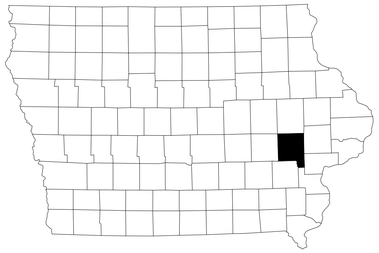
BID 01/21/2026

JOHNSON COUNTY



N

IOWA LOCATION MAP
NOT TO SCALE

SHOWER HOUSE
F.W. KENT PARK

JOHNSON COUNTY CONSERVATION

F.W. KENT PARK, 2048 US-6 NW, OXFORD, IA 52322

SHEET INDEX

TOTAL SHEETS
39
PROJECT NUMBER
2250000910

SHEET LIST

NUMBER	NAME
GENERAL	
G000	COVER SHEET
CIVIL	
C001	GENERAL NOTES
CD01	EXIST. CONDITIONS & DEMO. PLAN
C100	OVERALL SITE PLAN
C101	SHOWERHOUSE SITE PLAN
C102	PAVING PLAN
C103	SANITARY PLAN
C104	STORMWATER PLAN & PROFILE
C105	STORMWATER PLAN & PROFILE
C106	STORMWATER UTILITY PLAN
C201	OVERALL GRADING PLAN
C202	SHOWERHOUSE GRADING PLAN
C251	SWPPP PRE-CONSTRUCTION PLAN
C252	SWPPP POST CONSTRUCTION PLAN
C501	CONSTRUCTION DETAILS
C502	CONSTRUCTION DETAILS
LANDSCAPE ARCHITECTURE	
L101	LANDSCAPE PLAN
L501	LANDSCAPE DETAILS
STRUCTURAL	
S000	STRUCTURAL GENERAL INFORMATION
S001	SPECIAL INSPECTIONS
S100	FOUNDATION PLAN - SHOWERHOUSE
S500	DETAILS
S501	DETAILS

SHEET LIST

NUMBER	NAME
PLUMBING	
P000	PLUMBING GENERAL INFORMATION
P101	PLUMBING PLANS
P400	PLUMBING SECTIONS
P500	PLUMBING DETAILS
P600	PLUMBING SCHEDULES
P700	PLUMBING ISOMETRICS - SV
P710	PLUMBING ISOMETRIC - DOMESTIC
MECHANICAL	
M000	MECHANICAL GENERAL INFORMATION
M101	MECHANICAL PLANS
M500	MECHANICAL DETAILS & SECTIONS
M600	MECHANICAL SCHEDULES
M700	MECHANICAL ISOMETRICS
ELECTRICAL	
E000	ELECTRICAL GENERAL INFORMATION
E010	ELECTRICAL SITE PLAN
E100	ENLARGED LIGHTING, POWER & SYSTEMS PLANS
E500	ELECTRICAL SCHEDULES

JOHNSON COUNTY CONSERVATION BOARD (JCCB)	
AUTHORIZED FOR LETTING	
CHAIR, JOHNSON COUNTY CONSERVATION BOARD	DATE

CERTIFICATIONS

CIVIL ENGINEER

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE — DATE: 01/21/2026

PRINTED OR TYPED NAME: Daniel J. Jensen

LICENSE NUMBER: P25063

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2027

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL: ALL C SHEETS

LANDSCAPE ARCHITECT

I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND RESPONSIBLE CHARGE. I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.

Garret Munch
PRINTED OR TYPED NAME OR SECURE ELECTRONIC SIGNATURE

SIGNATURE — DATE: 01/21/2026

PAGES OR SHEETS COVERED BY THIS SEAL: ALL L SHEETS

License Expires: June 30, 2026

STRUCTURAL ENGINEER

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE — DATE: 01/21/2026

PRINTED OR TYPED NAME: Joseph W. Pape

LICENSE NUMBER: P28577

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL: ALL S SHEETS

MECHANICAL ENGINEER

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE — DATE: 01/21/2026

PRINTED OR TYPED NAME: Jessica L Dooley

LICENSE NUMBER: P27051

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL: ALL P AND M SHEETS

ELECTRICAL ENGINEER

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE — DATE: 01/21/2026

PRINTED OR TYPED NAME: Matthew K. Gordon

LICENSE NUMBER: 19216

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2026

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL: ALL E SHEETS

GENERAL NOTES

1. UTILITY NOTE:
   A. THE LOCATIONS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS PLOTTED ON THIS DRAWING ARE APPROXIMATE ONLY AND WERE OBTAINED FROM RECORDS MADE AVAILABLE TO SHIVE-HATTERY, INC. THERE MAY BE OTHER EXISTING UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS NOT KNOWN TO SHIVE-HATTERY, INC. AND NOT SHOWN ON THIS DRAWING. THE VERIFICATION OF EXISTENCE OF, AND THE DETERMINATION OF THE EXACT LOCATION OF, UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR(S).
   B. SOME UTILITIES HAVE BEEN DISCONNECTED BY OWNER AND ABANDONED IN PLACE. IF ABANDONED UTILITIES ARE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, NOTIFY THE OWNER AND ENGINEER PRIOR TO RESUMING CONSTRUCTION.
2. NOTIFY UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN CONSTRUCTION LIMITS OF THE SCHEDULE PRIOR TO EACH STAGE OF CONSTRUCTION.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT CRITICAL LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION.
4. IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES VERBAL NOTICE TO IOWA ONE-CALL 1-800-292-8989, NOT LESS THAN 48 HOURS BEFORE EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.
5. NOTIFY THE APPROPRIATE GOVERNING AUTHORITY 48 - 72 HOURS PRIOR TO BEGINNING CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY. JOHNSON COUNTY CONSERVATION SHALL BE THE PUBLIC AGENCY RESPONSIBLE FOR INSPECTION DURING CONSTRUCTION OF THE PUBLIC PORTIONS OF THE PROJECT.
6. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
7. NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION FROM THE OWNER'S REPRESENTATIVE.
8. A PRE-CONSTRUCTION MEETING SHALL BE HELD FOLLOWING ISSUANCE OF THE NOTICE TO PROCEED BUT PRIOR TO COMMENCING WORK.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH IOWA SUDAS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
10. ALL CONCRETE SHALL BE CONSTRUCTED AT A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
11. PROVIDE TRAFFIC AND PEDESTRIAN CONTROL MEASURES (SIGNS, BARRICADES, FLAGGERS, ETC.) IN COMPLIANCE WITH PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) LATEST EDITION.
12. PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
13. MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.
14. ADJUST ALL VALVES, MANHOLES, CASTINGS, GAS VENTS, ETC., TO MATCH THE NEW SURFACE. ADJUSTMENT SHALL BE COORDINATED WITH THE UTILITY COMPANIES AND THE COST FOR ALL ADJUSTMENTS SHALL BE INCIDENTAL TO THE CONSTRUCTION. AT NO ADDITIONAL COST TO THE OWNER, REPAIR ANY DAMAGE TO SAID STRUCTURES AND APPURTENANCES THAT OCCUR DURING CONSTRUCTION.
15. SITE CLEAN-UP SHALL BE PERFORMED ON A DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES.
16. ALL OPEN EXCAVATIONS SHALL BE PROTECTED.
17. REPLACE ANY PROPERTY MONUMENTS REMOVED OR DESTROYED BY CONSTRUCTION. MONUMENTS SHALL BE SET BY A LAND SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF IOWA.
18. CONTROL DUST SPREADING FROM ALL WORK AND STAGING AREAS.
19. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SET FORTH AS A SPECIFIC BID ITEM, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
20. REPAIR OR REPLACE EXISTING FACILITIES (CURBS, PAVEMENT, UTILITIES, ETC.) TO REMAIN, AT NO ADDITIONAL EXPENSE TO THE OWNER.
21. IT IS INTENDED THAT ALL COSTS OF MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS BE PAID FOR UNDER THE ITEMS LISTED ON THE BIDDER'S PROPOSAL. BEFORE SUBMITTING A BID ON THIS PROJECT, THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS, SPECIFICATIONS, SPECIAL PROVISIONS AND THE JOB SITE. IF ANY DISCREPANCIES OR DELETIONS OCCUR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPORT SAME TO SHIVE-HATTERY, INC. IN WRITING AND OBTAIN WRITTEN CLARIFICATION AND/OR INSTRUCTIONS ON HOW TO PROCEED.
22. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY SHIVE-HATTERY, INC. AT THE CONTRACTOR'S EXPENSE. WORK DONE CONTRARY TO THE INSTRUCTIONS OF SHIVE-HATTERY, INC., WORK DONE BEYOND THE LINES SHOWN ON THE PLANS OR ANY EXTRA WORK DONE WITHOUT AUTHORITY WILL NOT BE PAID FOR.
23. THE CONTRACTOR SHALL PROTECT ALL TREES SHOWN TO BE SAVED ON THE PLANS. CONTRACTOR SHALL ERECT FENCING AROUND TREE AT THE DRIP LINE, UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR PARK OR TRAVEL WITH ANY VEHICLE UNDER THE TREE DRIP LINE.

CIVIL QUANTITIES LIST

#	ITEM DESCRIPTION	QUANTITY	UNITS	SPEC SECTION
1	GRADING, ON SITE CUT TO FILL	267	CY	SUDAS 2010
2	TOPSOIL STRIP AND RESPREAD	359	CY	SUDAS 2010
3	PCC, 5"	582	SY	SUDAS 7010
4	12" SUBGRADE PREP	582	SY	SUDAS 2010
5	6" MODIFIED SUBBASE	582	SY	SUDAS 2010
6	SANITARY, 6" PVC	193	LF	SUDAS 4010
7	SANITARY MANHOLE, SW-301	2	EA	SUDAS 6010
8	STORMSEWER, 8" DUAL WALL	228	LF	SUDAS 4020
9	BIOCELL INTAKE, 24" NYLOPLAST	5	EA	SUDAS 6020
10	WATER MAIN, 4" C900	46	LF	SUDAS 5010
11	2" HDPE GEOTHERMAL HEADER	43	LF	ASTM D3035, SDR 11
12	TRENCH DRAIN	237	LF	SEE DETAILS
13	6" HDPE TRENCH DRAIN OUTLETS	60	LF	SUDAS 4020
14	SEEDING AND RESTORATION	1	LS	SEE LANDSCAPE PLANS AND SPECS
15	CONSTRUCTION SURVEY	1	LS	SUDAS DIVISION 1

LEGEND — EXISTING GENERAL SITE

PLAN MARK	DESCRIPTION
	EXISTING STRUCTURE
	BOLLARD
	SHRUB
	DECIDUOUS TREE
	CONIFEROUS TREE
	SINGLE POLE SIGN
	DOUBLE POLE SIGN
	TREE LINE
621	MINOR CONTOUR
620	MAJOR CONTOUR

LEGEND — RIGHT-OF-WAY

PLAN MARK	DESCRIPTION
	PROPOSED RIGHT-OF-WAY
	EXISTING RIGHT-OF-WAY
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
	TEMPORARY EASMENT
	PROPOSED EASEMENT

LEGEND — GENERAL SITE GRADING / EROSION CONTROL

PLAN MARK	DESCRIPTION
2%	SLOPE ARROW
	FLOW ARROW
	SILT FENCE
	INLET PROTECTION
	COMPOST SOCK
	GRADING LIMITS

LEGEND — UTILITY LINES

EXISTING LINE TYPE	DESCRIPTION	PROPOSED LINE TYPE
	ELECTRIC - OVERHEAD	
	ELECTRIC - UNDERGROUND	
	GAS MAIN	
	WATER MAIN	
	SANITARY SEWER	
	STORM SEWER	
	TELEPHONE - UNDERGROUND	
	FIBER OPTICS	
HV	HIGH VOLTAGE ELECTRICAL	HV
LV	LOW VOLTAGE ELECTRICAL	LV

LEGEND — SURVEY

PLAN MARK	DESCRIPTION
BM	BENCH MARK
	BOUND
	IRON ROD - FOUND
	IRON ROD - SET
	MONUMENT FOUND
	MONUMENT SET
	X CUT FOUND
	X CUT SET
	RIGHT OF WAY MARKER
	DRILL HOLE
	STATION MARKER
	SOIL BORING
	PROPERTY CORNER
738.13 TOP	SURVEY POINT ELEVATION

LEGEND — UTILITIES

PLAN MARK	DESCRIPTION
W	WATER IRRIGATION VALVE
	UTILITY POLE W/TRANSFORMER
	SIREN POLE
	WATER SHUTOFF VALVE
	GUY ANCHOR
	FIRE HYDRANT
	FLARED END SECTION
	VALVE
	STOP BOX
C	CABLE TV PEDESTAL
	CLEANOUT
J	JUNCTION BOX
MH	MANHOLE
D	STORM MANHOLE
E	ELECTRICAL MANHOLE
S	SANITARY MANHOLE
T	TELEPHONE MANHOLE
T	TELEPHONE PEDESTAL
V	VAULT BOX
HH	HANDHOLE
S	SIGNAL BOX
G	GAS METER
E	ELECTRIC METER
W	WATER METER
	CURB INLET
	INTAKE - CIRCLE
	INTAKE - RECTANGLE
	INTAKE - SQUARE

CONTROL POINTS

CP14	N: 635906.10' E: 2125045.38'	ELEV: 835.70'	DESCRIPTION: PK IN ACC 1' EAST OF THE WEST EDGE OF THE MAIN DRIVE AND ± 35' SOUTH OF CENTERLINE OF THE DRIVE TO THE YOUTH GROUP CAMPSITE
CP16	N: 636195.41' E: 2124988.07'	ELEV:837.45'	DESCRIPTION: PK IN ACC ALONG THE WEST SIDE OF THE MAIN DRIVE AT THE SOUTH CORNER OF ISLAND FOR THE ENTRANCE TO THE CAMPGROUNDS

GENERAL NOTES:

1. CONTRACTOR TO CONFIRM HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES IN PROJECT AREA PRIOR TO CONSTRUCTION. CONTRACTOR TO INFORM ENGINEER OF ANY POTENTIAL CONFLICTS OR DIFFERENCES BETWEEN PLANS AND WHAT IS CONFIRMED IN THE FIELD.
2. CONTRACTOR TO SALVAGE AND RETURN TO OWNER ALL HYDRANTS, PEDESTALS, VALVES, ETC.
4. OWNER WILL REMOVE AND SALVAGE ALL PARK SIGNAGE DESIGNATED TO REMAIN. PROVIDE OWNER AT LEAST 7 WORKING DAYS TO REMOVE SIGNAGE. IF CONTRACTOR DAMAGES EXISTING SIGNAGE, IT SHALL REPLACE DAMAGED SIGNAGE AT NO ADDITIONAL COST TO THE OWNER.

