SHALL BE NO MORE THAN 15 FEET OR 24 TIMES THE SLAB THICKNESS.
6. ALL JOINTS ARE TO BE SEALED TO PREVENT THE INFLOW OF WATER.

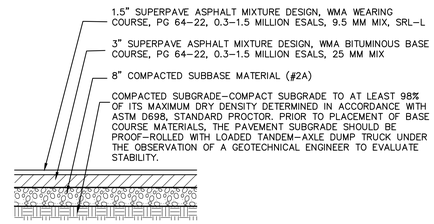
CONCRETE PAVEMENT (LIGHT DUTY)

NOT TO SCALE

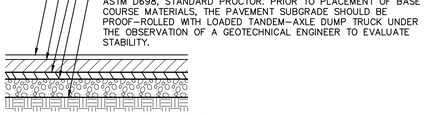


NEW TO EXISTING PAVING JOINT DETAIL

NOT TO SCALE



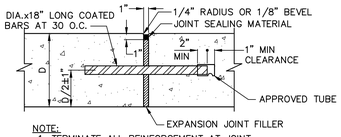
STANDARD DUTY



HEAVY DUTY

TYPICAL PAVING DETAILS

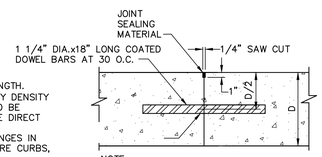
NOT TO SCALE



NOTE:
1. TERMINATE ALL REINFORCEMENT AT JOINT.

EXPANSION JOINT DETAIL

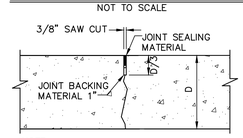
NOT TO SCALE



NOTE:
1. TERMINATE ALL REINFORCEMENT AT JOINT.

CONSTRUCTION JOINT DETAIL

NOT TO SCALE



NOTE:
1. TERMINATE 50% OF REINFORCEMENT JOINT.

CONTRACTION JOINT DETAIL

NOT TO SCALE

HRG
HERBERT, ROWLAND & GRUBIC, INC.
1275 GLENLIVET DRIVE
SUITE 145
ALLENTOWN, PA 18106
610.351.0311 | hrg-inc.com

PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

REVISIONS			
NO.	DATE	DESCRIPTION	
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS	
2	2026.06.15	50% CONSTRUCTION PLAN	
3	2026.08.21	90% CONSTRUCTION PLAN	
4	2026.10.01	BID SET	
5			
6			
7			
8			
9			

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	AS SHOWN
PROJ. MANAGER:	DENNIS REICHEL

SHEET TITLE:
SITE DETAILS

SHEET: DT-01 | 15

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
8098 SANDPIPER CIR, SUITE
NOTTINGHAM, MD 21236
☎ 410-344-1460
✉ INFO@MWSARCH.COM
WWW.MWSARCH.COM

CONSULTANT:

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HERBERT, ROWLAND & GRUBIC, INC.
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ALLENTOWN, PA 18106
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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J REICHEL
ENGINEER NO. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION: BID SET

ORIGINAL ISSUE DATE: 10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:
C15

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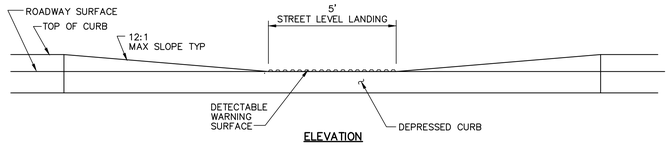
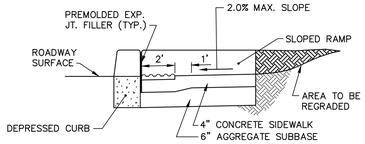
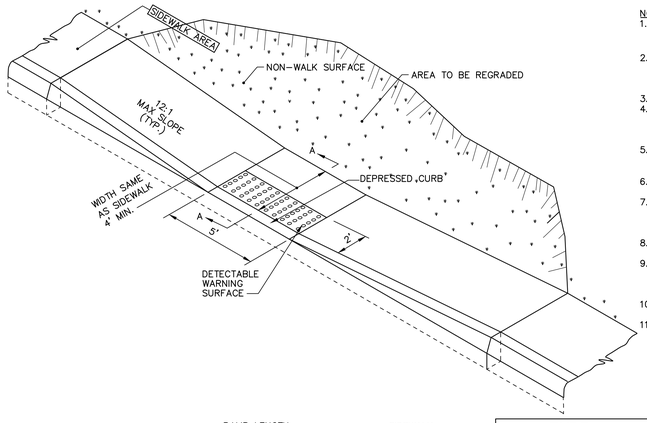


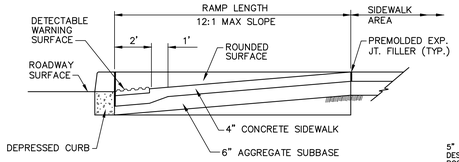
ELEVATION



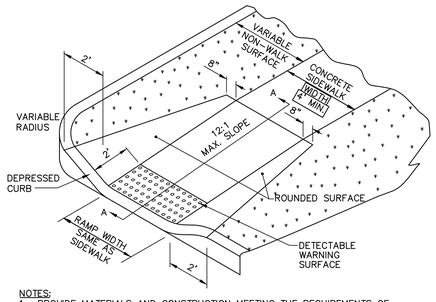
SECTION A–A



NOTES:
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PENNDOT PUBLICATION 408 (CURRENT EDITION).
2. PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
3. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
4. 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.
5. MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB ALTERATIONS WHERE THE CURB IS LESS THAN STANDARD 8" HEIGHT.
6. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK PITCH.
7. 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.
8. ALIGN DETECTABLE WARNING SURFACE ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF PEDESTRIAN TRAVEL.
9. PROVIDE DETECTABLE WARNING SURFACES THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT FOR THE FULL WIDTH OF RAMP.
10. NOWHERE SHALL THE CROSS SLOPE OF THE RAMPS ACCESSIBLE ROUTE EXCEED 2%
11. CONSTRUCT RAMP AND FLARE SLOPES WITH THE FLATTEST SLOPE POSSIBLE. THE SLOPES INDICATED IN THE DETAILS SHOW THE MAX SLOPE ALLOWABLE.



