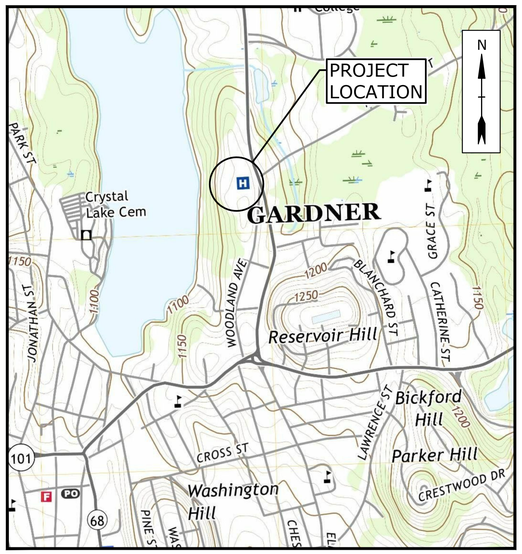
CITY OF GARDNER, MASSACHUSETTS
HEYWOOD HEALTHCARE INFRASTRUCTURE IMPROVEMENTS

PERMIT DRAWINGS
APRIL 2021

LIST OF DRAWINGS		
SHEET NO.	DRAWING NO.	DRAWING TITLE
GENERAL		
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
CIVIL		
3	C-100	OVERALL SITE PLAN
4	C-101	EXISTING CONDITIONS, DEMOLITION, AND SEDIMENTATION CONTROL PLAN
5	C-102	SITE LAYOUT PLAN
6	C-103	SITE GRADING AND STORM DRAINAGE PLAN
7	C-104	SITE UTILITY PLAN
8	C-105	SITE SECTIONS
9	C-201	SITE DETAILS - 1
10	C-202	SITE DETAILS - 2
11	C-203	SITE DETAILS - 3
STRUCTURAL		
12	S-001	GENERAL NOTES AND DETAILS - CONCRETE AND REINFORCING
13	S-101	EQUIPMENT PAD DETAILS - 1
14	S-102	EQUIPMENT PAD DETAILS - 2



LOCATION MAP
SCALE: 1" = 1000'

PREPARED BY:

Tighe&Bond

JOSEPH P. VIAMARI CIVIL No. 41776 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
4/12/21

JAY P. VIAMARI, PE

MATTHEW P. WZOREK CIVIL No. 52074 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
4-14-2021

MATTHEW P. WZOREK, PE

PREPARED FOR:
Siemens Industry, Inc.
150 Royall Street, Suite 201
Canton, MA 02021

NOT FOR CONSTRUCTION
COMPLETE SET 14 SHEETS

Last Saved: 4/8/2021
Plotted On: Apr 12, 2021 - 1:52pm By: ELD
Tighe & Bond: J:\H\H5058 Heywood Hospital\02-Siemens\Drawings, Figures\AutoCAD\Sheet\Cover Sheet.dwg

LEGEND

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		
LIMITS OF WORK		
INTERMEDIATE CONTOURS		
INDEX CONTOURS	25	25
SPOT GRADE	X 141.2	+ 32.0
MAGNITUDE & DIRECTION OF SLOPE		0.0%
STORM DRAIN	D D D	SD
GRAVITY SANITARY SEWER	S S S	SS
WATER SERVICE	W W	W W
UNDERGROUND ELECTRIC	E	E E
GAS SERVICE	G	G G
OVERHEAD UTILITY	OHW OHW	
CURB		
STONE WALL		
FENCE	X X X	X X X
STORM DRAIN STRUCTURES	MANHOLE CATCH BASIN CB	MANHOLE CATCH BASIN
SANITARY SEWER MANHOLE	S	S
WATER SERVICE STRUCTURES	HYDRANT MANHOLE W VALVE	HYDRANT MANHOLE W VALVE
GAS SERVICE STRUCTURES	MANHOLE G VALVE GG	MANHOLE G VALVE
ELECTRIC SERVICE STRUCTURES	MANHOLE E LIGHT	UTILITY CO. POLE # MANHOLE E T
TREELINE		

LEGEND

DEMOLITION / GEOTECHNICAL	
EROSION & SEDIMENT CONTROL	
UTILITY TO BE ABANDONED	
UTILITY TO BE DEMOLISHED	
ITEM TO BE DEMOLISHED	
TEST PIT	
MONITORING WELL	
BORING	

ABBREVIATIONS

ABDN('D)	ABANDON(ED)
AC	ASBESTOS CEMENT PIPE
BC	BITUMINOUS CURB
BFP	BACK FLOW PREVENTOR
BIT	BITUMINOUS
BL	BASELINE
BLDG	BUILDING
BND	BOUND
BOC	BOTTOM OF CURB
BOT	BOTTOM
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL
CATV	CABLE TELEVISION
CB	CATCH BASIN
CEM	CEMENT
CI	CAST IRON PIPE
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CO	CLEAN OUT
CONC	CONCRETE
CPP	CORRUGATED POLYETHYLENE PIPE
CY	CUBIC YARD
DH	DRILL HOLE
DI	DUCTILE IRON PIPE
DIA	DIAMETER
DMH	DRAIN MANHOLE
E	EAST
EF	EACH FACE
EG	EXISTING GRADE
EL/ELEV	ELEVATION
ELEC	ELECTRIC
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FES	FLARED END SECTION
FF	FINISH FLOOR
FM	FORCE MAIN
G	GAS
GG	GAS GATE
GRAN	GRANITE
HC	HANDICAP
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HYD	HYDRANT
IN	INCHES
INV	INVERT
IP	IRON PIN
L	LENGTH OF CURB
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
MJ	MECHANICAL JOINT

ABBREVIATIONS CONT'D

N	NORTH
NITC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
N/F	NOW OR FORMERLY
OC	ON CENTER
OCS	OUTLET CONTROL STRUCTURE
OH	OVERHEAD
PB	PLANT BED
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCPP	PERFORATED CORRUGATED POLYETHYLENE PIPE
PERF	PERFORATED
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYLCHLORIDE
PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REV	REVISION
ROW	RIGHT OF WAY
RT	RIGHT
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
S	SOUTH
SAN	SANITARY
SCH	SCHEDULE
SF	SQUARE FOOT
SMH	SEWER MANHOLE
SS	STAINLESS STEEL
STA	STATION
STL	STEEL
STRM	STORM
T	TANGENT LENGTH
TC	TOP OF CURB
TEL	TEL-DATA
TP	TEST PIT
TS	TOP OF STEP
TW	TOP OF WALL
TYP	TYPICAL
UP	UTILITY POLE
W	WATER
WG	WATER GATE
WV	WATER VALVE
XFMR	TRANSFORMER

BASE PLAN NOTES

1. THE EXISTING CONDITIONS INFORMATION SHOWN ON THE DRAWINGS IS BASED ON THE FOLLOWING:
   - SURVEY DRAWINGS PROVIDED BY SHERMAN & FRYDRYK, LLC. TITLED EXISTING CONDITIONS PLAN - HEYWOOD HOSPITAL AND DATED JUNE 16, 2020
   - DRAWINGS TITLED ALTA/NSPS LAND TITLE SURVEY - HENRY HEYWOOD MEMORIAL HOSPITAL, PREPARED BY FELDMAN LAND SURVEYORS AND DATED MARCH 23, 2017.
   - GIS INFORMATION DATED MARCH 2021.
2. UTILITY LOCATIONS SHOWN WERE PLOTTED FROM INFORMATION SUPPLIED BY RESPECTIVE UTILITY COMPANIES AND DATA OBTAINED FROM FIELD SURVEYS AND AS BUILT DRAWINGS. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS IS NOT GUARANTEED. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES WHICH MAY AFFECT CONSTRUCTION OPERATIONS.
3. SUB-SURFACE EXPLORATIONS WERE PERFORMED BY NEW ENGLAND BORING CONTRACTORS ON 6/23, 6/24, AND 6/25/2020. BORING LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND BORING INFORMATION IS NOT GUARANTEED IN ANY WAY TO REPRESENT EXISTING CONDITIONS. BORING LOGS ARE INCLUDED IN THE PROJECT MANUAL FOR THE CONTRACTORS INFORMATION ONLY.
4. THE DRAWINGS ARE BASED ON THE FOLLOWING DATUMS: HORIZONTAL NAD83; VERTICAL NAVD88
5. THE EXISTING CONDITIONS SHOWN ARE APPROXIMATE. FIELD VERIFY EXISTING CONDITIONS.

GENERAL NOTES

1. NOTIFY DIGSAFE AT 1-888-344-7233 AND OTHER UTILITY OWNERS IN THE AREA NOT ON THE DIGSAFE LIST AT LEAST 72 HOURS PRIOR TO ANY DIGGING, TRENCHING, ROCK REMOVAL, DEMOLITION, BORING, BACKFILLING, GRADING, LANDSCAPING, OR ANY OTHER EARTH MOVING OPERATIONS.
2. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. IN ADDITION, SOME UTILITIES MAY NOT BE SHOWN. DETERMINE THE EXACT LOCATION OF UTILITIES BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND/OR INTERRUPTIONS IN UTILITY SERVICE. PERFORM TEST PIT EXCAVATIONS AND OTHER INVESTIGATIONS TO LOCATE UTILITIES, AND PROVIDE THIS INFORMATION TO THE ENGINEER, PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS. LOCATE ALL EXISTING UTILITIES TO BE CROSSED BY HAND EXCAVATION.
3. NOT ALL OF THE UTILITY SERVICES TO BUILDINGS ARE SHOWN. THE CONTRACTOR SHALL ANTICIPATE THAT EACH PROPERTY HAS SERVICE CONNECTIONS FOR THE VARIOUS UTILITIES.
4. BOLD TEXT AND LINES INDICATE PROPOSED WORK. LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS.
5. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.
6. EXCAVATE ADDITIONAL TEST PITS TO LOCATE EXISTING UTILITIES AS DIRECTED OR APPROVED BY THE ENGINEER.
7. NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL.
8. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY; COORDINATION WITH THE OWNER, ALL SUBCONTRACTORS, AND WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF WORK, THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
9. OBTAIN, PAY FOR AND COMPLY WITH PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK. ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE JURISDICTIONAL AUTHORITIES.
10. SHORE UTILITY TRENCHES WHERE FIELD CONDITIONS DICTATE AND/OR WHERE REQUIRED BY LOCAL, STATE AND FEDERAL HEALTH AND SAFETY CODES.
11. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS ARE OBSERVED THAT VARY SIGNIFICANTLY FROM THOSE SHOWN ON THE DRAWINGS, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING FOR RESOLUTION OF THE CONFLICTING INFORMATION.
12. PROTECT AND MAINTAIN ALL UTILITIES IN THE AREAS UNDER CONSTRUCTION DURING THE WORK. LEAVE ALL PIPES AND STRUCTURES WITHIN THE LIMITS OF THE CONTRACT IN A CLEAN AND OPERABLE CONDITION AT THE COMPLETION OF THE WORK. TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SAND AND SILT FROM DISTURBED AREAS FROM ENTERING THE DRAINAGE SYSTEM.
13. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
14. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORT OF EXISTING UTILITIES AND REPAIR OR REPLACEMENT COSTS OF UTILITIES DAMAGED DURING CONSTRUCTION, WHETHER ABOVE OR BELOW GRADE. REPLACE DAMAGED UTILITIES IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER AND AT NO COST TO THE PROPERTY OWNER.
15. TAKE NECESSARY MEASURES AND PROVIDE CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE, AND STRENGTH TO PREVENT ACCESS TO ALL WORK AND STAGING AREAS AT THE COMPLETION OF EACH DAYS WORK.
16. NO OPEN TRENCHES WILL BE ALLOWED OVER NIGHT. THE USE OF ROAD PLATES TO PROTECT THE EXCAVATION WILL BE CONSIDERED UPON REQUEST, BUT BACKFILLING IS PREFERRED.
17. THE CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY TRAFFIC CONTROL/SAFETY DEVICES TO ENSURE SAFE VEHICULAR AND PEDESTRIAN ACCESS THROUGH THE WORK AREA, OR FOR SAFELY IMPLEMENTING DETOURS AROUND THE WORK AREA. PERFORM TRAFFIC CONTROL IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLAN.
18. MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES DURING CONSTRUCTION.
19. WHEN WORKING IN THE ROAD, PROVIDE THE OWNER AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES A DETAILED PLAN OF APPROACH INDICATING METHODS OF PROPOSED TRAFFIC ROUTING ON A DAILY BASIS. PROVIDE COORDINATION TO ENSURE COMMUNICATION AND COORDINATION BETWEEN THE OWNER, CONTRACTOR AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES THROUGHOUT THE CONSTRUCTION PERIOD.
20. REMOVE AND DISPOSE OF ALL CONSTRUCTION-RELATED WASTE MATERIALS AND DEBRIS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.
21. THE TERM "DEMOLISH" USED ON THE DRAWINGS MEANS TO REMOVE AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
22. THE TERM "ABANDON" USED ON THE DRAWINGS MEANS TO LEAVE IN PLACE AND TAKE APPROPRIATE MEASURES TO DECOMMISSION AS SPECIFIED OR NOTED ON THE DRAWINGS.
23. ALL PROPOSED WORK MAY BE ADJUSTED IN THE FIELD BY THE OWNER'S PROJECT REPRESENTATIVE TO MEET EXISTING CONDITIONS.
24. PROPOSED SITE UTILITIES SHOWN WERE DEVELOPED FROM DESIGN PLANS BY WORLEY PARSONS SERVICES LTD. TITLED HEYWOOD HOSPITAL MICROGRID PIPING AND ELECTRICAL ROUTING SCHEMATIC AND FOUNDATIONS, DATED JUNE 29, 2020, AND BY NV5, INC. TITLED HEYWOOD HOSPITAL INFRASTRUCTURE, DATED OCTOBER 9, 2020. COORDINATE WITH ELECTRIAL AND MECHANICAL CONTRACTORS FOR FINAL UTILITY LAYOUT.