0 5 10 20
SCALE IN FEET

4" C900 WATER MAIN, CAPPED AND MARKED ON SURFACE

CAPPED 2" CURB BOX WITH SURFACE MARKER/2" SCH 80 WATER LINE. ABANDON IN PLACE

3/4" LP STUB. ABANDON IN PLACE

4" PVC STORM, CAPPED FOR FOUNDATION DRAIN

6" SANITARY PVC TO SYSTEM 2, CAPPED

6" SANITARY PVC TO SYSTEM 1, CAPPED

ELECTRICAL STUBS, SEE ELECTRICAL PLANS

GEOTHERMAL LOOP PIPING HEADER, FOUR 2" HDPE (TWO SUPPLY AND TWO RETURN)

8" PVC STORM, CAPPED FOR FUTURE STORM

SHIVEHATTERY ARCHITECTURE + ENGINEERING
222 Third Avenue SE, Suite 300 | Cedar Rapids, Iowa 52401
319.364.0227 | fax 319.364.4251 | www.shive-hattery.com
Iowa | Illinois | Indiana | Nebraska | Wisconsin

JOHNSON COUNTY CONSERVATION BOARD | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: EXIST. CONDITIONS & DEMO. PLAN | SHEET NO.: CD01

0 10 20 40
SCALE IN FEET

PROP. STORM SEWER, TYP.
SEE SHEETS C104 - C106

PROP. SHOWER HOUSE
FFE = 840.0'

PROP. SANITARY SEWER
SEE SHEET C103

KENT PARK ROADWAY

LEGEND

PROPOSED PCC SIDEWALK

PROPOSED STRUCTURAL STOOP

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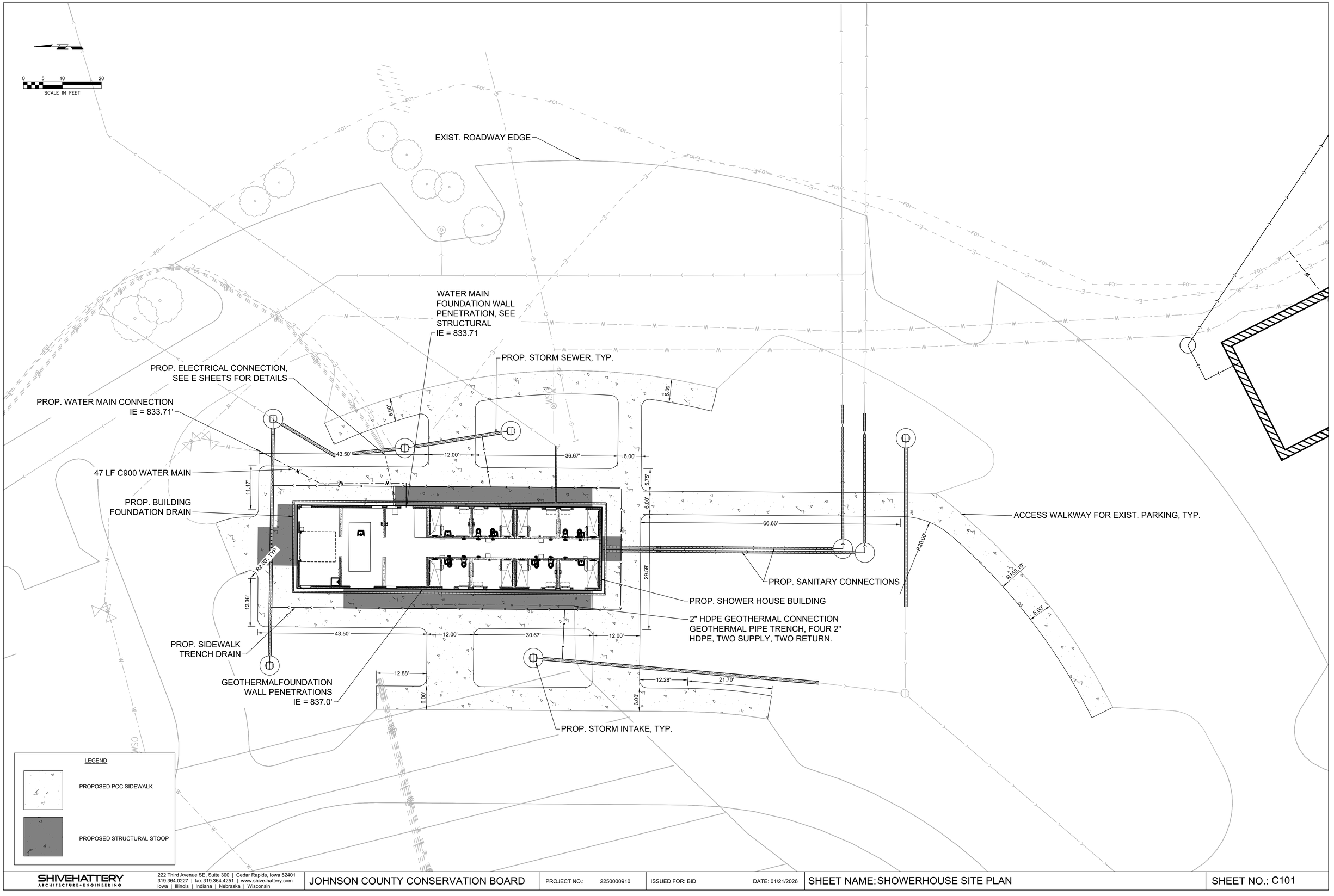
JOHNSON COUNTY CONSERVATION BOARD

PROJECT NO.: 2250000910

ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: OVERALL SITE PLAN

SHEET NO.: C100



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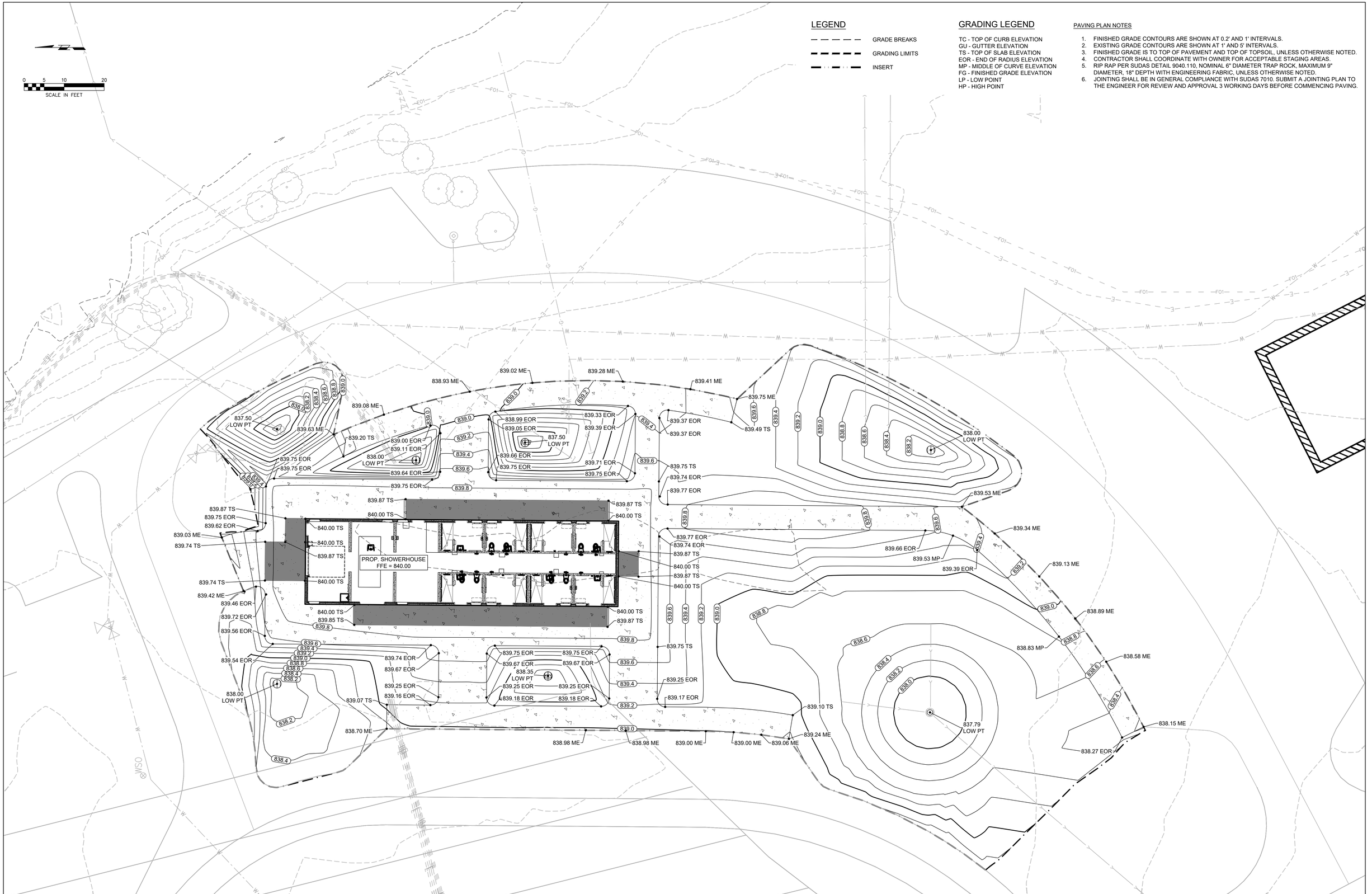
JOHNSON COUNTY CONSERVATION BOARD

PROJECT NO.: 2250000910

ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: SHOWERHOUSE SITE PLAN

SHEET NO.: C101



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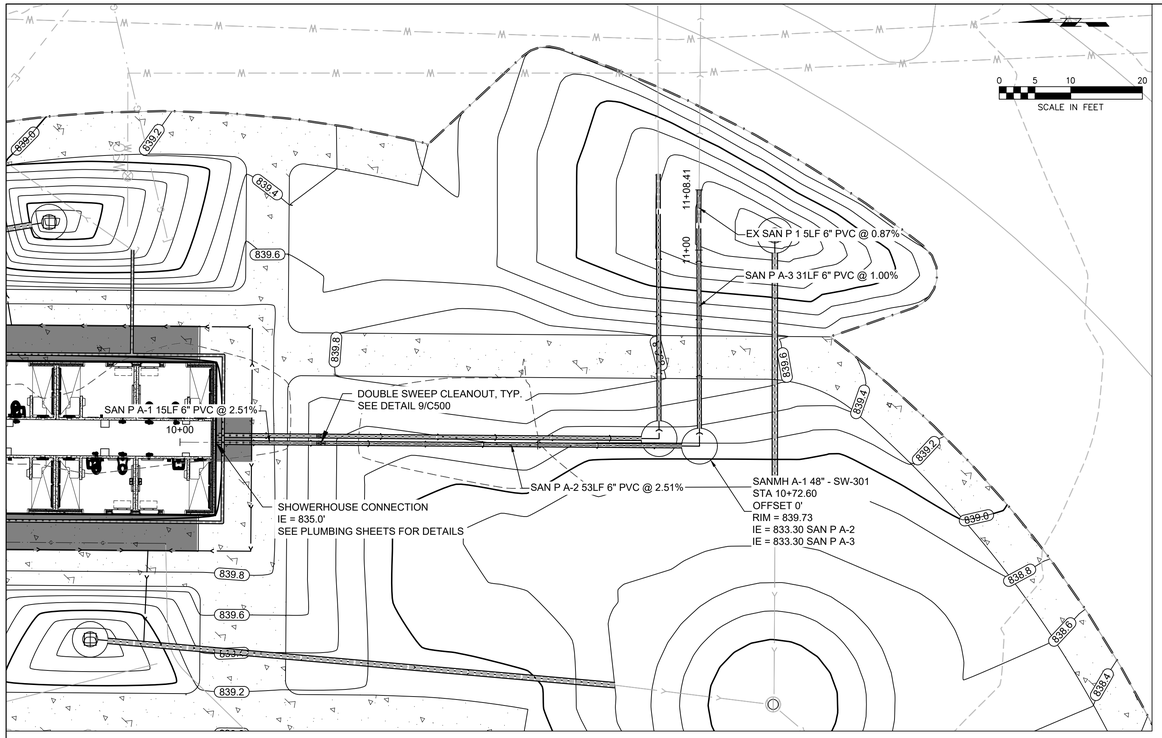
JOHNSON COUNTY CONSERVATION BOARD