SECTION A–A



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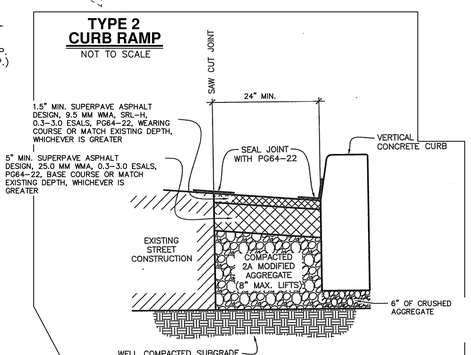
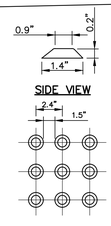
TYPE 4A (PARALLEL) CURB RAMP
NOT TO SCALE

TYPE 2 CURB RAMP
NOT TO SCALE

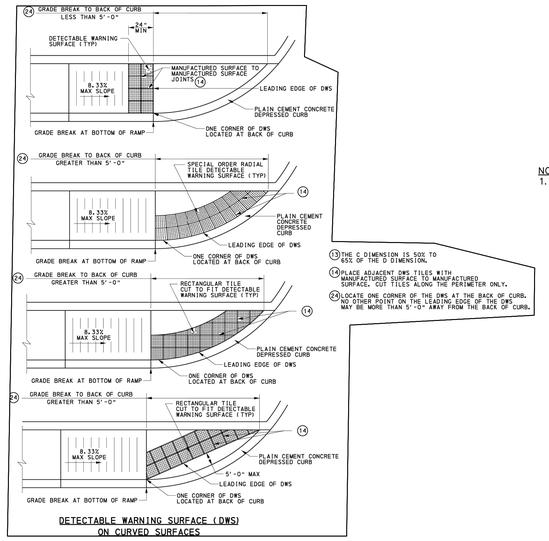


PAVEMENT RESTORATION FOR CURB REPLACEMENT

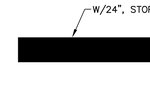


NOTES:
1. DETECTABLE WARNINGS SHALL BE A PRE-MANUFACTURED ARMOUR-TILE TACTILE SYSTEM OR APPROVED EQUIVALENT.
2. CONTRACTOR TO TO ENSURE LOCAL, STATE AND A.D.A. COMPLIANCE PRIOR TO CONSTRUCTION.

TRUNCATED DOME PATTERN FOR A.D.A. DETECTABLE WARNING SURFACE
NOT TO SCALE

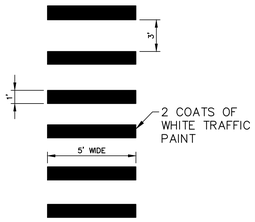


DETECTABLE WARNING SURFACE (DWS) ON CURVED SURFACES

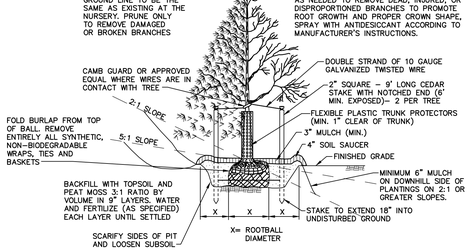


NOTES
1. STOP BARS AND LEGENDS SHALL BE WHITE PAINT (2 COATS).

STOP BAR/LEGEND
NOT TO SCALE

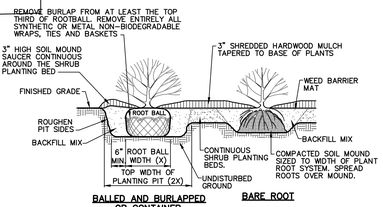


CROSSWALK
NOT TO SCALE



NOTES:
1. STAKE ALL TREES UNDER 12'
2. TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE.
3. NEVER CUT LEADERS
4. PLASTIC ROOT BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, ALONG PAVEMENT, CURBS OR UTILITIES WITHIN 10' OF ROOT BALL. "DEEP ROOT UB-24-2" OR EQUAL.

DECIDUOUS/EVERGREEN PLANTING DETAIL
NOT TO SCALE



BALLED AND BURLAPPED OR CONTAINER | BARE ROOT

NOTES:
1. SLICE ROOT MASS OF CONTAINERIZED PLANTS ALONG HEIGHT OF ROOTMASS AT 90° INTERVALS
2. PLANT MATERIAL SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO THE ORIGINAL NURSERY CONDITION.
3. BACKFILL MIX SHALL BE 3:1 RATIO OF COMPOSTED ORGANIC MATERIAL AND NATIVE SOIL AMENDED IN ACCORDANCE WITH PENNDOT PUBLICATION 408. BACKFILL SHALL BE TAMPED AND WATERED TO REMOVE VOIDS.
4. CONTINUOUS SHRUB PLANTING BEDS SHALL THOROUGHLY INCORPORATE 3" OF COMPOSTED ORGANINC MATERIAL INTO THE TOP 6" OF NATIVE SOIL AMENDED IN ACCORDANCE WITH PENNDOT PUBLICATION 408.

SHRUB PLANTING AND SHRUB BED PREPARATION DETAILS
NOT TO SCALE

LANDSCAPE NOTES

1. FERTILIZE ALL PLANTINGS IN ACCORDANCE WITH PENNDOT PUBLICATION 408 SPECIFICATIONS AND MULCH WITH MIN. 3" SHREDDED AND TANNED OAK BARK AROUND ALL NEW PLANTS IN CONTINUOUS BEDS AS INDICATED ON THE PLAN (FERTILIZE IN SPRING ONLY). A SOIL TEST SHALL BE PERFORMED BY A QUALIFIED LABORATORY. ADJUSTMENT TO PLANT AND FERTILIZER MATERIAL AND APPLICATION SHALL BE MADE AS AUTHORIZED BY OWNER, UNDER THE DIRECTION OF THE DESIGN PROFESSIONAL, IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
2. ALL DISTURBED OR DAMAGED AREAS SHALL BE REPAIRED AND REFINISHED WITH MATERIALS TO MATCH EXISTING ADJACENT SURFACES.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH EACH PHASE OF WORK. LOCATIONS OF EXISTING AERIAL OR SUB-SURFACE UTILITY LINES INDICATED ARE APPROXIMATE AND NEITHER THE OWNER NOR ENGINEER GUARANTEE THE ACCURACY OR COMPLETENESS OF THESE LOCATIONS. IF THERE ARE ANY CONFLICTS DUE TO EXISTING OR AS-BUILT CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FOR FIELD ADJUSTMENT APPROVAL.
4. CONTRACTOR SHALL NOTIFY PA ONE-CALL BY CALLING 1 (800) 242-1776. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DISTURBING ALL EXISTING UTILITY LINES WHETHER MAPPED, MARKED OR ENCOUNTERED DURING CONSTRUCTION.
5. ALL SHRUBBERY AND PLANTS SHALL HAVE A NORMAL HABIT OF GROWTH, AND SHALL BE SOUND, HEALTHY, VIGOROUS AND FREE OF DISEASE, INSECTS, INSECT EGGS AND LARVAE.
6. ALL PLANTINGS AND RELATED WORK SHALL BE PERFORMED IN CONFORMANCE WITH PENNDOT PUBLICATION 408 SPECIFICATIONS, GOOD NURSERY AND LANDSCAPE PRACTICES AND TO OTHER STANDARDS AS ESTABLISHED BY THE MUNICIPALITY.
7. REQUIREMENTS FOR MEASUREMENT, BRANCHING, GRADING, QUALITY AND BURLAPPING OF ALL PLANT MATERIAL SHALL FOLLOW THE CODE OF STANDARDS RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN THE AMERICAN STANDARD NURSERY STOCK, ANSIZ60, 1-1990, AS AMENDED.
8. COORDINATE THE PLACEMENT OF THE LANDSCAPING MATERIALS WITH WINDOW OR VENT LOCATIONS AND OTHER SITE IMPROVEMENTS.
9. PRE-EMERGENT HERBICIDE SHALL NOT BE USED ON GROUND COVER AREAS.
10. ALL DISTURBED AREAS NOT LANDSCAPED, PAVED OR BUILT UPON SHALL BE SEEDED, FERTILIZED AND MULCHED IN ACCORDANCE WITH PENNDOT FORMULA B MIX UNLESS OTHERWISE NOTED. REFER TO SEEDING SCHEDULE AND EROSION AND SEDIMENTATION CONTROL PLAN FOR OTHER REQUIREMENTS.
11. DECIDUOUS TREES THAT OVERHANG PEDESTRIAN OR VEHICULAR ROUTES SHALL BE MAINTAINED TO KEEP AWAY FROM GROUND TO A HEIGHT OF 8' FREE OF BRANCHES AND FOLIAGE.
12. CONTRACTOR TO PROVIDE CLEANUP, PROTECTION AND MAINTENANCE OF LANDSCAPED AREA UNTIL OWNER INSPECTION AND ACCEPTANCE.
13. WEED BARRIER MAT SHALL BE INSTALLED ON ALL LANDSCAPED AREAS EXCEPT ON GROUND COVER AREAS UNLESS OTHERWISE NOTED IN ACCORDANCE WITH PENNDOT PUBLICATION 408 SPECIFICATIONS.
14. QUANTITIES SHOWN ON THE PLAN SHALL GOVERN IF TOTALS DO NOT AGREE WITH PLANTINGS SCHEDULE QUANTITIES.
15. PLANTS SHALL BE MAINTAINED AND WARRANTED TO BE LIVING AND IN HEALTHY CONDITION FOR AT LEAST 12 MONTHS.