EROSION CONTROL AND RESOURCE AREA PROTECTION NOTES

1. PROVIDE ALL EROSION CONTROL MEASURES SHOWN, SPECIFIED, REQUIRED BY PERMIT, AND/OR REQUIRED BY THE ENGINEER PRIOR TO ANY CONSTRUCTION OR IMMEDIATELY UPON REQUEST. MAINTAIN SUCH CONTROL MEASURES UNTIL FINAL SURFACE TREATMENTS ARE IN PLACE AND/OR UNTIL PERMANENT VEGETATION IS ESTABLISHED. INSPECT AFTER EACH RAINSTORM AND DURING MAJOR STORM EVENTS TO CONFIRM THAT ALL SEDIMENTATION AND EROSION CONTROL MEASURES REQUIRED ARE IN PLACE AND EFFECTIVE.
2. PRIOR TO STARTING WORK, CLEARLY STAKE WORK LIMITS. DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMITS. COORDINATE WITH THE ENGINEER FOR LOCATIONS OF TEMPORARY STOCKPILING OF TOPSOIL DURING CONSTRUCTION.
3. INSTALL SILT SACKS OR OTHER APPROVED SEDIMENTATION BARRIERS IN/AT ALL CATCH BASINS IN THE PROJECT AREA.
4. COMPACT, STABILIZE, AND LOAM AND SEED SIDE SLOPES, SHOULDER AREAS AND DISTURBED VEGETATED AREAS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND AS REQUIRED BY PERMITS. GRADE SIDE SLOPES, SHOULDER AREAS AND DISTURBED VEGETATED AREAS TO A MAXIMUM SLOPE OF 3 HORIZONTAL TO 1 VERTICAL (3H:1V), WHERE POSSIBLE. PROVIDE BIODEGRADABLE EROSION CONTROL BLANKETS TO PREVENT EROSION WHERE SLOPES ARE STEEPER THAN 3H:1V.
5. SETTLE OR FILTER ALL SILT-LADEN WATER FROM DEWATERING ACTIVITIES IN A SEDIMENTATION OR FILTER BAG TO REMOVE SEDIMENTS PRIOR TO RELEASE USING A SEDIMENTATION OR FILTER BAG LOCATED DOWN-GRADIENT OF THE DEWATERED AREA.
6. SWEEP, COLLECT, REMOVE AND DISPOSE OF ANY SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS AT THE END OF EACH DAY.
7. LOAM AND SEED ALL DISTURBED VEGETATED AREAS TO ESTABLISH COVER AND STABILIZATION AS SOON AS POSSIBLE FOLLOWING DISTURBANCE.
8. MAINTAIN AN ADDITIONAL SUPPLY OF EROSION CONTROL MEASURES ON-SITE FOR EMERGENCY REPAIRS.
9. STORE FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS IN A SECONDARY CONTAINER AND REMOVE TO A SECURE LOCKED AND COVERED AREA DURING NON-WORK HOURS.

SURFACE RESTORATION NOTES

1. ALL PAVEMENT DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. PROVIDE SITE GRADING AT HANDICAPPED RAMPS, SIDEWALKS, AND BUILDING ENTRANCES THAT IS CONSISTENT WITH THE RELEVANT ACCESS REQUIREMENTS OF THE ARCHITECTURAL BARRIERS ACT (ABA), THE AMERICANS WITH DISABILITIES ACT (ADA), AND MA ARCHITECTURAL ACCESS BOARD REQUIREMENTS (AAB). SMALL CHANGES IN GRADE OVER RELATIVELY SHORT DISTANCES (E.G. AT PARKING SPACES, ACCESSIBLE ROUTES, AND RAMPS) MIGHT NOT BE CLEARLY DEPICTED WITHIN THE CONTOUR INTERVAL SHOWN. COMPLY WITH THE CRITERIA IN THESE STANDARDS. SELECT MAXIMUM SLOPE CRITERIA ARE REPRODUCED BELOW:

   - ACCESSIBLE PARKING STALL AND PASSENGER LOADING ZONE (ANY DIRECTION) SLOPE < 2.0%
   - LONGITUDINAL SLOPE ALONG ACCESSIBLE ROUTES < 5.0%
   - CROSS SLOPE ALONG ACCESSIBLE ROUTES < 2.0%

3. PROTECT PROJECT FEATURES (E.G., WALLS, FENCES, MAIL BOXES, SIGNS, SIDEWALKS, CURBING, STAIRS, WALKWAYS, TREES, ETC.) FROM DAMAGE DURING CONSTRUCTION, INCLUDING PROVIDING TEMPORARY SUPPORTS, WHEN APPROPRIATE.
4. EXISTING SURVEY MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE REPLACED BY A LAND SURVEYOR LICENSED IN THE STATE IN WHICH THE WORK IS PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
5. COORDINATE THE ADJUSTMENT OF EXISTING UTILITY STRUCTURES WITH EACH RESPONSIBLE UTILITY OWNER PRIOR TO RECONSTRUCTION AND/OR PAVING OPERATIONS. RAISE ALL STRUCTURES TO FINISHED GRADES PRIOR TO THE END OF THE CONSTRUCTION SEASON AND PRIOR TO FINISHED PAVING.
6. REPAIR DISTURBED PAVED SURFACES AT THE END OF EACH WORK WEEK, UNLESS OTHERWISE APPROVED/REQUIRED BY THE OWNER.
7. PLACE TEMPORARY BITUMINOUS CONCRETE PAVEMENT AT DISTURBED PORTLAND CEMENT CONCRETE SIDEWALKS AND DRIVEWAYS AT THE END OF EACH WORK WEEK, UNLESS OTHERWISE APPROVED/REQUIRED BY THE OWNER.
8. RESTORE ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE PAYLINE LIMITS TO ORIGINAL CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
9. REGRADE ALL UNPAVED AREAS DISTURBED BY THE WORK AS REQUIRED. REPAIR/REPLACE PAVED SURFACES DISTURBED BY THE WORK IN-KIND, UNLESS OTHERWISE NOTED. RESTORE SURFACES TO EXISTING OR PROPOSED CONDITIONS AS INDICATED ON THE DRAWINGS.
10. PROVIDE A SMOOTH, FLUSH TRANSITION BETWEEN ALL NEW AND EXISTING PAVEMENTS AND WALKING SURFACES.

Tighe&Bond

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4/12/21

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MATTHEW P. WZOREK
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REGISTERED PROFESSIONAL ENGINEER
4-12-2021

PERMIT DRAWINGS NOT FOR CONSTRUCTION

Heywood Healthcare Infrastructure Improvements

Gardner, MA

MARK	DATE	DESCRIPTION

PROJECT NO:	H-5058-002
DATE:	04/08/2021
FILE:	LgndNotes.dwg
DRAWN BY:	TJG
CHECKED:	MPW
APPROVED:	JPV

GENERAL NOTES, LEGEND AND ABBREVIATIONS

SCALE: NO SCALE

G-002

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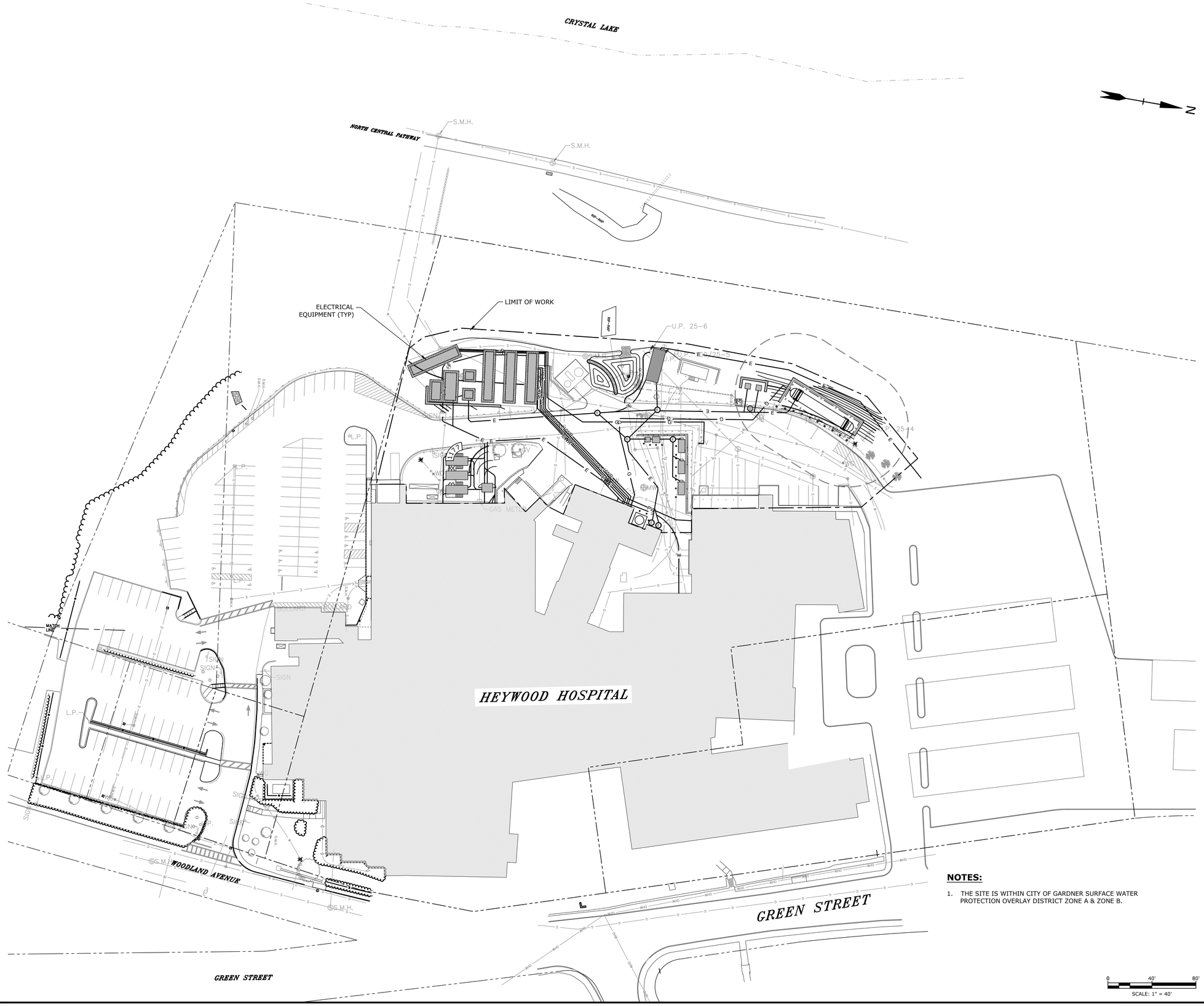

NOTES:

1. THE SITE IS WITHIN CITY OF GARDNER SURFACE WATER PROTECTION OVERLAY DISTRICT ZONE A & ZONE B.

0 40' 80'

SCALE: 1" = 40'

Tighe&Bond

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Gardner, MA

MARK	DATE	DESCRIPTION

PROJECT NO:	H-5058-002
DATE:	04/08/2021
FILE:	H5058-002-C-Site Plans (rev5).dwg
DRAWN BY:	TJG
CHECKED:	MPW
APPROVED:	JPV

OVERALL SITE PLAN

SCALE: 1" = 40'

C-100

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N

EXCAVATE TEST PITS TO VERIFY SEWER DEPTH AND LAYOUT WITHIN PARKING AREA

EXCAVATE TEST PITS TO VERIFY SEWER DEPTH AND LAYOUT WITHIN PARKING AREA

EROSION CONTROL BARRIER

R&D EXISTING PARKING AREA

COORDINATE UTILITY POLE RELOCATIONS WITH UTILITY OWNER

EXCAVATE TEST PIT TO VERIFY DEPTHS OF EXISTING 12" AND 8" WATER MAINS

EXCAVATE TEST PITS TO VERIFY SEWER DEPTH AND LAYOUT

CLEAR AND GRUB AREA AS REQUIRED FOR PROPANE TANK, VAPORIZERS, AND RETAINING WALLS

BORING LOCATION - SEE GEOTECHNICAL LOGS (TYP)

T.B.M.
TOP SPINDLE HYDRANT
(PROTECTED BY BOLLARDS)
ELEV.=1180.02

RELOCATE EXISTING MONITORING WELL AS REQUIRED.