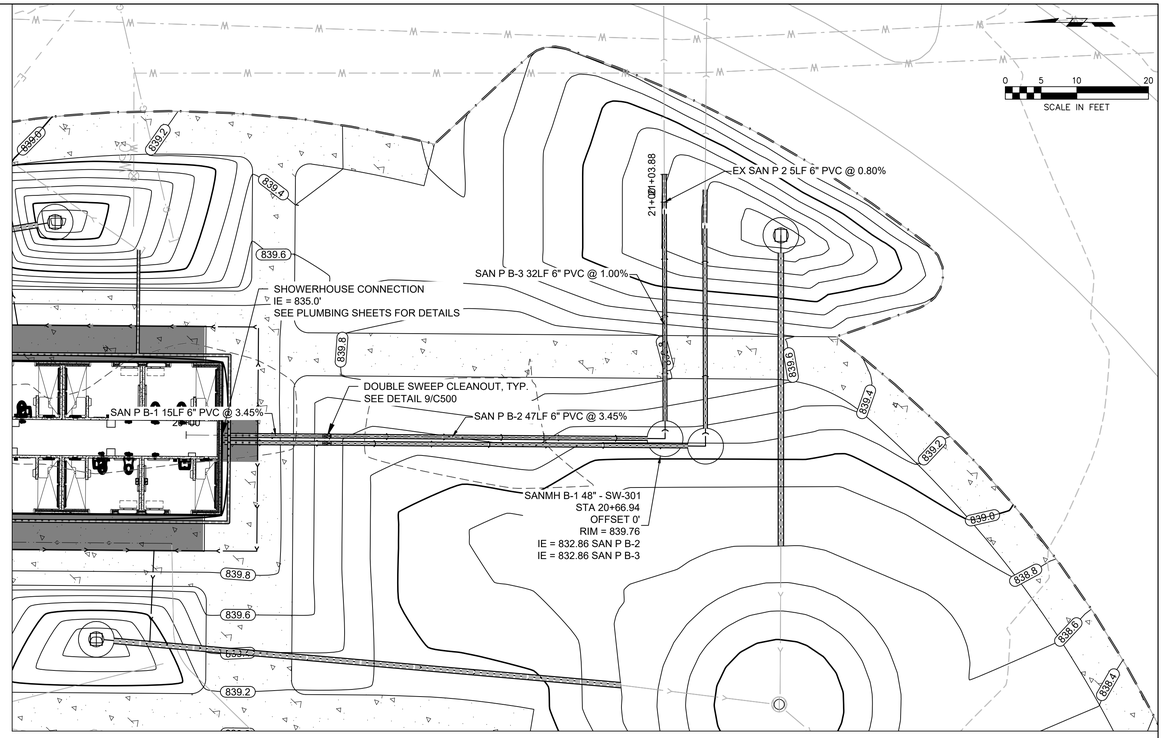
PROJECT NO.: 2250000910

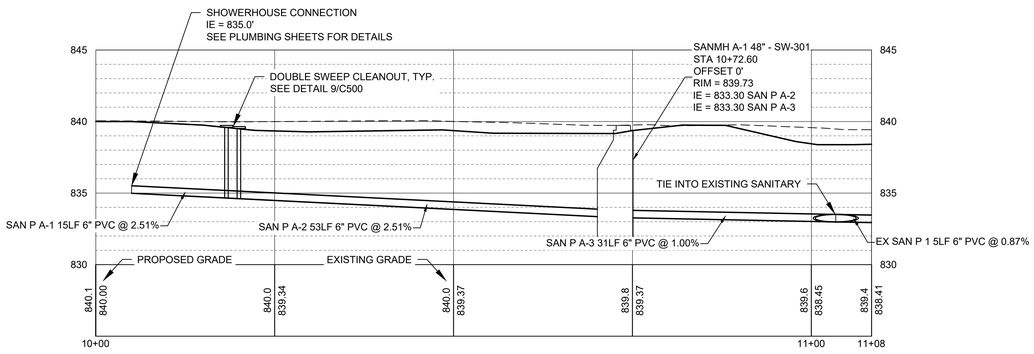
ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: PAVING PLAN

SHEET NO.: C102

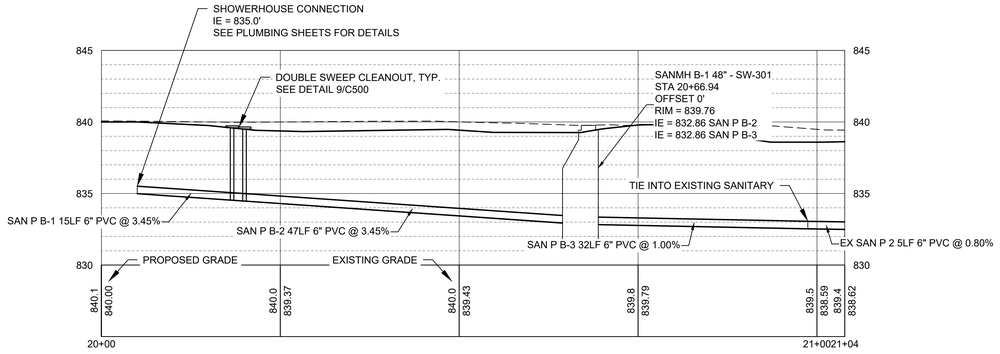






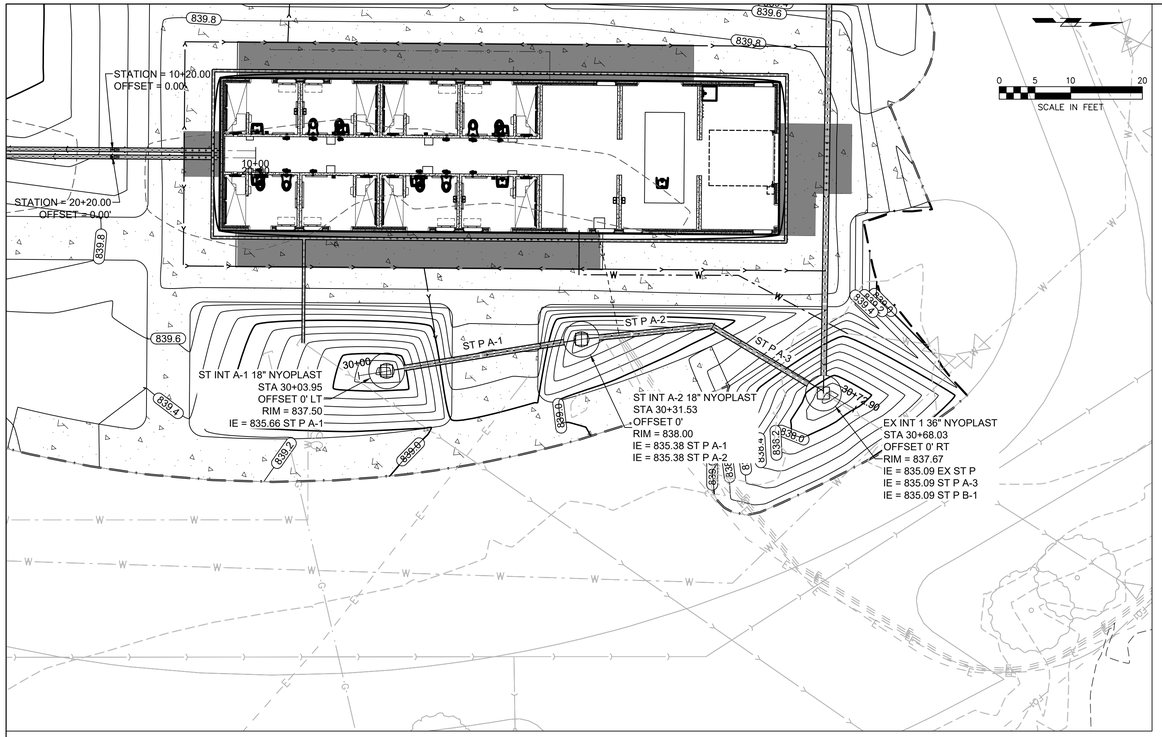
1 SANITARY SEWER 1 PROFILE

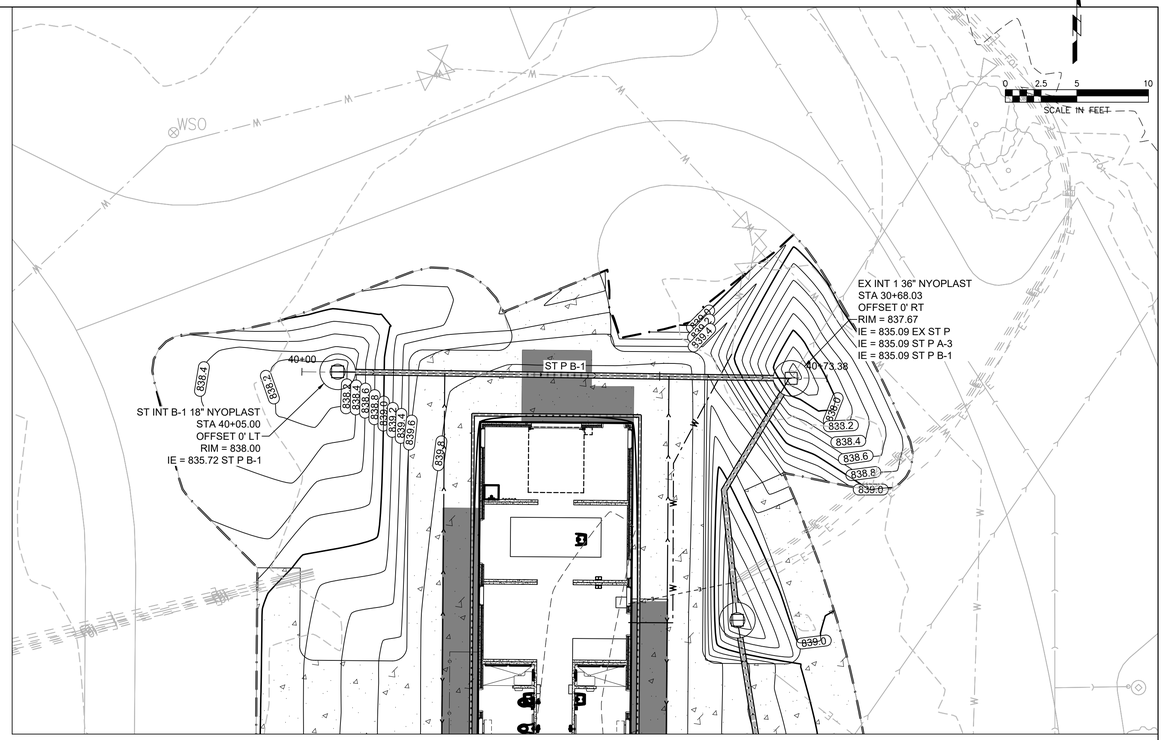
VERTICAL SCALE 1" = 5'
HORIZONTAL SCALE 1" = 10'

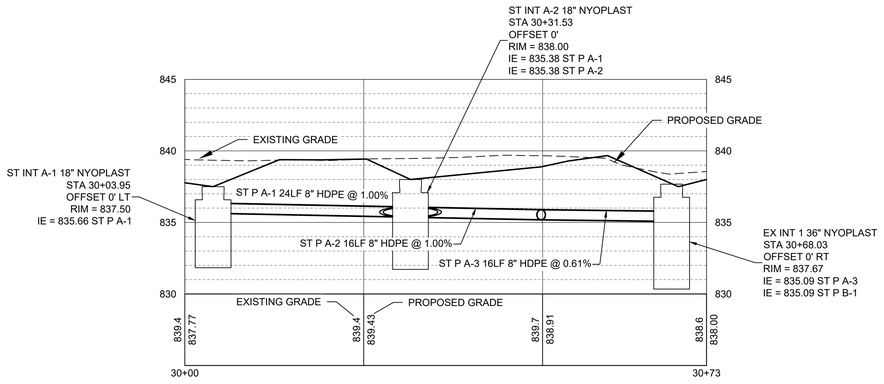


2 SANITARY SEWER 2 PROFILE

VERTICAL SCALE 1" = 5'
HORIZONTAL SCALE 1" = 10'

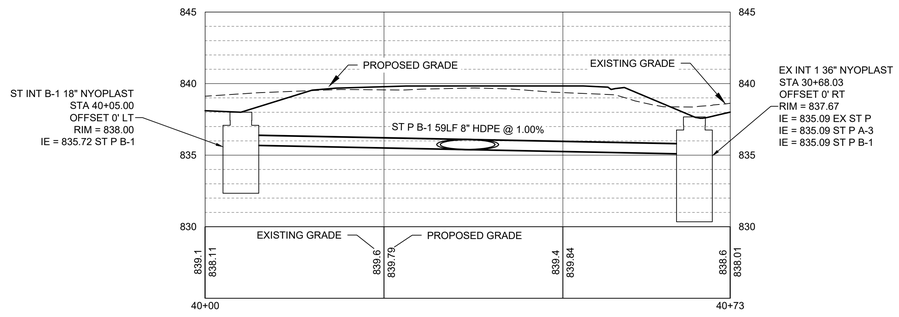






1 STORM SEWER 1 PROFILE

VERTICAL SCALE 1" = 5'
HORIZONTAL SCALE 1" = 10'



2 STORM SEWER 2 PROFILE

VERTICAL SCALE 1" = 5'
HORIZONTAL SCALE 1" = 10'