HERBERT, ROWLAND & GRUBIC, INC.
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ALLENTOWN, PA 18106
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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	AS SHOWN
PROJ. MANAGER:	DENNIS REICHEL

NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.06.15	50% CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
5		
6		
7		
8		
9		

SHEET TITLE:
SITE DETAILS

SHEET: DT-02 | 16

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
8098 SANDPIPER CIR, SUITE
NOTTINGHAM, MD 21236
☎ 410-344-1460
✉ INFO@MWSARCH.COM
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CONSULTANT:

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1275 GLENLIVET DRIVE
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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J REICHEL
ENGINEER NO. PE070767
10/01/2026

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:
C16

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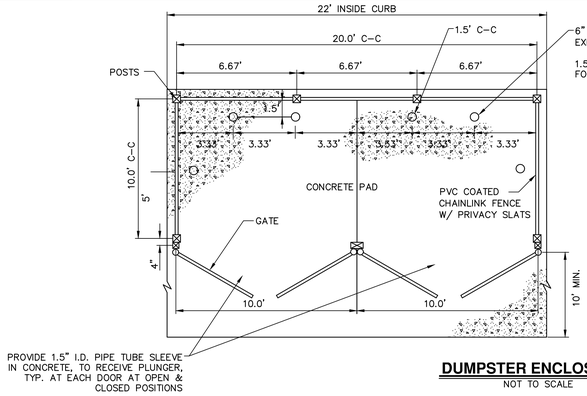
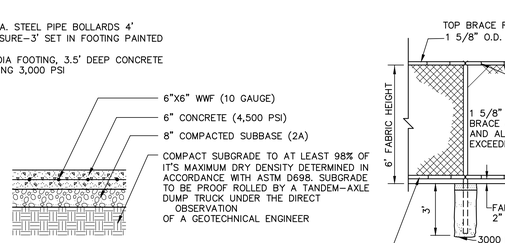
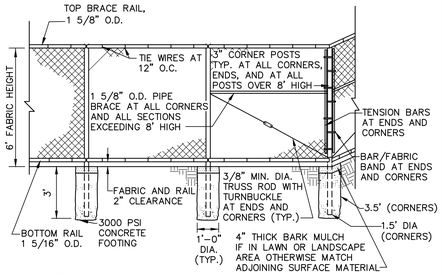


DUMPSTER ENCLOSURE
NOT TO SCALE



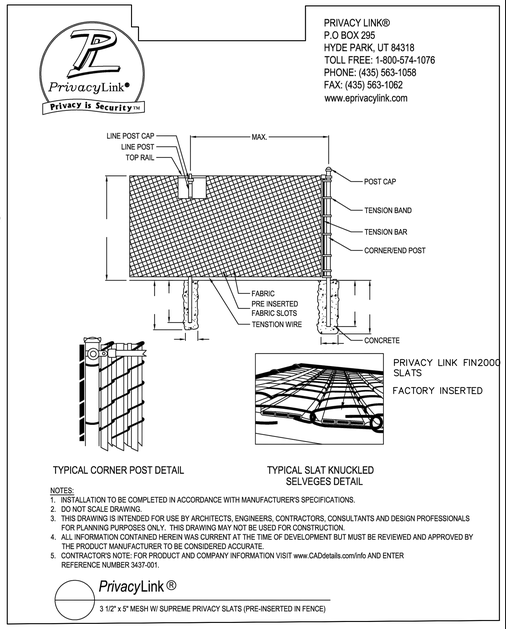
CONCRETE PAD DETAIL WITHIN ENCLOSURE FOOTPRINT

NOTE:
1. CONTRACTOR TO PROVIDE FENCE SUBMITTAL WITH PVC COLOR OPTIONS.
2. SEAL CONCRETE SLAB AGAINST GREASE ABSORPTION WITHIN ENCLOSURE FOOTPRINT.



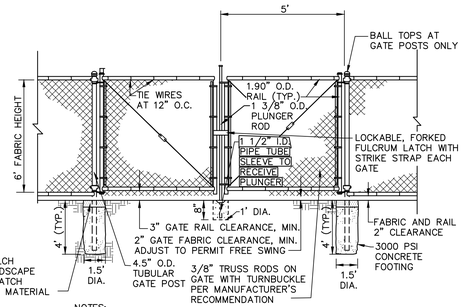
NOTES:
1. LINE POST SPACING TO BE 10'-0" MAX.
2. ADD ADDITIONAL BRACE AND TRUSS AND OTHER ACCESSORIES/ HARDWARE FOR CORNER AND END SECTIONS OF FENCE EXCEEDING 8' HEIGHT AS RECOMMENDED BY THE MANUFACTURER.
3. FABRIC TO BE ZINC/5% ALUMINUM/MISCHMETAL ALLOY - COATED STEEL CORE WIRE, 9 GAGE, HELICALLY WOVEN AS DIAMOND MESH KNUCKLED AT EDGES 3.5"X5" MESH, PVC COATED WITH PRIVACY SLATS
4. POSTS AND RAILS TO BE SCHEDULE 40 HOT-DIPPED GALVANIZED STEEL, ALL JOINTS WELDED.