R&D EXISTING SHRUBS AS REQUIRED FOR WALL INSTALLATION

RELOCATE EXISTING RIPRAP OUTLET

SAW CUT EXISTING PAVEMENT

EXCAVATE TEST PITS TO LOCATE UTILITY CONFLICTS PRIOR TO CONSTRUCTION

R&D EXISTING CB

SAW CUT EXISTING PAVEMENT

EXCAVATE TEST PITS TO LOCATE UTILITY CONFLICTS PRIOR TO CONSTRUCTION

T.B.M.
TOP SPINDLE HYDRANT
ELEV.=1180.85

METAL PIPE ON CONC PAD, PROTECTED BY BOLLARDS

CONC VAULT WITH COVERING

REMOVE DUMPSTER

LIMIT OF WORK

CSSR AIR HANDLING UNIT

A.C. UNIT ON CONC PAD

DEMO EXISTING COOLING UNIT

DEMO EXISTING FUEL STORAGE TANKS SEE DETAILS C-202

PROTECT EXISTING MONITORING WELL

R&S EXISTING CHEMICAL STORAGE TANK. DEMO EXISTING CONCRETE PAD AND BOLLARDS

DEMO EXISTING PAVEMENT

EXCAVATE TEST PITS TO LOCATE UTILITY CONFLICTS PRIOR TO CONSTRUCTION

DEMO EXISTING COOLING TOWER

HEYWOOD HOSPITAL

NOTES:

1. THE SITE IS WITHIN CITY OF GARDNER SURFACE WATER PROTECTION OVERLAY DISTRICT ZONE A & ZONE B.

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

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EXISTING CONDITIONS, DEMOLITION, AND SEDIMENTATION CONTROL PLAN

SCALE: 1" = 20'

C-101

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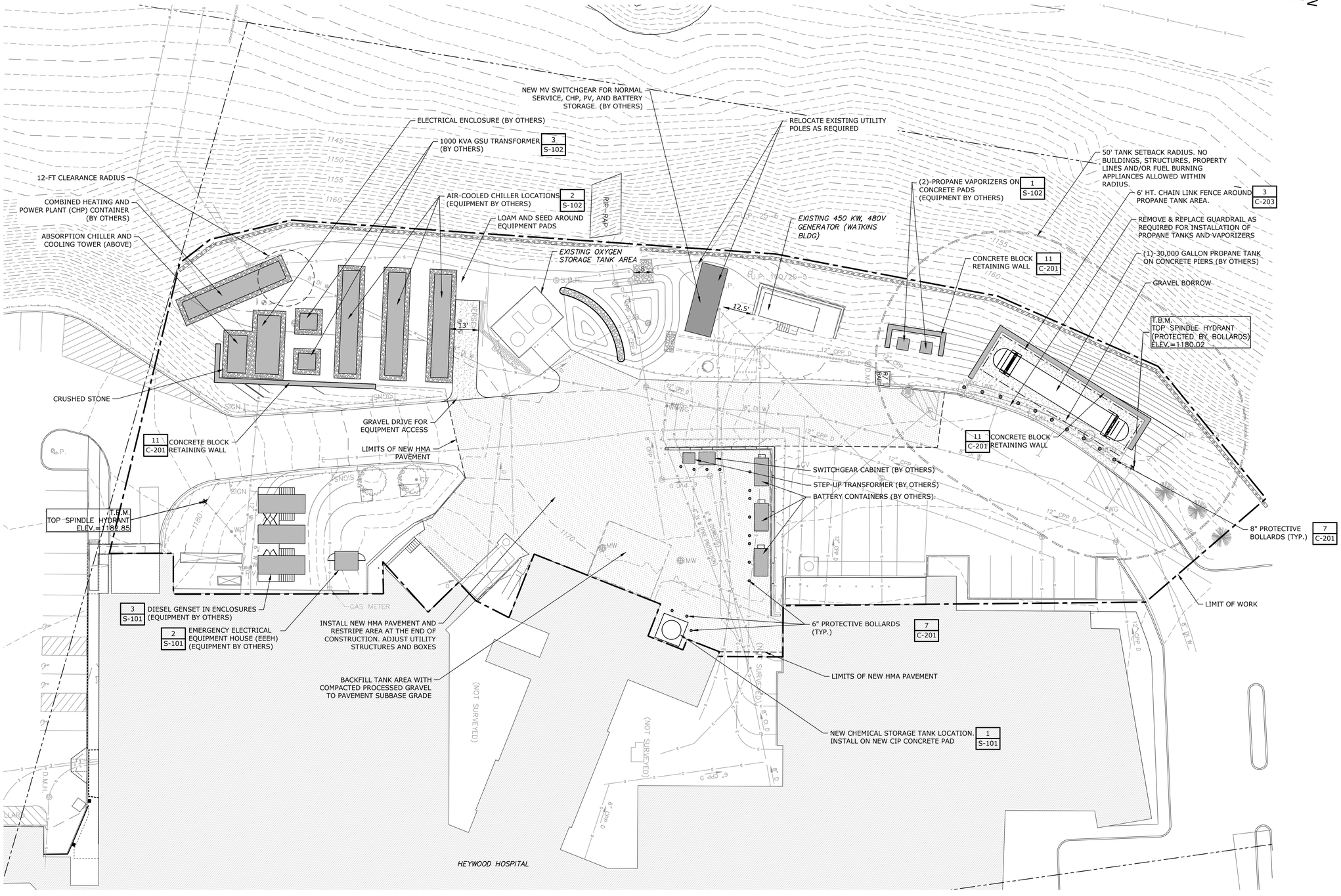

NOTES:

1. THE SITE IS WITHIN CITY OF GARDNER SURFACE WATER PROTECTION OVERLAY DISTRICT ZONE A & ZONE B.
2. EXCAVATE TEST PITS TO VERIFY UTILITY LOCATIONS AND DEPTHS. RELOCATE AS NECESSARY TO AVOID PROPOSED EQUIPMENT PADS.
3. PROPOSED SITE UTILITIES SHOWN WERE DEVELOPED FROM DESIGN PLANS BY WORLEY PARSONS SERVICES LTD. TITLED HEYWOOD HOSPITAL MICROGRID PIPING AND ELECTRICAL ROUTING SCHEMATIC AND FOUNDATIONS, DATED JUNE 29, 2020, AND BY NV5, INC. TITLED HEYWOOD HOSPITAL INFRASTRUCTURE, DATED OCTOBER 9, 2020. COORDINATE WITH ELECTRIAL AND MECHANICAL CONTRACTORS FOR FINAL UTILITY LAYOUT.

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Heywood Healthcare Infrastructure Improvements

Gardner, MA

MARK	DATE	DESCRIPTION

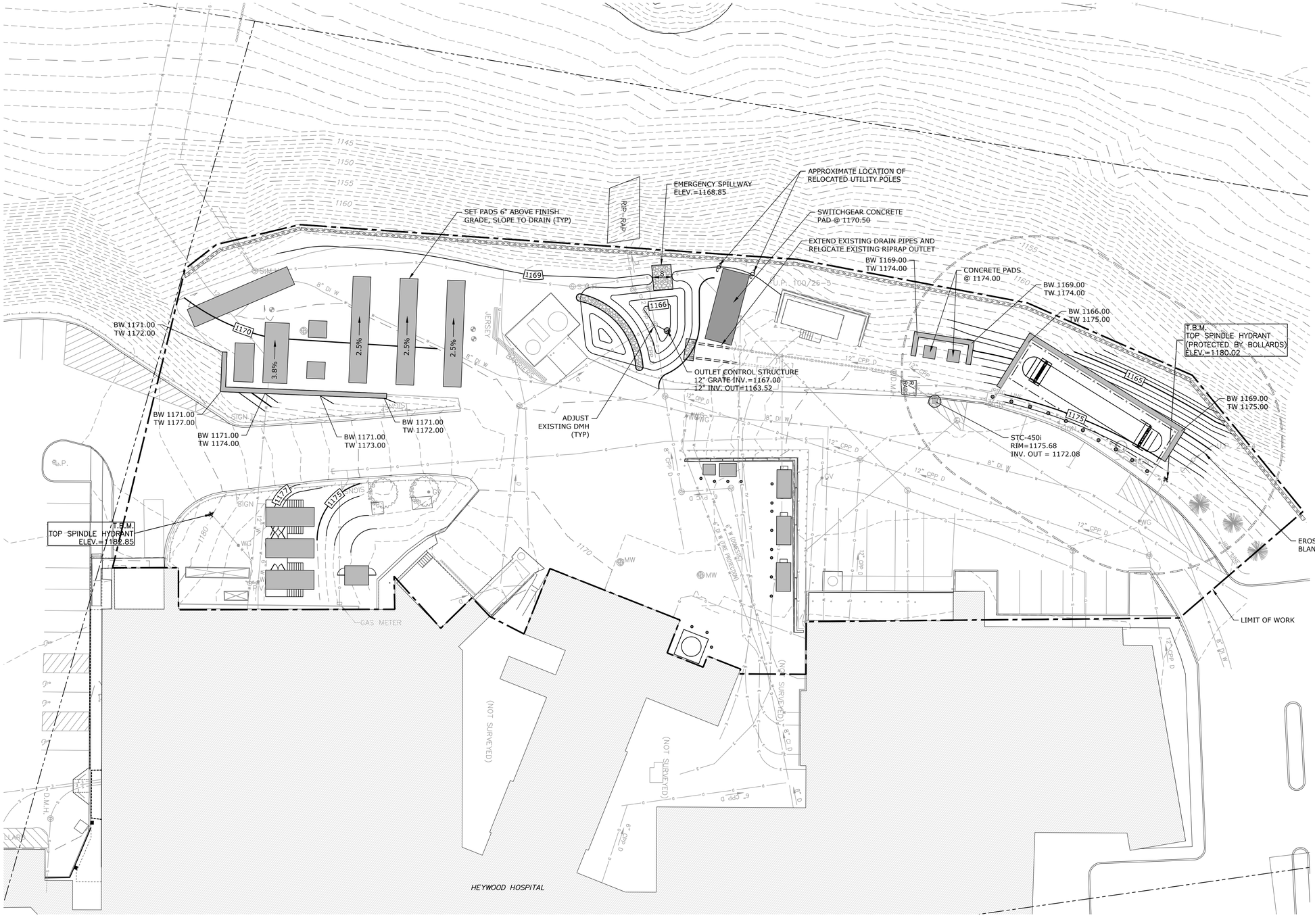
PROJECT NO:	H-5058-002
DATE:	04/08/2021
FILE:	H5058-002-C-Site Plans (rev5).dwg
DRAWN BY:	TJG
CHECKED:	MPW
APPROVED:	JPV

SITE LAYOUT PLAN

SCALE: 1" = 20'

C-102

Last Saved: 4/12/2021
Plotted On: Apr 12, 2021 - 2:09pm By: ELD
T:\ghe & Bond\ 1 \H\H5058 Heywood Hospital\02-Siemens\Drawings_Figures\AutoCAD\Sheet\H5058-002-C-Site Plans (rev5).dwg



NOTES:

1. THE SITE IS WITHIN CITY OF GARDNER SURFACE WATER PROTECTION OVERLAY DISTRICT ZONE A & ZONE B.
2. EXCAVATE TEST PITS TO VERIFY UTILITY LOCATIONS AND DEPTHS. RELOCATE AS NECESSARY TO AVOID PROPOSED EQUIPMENT PADS.
3. PROPOSED SITE UTILITIES SHOWN WERE DEVELOPED FROM DESIGN PLANS BY WORLEY PARSONS SERVICES LTD. TITLED HEYWOOD HOSPITAL MICROGRID PIPING AND ELECTRICAL ROUTING SCHEMATIC AND FOUNDATIONS, DATED JUNE 29, 2020, AND BY NV5, INC. TITLED HEYWOOD HOSPITAL INFRASTRUCTURE, DATED OCTOBER 9, 2020. COORDINATE WITH ELECTRIAL AND MECHANICAL CONTRACTORS FOR FINAL UTILITY LAYOUT.