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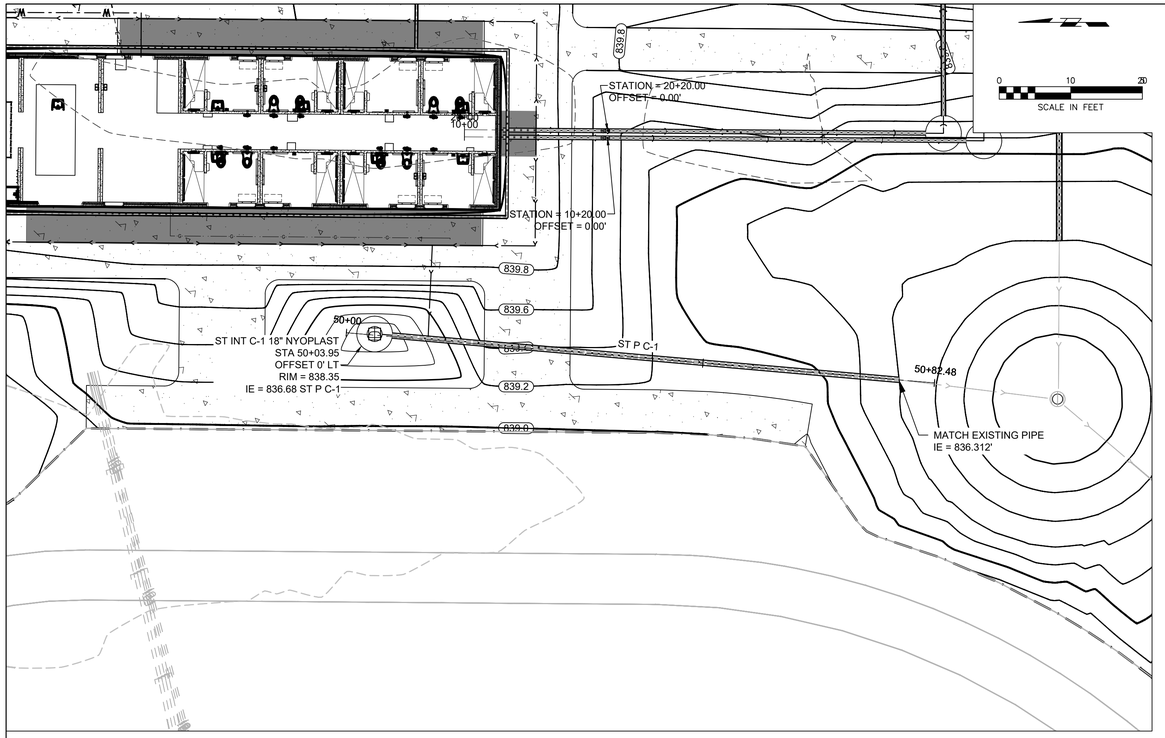
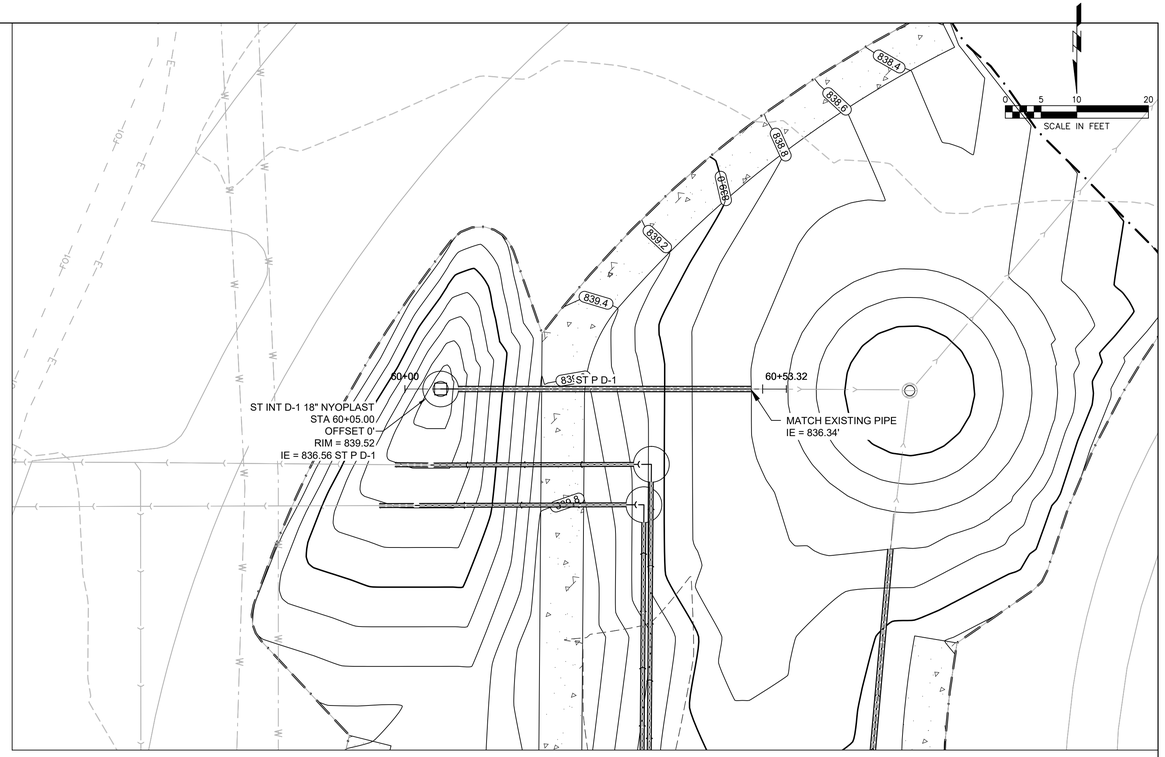
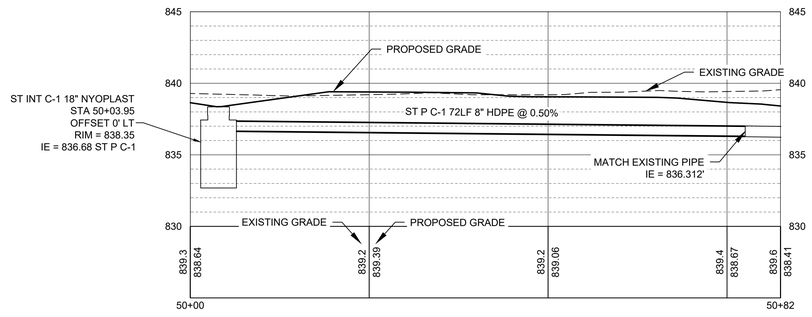
JOHNSON COUNTY CONSERVATION BOARD | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: STORMWATER PLAN & PROFILE | SHEET NO.: C104

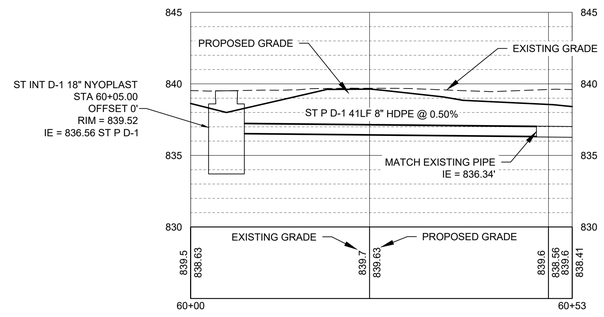






1 STORM SEWER 3 PROFILE

VERTICAL SCALE 1" = 5'
HORIZONTAL SCALE 1" = 10'



2 STORM SEWER 4 PROFILE

VERTICAL SCALE 1" = 5'
HORIZONTAL SCALE 1" = 10'

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JOHNSON COUNTY CONSERVATION BOARD | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: STORMWATER PLAN & PROFILE | SHEET NO.: C105

GENERAL NOTES:

1. OWNER HAS THREE 18 INCH NYLOPLAST DRAIN BASINS AND APPROXIMATELY XX LINEAR FEET OF 8 INCH STORMSEWER PIPE STORED ON SITE FOR USE ON THE PROJECT. CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLATION OF THIS MATERIAL AND PURCHASE OF ADDITIONAL REQUIRED MATERIALS.

0 5 10 20
SCALE IN FEET

6" HDPE TRENCH DRAIN
OUTLET TEED INTO 8" STORM

TRENCH DRAIN HIGH POINT
IE = 939.38

TRENCH DRAIN
IE = 939.02

8" HDPE STORM SEWER, TYP.
SEE SHEET C104 FOR DETAILS

TRENCH DRAIN
IE = 939.02

ST DRAIN P B-2 67LF 4" PVC @ 2.57%

ST DRAIN P B-1 23LF 4" PVC @ 2.57%

ST DRAIN P A-1 80LF 4" PVC @ 2.00%

6" HDPE TRENCH DRAIN
OUTLET TEED INTO 8" STORM

TRENCH DRAIN
IE = 939.15

6" TRENCH DRAIN @ 1.00%, TYP.

TRENCH DRAIN HIGH POINT
IE = 939.55

ST DRAIN P A-4 15LF 4" PVC @ 2.00%

ST DRAIN TEE 6" TEE CONNECTION
RIM = 831.26
IE = 830.89 ST DRAIN P B-2
IE = 830.89 ST DRAIN P A-3
IE = 830.89 ST DRAIN P A-4

ST DRAIN P A-3 13LF 4" PVC @ 2.00%

6" TRENCH DRAIN @ 1.00%, TYP.

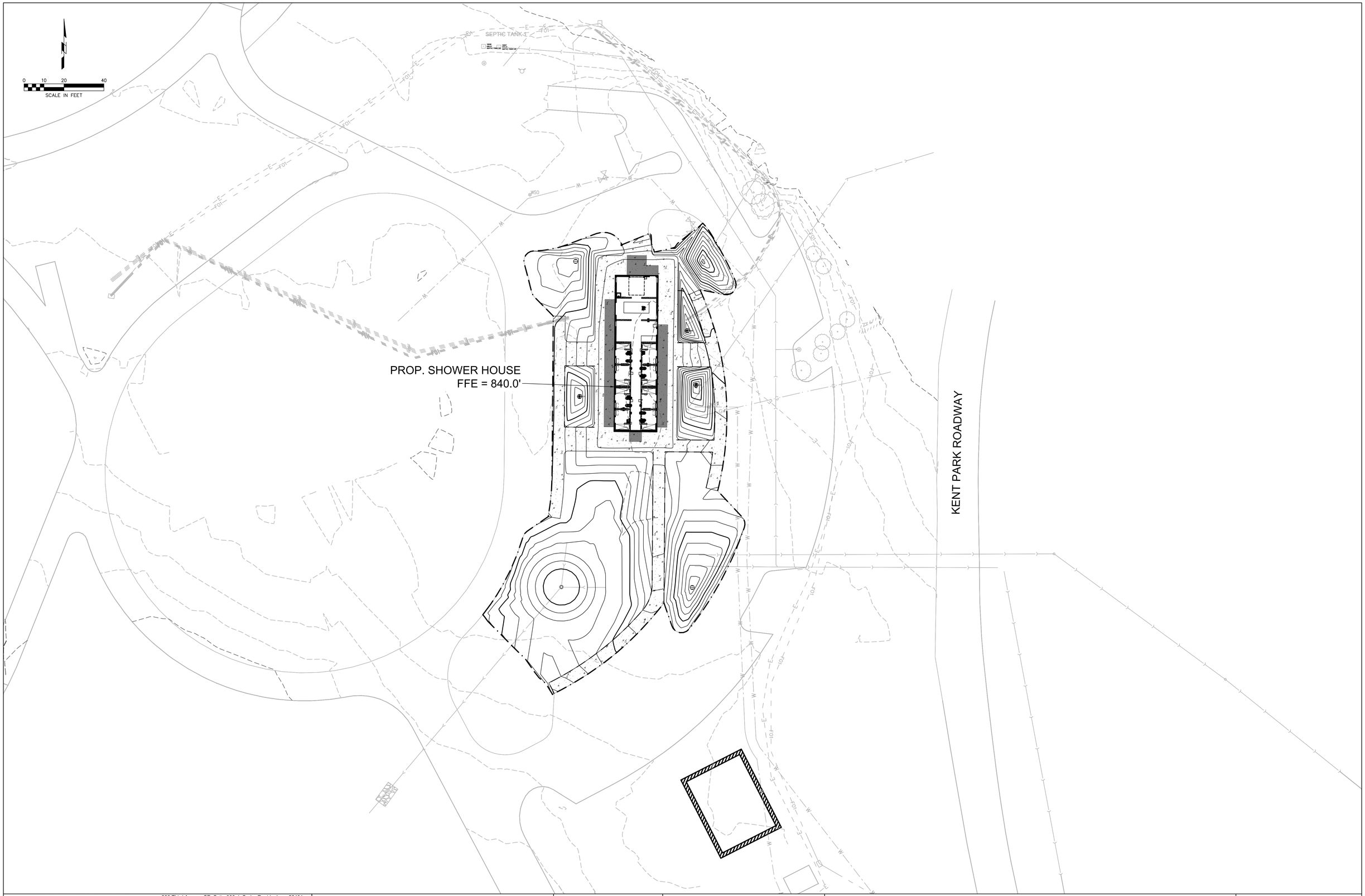
TRENCH DRAIN HIGH POINT
IE = 939.55

ST DRAIN P A-2 23LF 4" PVC @ 2.00%

4" BUILDING FOUNDATION DRAIN, TYP.

TRENCH DRAIN
IE = 939.15

8" HDPE STORM SEWER, TYP.
SEE SHEET C105 FOR DETAILS



SHIVEHATTERY ARCHITECTURE + ENGINEERING	222 Third Avenue SE, Suite 300 | Cedar Rapids, Iowa 52401 319.364.0227 | fax 319.364.4251 | www.shive-hattery.com Iowa | Illinois | Indiana | Nebraska | Wisconsin	JOHNSON COUNTY CONSERVATION BOARD	PROJECT NO.: 2250000910 ISSUED FOR: BID DATE: 01/21/2026	SHEET NAME: OVERALL GRADING PLAN	SHEET NO.: C201

0 5 10 20
SCALE IN FEET

LEGEND

- GRADE BREAKS
- GRADING LIMITS
- INSERT

GRADING LEGEND

TC - TOP OF CURB ELEVATION
GU - GUTTER ELEVATION
TS - TOP OF SLAB ELEVATION
EOR - END OF RADIUS ELEVATION
MP - MIDDLE OF CURVE ELEVATION
FG - FINISHED GRADE ELEVATION
LP - LOW POINT
HP - HIGH POINT

SHOWERHOUSE GRADING PLAN NOTES

1. FINISHED GRADE CONTOURS ARE SHOWN AT 0.2' AND 1' INTERVALS.
2. EXISTING GRADE CONTOURS ARE SHOWN AT 1' AND 5' INTERVALS.
3. FINISHED GRADE IS TO TOP OF PAVEMENT AND TOP OF TOPSOIL, UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ACCEPTABLE STAGING AREAS.
5. REFER TO PAVING PLAN FOR DETAILED ELEVATIONS.
6. RIP RAP PER SUDAS DETAIL 9040.110, NOMINAL 6" DIAMETER TRAP ROCK, MAXIMUM 9" DIAMETER, 18" DEPTH WITH ENGINEERING FABRIC, UNLESS OTHERWISE NOTED.