DUMPSTER CHAINLINK FENCE DETAIL
NOT TO SCALE



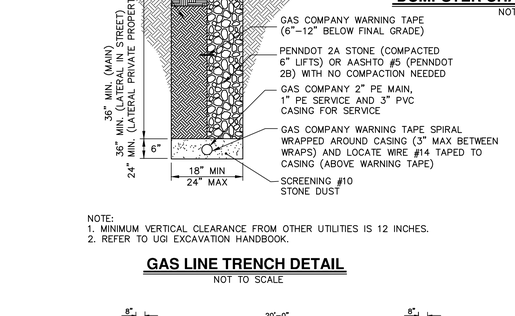
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 3437-001.

PrivacyLink®
3 1/2" x 5" MESH W/ SUPREME PRIVACY SLATS (PRE-INSERTED IN FENCE)



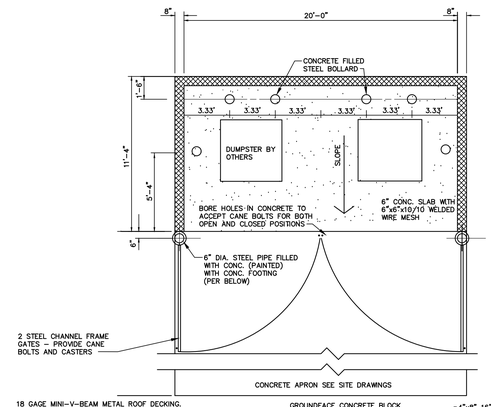
NOTES:
1. LINE POST SPACING TO BE 10'-0" MAX.
2. PROVIDE GATES AT LOCATIONS SHOWN ON THE PLAN.
3. PROVIDE GATE KEEPER FOR EACH GATE FOR SECURING GATE IN FULL OPEN POSITION.
4. PROVIDE PLUNGER KEEPER TO KEEP PLUNGER ROD IN UP POSITION DURING OPENING OF THE GATE.
5. FABRIC TO BE ZINC/5% ALUMINUM/MISCHMETAL ALLOY - COATED STEEL CORE WIRE, 9 GAGE, HELICALLY WOVEN AS DIAMOND MESH KNUCKLED AT EDGES 3.5"X5" MESH, PVC COATED WITH PRIVACY SLATS
6. POSTS AND RAILS TO BE SCHEDULE 40 HOT-DIPPED GALVANIZED STEEL, ALL JOINTS WELDED.

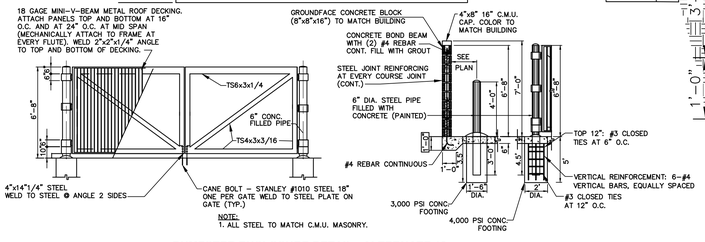
DUMPSTER CHAINLINK DOUBLE-LEAF SWING GATE DETAIL
NOT TO SCALE



NOTE:
1. MINIMUM VERTICAL CLEARANCE FROM OTHER UTILITIES IS 12 INCHES.
2. REFER TO UGI EXCAVATION HANDBOOK.

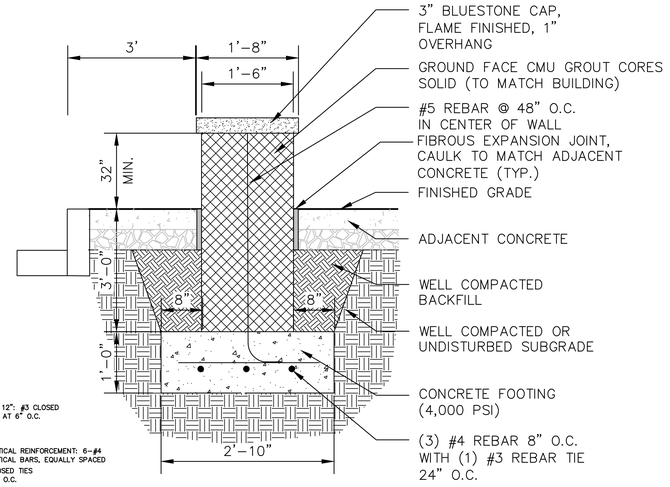
GAS LINE TRENCH DETAIL
NOT TO SCALE



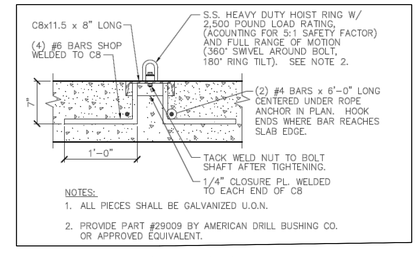


NOTE:
1. ALL STEEL TO MATCH C.M.U. MASONRY.

DUMPSTER ENCLOSURE DETAIL - ALTERNATE 12
NOT TO SCALE



PATIO WALL
NOT TO SCALE



NOTES:
1. ALL PIECES SHALL BE GALVANIZED U.O.N.
2. PROVIDE PART #29009 BY AMERICAN DRILL BUSHING CO. OR APPROVED EQUIVALENT.

ROPE ANCHOR DETAIL
NOT TO SCALE

MW STUDIOS
ARCHITECTURE + MASTER PLANNING
8098 SANDPIPER CIR, SUITE
NOTTINGHAM, MD 21236
☎ 410-344-1460
✉ INFO@MWSARCH.COM
WWW.MWSARCH.COM

CONSULTANT:
HRG
HERBERT, ROWLAND & GRUBIC, INC.
1275 GLENLIVET DRIVE
SUITE 145
ALLENTOWN, PA 18106
610.351.0311 | hrg-inc.com

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J. REICHEL
ENGINEER
No. PE037767
10/1/2026

HERBERT, ROWLAND & GRUBIC, INC.
1275 GLENLIVET DRIVE
SUITE 145
ALLENTOWN, PA 18106
610.351.0311 | hrg-inc.com

PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY

EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606

EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER: R006367.0427
PLAN DATE: 2026.02.18
DRAWING SCALE: AS SHOWN
PROJ. MANAGER: DENNIS REICHEL

REVISIONS

NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.06.15	50% CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
5		
6		
7		
8		
9		

SHEET TITLE:
SITE DETAILS

SHEET: **DT-03** 17

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049
SUBMISSION: BID SET
ORIGINAL ISSUE DATE: 10/01/2026
SHEET REVISION SCHEDULE: No. DATE

REFERENCE PLAN

SHEET NUMBER:
C17

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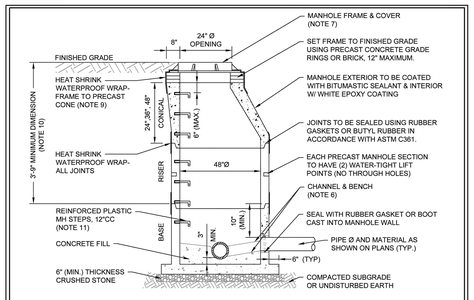