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

Tighe&Bond

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P. VIAMARI
CIVIL
No. 41776
REGISTERED PROFESSIONAL ENGINEER
4/12/21

COMMONWEALTH OF MASSACHUSETTS
MATTHEW P. WOZNIAK
CIVIL
No. 52674
REGISTERED PROFESSIONAL ENGINEER
4-12-2021

PERMIT DRAWINGS NOT FOR CONSTRUCTION

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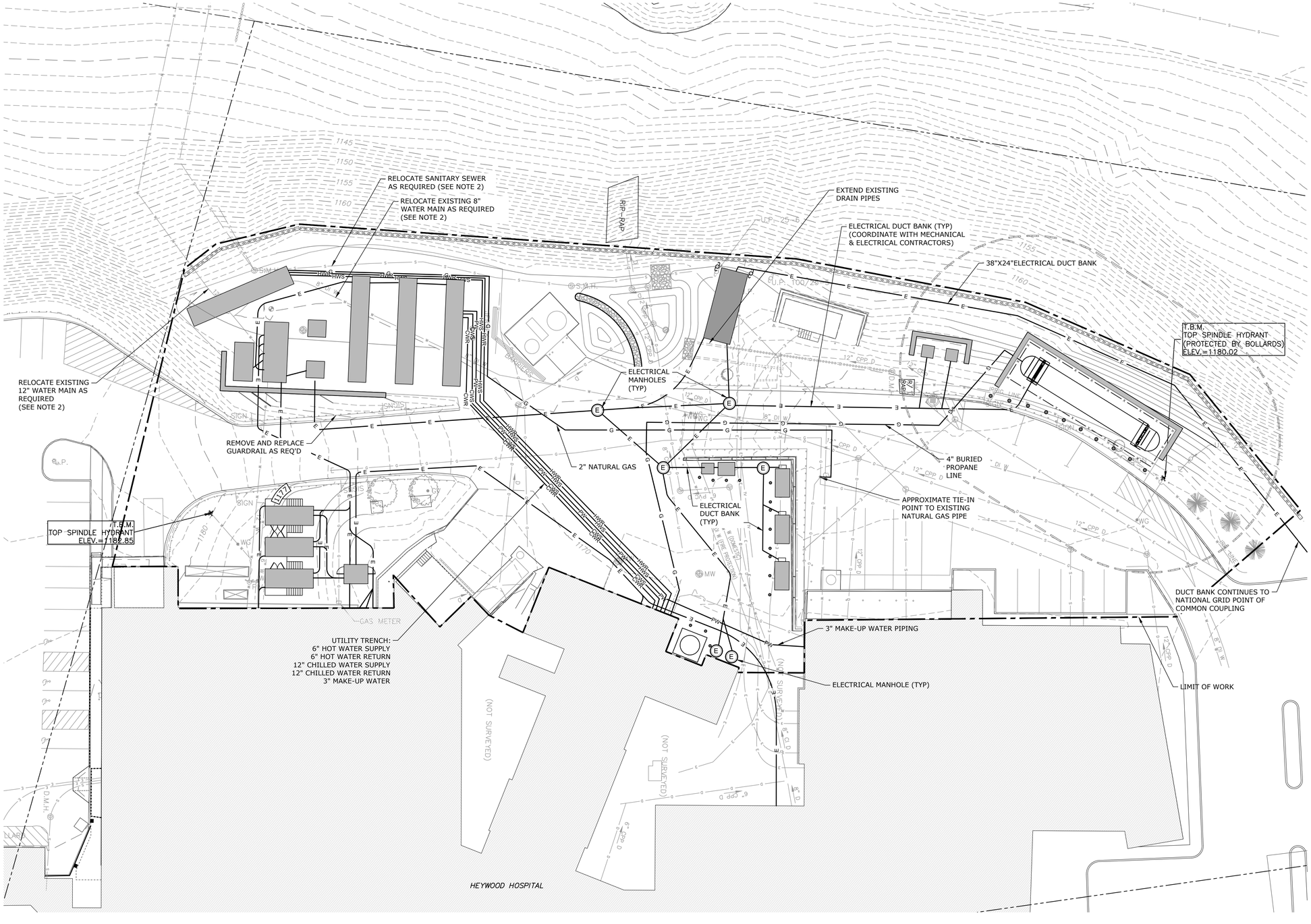
SITE GRADING AND STORM DRAINAGE PLAN

SCALE: 1" = 20'

C-103

Last Saved: 4/12/2021
Plotted On: Apr 12, 2021-1:55pm By: ELD
Tighe & Bond: J:\H\H5058 Heywood Hospital\02-Siemens\Drawings_Figures\AutoCAD\Sheet\H5058-002-C-Site Plans (rev5).dwg



NOTES:

1. THE SITE IS WITHIN CITY OF GARDNER SURFACE WATER PROTECTION OVERLAY DISTRICT ZONE A & ZONE B.
2. EXCAVATE TEST PITS TO VERIFY UTILITY LOCATIONS AND DEPTHS. RELOCATE AS NECESSARY TO AVOID PROPOSED EQUIPMENT PADS.
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0 20' 40'
SCALE: 1" = 20'

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SITE UTILITY PLAN

SCALE: 1" = 20'

C-104

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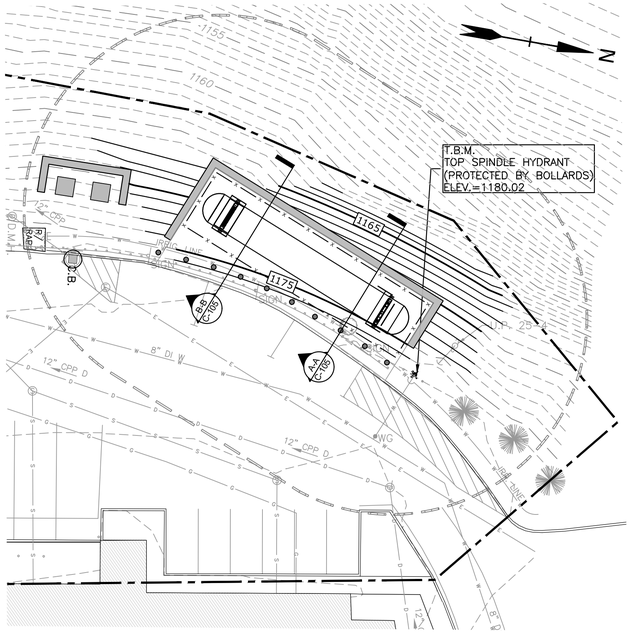
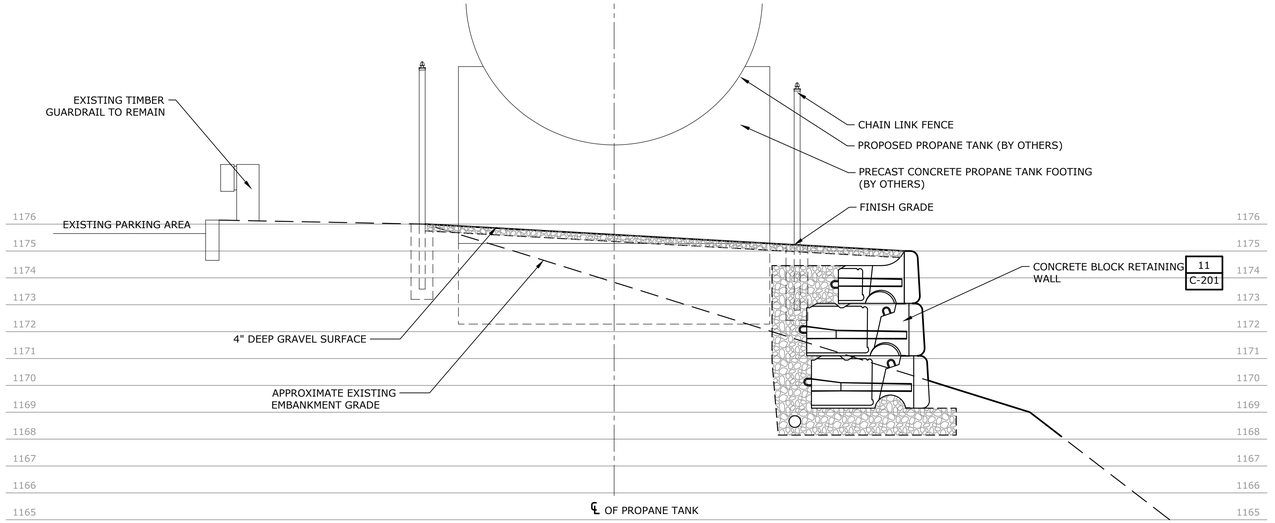
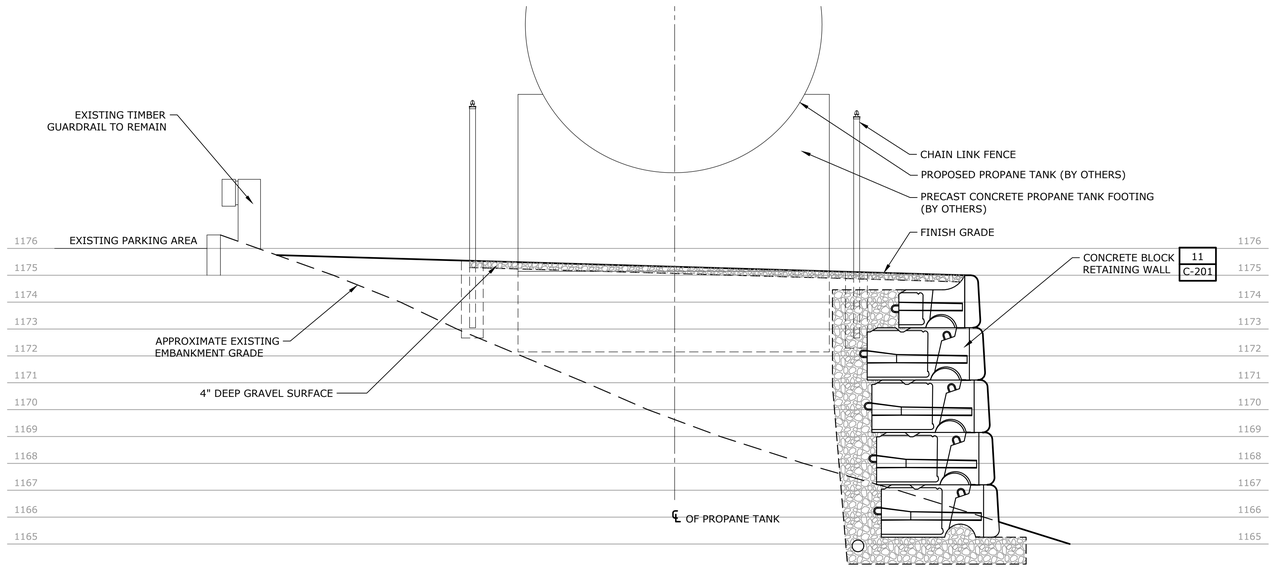


PROPANE TANK SITE PLAN
1" = 20'



SECTION A-A
3/8" = 1'-0"



SECTION B-B
3/8" = 1'-0"

Tighe&Bond

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SITE SECTIONS

SCALE: AS SHOWN

C-105

Last Saved: 4/12/2021
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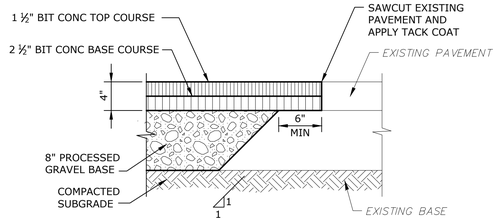
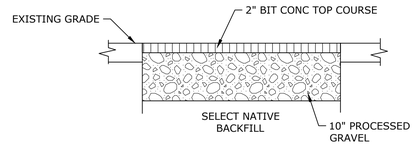
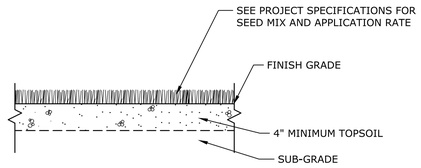


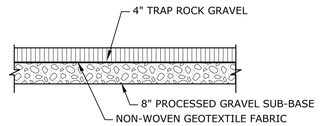
PERMANENT HMA PAVEMENT 1 C-201
NO SCALE



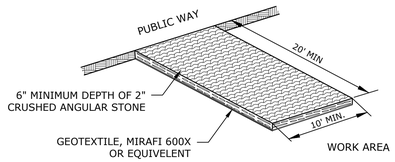
TEMPORARY TRENCH REPAIR 2 C-201
NO SCALE