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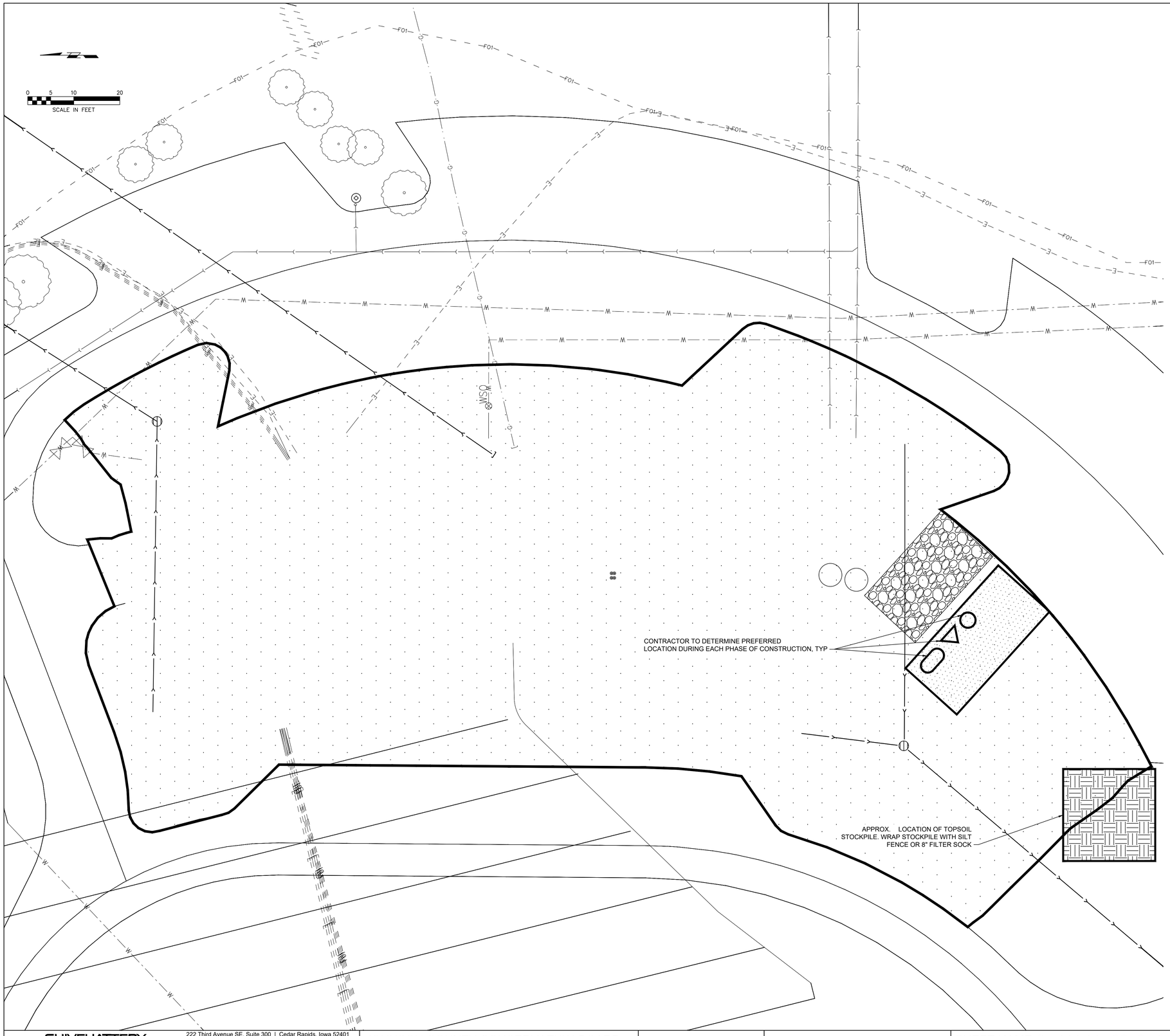
JOHNSON COUNTY CONSERVATION BOARD | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: SHOWERHOUSE GRADING PLAN | SHEET NO.: C202



LEGEND

- PROJECT SITE/DISTURBED AREA
- SILT FENCE SUDAS 9040.119
- STABILIZED CONSTRUCTION ENTRANCE/ EXIT SEE SUDAS 9040.120
- CONTRACTOR STAGING AREA FOR PORTABLE RESTROOM FACILITIES, TEMPORARY FUEL TANKS, WASTE CONTAINERS AND OTHER HAZARDOUS CHEMICALS. RELOCATE AS REQUIRED FOR CONSTRUCTION.
- TEMPORARY TOPSOIL STOCKPILE
- CONCRETE, PAINT, AND GROUT WASHOUT AREA PER SUDAS SECT 11.050. CONTRACTOR TO HAUL OFF WASTE MATERIAL. SUGGESTED LOCATION. RELOCATE AS REQUIRED FOR CONSTRUCTION.
- SPILL KIT TO BE INSTALLED AND RELOCATED AS REQUIRED FOR CONSTRUCTION
- PORTABLE RESTROOM FACILITY LOCATION
- SWPPP DOCUMENT LOCATION
- 5.73% EXISTING GRADE
- DIRECTION OF DRAINAGE

THE OVERALL SWPPP PLAN DOES NOT ACCOUNT FOR ADDITIONAL CONTROLS THAT MAY BE REQUIRED DUE TO MICRO-PHASING OF WORK. THE CONTRACTOR IS REQUIRED TO PROVIDE ANY ADDITIONAL CONTROLS AS NEEDED TO CONTAIN SEDIMENT ON SITE.

THE CONTRACTOR IS REQUIRED TO INSTALL STABILIZATION CONTROLS ON ALL DISTURBED AREAS OF THE SITE IMMEDIATELY FOLLOWING COMPLETION OF GRADING ACTIVITIES. REFER TO SUDAS 9040 FOR REQUIRED STABILIZATION CONTROLS NOT SHOWN ON THIS PLAN.

SITE INFORMATION
PROJECT SITE/DISTURBED AREA: 0.23 AC
PRE-DEVELOPED CURVE NUMBER: 79
POST-DEVELOPED CURVE NUMBER: 92
NEAREST SURFACE WATER ACCEPTING SITE DISCHARGE: KENT PARK POND

SEQUENCING AND PHASING NOTES

1. THIS PROJECT MAY BE CONSTRUCTED OVER SEVERAL PHASES. EROSION/SEDIMENT CONTROL DEVICES IDENTIFIED ON THE PLAN WILL BE IMPLEMENTED ON A PER PHASE BASIS.
2. INSTALL INTAKE PROTECTION AND DOWN SLOPE AND SIDE SLOPE PERIMETER CONTROLS BEFORE LAND DISTURBING ACTIVITY OCCURS.
3. STRIP EXISTING TOPSOIL WITHIN DISTURBANCE LIMITS AND STOCKPILE. DO NOT MIX TOPSOIL WITH SUBSOIL.
4. GRADE SUBSOIL TO CONFORM WITH THE GRADES, CONTOURS AND LEVELS IDENTIFIED ON THE DRAWINGS.
5. ROUGH GRADE FOR ROADWAY, WALKS, CURBS, GUTTERS, AND LANDSCAPED AREAS.
6. COVER OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.
7. SCARIFY AREAS TO RECEIVE TOPSOIL TO A DEPTH OF 4". REMOVE ALL STONES, WOOD AND OTHER DEBRIS LARGER THAN 1" FROM AREAS TO RECEIVE TOPSOIL. DO NOT COMPACT TOPSOIL.
8. ALL DISTURBED AREAS NOT PAVED, OR HARD SURFACED ON THE SITE SHALL RECEIVE A MINIMUM 6" OF TOPSOIL AND SEED AS IDENTIFIED IN THE DRAWINGS. REFER SUDAS SPECIFICATION SECTION 9010 - SEEDING FOR SITE RESTORATION INFORMATION.
9. UPON COMPLETION OF EACH PHASE AND APPROVAL BY THE OWNER'S REPRESENTATIVE, EROSION/SEDIMENT CONTROL DEVICES MAY BE REMOVED/RELOCATED.