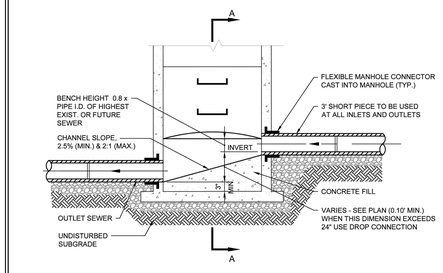
NOTES:

1. PRECAST CONCRETE MANHOLE SHALL CONFORM TO ASTM C478, WITH A MIN. COMPRESSIVE STRENGTH OF 4000 PSI.
2. MAXIMUM DEPTH OF STANDARD 48" Ø MANHOLE SHALL BE 20 FEET, UNLESS OTHERWISE SPECIFIED. REFER TO DEEP MANHOLE DETAIL WHEN DEPTH EXCEEDS 20 FEET.
3. FOR 48" MANHOLE, MAXIMUM PIPE O.D. TO BE 31-1/2" FOR 180° THROUGH 135° DEFLECTION; 25" FOR 90° DEFLECTION.
4. INVERT IN TO BE 0.1' (MIN.) ABOVE INVERT OUT. MATCH CROWN ELEVATIONS WHEN PIPE SIZE CHANGES BETWEEN INLET AND OUTLET, WHERE APPROPRIATE (SEE NOTE 5).
5. DROP CONNECTION TO BE PROVIDED WHENEVER VERTICAL DISTANCE BETWEEN THE CROWN OF INLET PIPE AND THE CROWN OF OUTLET PIPE IS GREATER THAN 24".
6. CHANNEL HEIGHT TO BE 0.8 X PIPE ID. BENCH TO SLOPE 1" PER FT (MIN.) FROM MANHOLE WALL TO CHANNEL.
7. FRAME TO BE BOLTED TO PRECAST CONE OR TOP SLAB PER DETAILS GSS-77 &/OR GSS-78, AS APPLICABLE.
8. FINISH GRADE SHALL BE FLUSH WITH TOP OF COVER ON MANHOLE FRAME AND COVER, UNLESS NOTED OTHERWISE.
9. FOR INSTALLATION OF HEAT SHRINKABLE MANHOLE ENCAPSULATING WRAP REFER TO DETAIL GSS-21.
10. WHEN MINIMUM DIMENSION OF 3'-9" IS NOT ATTAINABLE STANDARD MANHOLE-TYPE B SHALL BE USED, UNLESS NOTED OTHERWISE
11. INSTALL BOTTOM STEP 5" (MIN) AND 16-1/2" (MAX.) ABOVE BENCH. EMBED STEPS 3" (MIN.) WITH 5" (MIN.) PROJECTION.
12. WHEN MANHOLE DEPTH IS 16'-0" OR GREATER, SEE DETAIL GSS-63 FOR PIPE TO MANHOLE CONNECTION.
13. WHEN PIPE GRADE IS 10% OR LARGER, SEE DETAIL GSS-64 FOR PIPE TO MANHOLE CONNECTION.
14. FOR 15" AND LARGER SEWER PIPE, SEE DETAIL GSS-63 FOR PIPE TO MANHOLE CONNECTION.
15. MINIMUM SPACING BETWEEN ADJACENT PIPE O.D. SHALL BE 9". WHEN PIPE DIAMETER OF SMALLER ADJACENT PIPE IS 12" OR GREATER, CONTACT MANHOLE MANUFACTURER.

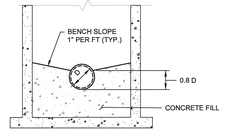
AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
STANDARD 48" PRECAST MANHOLE- TYPE A

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-36



CHANNEL DETAIL

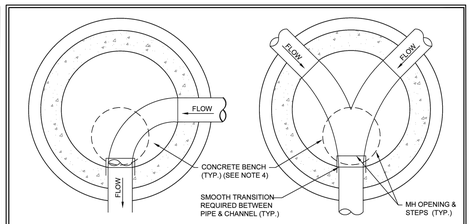


SECTION A-A

AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102

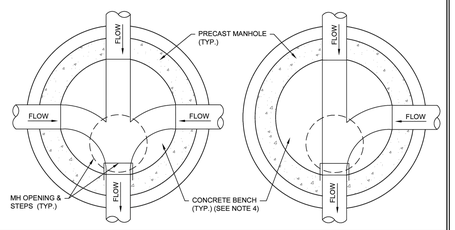
AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
MANHOLE BENCH & CHANNEL

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-43



CHANNEL LINING NOTES:

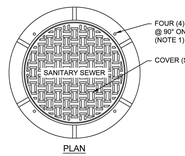
1. CHANNEL LINING SHALL BE EITHER BRICK OR PRECAST CONCRETE. CHANNEL LINING 4" MIN. FOR BRICK CHANNELS AND 2" MIN. FOR PRECAST CONCRETE CHANNELS.
2. WIDTH OF CHANNEL SHALL MATCH INSIDE DIAMETER OF INCOMING AND OUTGOING PIPES. BLEND CHANNEL LINING FOR SMOOTH CONTOUR BETWEEN PIPES.
3. ALL INVERT ELEVATIONS SHALL BE AS SHOWN ON THE DRAWINGS. INVERT(S) IN TO BE 0.10' (MIN.) ABOVE INVERT OUT.
4. BENCHES TO SLOPE 1" PER FOOT TOWARDS CHANNEL. CHANNEL SLOPE TO BE 2.50% (MIN.)
5. DEPTH OF CHANNEL TO BE 0.8 X PIPE I.D.
6. ANGLE(S) BETWEEN OUTLET PIPE AND INLET PIPE(S) SHALL BE NO LESS THAN 90°.



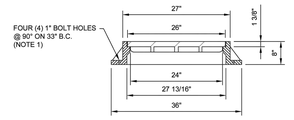
AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
PLAN OF TYPICAL CHANNELIZATION MAINLINE SEWER MANHOLES

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-70



PLAN



SECTION

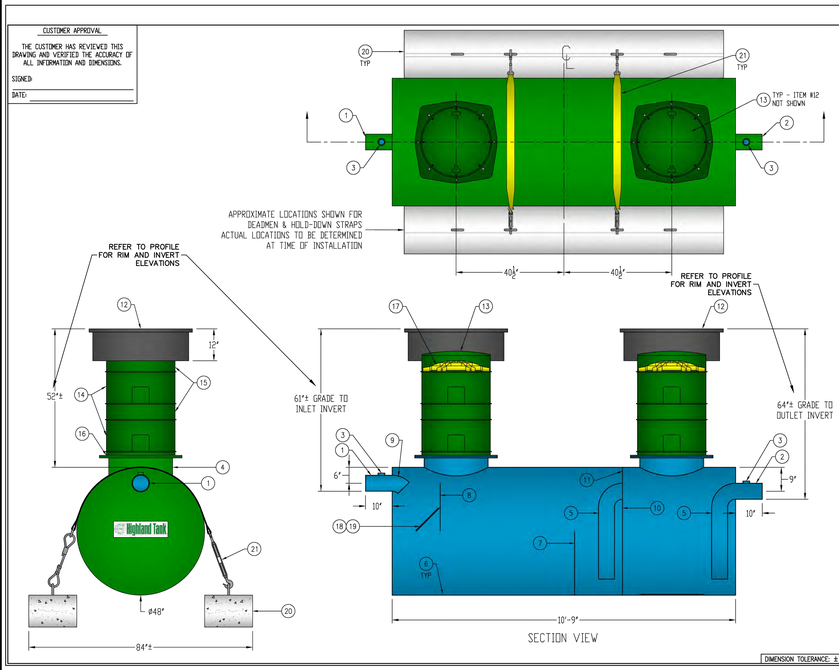
NOTES:

1. FRAME TO BE ANCHORED TO MANHOLE IN ACCORDANCE WITH THE REQUIREMENTS SHOWN ON DETAILS GSS-77 & GSS-78.
2. FRAME AND COVER SHALL BE HEAVY DUTY RATED FOR TRAFFIC PER AASHTO HIGHWAY LOADING CLASS H-20.
3. ALL COVERS SHALL HAVE A CIRCUMFERENTIAL GROOVE MACHINED INTO THE COVER SEAT FOR FLEXIBLE GASKET.
4. ALL COVERS SHALL HAVE NON-PENETRATING PICKHOLES. COVERS LOCATED IN ROADWAYS SHALL HAVE AN ANTI-SKID SURFACE PATTERN.
5. WHERE WATERTIGHT MANHOLES ARE SPECIFIED OR OTHERWISE MAY BE SUBJECTED TO FLOODING, REFER TO DETAIL GSS-42A. WHERE LIGHT DUTY MANHOLES ARE SPECIFIED OR IN NON-TRAFFIC AREAS, REFER TO DETAIL GSS-42B.
6. ALL SANITARY MANHOLE COVERS SHALL HAVE THE WORDS "SANITARY SEWER" CAST INTO THE COVER USING 2" LETTERS.
7. FRAME AND COVER TO BE EJ GROUP, INC. MODEL 1207Z1, UNLESS SPECIFIED OTHERWISE.

AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
MANHOLE FRAME & COVER - 24-INCH HEAVY DUTY

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-42



GENERAL SPECIFICATIONS

QUANTITY: ONE (1)
MODEL: OSI-1000-2
CAPACITY: 1,000 GALLONS
FLOW RATE: 100 GPM
TYPE: SINGLE WALL, HIGHGUARD, UNDERGROUND
MATERIAL: 7 GA CARBON STEEL
MATERIAL BASED ON 60" MAXIMUM BURIAL DEPTH
LAP FIT AND WELD INTERIOR AND EXTERIOR SEAMS
TANK TEST: 3-5 PSI AIR TEST
SURFACE PREP: SSPC-SP 10 BLAST INTERIOR SURFACES
SSPC-SP 6 BLAST EXTERIOR SURFACES
EXT. COATING: HIGHGUARD POLYURETHANE – 75 MILS
INT. COATING: CHEMTHANE 4200 PW (15 MILS DFT)
OPERATING PRESSURE: ATMOSPHERIC

NOTE: OPTIONAL 2" VENTS ON MANWAY RISERS AT THE DISCRETION OF THE OWNER – PROVIDE

PROVIDED EQUIPMENT

1. 6"ø SCH 40 PIPE STUB – INLET
2. 6"ø SCH 40 PIPE STUB – OUTLET
3. 2" HC – VENT
4. 24"ø MANWAY FOR STACKABLE RISER
5. 6"ø SCH 40 TRANSFER PIPE
6. STRIKER PLATE
7. SLUDGE BAFFLE – 7 GA
8. UNDERFLOW BAFFLE – 7 GA
9. 6"ø 45° DIFFUSION ELBOW
10. FULL BULKHEAD – 7 GA
11. 2" OPENING FOR AIR CIRCULATION
12. 36"ø GRADE-LEVEL MANWAY – SHIPPED LOOSE
13. 24"ø PVC COVER
14. (2) 24"ø x 12" STACKABLE RISER – ALL STACKABLE RISER COMPONENTS ARE PRE-ASSEMBLED AND COMPLETE MANWAY RISER IS SHIPPED LOOSE
15. (2) 24"ø x 6" STACKABLE RISER
16. STACKABLE RISER ADAPTER RING & GASKET
17. STACKABLE RISER SAFETY SCREEN
18. REMOVABLE DIFFUSION BAFFLE – 7 GA
19. 12" x 12" WEAR PLATE – 1/4"
20. (2) CDA-15 CONCRETE DEADMAN
21. (2) POLYESTER HOLD-DOWN STRAPS

NOTE:
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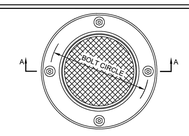
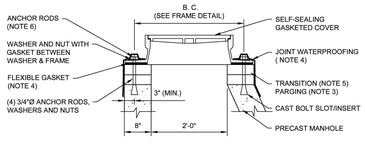
Highland Tank®
OIL/SAND INTERCEPTOR
1,000 GALLON DOUBLE-BASIN

CUSTOMER:
PROJECT:
QUOTE NO.:
DRAWN: NTS | DATE: 2/15/18 | BY: MGS | CHECK: | OSI-1000-2

DIMENSION TOLERANCE: ± 1"



PLAN



SECTION A-A

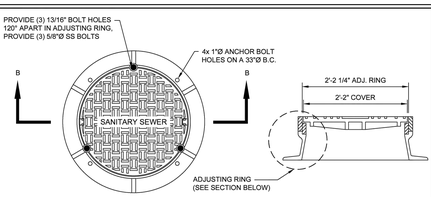
MANHOLE AND FRAME COVER NOTES:

1. ADJUST MANHOLE FRAME AND COVER TO PROPER GRADE (1/8" TOLERANCE). CROSS-SLOPE, AND ELEVATION IN SPACE DEDICATED TO PUBLIC USE, TRAVELED WAY, OR WHEN DESIGNATED TO MEET EXISTING GRADE. OTHERWISE PRECAST MANHOLE TO BE BUILT WITHOUT TRANSITION. ELEVATION AS NOTED ON DRAWINGS.
2. TO BRING AN INTERIM SETTING TO FINAL GRADE, REMOVE EXISTING ANCHOR RODS, WASHERS, NUTS, FRAME COVER, AND FLEXIBLE GASKET. INSTALL NEW ANCHOR RODS, BRICK/GRADE RINGS AND REINSTALL EXISTING FRAME/COVER, AND NEW WASHERS/NUTS. USE NEW FLEXIBLE GASKET.
3. PARGING:
   A. MANHOLE BUILT WITHOUT TRANSITION: NO PARGING NECESSARY.
   B. MANHOLE BUILT WITH BRICK TRANSITION: PARGE ON TOP OF BRICK WORK AND EXTERIOR OF BRICKWORK. EXTEND PARGING 6" BELOW TOP OF CONE SECTION.
   C. MANHOLE BUILT WITH GRADE RING TRANSITION: NO PARGING NECESSARY.
4. WATERPROOFING:
   A. AFTER ANCHORING MANHOLE FRAME TO PRECAST CONE OR TOP SLAB, INSTALL HEAT SHRINKABLE WATERPROOFING MEMBRANE TO FRAME BASE, TRANSITION RING, AND TOP OF CONE OR FLAT TOP SLAB PER MANUFACTURER'S INSTRUCTIONS.
   B. INSTALL FLEXIBLE GASKET BETWEEN FRAME AND PRECAST GRADE RING OR CONCRETE CONE SECTION.
5. TRANSITION: WHEN MANHOLE IS IN SPACE DEDICATED TO PUBLIC USE OR TRAVELED WAY OR WHEN DESIGNATED TO MEET GRADE, PROVIDE BRICK OR CONCRETE GRADE RINGS. OTHERWISE PRECAST MANHOLE TO BE WITHOUT TRANSITION.
   A. BRICK: TWO COURSES MIN. (4") AND 6 COURSES MAX. (12").
   B. PRECAST GRADE RING: MIN. (4") AND MAX. (12").
6. FIELD CUT ENDS OF ANCHOR RODS TO 1" (MAX.) ABOVE TOP OF NUT. GRIND ROUGH EDGES SMOOTH.

AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
FINAL SETTING - 24 INCH FRAME & COVER ANCHORING

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-77



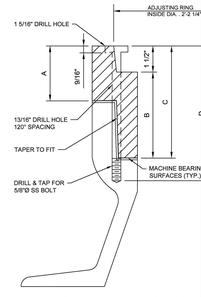
PLAN

SECTION B-B

RISE	A	B	C	D*
2"	2"	2"	3 1/2"	4 3/8"
2 1/2"	2 1/2"	2 1/2"	4"	4 7/8"
3"	3"	3"	4 1/2"	5 3/8"

NOTE:

* BOLT LENGTH WITH 7/8" THREADED.



NOTE:

1. PRIOR TO SETTING ADJUSTING RING APPLY MASTIC WATERPROOFING MATERIAL TO EXISTING TOP BEARING SURFACE.

SECTION THROUGH ADJUSTING RING

AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
ADJUSTING RING FOR STANDARD MANHOLE FRAME

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-76

MWS STUDIOS
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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS V REICHEL
ENGINEER NO. PE075767
10/01/2026

PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER:	R006367.0427
PLAN DATE:	2026.02.18
DRAWING SCALE:	AS SHOWN
PROJ. MANAGER:	DENNIS REICHEL

NO.	DATE	DESCRIPTION
1	2026.03.18	REV AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.06.15	50% CONSTRUCTION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
5		
6		
7		
8		
9		

REVISIONS

SHEET TITLE:
SITE DETAILS

SHEET: DT-04 | 18

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER: 25-049

SUBMISSION: BID SET

ORIGINAL ISSUE DATE: 10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:
C18

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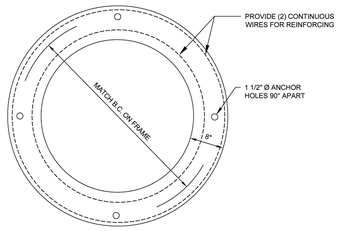
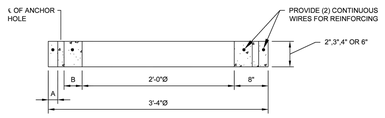


PLAN



B.C.	A	B
30 1/2"	4"	2 1/2"
33"	2 3/4"	3 3/4"
34"	2 1/4"	4 1/4"

SECTION

NOTES:

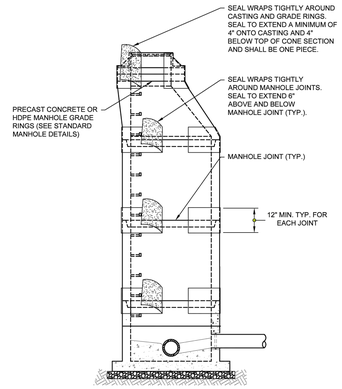
1. PRECAST CONCRETE f'c=5000PSI @ 28 DAYS.
2. REINFORCEMENT SHALL CONFORM TO ASTM C478.
3. CAST LIFT LUGS ARE REQUIRED FOR 4" & 6" RINGS.

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
24 INCH PRECAST CONCRETE MANHOLE TRANSITION RING

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-79



MANHOLE ELEVATION

NOTES:

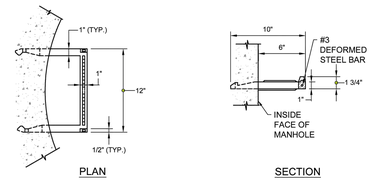
1. MANHOLE SEAL TO BE "WRAPIDSEAL" AS MANUFACTURED BY CANUSA-CPS OR APPROVED EQUAL.
2. MANHOLE JOINT SEAL INSTALLED AS DIRECTED BY THE AUTHORITY ENGINEER AND ON ALL JOINTS

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

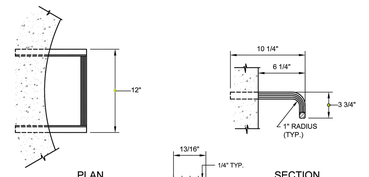
AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
HEAT SHRINKABLE MANHOLE SEAL

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-21

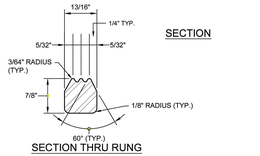


PLAN SECTION

REINFORCED PLASTIC STEP



PLAN SECTION



SECTION THRU RUNG

ALUMINUM STEP

NOTES:

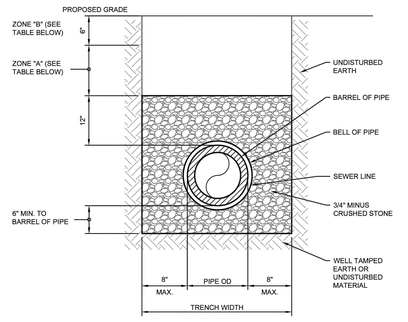
1. PROVIDE A HEAVY COAT OF BITUMINOUS PAINT ON ALUMINUM SURFACES IN CONTACT WITH CONCRETE.
2. ALUMINUM STEP TO BE 6061-T6 ALUMINUM ALLOY.