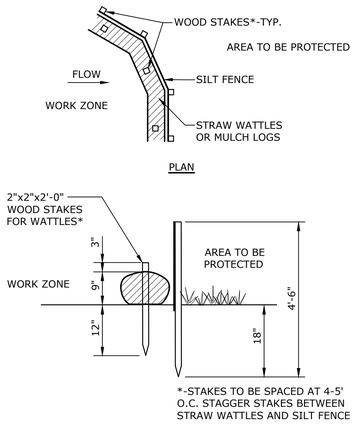
LAWN & GRASS AREAS 3 C-201
NO SCALE



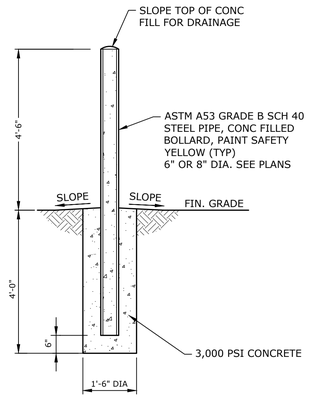
GRAVEL SURFACE 4 C-201
NO SCALE



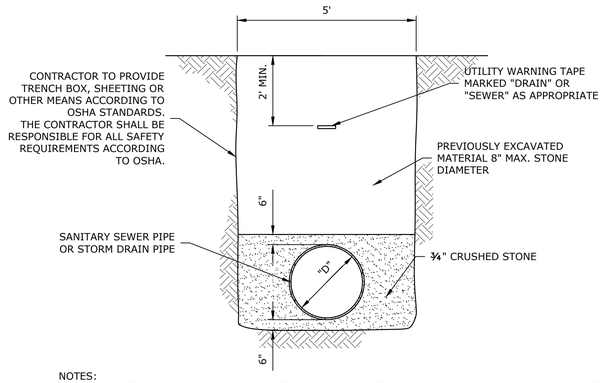
CONSTRUCTION ENTRANCE 5 C-201
NO SCALE



EROSION CONTROL BARRIER 6 C-201
NO SCALE

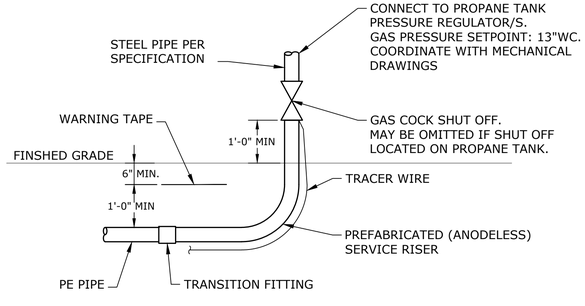


STEEL PIPE BOLLARD 7 C-201
NO SCALE



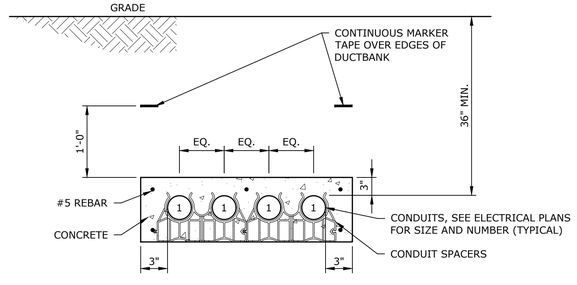
NOTES:
1. COMPACT ALL BACKFILL MATERIAL WITH VIBRATORY PLATE EQUIPMENT (MINIMUM TWO PASSES) TO A MINIMUM DENSITY OF 95 PERCENT OF THE STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698.
2. PLACE BACKFILL MATERIAL IN MAXIMUM ONE FOOT LIFTS.

TYPICAL DRAIN LINE AND SEWER TRENCH SECTION 8 C-201
NO SCALE

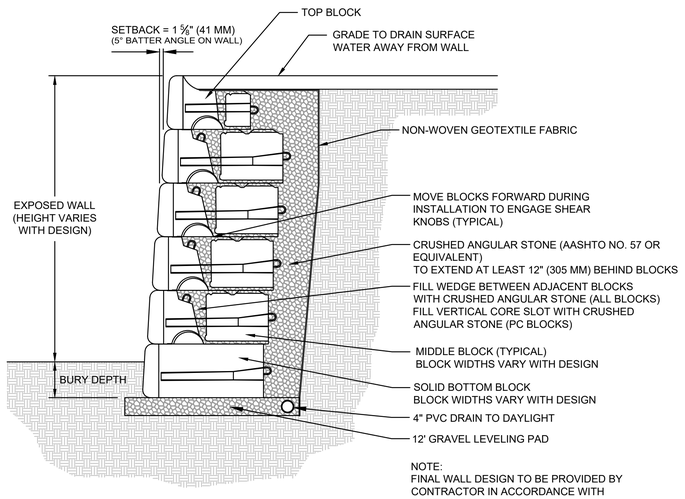


NOTES:
1. SHOWN DIMENSIONS ARE MINIMUM. CONFIRM AND ADJUST AS RECOMMENDED BY LOCAL UTILITY.

GAS PIPING TRANSITION: UNDERGROUND TO PROPANE TANK 9 C-201
NO SCALE



TYPICAL DUCT BANK SECTION 10 C-201
NO SCALE



NOTE:
FINAL WALL DESIGN TO BE PROVIDED BY CONTRACTOR IN ACCORDANCE WITH SECTION 02830

TYPICAL CONCRETE BLOCK RETAINING WALL 11 C-201
NO SCALE

Tighe&Bond

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SITE DETAILS - 1

SCALE: NO SCALE

C-201

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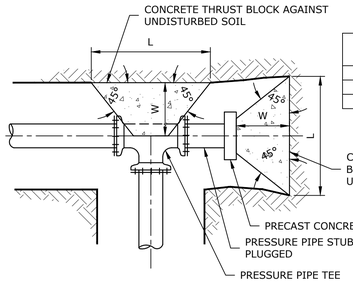
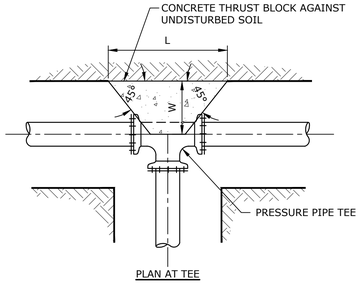
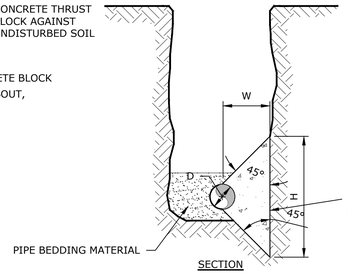


PLAN AT TEE W/STUBOUT FOR FUTURE

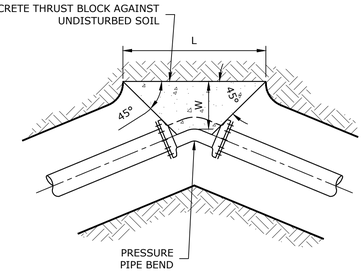
CONCRETE THRUSTBLOCK								
	45° BEND				90° BEND			
D	BEARING AREA (S.F.)	"L"	"H"	"W"	BEARING AREA (S.F.)	"L"	"H"	"W"
6	1.8	2.2	1.5	2.4	6.6	2.2	2.1	3.1
8	6.2	2.1	2.0	3.1	11.4	2.1	2.8	4.1
12	13.1	2.0	3.0	4.4	24.2	2.0	4.0	6.0



PLAN AT TEE



SECTION



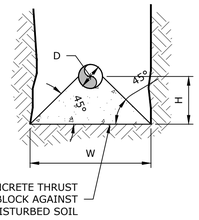
PLAN AT BEND

NOTES:
1. DIMENSIONS SHOWN CALCULATED PER 125 PSI INTERNAL PIPE PRESSURE FOR SOIL BEARING LOADS OF 1500 PSF.
2. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED OF CONCRETE POURED AGAINST UNDISTURBED SOIL.
3. DIMENSIONS L, W, & H MAY BE ADJUSTED TO MEET FIELD CONDITIONS PROVIDED THE BEARING AREA REMAINS UNCHANGED.
4. THE HEIGHT OF THE BLOCK (H) SHALL BE LESS THAN OR EQUAL TO HALF THE TRENCH DEPTH.
5. POLYETHYLENE SHEETING SHALL BE PLACED OVER MJ FITTINGS TO PREVENT DIRECT CONTACT BETWEEN CONCRETE AND THE FITTING.

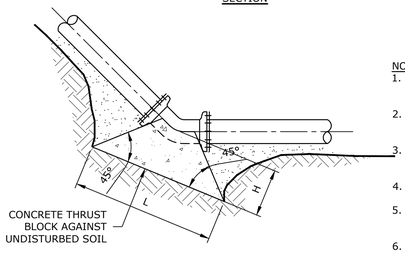
CONCRETE THRUST BLOCK FOR HORIZONTAL BENDS AND TEES 1 / C-202
NO SCALE

DOWNWARD VERTICAL BENDS							
D	VOLUME (C.F.)	BEARING AREA (S.F.)	"H"	"L"	"W"*	RESTRAINING BAR SIZE	BAR EMBEDMENT LENGTH
6	33	9.1	22	60	44	xx	xx
8	57	11.9	29	60	57	xx	xx
12	121	17.4	42	60	83	xx	xx

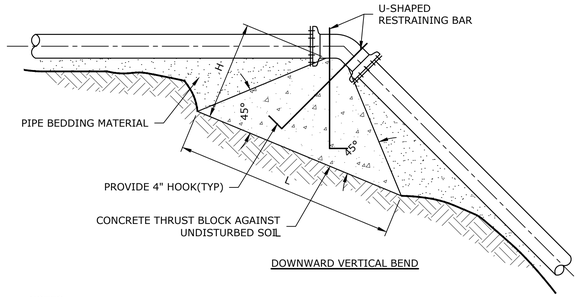
* "W" IS ASSUMED TO BE THE WIDTH OF THE TRENCH



SECTION



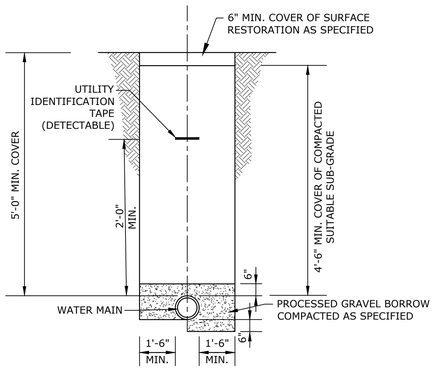
UPWARD VERTICAL BEND



DOWNWARD VERTICAL BEND

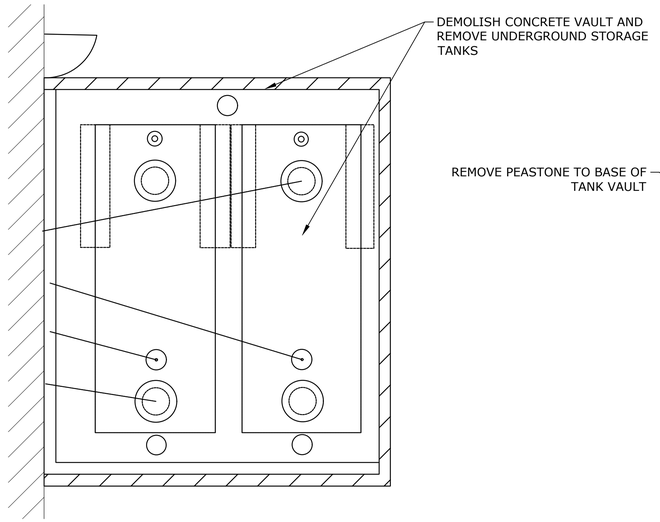
NOTES:
1. DIMENSIONS SHOWN CALCULATED FOR 125 PSI INTERNAL PIPE PRESSURE, SOIL BEARING LOADS OF 1500 PSF, BASED ON A 45° BEND.
2. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED OF CONCRETE MATERIAL POURED AGAINST UNDISTURBED SOIL.
3. DIMENSIONS L, W, & H MAY BE ADJUSTED TO MEET FIELD CONDITIONS, PROVIDED THE BEARING AREA AND VOLUME REMAIN UNCHANGED.
4. RESTRAINING BARS SHALL BE ASTM A615 GRADE 60 REINFORCING STEEL.
5. THE PORTION OF THE RESTRAINING BARS EXPOSED TO SOIL SHALL BE COATED WITH TWO COATS OF BITUMASTIC MATERIAL.
6. POLYETHYLENE SHEETING SHALL BE PLACED OVER MJ FITTINGS TO PREVENT DIRECT CONTACT BETWEEN CONCRETE AND THE FITTING.

CONCRETE THRUST BLOCK FOR VERTICAL BENDS 2 / C-202
NO SCALE

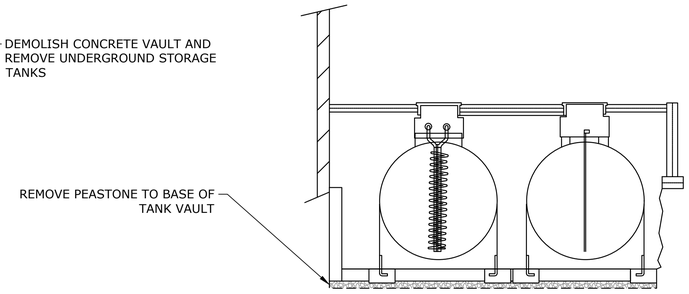


NOTE:
ALL WATER MAIN INSTALLATIONS WILL MEET THE MINIMUM REQUIRED SETBACK DISTANCES FROM OTHER UTILITIES AND STRUCTURES.