EROSION AND SEDIMENT CONTROL NOTES

1. EROSION/SEDIMENT CONTROL MEASURES SHOULD BE INSTALLED BEFORE EARTH DISTURBING ACTIVITIES BEGIN AND ARE REQUIRED REGARDLESS OF THE TIME OF YEAR. THIS PLAN AND ITS ASSOCIATED REQUIREMENTS FOR THE PERMIT MUST BE IMPLEMENTED DURING WINTER MONTHS AS WELL. ADDITIONAL INSTALLATION/REMOVAL OF STABILIZATION CONTROLS ASSOCIATED WITH SEEDING OUTSIDE THE SEEDING WINDOW ARE INCIDENTAL TO THE PROJECT.
2. REFER TO SUDAS 9040 FOR STORMWATER POLLUTION PREVENTION PLAN, NPDES GENERAL PERMIT NO.2 SUBMITTAL REQUIREMENTS AND EROSION/SEDIMENT CONTROL TECHNICAL SPECIFICATIONS.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTROL EROSION/SEDIMENT ON THE SITE AT ALL TIMES. THE CONTROL MEASURES SHOWN ON THE PLAN ARE A MINIMUM. THE CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES AS NECESSARY TO FULFILL THIS REQUIREMENT. CONTRACTOR TO INCORPORATE ALL TEMPORARY STABILIZING AND PERMANENT EROSION/SEDIMENT CONTROL FEATURES AT THE EARLIEST TIME PRACTICABLE.
4. THE CONTRACTOR IS REQUIRED TO USE STABILIZATION CONTROLS ON ALL DISTURBED AREAS OF THE SITE REGARDLESS OF THE TIME PERIOD BEFORE THEY WILL BE DISTURBED AGAIN. IN THE EVENT THAT CONSTRUCTION ACTIVITY WITHIN A DISTURBED AREA WILL NOT OCCUR FOR A PERIOD OF 14 OR MORE CALENDAR DAYS, THE CONTRACTOR IS REQUIRED TO INSTALL STABILIZATION MEASURES IMMEDIATELY AFTER CONSTRUCTION ACTIVITY CEASED IN THAT AREA. REFER TO SUDAS 9040 FOR REQUIRED STABILIZATION CONTROLS NOT SHOWN ON THIS PLAN.
5. THE CONTRACTOR SHALL RESTORE DISTURBED AREAS AS SOON AS WORK IS COMPLETED AS INDICATED ON THE PLANS AND PROJECT MANUAL.
6. THE CONTRACTOR SHALL USE CONTROL MEASURES AS REQUIRED TO KEEP SOILS FROM LEAVING THE SITE.
7. CONTRACTOR SHALL IMPLEMENT SITE SPECIFIC BEST MANAGEMENT PRACTICES (BMPS) AS SHOWN AND REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED BY THE CONTRACTOR AS DICTATED BY SITE CONDITIONS OR THE PROJECT GOVERNING AUTHORITIES AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
8. IF AFTER REPEATED FAILURE ON THE PART OF THE CONTRACTOR TO PROPERLY CONTROL SOIL EROSION, SEDIMENT AND/OR POLLUTION FROM THE PROJECT SITE, THE GOVERNING AUTHORITIES RESERVE THE RIGHT TO EFFECT NECESSARY CORRECTIVE MEASURES AND CHARGE ANY COSTS TO THE CONTRACTOR.
9. ALL BMPS AND CONTROLS SHALL CONFORM TO THE APPLICABLE FEDERAL, STATE, OR LOCAL REQUIREMENTS, STANDARDS, AND SPECIFICATIONS OR MANUAL OF PRACTICE.
10. ALL BMPS AND CONTROLS INSTALLED ON GREEN INFRASTRUCTURE SHALL REMAIN UNTIL THE SITE HAS STABILIZATION AND BEEN APPROVED BUT THE OWNER'S REPRESENTATIVE.
11. IN THE EVENT THAT SOILS LEAVE THE SITE, CLEANUP OF ALL SURROUNDING ROADS, DRIVES, AND PARKING LOTS SHALL BE PERFORMED ON A DAILY BASIS AT A MINIMUM AND UPON REQUEST BY OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST. PAVEMENT IS TO BE SCRAPED OF DEBRIS AND MUD AND BROOMED CLEAN. MUD TRACKS ARE TO BE REMOVED AS THEY ARE CREATED.
12. IF DURING CONSTRUCTION OPERATIONS ANY LOOSE MATERIALS ARE DEPOSITED IN THE FLOW LINE OF GUTTERS, DRAINAGE STRUCTURES, OR DITCHES SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, THIS LOOSE MATERIAL SHALL BE REMOVED.
13. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY EXISTING STORM DRAINAGE SYSTEMS BY THE USE OF INLET PROTECTION OR OTHER APPROVED FUNCTIONAL METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING SEDIMENT RESULTING FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT.
14. CONSTRUCTION ACCESS POINTS TO THE SITE SHALL BE PROTECTED IN SUCH A WAY AS TO PREVENT TRACKING OF MUD OR SOIL ONTO PUBLIC THOROUGHFARES. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
15. CLEAN SILT FROM FILTER SOCKS/SILT FENCE ON A REGULAR BASIS AS PER THE STANDARD SPECIFICATIONS. FILTER SOCKS MUST BE CLEANED OUT WHEN THEY ARE 33% FULL.
16. CONTRACTOR TO LOCATE/ RELOCATE FILTER SOCKS/SILT FENCE AS NECESSARY THROUGHOUT THE PROJECT TO CONTROL EROSION/SEDIMENT. FILTER SOCK INSTALLATION IS TO FOLLOW SUDAS 9040.102.
17. REMOVE ALL TEMPORARY EROSION/SEDIMENT CONTROLS, NOT CALLED OUT TO REMAIN, AFTER SITE HAS BEEN STABILIZED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
18. WHERE WATER IS PUMPED FROM EXCAVATIONS ON SITE, PROVISIONS SHALL BE MADE TO REMOVE SEDIMENT FROM THE WATER BEFORE IT IS RELEASED. REFER TO SUDAS 3010 SECT 3.04 FOR DEWATERING GUIDANCE.
19. WHERE WATER IS RELEASED FROM A DEWATERING SYSTEM, PRECAUTIONS SHALL BE TAKEN TO ENSURE THAT EROSION GULLIES DO NOT FORM. WATER MUST BE FILTERED THROUGH AN APPROPRIATE FILTER DEVICE BEFORE DISCHARGING.
20. ALL EXISTING AND PROPOSED STORM INTAKES, WITHIN AND ADJACENT TO THE PROJECT AREA, MUST BE PROTECTED THROUGHOUT THE DURATION OF THE PROJECT AS IDENTIFIED ON THE DRAWINGS. INTAKES SHALL BE FREE OF DIRT, DEBRIS AND ROCK AT COMPLETION OF WORK.
21. BIODEGRADABLE EROSION CONTROL BLANKETS SHALL BE USED AT ALL LOCATIONS IDENTIFIED ON THE DRAWINGS. POLYPROPYLENE (PLASTIC) NETTING IS NOT ALLOWED. BIODEGRADABLE STAKES SHALL BE USED IN LIEU OF "U" STAPLES.
22. SANITARY WASTE DISPOSAL: ALL LOCATIONS OF PORTABLE RESTROOM FACILITIES MUST BE IDENTIFIED ON THE PLAN. IN THE EVENT THAT PORTABLE RESTROOM FACILITIES ARE USED ON-SITE, THE CONTRACTOR IS REQUIRED TO INSTALL AN 8" FILTER SOCK AROUND THE FACILITY TO MINIMIZE THE RADIUS OF THE AFFECTED ZONE IN THE EVENT OF A SPILL. WASTES SHALL BE COLLECTED AND DISPOSED OF IN COMPLETE COMPLIANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. PORTABLE RESTROOM FACILITIES MUST NOT BE LOCATED NEAR DRAINAGE WAYS. RELOCATE AS REQUIRED FOR CONSTRUCTION.
23. IDENTIFICATION OF ALLOWABLE NON-STORMWATER DISCHARGES: DURING CONSTRUCTION THE NON-STORMWATER DISCHARGES, WHICH INCLUDE WATER FLUSHED FROM WATER LINES, PAVEMENT WASHING (WHERE NO SPILLS OR LEAKS HAVE OCCURRED, UNLESS THE SPILLED MATERIAL HAS BEEN CLEANED UP), VEHICLE WASHING, AND GROUNDWATER (DEWATERING), SHOULD BE DIRECTED AS MUCH AS POSSIBLE TOWARDS VEGETATED AREAS AND AWAY FROM DRAINAGE WAYS. REFER TO THE IDNR NPDES GENERAL PERMIT NO. 2 FOR ALLOWABLE NON-STORMWATER DISCHARGES.
24. POLLUTION AND SPILL PREVENTION PLANNING: POTENTIALLY HAZARDOUS MATERIALS ON THE CONSTRUCTION SITE INCLUDE FUEL, LUBRICANTS, CURING COMPOUNDS, FERTILIZERS, GREASE AND CLEANING SOLVENTS. THE CONTRACTOR STAGING AREA FOR PORTABLE RESTROOM FACILITIES, TEMPORARY FUEL TANKS, WASTE CONTAINERS AND OTHER HAZARDOUS CHEMICALS MUST BE PROTECTED BY AN 8" FILTER SOCK AT ALL TIMES. ALL REASONABLE PRECAUTIONS WILL BE TAKEN TO PREVENT SPILLS. ANY SPILLED MATERIAL WILL IMMEDIATELY BE DIRECTED AWAY FROM STORMWATER INTAKES, DETENTION BASINS, OR DRAINAGE WAYS. SPILLED MATERIALS WILL BE CLEANED AND, IF NECESSARY, SOIL REMEDIATION PRACTICES WILL BE USED. A RECORD OF SPILLS WILL BE MAINTAINED BY THE PRIME CONTRACTOR. RELOCATE AS REQUIRED FOR CONSTRUCTION.
25. CONCRETE, PAINT AND GROUT WASHOUT AREA: THE WASHOUT AREA SHOULD BE AN APPROVED CONCRETE WASHOUT CONTAINER, COLLECTION BAG, OR WASHOUT BOX PER SUDAS 11.050. PROTECT WITH AN EROSION CONTROL DEVICE (IF USING FILTER SOCKS, STACK TWO (2) TALL). CONTRACTOR TO HAUL OFF ALL WASTE MATERIAL. ALL LOCATIONS OF CONCRETE, PAINT AND GROUT WASHOUT AREAS MUST BE PROVIDED BY THE CONTRACTOR AND IDENTIFIED ON THE PLAN (RELOCATE AS REQUIRED FOR CONSTRUCTION). THE CONTRACTOR IS REQUIRED TO INSTALL A SIGN THAT DESIGNATES THE WASHOUT AREA.
26. CONCRETE SLURRY AND DUST FROM SAWCUTTING ACTIVITIES IS PROHIBITED FROM ENTERING THE STORM SEWER SYSTEM. ALL STORM INTAKES LOCATED NEAR SAWCUTTING ACTIVITIES ARE REQUIRED TO BE PROTECTED. SAWCUT SLURRY AND DUST MUST BE CONTAINED, CLEANED UP, AND DISPOSED OF OFF-SITE.
27. SPILL KIT: THE LOCATION OF THE SPILL KIT MUST BE IDENTIFIED ON THE PLAN. THE SPILL KIT SHALL CONTAIN, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS: A GARBAGE CAN, GLOVES, SAFETY GOGGLES, BROOM AND DUST PAN AND OIL ABSORBENT CLAY CHIPS OR PADS. THE SPILL KIT SHALL BE RESTOCKED AS SUPPLIES ARE USED. THE CONTRACTOR SHALL INSTALL A SIGN THAT DESIGNATES THE SPILL KIT. RELOCATE AS REQUIRED FOR CONSTRUCTION. THE SPILL KIT SHOULD BE DESIGNED TO DEAL WITH ANY HAZARDOUS MATERIALS ON-SITE.
28. DUST CONTROL: THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL MEASURES WHERE DUST IS GENERATED. FREQUENT WATERING OF THE SITE, SPRINKLED, VEGETATIVE COVER, MULCH, WINDBREAKS, TILLAGE, STONE AND SPRAY-ON CHEMICAL SOIL TREATMENTS (PALLIATIVES) ARE POSSIBLE DUST CONTROL MEASURES. IF THE DUST CONTROL IS NOT ACCEPTABLE IT SHALL BE CHANGED AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
29. STOCKPILED MATERIALS: CONTRACTOR TO IDENTIFY ALL LOCATIONS OF STOCKPILED MATERIALS ON THE STORMWATER POLLUTION PREVENTION PLAN. CONTRACTOR SHALL PROVIDE ALL EROSION/SEDIMENT CONTROLS AS REQUIRED TO CONTAIN MATERIALS ON-SITE. AT A MINIMUM, THE CONTRACTOR IS REQUIRED TO PROVIDE FILTER SOCKS AROUND STOCKPILED SOILS BEFORE STOCKPILE IS RE-SPREAD. IF STOCKPILE SOILS WILL REMAIN INACTIVE FOR 14 DAYS OR MORE, THEY SHALL BE STABILIZED IMMEDIATELY BY THE CONTRACTOR.

0 5 10 20
SCALE IN FEET

LEGEND

- PROJECT SITE/DISTURBED AREA
- SILT FENCE SUDAS 9040.119 SHALL HAVE 'J' HOOKS AT MAXIMUM 25' INCREMENTS
- 8" FILTER SOCK SUDAS 9040.102 SHALL HAVE 'J' HOOKS AT MAXIMUM 25' INCREMENTS
- SYNTHETIC PERMEABLE CHECK DAM. SEE SUDAS 9040 SECT 2.07.
- DROP-IN INTAKE PROTECTION SUDAS 9040 SECT 2.18
- PAVEMENT SURFACE. SEE SHEET C101 FOR MORE INFORMATION.
- TEMPORARY ROLLED EROSION CONTROL PRODUCT, TYPE 2.D WITH BIODEGRADABLE STAKES (NOTE: POLYPROPYLENE NETTING IS NOT ALLOWED). SEE SUDAS 9040.103. AREA = 21,485 SY
- EROSION STONE. SEE SHEET C310 FOR MORE INFORMATION.
- TURF REINFORCEMENT MAT (TRM), TYPE 4 SUDAS 9040 SECT 2.17
- 5.73% FINISHED GRADE
- DIRECTION OF DRAINAGE

THE EROSION AND SEDIMENT CONTROLS IDENTIFIED ON THIS DRAWING ARE TO BE INSTALLED AS CONSTRUCTION ACTIVITIES ALLOW. SYNTHETIC PERMEABLE CHECK DAMS AND TEMPORARY ROLLED EROSION CONTROL PRODUCTS ARE TO BE INSTALLED UPON FINE GRADING. ALL TEMPORARY CONTROLS TO REMAIN UNTIL THE SITE HAS BEEN STABILIZED AND APPROVED BY THE OWNER'S REPRESENTATIVE.

TEMPORARY ROLLED EROSION CONTROL PRODUCT, TYPE 2B TO BE INSTALLED IMMEDIATELY AFTER COMPLETION OF FINAL GRADING AND PERMANENT SEEDING, TYP.

SILT FENCE OR 8" FILTER SOCK ALONG EDGE OF DISTURBED AREA, TYP.

DROP-IN INTAKE PROTECTION. THIS CONTROL TO REMAIN UNTIL THE SITE HAS BEEN STABILIZED AND APPROVED BY THE OWNER'S REPRESENTATIVE, TYP.

PROPOSED STORM, TYP.

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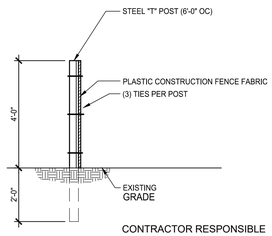
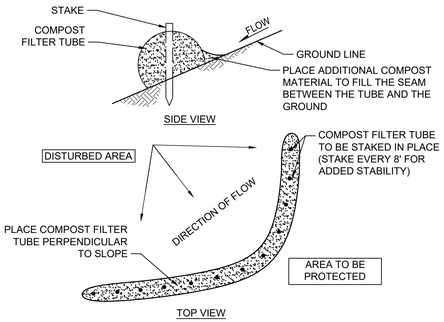
JOHNSON COUNTY CONSERVATION BOARD | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: SWPPP POST CONSTRUCTION PLAN | SHEET NO.: C252

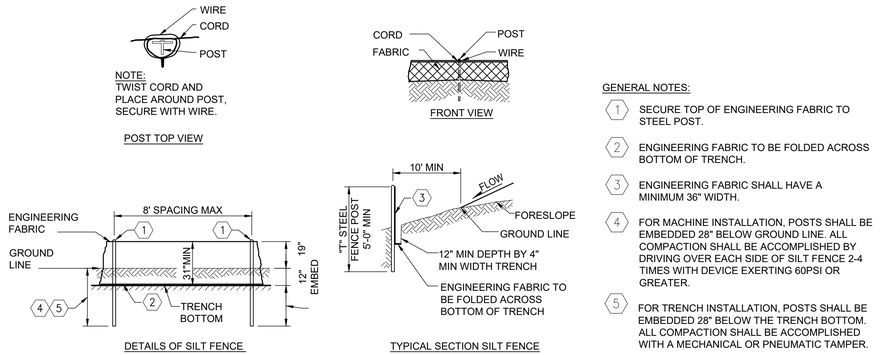


CONTRACTOR RESPONSIBLE TO MAINTAIN FENCE IN ERECT POSITION THROUGH DURATION OF PROJECT.

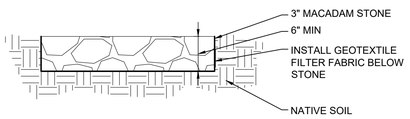
1 CONSTRUCTION FENCE DETAIL
NOT TO SCALE



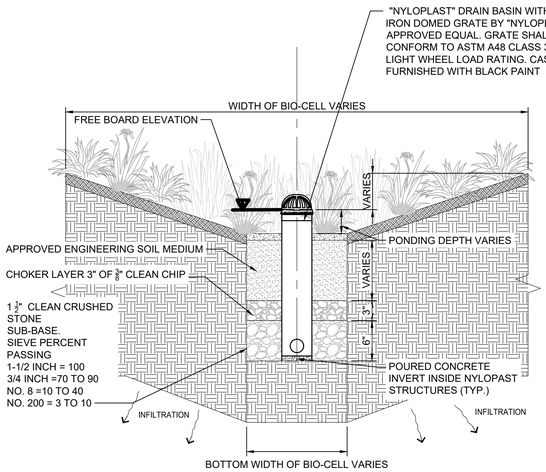
2 COMPOST FILTER SOCK DETAIL
NOT TO SCALE



3 SILT FENCE DETAIL
NOT TO SCALE



4 STABILIZED CONSTRUCTION ENTRANCE/ CONTRACTOR STAGING AND LAYDOWN AREA
NOT TO SCALE



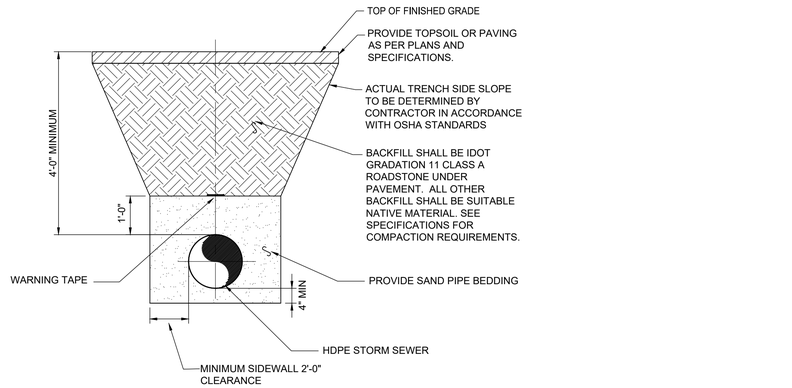
APPROVED ENGINEERING SOIL MEDIUM NOTES:

1. THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
2. COMPOST MEDIUM SHALL BE WELL MIXED ON SITE AND SHALL CONSIST OF:
   A. 60% CONSTRUCTION SAND
   B. 30% ORGANIC COMPOST
   C. 10% QUALITY TOPSOIL W/ LESS THAN 5% MAX. CLAY CONTENT
3. ALL COSTS FOR MATERIALS, DELIVERY TO SITE, AND REQUIRED TEST ANALYSIS TO BE PAID FOR BY THE CONTRACTOR.
4. ENGINEERED COMPOST MEDIUM SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SHALL BE FREE OF NOXIOUS WEEDS.
5. FINAL ENGINEERED COMPOST MEDIUM SHALL MEET THE THE FOLLOWING CRITERIA:

   A. pH RANGE : 5.2-7.0
   B. ORGANIC MATTER 5-10%
   C. SOLUBLE SALTS NOT TO EXCEED 500 PPM

   CONTRACTOR SHALL PROVIDE TEST RESULTS FOR MATERIAL FOR APPROVAL.
6. WHEN BACKFILLING THE BIOSWALE CELL, PLACE COMPOST MEDIUM LIFTS IN 12" OR GREATER. DO NOT USE HEAVY EQUIPMENT WITHIN THE CELL. LIGHTWEIGHT EQUIPMENT SHALL BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SANDS.