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
MANHOLE STEPS

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-17



SCHEDULE OF BACKFILLING REQUIREMENTS FOR ZONES 'A' AND 'B'

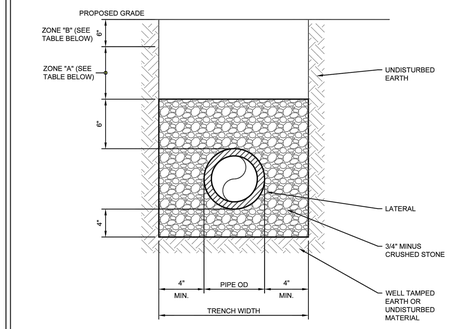
DESCRIPTION OF AREA	ZONE 'A'	ZONE 'B'
AREAS OUTSIDE ROADWAYS	ON-SITE BACKFILL CAMPACTED IN 6" LAYERS TO BOTTOM OF TOPSOIL. REPLACE TOPSOIL TO APPROXIMATE DEPTH OF EXISTING AND CROWN TO SUCH HEIGHT AS REQUIRED BY THE ENGINEER	
AREAS WITHIN R/W LIMITS OF STATE HIGHWAYS	TO THE REQUIREMENTS OF STATE HIGHWAY AUTHORITY HAVING JURISDICTION	
SHOULDERS OF PROPOSED AND EXISTING STREETS OTHER THAN STATE HIGHWAYS	MEETING THE REQUIREMENTS OF THE LOCAL MUNICIPALITY HAVING JURISDICTION	
STONE DRIVEWAYS AND PARKING AREAS	ON-SITE BACKFILL COMPACTED ON 6 INCH LAYERS	STONE SURFACE BACKFILL
UNIMPROVED STREETS	AGGREGATE BACKFILL COMPACTED IN 6 INCH LAYERS	

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
SEWER MAIN BEDDING & BACKFILL

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-1



SCHEDULE OF BACKFILLING REQUIREMENTS FOR ZONES 'A' AND 'B'

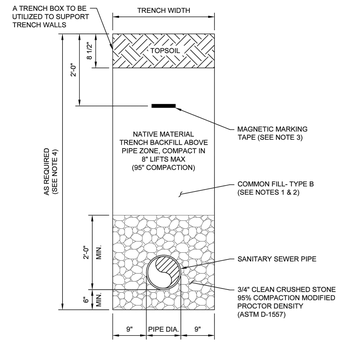
DESCRIPTION OF AREA	ZONE 'A'	ZONE 'B'
AREAS OUTSIDE ROADWAYS	ON-SITE BACKFILL CAMPACTED IN 6" LAYERS TO BOTTOM OF TOPSOIL. REPLACE TOPSOIL TO APPROXIMATE DEPTH OF EXISTING AND CROWN TO SUCH HEIGHT AS REQUIRED BY THE ENGINEER	
AREAS WITHIN R/W LIMITS OF STATE HIGHWAYS	TO THE REQUIREMENTS OF STATE HIGHWAY AUTHORITY HAVING JURISDICTION	
SHOULDERS OF PROPOSED AND EXISTING STREETS OTHER THAN STATE HIGHWAYS	MEETING THE REQUIREMENTS OF THE LOCAL MUNICIPALITY HAVING JURISDICTION	
STONE DRIVEWAYS AND PARKING AREAS	ON-SITE BACKFILL COMPACTED ON 6 INCH LAYERS	STONE SURFACE BACKFILL
UNIMPROVED STREETS	AGGREGATE BACKFILL COMPACTED IN 6 INCH LAYERS	

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
SERVICE LATERAL BEDDING & BACKFILL

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-2



TRENCH SECTION

NOTES:

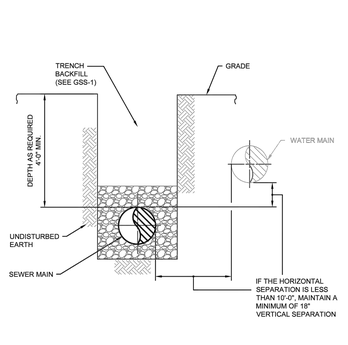
1. MATERIAL FOR BACKFILLING SHALL BE EARTH MATERIALS ENTIRELY FREE FROM VEGETATION, TRASH, LUMBER, FROZEN, SOFT OR ORGANIC MATERIALS.
2. FOR TYPE B COMMON FILL, NO STONE OR ROCK LARGER THAN 4 INCHES WILL BE PERMITTED IN BACKFILL.
3. MAGNETIC MARKING TAPE IS ONLY REQUIRED IN TRENCHES OF NON-FERROUS FORCE MAINS.
4. DEPTH OF TRENCH SHALL BE AS SHOWN ON DRAWINGS, OR AS OTHERWISE SPECIFIED.

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
OFF ROAD TRENCH

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-48

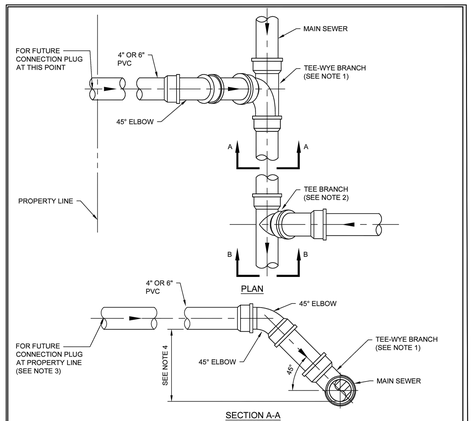


AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

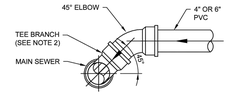
AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
NEW SEWER MAIN PARALLEL TO EXISTING WATER MAIN

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-5



NOTES:

1. USE TEE-WYE FOR CONNECTIONS TO SEWER MAINS HAVING SLOPES OF 1% OR LESS. ORIENT TEE-WYE AS SHOWN WITH RESPECT TO FLOW.
2. USE TEE FOR CONNECTIONS TO SEWER MAINS HAVING SLOPES GREATER THAN 1%.
3. SHC AT PROPERTY LINE SHALL TERMINATE IN ACCORDANCE WITH DETAIL GSS-94.
4. WHEN ELEVATION DIFFERENCE BETWEEN INVERTS OF SHC AND SEWER MAIN EXCEEDS 2 FEET, USE DROP HOUSE CONNECTION (SEE DETAIL GSS-86).



AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
SANITARY SEWERAGE
4 & 6 INCH SEWER HOUSE CONNECTIONS TO PROPOSED MAIN

DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-88

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SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
DENNIS J. REICHEL
ENGINEER
PE070767
10/01/2026

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PRELIMINARY / FINAL LAND DEVELOPMENT PLAN
FOR
EMERGENCY SERVICES FACILITY
EXETER TOWNSHIP
4975 DEMOSS ROAD
READING, PA 19606
EXETER TOWNSHIP, BERKS COUNTY, PENNSYLVANIA

PROFESSIONAL SEAL:

HRG PROJECT NUMBER: R006367.0427
PLAN DATE: 2026.02.18
DRAWING SCALE: AS SHOWN
PROJ. MANAGER: DENNIS REICHEL

NO.	DATE	REVISIONS DESCRIPTION
1	2026.03.18	REV. AS PER 3/16/26 PLANNING COMMISSION COMMENTS
2	2026.04.15	ADDITIONAL INFORMATION PLAN
3	2026.08.21	90% CONSTRUCTION PLAN
4	2026.10.01	BID SET
5		
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SHEET TITLE:
SITE DETAILS

SHEET: **DT-05** 19

EXETER TOWNSHIP
EMERGENCY SERVICES FACILITY
70 GIBRALTAR ROAD
READING, PA 19606

PROJECT NUMBER:
25-049

SUBMISSION:
BID SET

ORIGINAL ISSUE DATE:
10/01/2026

SHEET REVISION SCHEDULE:
No. DATE

REFERENCE PLAN

SHEET NUMBER:

C19