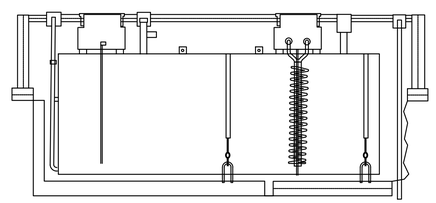
TYPICAL WATER MAIN TRENCH 3 / C-202
NO SCALE



EXISTING UNDERGROUND STORAGE TANK - PLAN VIEW 4 / C-202
NO SCALE



EXISTING UNDERGROUND STORAGE TANK - END VIEW
NO SCALE



EXISTING UNDERGROUND STORAGE TANK - SIDE SECTIONAL VIEW
NO SCALE

Tighe&Bond

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SITE DETAILS - 2

SCALE: NO SCALE

C-202

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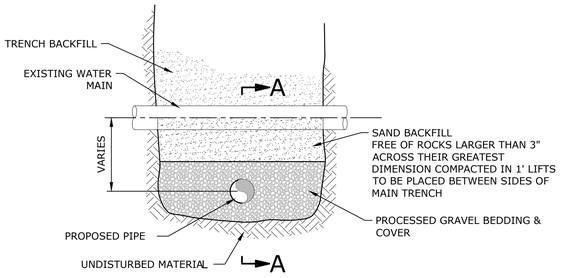
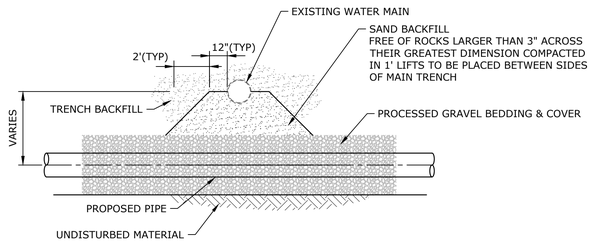


TYPICAL TRENCH SECTION

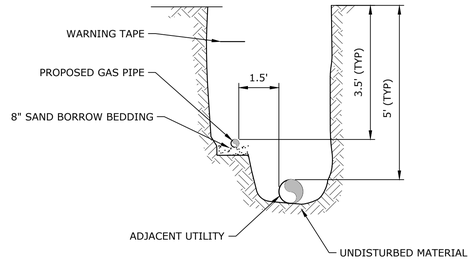


SECTION A-A

WATER MAIN CROSSING DETAIL

NO SCALE

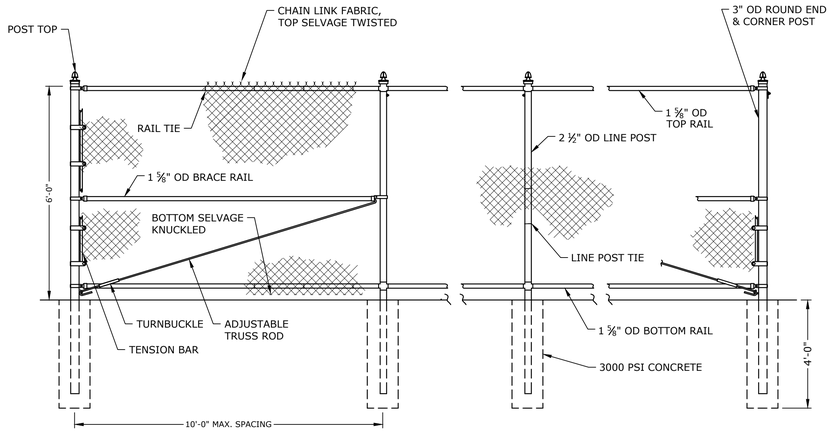
1 | C-203



GAS MAIN PIPE INSTALLATION

NO SCALE

2 | C-203



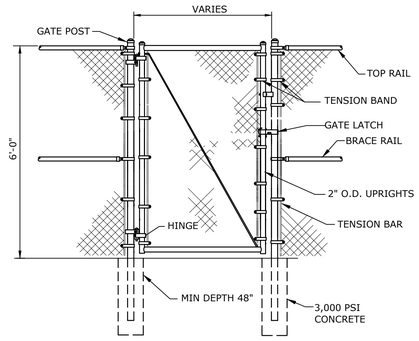
NOTES:

1. FOOTING WIDTH TO BE (4)X POST WIDTH.
2. FABRIC AND POSTS SHALL BE BLACK PVC COATED PER ASTM F 668 2B.
3. FABRIC FOR FENCE SHALL BE 9 GAUGE WIRE, 2" MESH.

PERIMETER CHAIN LINK FENCE

NO SCALE

3 | C-203



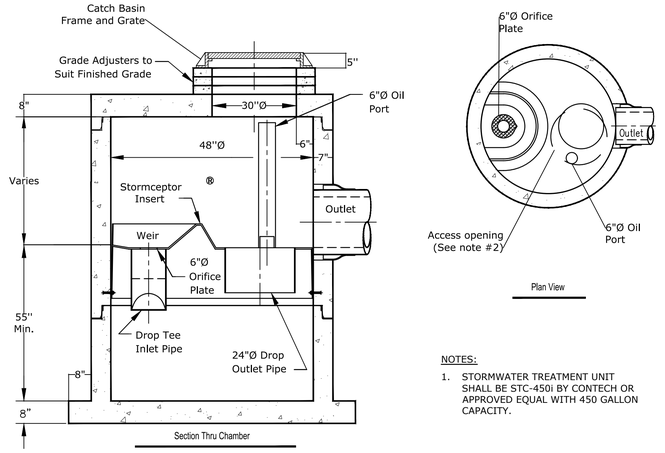
NOTES:

1. FOOTING WIDTH TO BE 4X POST WIDTH.
2. GATES SHALL BE MANUALLY OPERATED.
3. FABRIC AND POSTS SHALL BE BLACK PVC COATED PER ASTM F 668 2B.

CHAIN LINK FENCE GATE

NO SCALE

4 | C-203



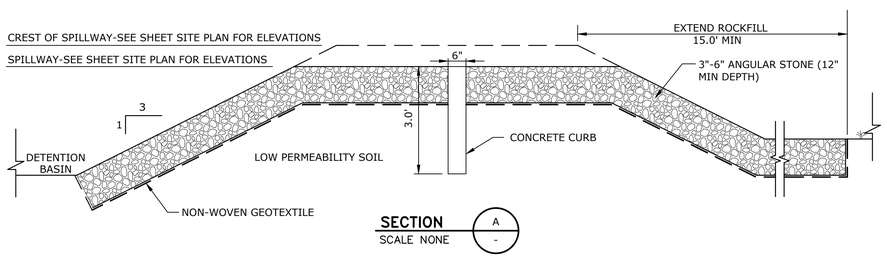
NOTES:

1. STORMWATER TREATMENT UNIT SHALL BE STC-450i BY CONTECH OR APPROVED EQUAL WITH 450 GALLON CAPACITY.

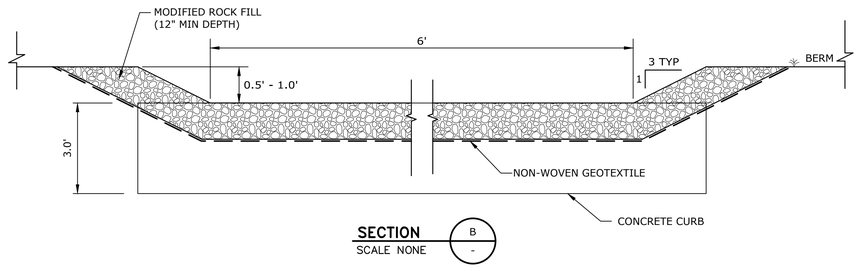
PRECAST CONCRETE CATCH BASIN STORMWATER TREATMENT UNIT

NO SCALE

5 | C-203



SECTION A
SCALE NONE -

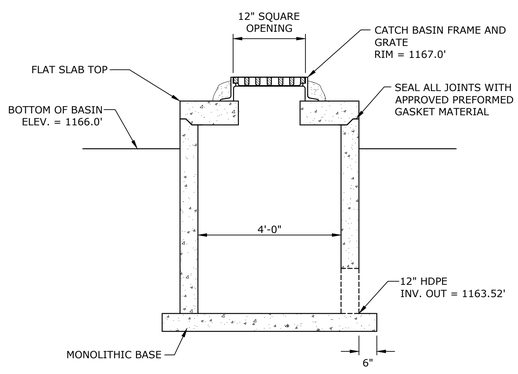


SECTION B
SCALE NONE -

EMERGENCY SPILLWAY

NO SCALE

6 | C-203

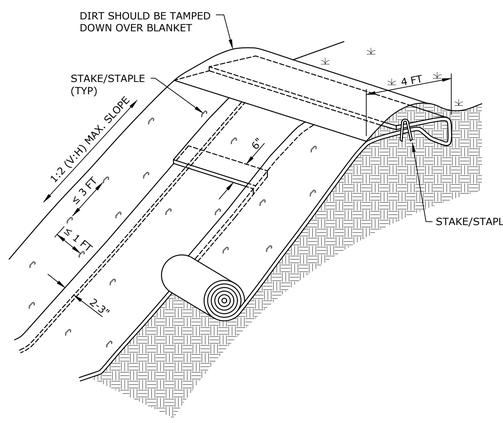


OUTLET CONTROL STRUCTURE

DETAIL

NO SCALE

7 | C-203



NOTES:

1. EROSION CONTROL BLANKET TO BE INSTALLED VERTICALLY DOWNSLOPE.
2. STAKES/STAPLES TO BE PLACED NO MORE THAN 3 FT APART VERTICALLY, AND 1 FT APART HORIZONTALLY.
3. SLOPE SURFACE TO BE FREE OF STICKS, ROCKS, AND OTHER OBSTRUCTIONS.
4. BLANKETS TO BE ROLLED OUT LOOSELY AND STAKED/STAPLED TO MAINTAIN DIRECT SOIL CONTACT. DO NOT STRETCH THE BLANKETS.

EROSION CONTROL BLANKET

DETAIL

NO SCALE

8 | C-203

Last Saved: 4/12/2021
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Tighe&Bond

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P. VIAMARI
CIVIL
No. 41776
REGISTERED PROFESSIONAL ENGINEER
4/12/21

COMMONWEALTH OF MASSACHUSETTS
MATTHEW P. WZOREK
CIVIL
No. 52674
REGISTERED PROFESSIONAL ENGINEER
4-12-2021

PERMIT DRAWINGS NOT FOR CONSTRUCTION

Heywood Healthcare Infrastructure Improvements

Gardner, MA

MARK	DATE	DESCRIPTION

PROJECT NO:	H-5058-002
DATE:	04/08/2021
FILE:	Details.dwg
DRAWN BY:	TJG
CHECKED:	MPW
APPROVED:	JPV

SITE DETAILS - 3

SCALE: NO SCALE

C-203

GENERAL

G1 STRUCTURAL WORK SHALL CONFORM TO MASSACHUESETTS STATE BUILDING CODE, LATEST EDITION, INCLUDING MOST RECENT ADDENDA, AND CONTRACT DOCUMENTS. IN CASE OF CONFLICT, MOST STRINGENT REQUIREMENT SHALL GOVERN.

G2 CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS RELATED TO THIS PROJECT.

G3 CONTRACTOR SHALL EXAMINE DRAWINGS FOR ALL TRADES FOR THE VERIFICATION OF LOCATION AND DIMENSIONS OF ALL CHASES, INSERTS, OPENINGS, SLEEVES AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

G4 PROVIDE CAULKING AT ALL CONTROL JOINTS. PROVIDE COMPRESSIBLE FILLER AND SEALANT AT ALL EXPANSION AND ISOLATION JOINTS.

G5 PROVIDE PREMOLDED JOINT FILLER WHERE SLABS ON GRADE ABUT WALLS AND COLUMNS.

REINFORCEMENT

R1 DETAILING, FABRICATION, AND ERECTION OF REINFORCEMENT, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)" AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315)", LATEST EDITION.

R2 STEEL REINFORCEMENT UNLESS OTHERWISE SHOWN SHALL CONFORM TO ASTM A615 GRADE 60 MINIMUM (YIELD STRENGTH - 60,000 PSI).

R3 WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO: ASTM A185.

R4 PROVIDE AND SCHEDULE ON SHOP DRAWINGS, ALL NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION: MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS, 4'-0" ON CENTER, #5 SUPPORT BAR FOR HIGH CHAIRS, SLAB BOLSTERS, 3'-6" ON CENTER, ALL WIRE CHAIRS AND BOLSTERS TO BE PLASTIC TIPPED.

R5 THE CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE SHOWN:

(A) Cast-in-place concrete.

	EXPOSED TO EARTH, WATER, OR WEATHER	NOT EXPOSED TO EARTH, WATER, OR WEATHER
(a) SLAB ON GRADE	3 INCHES	2 INCHES
(b) COLUMN TIES	2 INCHES	1 1/2 INCHES
(c) COLUMN MAIN REBARS	2 1/2 INCHES	2 INCHES
(d) BEAM STIRRUPS	2 INCHES	1 1/2 INCHES
(e) BEAM MAIN REBARS	2 1/2 INCHES	2 INCHES
(f) SLAB'S #3 TO #5 INCL'S	1 1/2 INCHES	3/4 INCHES
(g) SLABS #6 TO #11 INCL'S	2 INCHES	3/4 INCHES
(h) WALL #11 BAR OR SMALLER	2 INCHES	3/4 INCHES

(i) NOTE: MAXIMUM DEVIATION FROM THESE REQUIREMENTS SHALL BE +1/4" FOR SECTIONS TEN (10) INCHES OR LESS, AND +1/2" FOR SECTIONS OVER TEN (10) INCHES THICK.