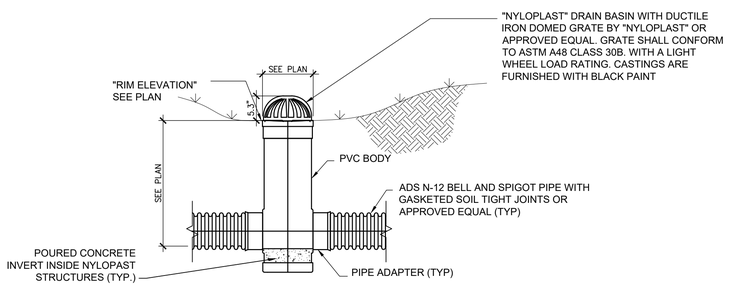
5 BI0-RETENTION CELL AND BIOSWALE OUTLET
NOT TO SCALE



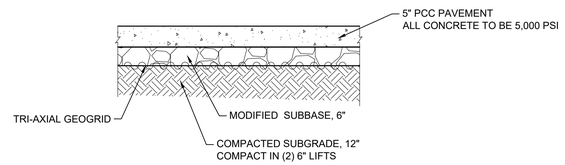
NOTE:

1. PIPING DIAMETER AS CALLED OUT ON PLANS. PIPING SHALL BE NORTH AMERICAN SPECIALTY PRODUCTS CERTA-FLO GREENLINE SDR 21 OR EQUAL.
2. GRAVITY SEWER MAINS SHALL BE SEPARATED FROM WATER MAINS BY A HORIZONTAL DISTANCE OF AT LEAST 10 FEET UNLESS:
   1) THE TOP OF A STORM MAIN IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN, AND,
   2) THE SEWER IS PLACED IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH AT A MINIMUM HORIZONTAL SEPARATION OF 3 FEET FROM THE WATER MAIN.

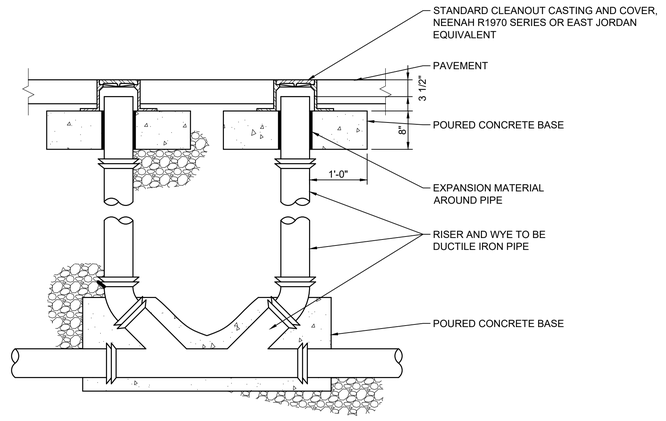
6 TYPICAL GRAVITY STORM PIPE EMBEDMENT AND INSTALLATION DETAIL
NOT TO SCALE



7 NYLOPLAST DRAIN BASIN
NOT TO SCALE



8 PCC SIDEWALK SECTION
NOT TO SCALE



9 DOUBLE SANITARY SEWER CLEANOUT
NOT TO SCALE

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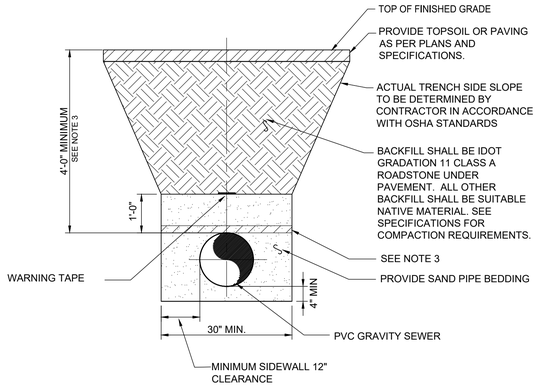
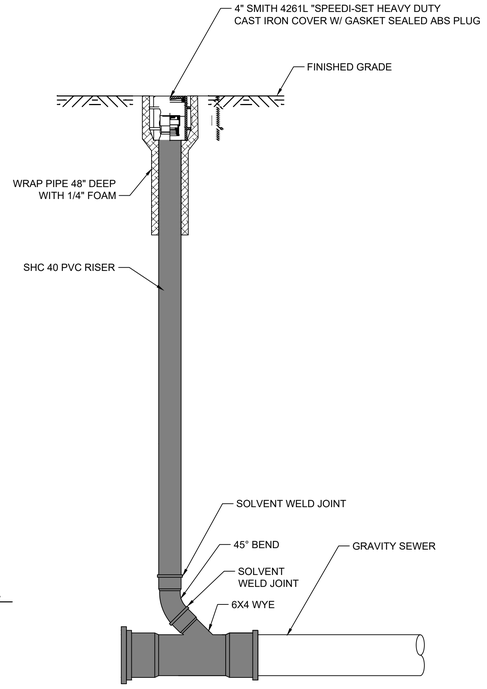
JOHNSON COUNTY CONSERVATION BOARD | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: CONSTRUCTION DETAILS | SHEET NO.: C501



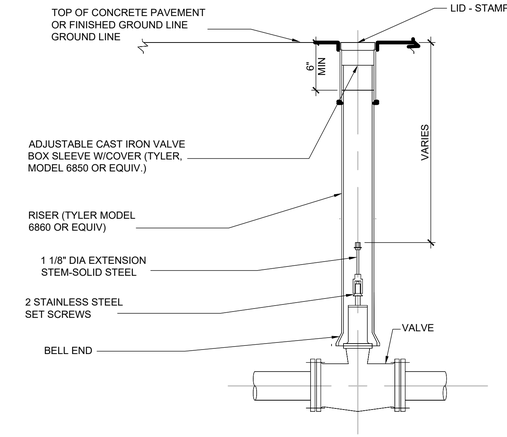
NOTE:

1. PIPING DIAMETER AS CALLED OUT ON PLANS. PIPING SHALL BE NORTH AMERICAN SPECIALTY PRODUCTS CERTA-FLO GREENLINE SDR 21 OR EQUAL.
2. GRAVITY SEWER MAINS SHALL BE SEPARATED FROM WATER MAINS BY A HORIZONTAL DISTANCE OF AT LEAST 10 FEET UNLESS:
   1) THE TOP OF A SEWER MAIN IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN, AND,
   2) THE SEWER IS PLACED IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH AT A MINIMUM HORIZONTAL SEPARATION OF 3 FEET FROM THE WATER MAIN.
3. IF LESS THAN 48" OF COVER OVER PIPE, PLACE 2" THICK X 48" WIDE CENTERED OVER PIPE OF POLYSTYRENE.

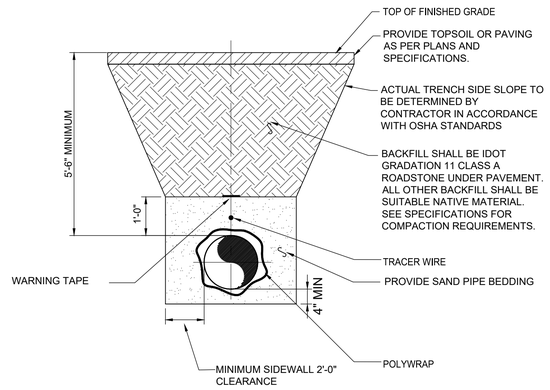
1 TYPICAL GRAVITY SEWER PIPE EMBEDMENT AND INSTALLATION DETAIL
NOT TO SCALE



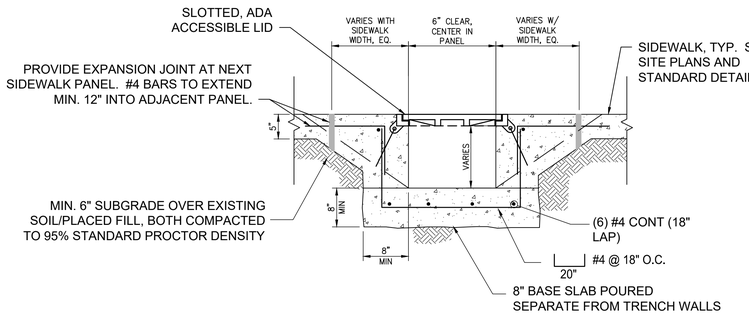
2 CLEANOUT DETAIL
NOT TO SCALE



3 VALVE BOX
NOT TO SCALE



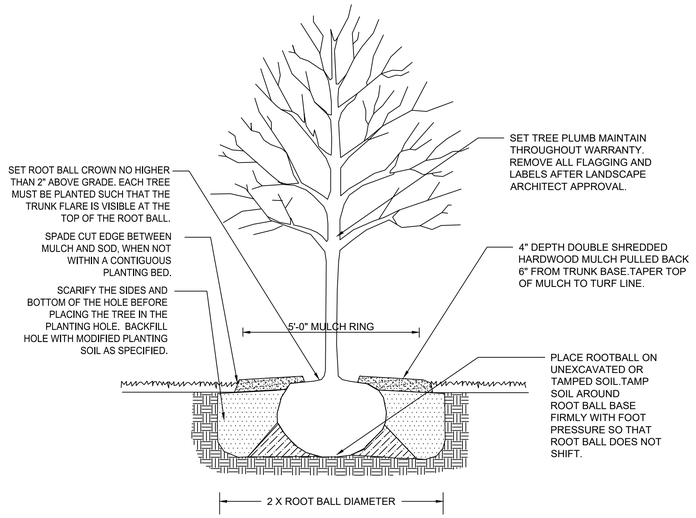
4 TYPICAL WATER PIPE EMBEDMENT AND INSTALLATION DETAIL
NOT TO SCALE



NOTE: SEE INSTALLER CATALOG FOR ADDITIONAL FORMING AND INSTALLATION INFORMATION.

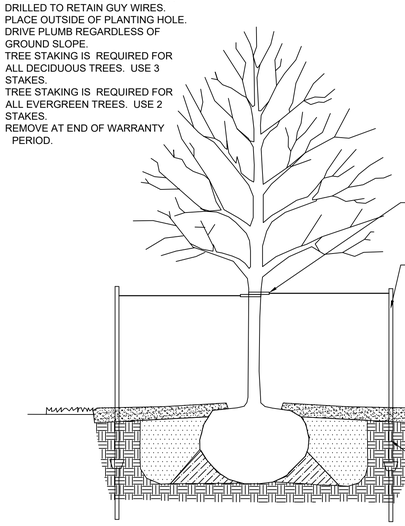
NOTE: PRE-MANUFACTURED TRENCH DRAIN SYSTEMS MAY BE USED PROVIDED THE LOADING MEETS ASME A112.6.3 HD (HEAVY DUTY)

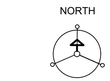
5 TRENCH DRAIN - TYPICAL SECTION
NOT TO SCALE



A2 DECIDUOUS TREE PLANTING
NOT TO SCALE

NOTES:
1. STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF PLANTING HOLE. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.
3. TREE STAKING IS REQUIRED FOR ALL DECIDUOUS TREES. USE 3 STAKES.
4. TREE STAKING IS REQUIRED FOR ALL EVERGREEN TREES. USE 2 STAKES.
4. REMOVE AT END OF WARRANTY PERIOD.