(B) PRECAST CONCRETE

	EXPOSED TO EARTH, WATER, OR WEATHER	NOT EXPOSED TO EARTH, WATER, OR WEATHER
(a) COLUMN TIES	1 1/4 INCHES	3/8 INCHES
(b) COLUMN MAIN REBARS	1 1/2 INCHES	5/8 INCHES
(c) BEAM STIRRUPS	1 1/4 INCHES	3/8 INCHES
(d) BEAM MAIN REBARS	1 1/2 INCHES	5/8 INCHES
(e) SLABS #11 BAR AND SMALLER	1 1/4 INCHES	5/8 INCHES
(f) WALL #11 BAR AND SMALLER	3/4 INCHES	5/8 INCHES

R6 (C) IN NO CASE SHALL THE COVER BE LESS THAN THE BAR DIAMETER. WHERE CONTINUOUS BARS ARE CALLED FOR THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS.

R7 WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS OR SIMILAR TO THAT SHOWN FOR MOST NEARLY SIMILAR SITUATIONS, AS DETERMINED BY THE ENGINEER. IN NO CASE SHALL REINFORCEMENT BE LESS THAN MINIMUM REINFORCEMENT PERMITTED BY THE APPLICABLE CODES, NOR LESS THAN THE FOLLOWING:

(A) BEAM STIRRUPS-#3 @ 12" OC
(B) BEAM STIRRUP SUPPORTS-1-#5 @ EACH STIRRUP BEND
(C) FACE REINFORCEMENT IN BEAMS OR PORTIONS OF BEAMS-#4 @ 12" EF
(D) STRUCTURAL SLABS-.0028 GROSS CONCRETE AREA IN EACH DIRECTION
(E) STRUCTURAL WALLS-.0028 GROSS CONCRETE AREA IN EACH DIRECTION

R8 WHERE REINFORCEMENT IS CALLED FOR IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.

R9 REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

R10 WELDED WIRE FABRIC SHALL LAP 12" OR TWO SPACES, WHICHEVER IS LARGER, AND SHALL BE WIRED TOGETHER.

R11 REINFORCEMENT COUPLER SPLICES SHALL BE MECHANICAL DEVICES CAPABLE OF TRANSMITTING THE ULTIMATE TENSILE AND COMPRESSIVE STRENGTH OF THE BAR.

R12 INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT. NOTIFY ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO SCHEDULED COMPLETION OF PLACEMENT OR REINFORCEMENT.

R13 REINFORCEMENT SHALL BE SET BEFORE PLACING CONCRETE. SETTING ANY REINFORCEMENT INTO WET CONCRETE IS PROHIBITED.

CONCRETE

C1 CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318), CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI 350), AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING (ACI 301).

C2 CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY OR THE ENGINEER.

C3 CONCRETE FOR EQUIPMENT PADS AND FOUNDATION PADS SHALL BE NORMAL WEIGHT CONCRETE AND SHALL HAVE A COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED AND SHALL BE AIR ENTRAINED (SEE SPECIFICATIONS).

C4 THE USE OF CONSTRUCTION JOINTS WHERE SHOWN ON THE DRAWINGS IS MANDATORY. OMISSIONS, ADDITIONS OR CHANGES SHALL NOT BE MADE EXCEPT WITH THE SUBMISSION OF A WRITTEN REQUEST TOGETHER WITH DRAWINGS OF THE PROPOSED JOINT LOCATIONS FOR APPROVAL OF THE STRUCTURAL ENGINEER.

C5 WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, DRAWINGS SHOWING LOCATION OF CONSTRUCTION JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.

C6 CONCRETE SLABS SHALL BE CAST SO THAT THE SLAB THICKNESS IS AT NO POINT LESS THAN THAT INDICATED ON THE DRAWINGS.

C7 CONCRETE SLABS AND WALLS SHALL BE CAST ALTERNATELY OR IN A CHECKERBOARD FASHION SO THAT ADJACENT SECTIONS ARE PLACED NO SOONER THAN THREE DAYS APART. AT LEAST TWO DAYS MUST ELAPSE AFTER PLACING CONCRETE IN WALLS BEFORE PLACING FLOOR SYSTEM SUPPORTED THEREON.

C8 CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED.

C9 EXPOSED EDGES OF CONCRETE ELEMENTS SHALL HAVE CHAMFERED CORNERS.

C10 ONLY CRITICAL CONSTRUCTION JOINTS ARE SHOWN. SEE SPECIFICATIONS FOR REQUIRED MAXIMUM SPACING OF CONSTRUCTION JOINTS.

C11 CONCRETE FOR CHAINLINK FENCE POSTS AND BOLLARDS SHALL BE NORMAL WEIGHT AND HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.

FOUNDATIONS

F1 NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN GROUND.

F2 BOTTOM OF FOUNDATION ELEVATIONS GIVEN ON PLANS ARE TO BE CONSIDERED MINIMUM DEPTHS. CONTRACTOR SHALL HAVE FURTHER EXCAVATION AS REQUIRED TO REACH GOOD BEARING.

ALL EXCAVATIONS FOR FOOTINGS SHALL BE FINISHED BY HAND FOR THE LAST 6".

F3 ALL FINISHED EXCAVATIONS SHALL BE INSPECTED BY THE ENGINEER BEFORE ANY CONCRETE

F4 IS PLACED.

F5 ALL BACKFILL UNDER OR ADJACENT TO ANY PORTION OF THE STRUCTURES SHALL BE COMPACTED IN 6" LIFTS. SEE SPECIFICATIONS.

F6 REMOVE UNSUITABLE FILL AND/OR IMPROVE THE SUBGRADE PER SPECIFICATION REQUIREMENTS. BACKFILL WITH COMPACTED STRUCTURAL (GRANULAR) FILL UP TO THE UNDERSIDE OF THE BUILDING SLABS. SEE SPECIFICATIONS.

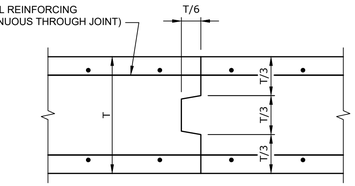
F7 EQUIPMENT PADS AT GRADE WERE DESIGNED FOR A NET ALLOWABLE BEARING CAPACITY OF 500 PSF.

BAR SIZE DESIGNATION	DEVELOPMENT LENGTH (INCHES)	SPLICE LENGTH (INCHES)	
ENGLISH	Ld	CLASS B	CLASS B TOP BARS
#3	15	19	25
#4	19	25	33
#5	24	31	40
#6	29	37	48
#7	42	54	70
#8	48	62	81
#9	54	70	91
#10	61	79	103

REBAR SPLICE LENGTH SCHEDULE

NOTES:

1. IF CLEAR SPACING BETWEEN THE REBARS IS LESS THAN THREE BAR DIAMETERS, OR IF COVER IS LESS THAN TWO BAR DIAMETERS, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 50%.
2. IF EPOXY COATED REBAR IS USED, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 50%.
3. IF LIGHTWEIGHT CONCRETE IS USED, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 30%.
4. THE MINIMUM REBAR SPLICE LENGTH SCHEDULE IS BASED ON F'c= 4,000 PSI AND Fy= 60,000 PSI. ADJUST FOR OTHER STRENGTHS USING ACI-318.
5. FOR HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW, INCREASE THE DEVELOPMENT LENGTH BY AN ADDITIONAL 30%.
6. WHEN BARS OF DIFFERENT SIZE ARE LAP SPLICED, THE SPLICE LENGTH SHALL BE THE LARGER OF EITHER THE DEVELOPMENT LENGTH OF THE LARGER BAR OR THE SPLICE LENGTH OF THE SMALLER BAR.



SLAB CONSTRUCTION JOINT

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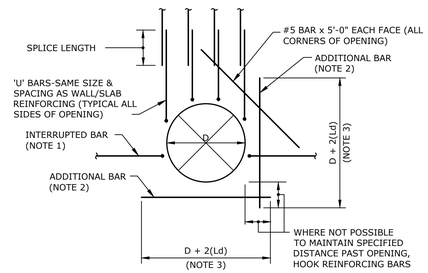
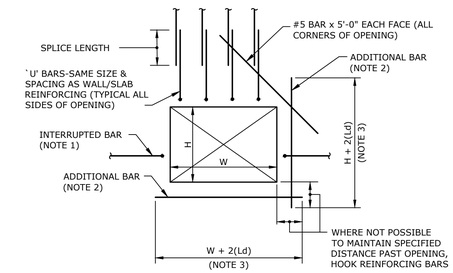


NOTES:

1. FOR SLAB OR WALL APPLICATION WITH A CONCRETE THICKNESS LESS THAN 12 INCHES, 180° OR 90°, HOOK BARS MAY BE USED IN LIEU OF 'U' BARS.
2. PROVIDE ADDITIONAL BARS USING NOT LESS THAN ONE HALF OF INTERRUPTED BARS AT EACH SIDE OF OPENING AT 3" ON CENTER.
3. FOR TOP BARS IN SLAB, INCREASE DEVELOPMENT LENGTH BY 30%.

TYPICAL REINFORCING AT OPENINGS IN CONCRETE WALLS AND SLABS

NO SCALE



NOTES:

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2. PROVIDE ADDITIONAL BARS USING NOT LESS THAN ONE HALF OF INTERRUPTED BARS AT EACH SIDE OF OPENING AT 3" ON CENTER.
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TYPICAL REINFORCING AT OPENINGS IN CONCRETE WALLS AND SLABS

NO SCALE

Tighe&Bond

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P. VIAMARI
CIVIL
No. 41776
REGISTERED PROFESSIONAL ENGINEER
4/12/21

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MATTHEW P. WZOREK
CIVIL
No. 52674
REGISTERED PROFESSIONAL ENGINEER
4-12-2021

PERMIT DRAWINGS NOT FOR CONSTRUCTION

Heywood Healthcare Infrastructure Improvements

Gardner, MA

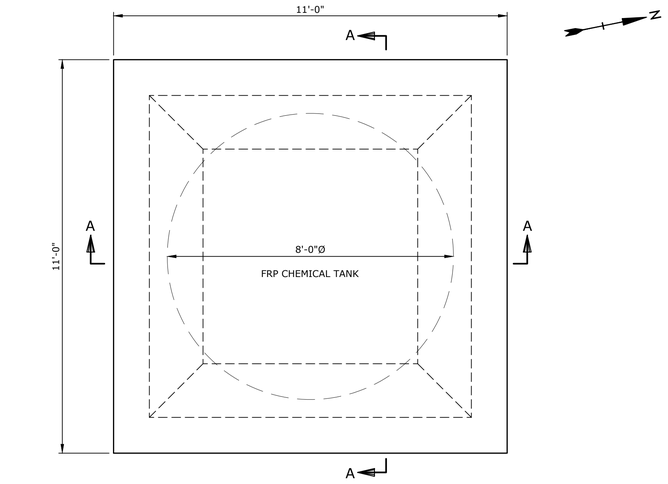
MARK	DATE	DESCRIPTION

PROJECT NO:	H-5058-002
DATE:	04/08/2021
FILE:	H5058-002-S-001.dwg
DRAWN BY:	TMP
CHECKED:	JF
APPROVED:	JPV

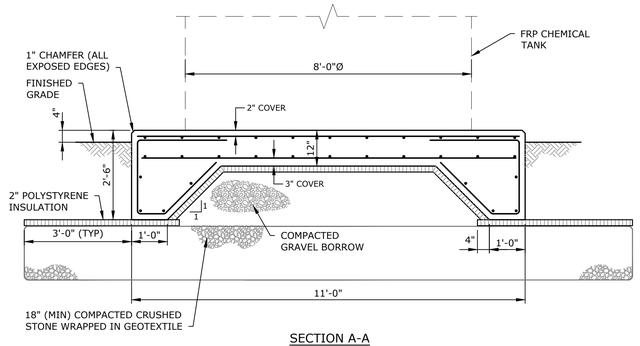
GENERAL NOTES AND DETAILS CONCRETE AND REINFORCING

SCALE: NO SCALE

S-001



PLAN



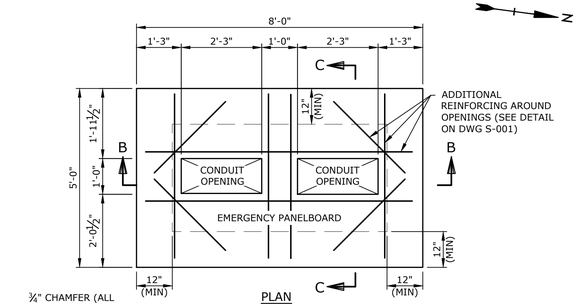
SECTION A-A

NOTES:

1. ALL REINFORCING IS #5 BARS AT 12" ON CENTER.
2. EQUIPMENT PAD DIMENSIONS SHOWN ARE BASED ON A 8'-0" DIAMETER BY 8'-2" TALL (2,500 GALLON) POLYETHYLENE CHEMICAL STORAGE TANK.
3. ANCHORAGE REQUIREMENTS OF TANK/EQUIPMENT TO PAD SHALL BE DESIGNED BY THE TANK/EQUIPMENT MANUFACTURER.

CHEMICAL TANK FOUNDATION

DETAIL	1
1/2"=1'-0"	S-101



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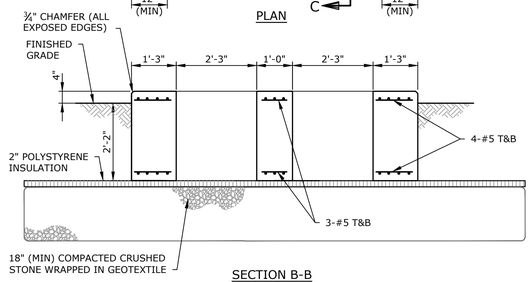


SECTION B-B

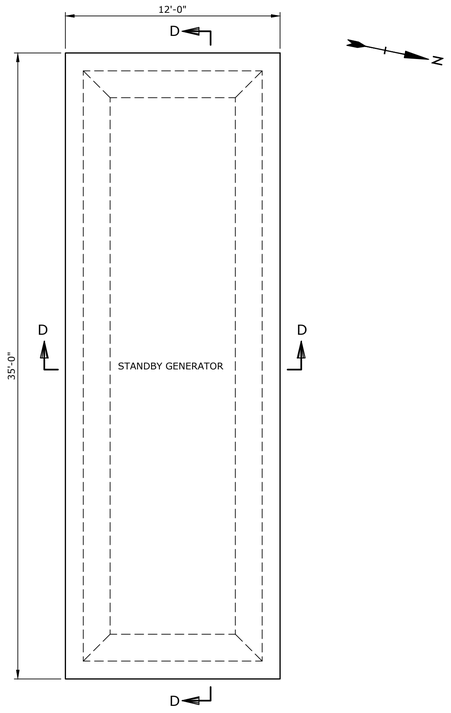
SECTION C-C

NOTES:

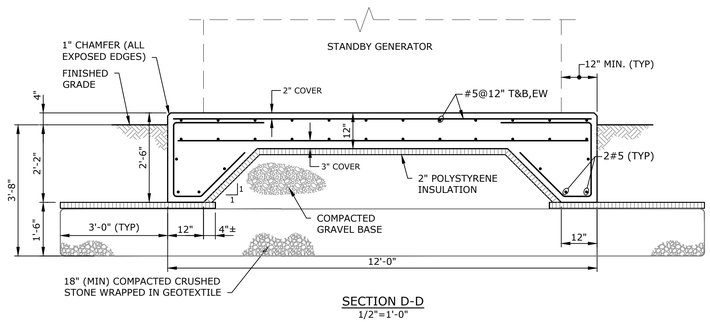
1. ALL REINFORCING IS #5 BARS AT 12" ON CENTER. UNLESS NOTED OTHERWISE
2. GENERAL CONTRACTOR SHALL COORDINATE THE EQUIPMENT PAD DIMENSIONS AND CONDUIT OPENING LOCATIONS AND DIMENSIONS WITH APPROVED PANELBOARD SHOP DRAWINGS.
3. ANCHORAGE REQUIREMENTS OF TANK/EQUIPMENT TO PAD SHALL BE DESIGNED BY THE TANK/EQUIPMENT MANUFACTURER.

EMERGENCY PANELBOARD FOUNDATION

DETAIL	2
1/2"=1'-0"	S-101



PLAN
1/4"=1'-0"



SECTION D-D
1/2"=1'-0"

NOTES:

1. ALL REINFORCING IS #5 BARS AT 12" ON CENTER.
2. GENERAL CONTRACTOR SHALL COORDINATE THE EQUIPMENT PAD DIMENSIONS WITH APPROVED GENERATOR SHOP DRAWINGS.
3. ANCHORAGE REQUIREMENTS OF TANK/EQUIPMENT TO PAD SHALL BE DESIGNED BY THE TANK/EQUIPMENT MANUFACTURER.

STANDBY GENERATOR FOUNDATION

DETAIL	3
AS SHOWN	S-101

0 2' 4' 8'
SCALE: 1/4"=1'-0"

0 1' 2' 4'
SCALE: 1/2"=1'-0"

Tighe&Bond

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Heywood Healthcare Infrastructure Improvements

Gardner, MA

MARK	DATE	DESCRIPTION

PROJECT NO:	H-5058-002
DATE:	04/08/2021
FILE:	H5058-002-S-101.dwg
DRAWN BY:	TMP
CHECKED:	JF
APPROVED:	JPV

EQUIPMENT PAD DETAILS - 1

SCALE: AS SHOWN

S-101

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Plotted On: Apr 12, 2021 - 2:11pm By: ELD
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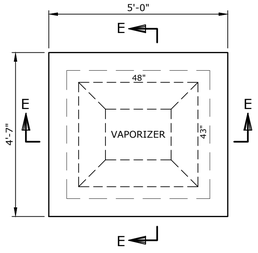
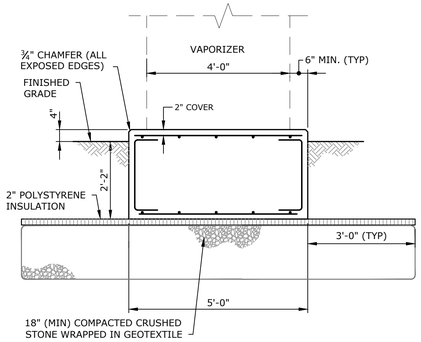


PLAN



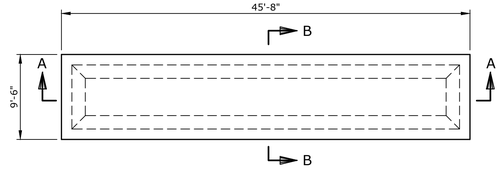
SECTION E-E

NOTES:

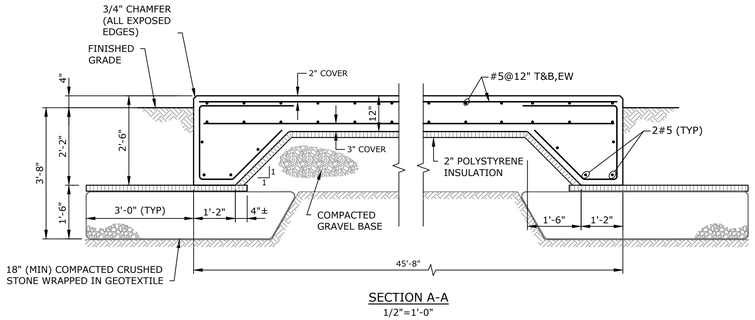
1. ALL REINFORCING IS #5 BARS AT 12" ON CENTER.
2. GENERAL CONTRACTOR SHALL COORDINATE THE EQUIPMENT PADS DIMENSIONS WITH APPROVED VAPORIZOR SHOP DRAWINGS.
3. ANCHORAGE REQUIREMENTS OF TANK/EQUIPMENT TO PAD SHALL BE DESIGNED BY THE TANK/EQUIPMENT MANUFACTURER.

(TYPICAL OF 2)
VAPORIZER EQUIPMENT PAD

DETAIL	1
1/2"=1'-0"	S-102



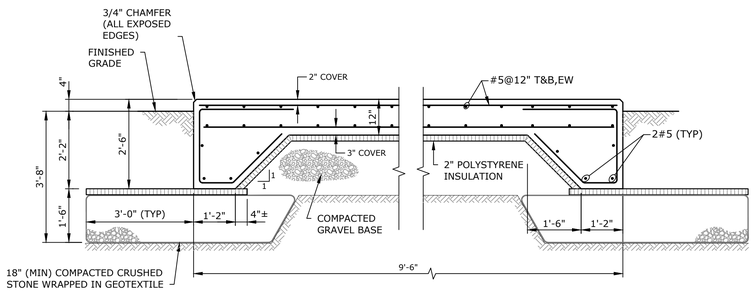
PLAN
1/8"=1'-0"



SECTION A-A
1/2"=1'-0"

NOTES:

1. ALL REINFORCING IS #5 BARS AT 12" ON CENTER.
2. GENERAL CONTRACTOR SHALL COORDINATE THE FOUNDATION PAD DIMENSIONS WITH APPROVED MODULAR CHILLER BUILDING SHOP DRAWINGS.
3. ANCHORAGE REQUIREMENTS OF TANK/EQUIPMENT TO PAD SHALL BE DESIGNED BY THE TANK/EQUIPMENT MANUFACTURER.



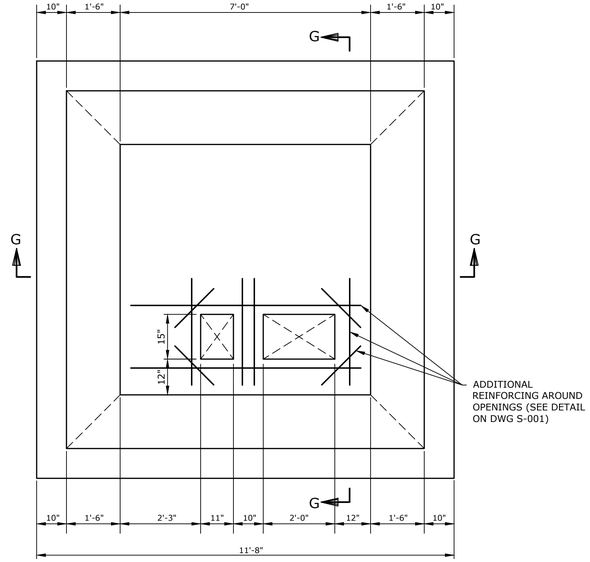
SECTION B-B
1/2"=1'-0"

NOTES:

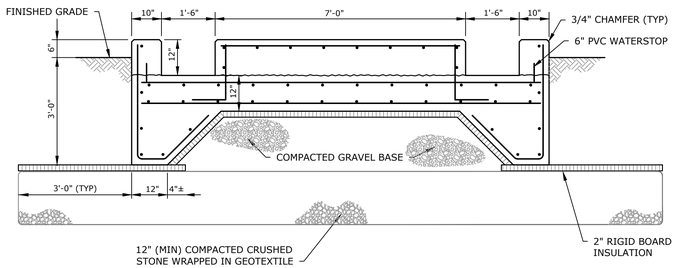
1. ALL REINFORCING IS #5 BARS AT 12" ON CENTER.
2. GENERAL CONTRACTOR SHALL COORDINATE THE PAD DIMENSIONS WITH APPROVED EQUIPMENT SHOP DRAWINGS.
3. ANCHORAGE REQUIREMENTS OF TANK/EQUIPMENT TO PAD SHALL BE DESIGNED BY THE TANK/EQUIPMENT MANUFACTURER.

CHILLER EQUIPMENT PAD (TYP. OF 3)

DETAIL	2
AS SHOWN	S-102



PLAN



SECTION G-G

NOTES:

1. ALL REINFORCING IS #5 BARS AT 12" ON CENTER.
2. GENERAL CONTRACTOR SHALL COORDINATE THE EQUIPMENT PAD DIMENSIONS WITH APPROVED TRANSFORMER SHOP DRAWINGS.
3. ANCHORAGE REQUIREMENTS OF TANK/EQUIPMENT TO PAD SHALL BE DESIGNED BY THE TANK/EQUIPMENT MANUFACTURER.

1000 KVA TRANSFORMER PAD

DETAIL	3
1/2"=1'-0"	S-102

0 2' 4' 8'
SCALE: 1/4"=1'-0"

0 1' 2' 4'
SCALE: 1/2"=1'-0"

Tighe&Bond

COMMONWEALTH OF MASSACHUSETTS
JOSEPH P. VIAMARI
CIVIL
No. 41776
REGISTERED PROFESSIONAL ENGINEER
4/12/21

COMMONWEALTH OF MASSACHUSETTS
MATTHEW P. WZOREK
CIVIL
No. 52674
REGISTERED PROFESSIONAL ENGINEER
4-12-2021

PERMIT DRAWINGS NOT FOR CONSTRUCTION

Heywood Healthcare Infrastructure Improvements

Gardner, MA

MARK	DATE	DESCRIPTION

PROJECT NO:	H-5058-002
DATE:	04/08/2021
FILE:	H5058-002-S-102.dwg
DRAWN BY:	TMP, LPT
CHECKED:	JF
APPROVED:	JPV

EQUIPMENT PAD DETAILS - 2

SCALE: AS SHOWN

S-102

Last Saved: 4/6/2021
Plotted On: Apr 12, 2021 - 1:59pm By: ELD
T:\Tighe & Bond\ 1\H\H5058 Heywood Hospital\02-Siemens\Drawings_Figures\AutoCAD\Sheet\H5058-002-S-102.dwg