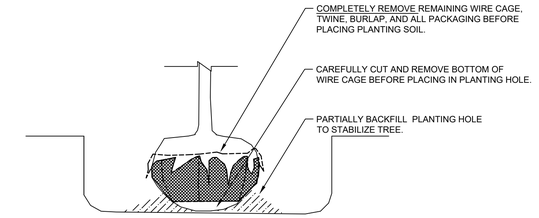


DECIDUOUS TREE
STAKING ORIENTATION PLAN
PLAN VIEW

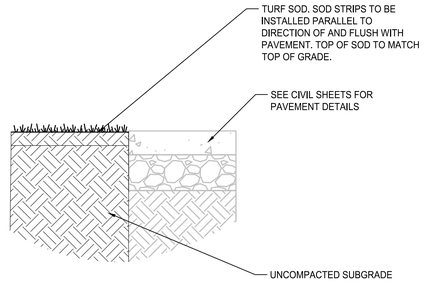
EVERGREEN TREE
STAKING ORIENTATION PLAN
PLAN VIEW

STEEL POST SIZING				
CALIPER	STEEL POST TYPE	A	B	C
LESS THAN 4 INCHES	STEEL "T" FENCE POST	6'-0"	2'-6" MIN	4'-0" MIN

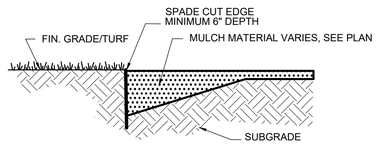
D2 TREE STAKING DETAIL
NOT TO SCALE



A3 ROOT BALL INSTALLATION
NOT TO SCALE



E4 TURF ABUTTING PAVEMENT
NOT TO SCALE



A4 TYPICAL SPADE-CUT EDGE DETAIL
NOT TO SCALE

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Iowa | Illinois | Indiana | Nebraska | Wisconsin

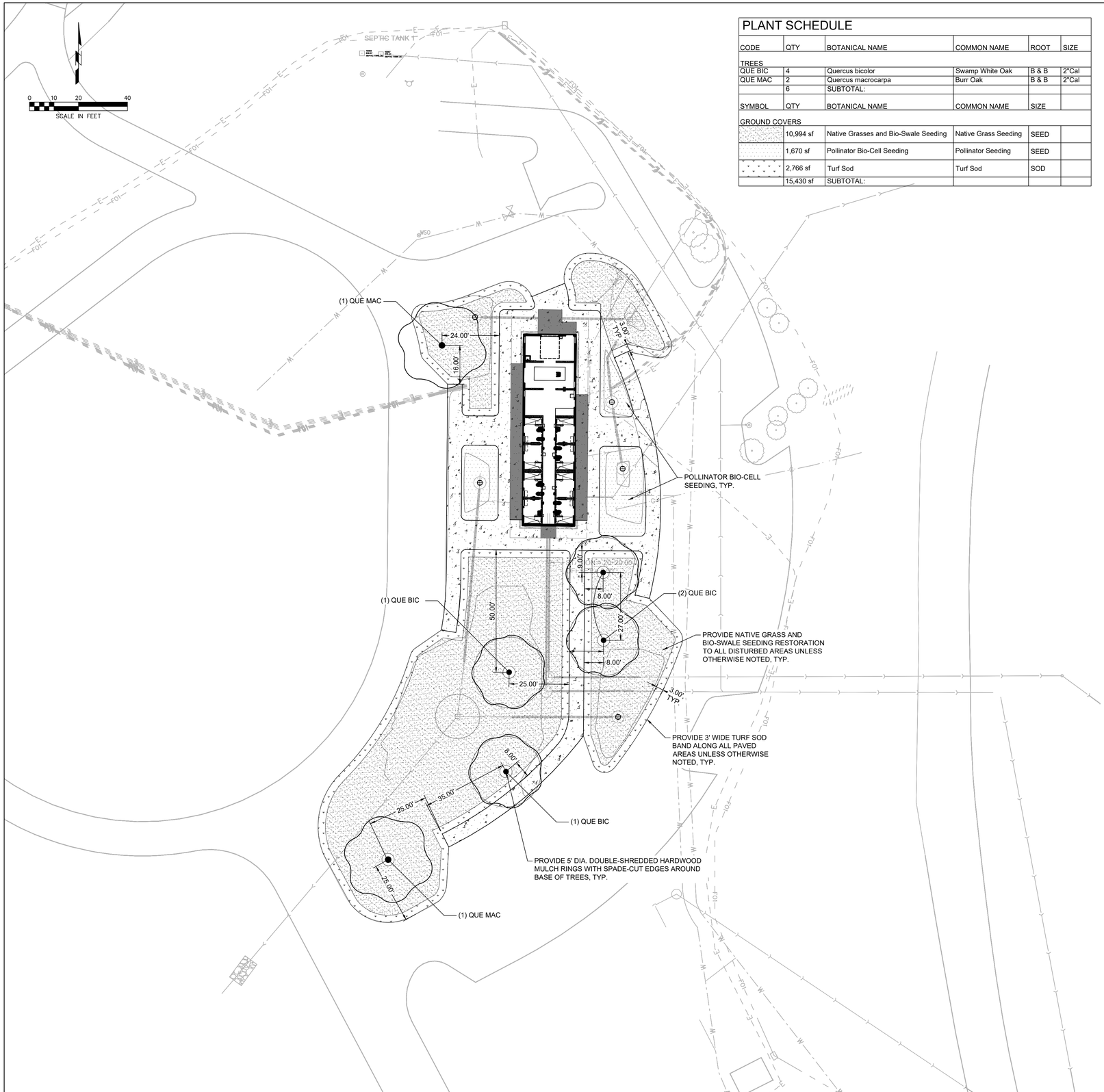
JOHNSON COUNTY CONSERVATION BOARD

PROJECT NO.: 2250000910

ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: LANDSCAPE DETAILS

SHEET NO.: L501



PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE
TREES					
QUE BIC	4	Quercus bicolor	Swamp White Oak	B & B	2"Cal
QUE MAC	2	Quercus macrocarpa	Burr Oak	B & B	2"Cal
	6	SUBTOTAL:			
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
GROUND COVERS					
	10,994 sf	Native Grasses and Bio-Swale Seeding	Native Grass Seeding	SEED	
	1,670 sf	Pollinator Bio-Cell Seeding	Pollinator Seeding	SEED	
	2,766 sf	Turf Sod	Turf Sod	SOD	
	15,430 sf	SUBTOTAL:			

PLANTING NOTES

1. ALL WORK FOR LANDSCAPE LAWNS, TREES, SHRUBS, PERENNIALS AND OTHER PLANTINGS SHALL COMPLY WITH SECTIONS 2601, 2610 AND 4170 OF THE IOWA DOT "SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2012." THE LANDSCAPE ARCHITECT CAN PROVIDE THIS DOCUMENT TO THE LANDSCAPE CONTRACTOR AT THE PRECONSTRUCTION MEETING. THE FOLLOWING ARE EXCEPTIONS AND ADDITIONS TO THESE SPECIFICATIONS:

   a. FOR 2610 NO PLANT MATERIAL SHALL BE SUBSTITUTED WITHOUT THE AUTHORIZATIONS OF THE LANDSCAPE ARCHITECT

   b. FOR 2610.03 A 1 HANDLING AND TEMPORARY STORAGE, ADD THE FOLLOWING SENTENCE:

   ALL PLANT MATERIALS SHALL BE PLANTED WITHIN 72 HOURS TO ARRIVAL ONSITE. PROVIDE TEMPORARY ONSITE WATERING AND MULCHING AS DIRECTED WITHIN AND AFTER THIS PERIOD.

   c. FOR 2610.03 A HANDLING AND TEMPORARY STORAGE, ADD NOTE 3. TO READ AS FOLLOWS:

   3. UTILIZE AN ANTI-DESICANT FOR TREES TRANSPORTED A DISTANCE OF GREATER THAN 100 MILES OR FOR A TRIP LASTING LONGER THAN 3 HOURS.

   d. FOR 2610.03 B LOCATION OF PLANTINGS, PREFACE NOTE 1 TO READ AS FOLLOWS:

   NOTIFY ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE.

   e. DELETE 2610.03 SUBPARAGRAPH D "WRAPPING"

   f. FOR 2610.03 E PLANTING, SUBPARAGRAPH 2A, CHANGE NOTE TO READ AS FOLLOWS:

   BACKFILL MATERIAL FOR PLANTINGS FROM SOIL SHALL BE COMPRISED OF PEAT IN A RATIO OF 1 PART PEAT TO 4 PARTS SOIL (BY VOLUME) SALVAGED FROM THE EXCAVATION OF THE PLANTING WELL. ENSURE BACKFILL MATERIAL HAS A UNIFORM APPEARANCE AND IS LOOSE, FRIABLE, AND FREE OF HARD CLODS AND ROCK 2 INCHES (50 MM) IN DIAMETER OR LARGER.

   FOR 2610.03 I PLANT ESTABLISHMENT PERIOD AND REPLACEMENT, THE ESTABLISHMENT PERIOD IS 1 CALENDAR YEAR FROM SUBSTANTIAL COMPLETION OF LANDSCAPE SCOPE.

2. CONTRACTOR SHALL VERIFY THE LOCATION AND PROTECT ALL UTILITIES AND STRUCTURES PRIOR TO PLANT INSTALLATION, DAMAGE TO UTILITIES AND STRUCTURES SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER.
3. FIELD ADJUSTMENTS OF PROPOSED PLANT LOCATIONS MAY BE REQUIRED TO MINIMIZE POTENTIAL INTERFERENCE WITH EXISTING UTILITIES, TO MINIMIZE HAZARDS TO PLANT GROWTH AND TO IMPROVE MAINTENANCE CONDITIONS. PLANT LOCATIONS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLANT MATERIAL INSTALLATION.
4. ALL PLANT MATERIAL SHALL AT LEAST MEET MINIMUM REQUIREMENTS SHOWN IN THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANZI Z60.1 - LATEST EDITION). PLANTS SHALL BE FRESHLY DUG OR WELL-ESTABLISHED IN CONTAINER AS APPLICABLE; NOT ROOT-BOUND IN THE CONTAINER.
5. NO PLANT MATERIAL SHALL BE SUBSTITUTED WITHOUT THE AUTHORIZATION OF LANDSCAPE ARCHITECT.
6. PLANT QUANTITIES ARE FOR CONTRACTOR'S CONVENIENCE. DRAWINGS SHALL PREVAIL WHERE CONFLICT OCCURS.
7. WOOD MULCH SHALL BE 3" DEEP, COMPOSED OF CEDAR OR CYPRESS WOOD OF UNIFORM COLOR AND LONG FIBROUS NATURE (2-4 INCHES IN LENGTH). DO NOT USE WALNUT. APPLY PRE-EMERGENCE HERBICIDE OVER THE TOP OF ALL WOOD MULCH AREAS.
8. MULCH ALL TREES AND SHRUBS LOCATED OUTSIDE OF DESIGNATED MULCH BEDS WITH A MINIMUM 3" DEPTH CIRCULAR (3-FOOT DIAMETER FOR SHRUBS AND 6-FOOT DIAMETER FOR TREES) OF WOOD MULCH. MULCHING SHALL BE LIMITED TO PLANTING BEDS AS DESIGNATE ON PLANS OR IN THE IMMEDIATE 3' -6' DIAMETER AT THE BASE OF THE PLANT. MULCH PLANTING WELL.
9. SEED ALL DISTURBED AREAS (OUT TO PROPERTY LINE AND IN RIGHT-OF-WAY AS REQUIRED) OUTSIDE PLANTING BEDS AND PAVEMENT AREAS WITH PERMANENT SEED MIXTURE FOR URBAN AREAS PER IDOT SPECIFICATIONS SECTION 2601.03B.4) OR APPROVED EQUIVALENT. FOLLOW IDOT AND SEED SUPPLIER'S RECOMMENDATIONS ON SOIL PREPARATION, SEEDING, APPLICATION RATE, MULCHING, WATERING, AND MAINTENANCE.
10. LANDSCAPE CONTRACTOR SHALL MAINTAIN PLANTING BEDS, PLANT MATERIAL, AND NEW TURF AREAS UNTIL SUBSTANTIAL COMPLETION. WEEDING, WATERING, MOWING, AND REPLACEMENT OF DEAD/DYING PLANTS ARE INCLUDED IN THIS MAINTENANCE.
11. LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF INITIAL ACCEPTANCE.
12. ALL GUY WIRES, STAKES AND TRUNK WRAP SHALL BE REMOVED FROM TREES AFTER A PERIOD OF 1 YEAR BY THE CONTRACTOR.
13. ALL EXISTING GROUNDCOVER SHALL RECEIVE HERBICIDE PRIOR TO INSTALLATION IF OTHER PLANT MATERIAL/ GROUND COVER THEN WHAT IS SHOWN IS EXISTING
14. TURF ESTABLISHMENT PERIOD AND REPLACEMENT IS 1 CALENDAR YEAR FROM SUBSTANTIAL COMPLETION OF LANDSCAPE SCOPE.
15. LANDSCAPE CONTRACTOR SHALL MAINTAIN TURF AREAS UNTIL SUBSTANTIAL COMPLETION. WEEDING, WATERING, MOWING AND REPLACEMENT OF DEAD/DYING TURF IS INCLUDED IN THIS MAINTENANCE.
16. LANDSCAPE CONTRACTOR SHALL GUARANTEE TURF FOR A PERIOD OF ONE YEAR FROM DATE OF INITIAL COMPLETION.
17. ALL SEPTIC SYSTEM AND TRENCHES OUTSIDE OF THIS PLAN VIEW WILL BE DONE BY CONTRACTOR. OWNER WILL SEED.

GENERAL LANDSCAPE NOTES

1. LANDSCAPE CONTRACTOR SHALL REVIEW ROUGH GRADING AND EROSION CONTROL MEASURES WITH GENERAL CONTRACTOR AND GRADING CONTRACTOR PRIOR TO COMMENCING LANDSCAPE WORK. GRADING CONTRACTOR SHALL CORRECT DEFICIENCIES IN ROUGH GRADING AND EROSION CONTROL TO A CONDITION ACCEPTABLE TO THE LANDSCAPE CONTRACTOR AND GENERAL CONTRACTOR. COMMENCEMENT OF WORK BY LANDSCAPE CONTRACTOR IMPLIES ACCEPTANCE OF GRADING CONDITIONS AND EROSION CONTROL MEASURES, AND RESPONSIBILITY FOR CONTROL AND REPAIR OF SUBSEQUENT DEFICIENCIES.
2. LANDSCAPE CONTRACTOR IS REQUIRED TO MAINTAIN POSITIVE DRAINAGE ON THE SITE FOLLOWING ACCEPTANCE OF GRADING CONDITIONS. REFER TO GRADING PLAN FOR CONTOURS AND SPOT ELEVATIONS.
3. LANDSCAPE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE ANY CONFLICTS BETWEEN GRADING DESIGN AND ANY ON-SITE UTILITIES. WORK SHALL NOT COMMENCE UNTIL ISSUE IS RESOLVED AND DOCUMENTED IN WRITING BY OWNER'S REPRESENTATIVE.
4. SITE CLEAN-UP SHALL BE PERFORMED ON A DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, ETC. SHALL BE KEPT CLEAN AT ALL TIMES.
5. EXCESS AND WASTE MATERIALS SHALL BE DISPOSED OFF-SITE IN ACCORDANCE WITH APPLICABLE GOVERNMENTAL REGULATIONS.
6. ALL OPEN EXCAVATIONS SHALL BE PROTECTED WITH SAFETY FENCE, BARRIERS, OR BARRICADES IN ACCORDANCE WITH OSHA.
7. MAINTENANCE OF PLANTING ADJACENT TO PUBLIC RIGHT-OF-WAY, INCLUDING SHRUBS, SHALL BE THE RESPONSIBILITY OF THE OWNER.
8. ALL TREES SHALL BE SINGLE STEM
9. ALL TREES SHALL HAVE STRAIGHT, MAIN LEADING TRUNK AND SHALL BE FREE OF DISEASES.
10. TREE PROTECTION FENCING SHALL BE PLACED EQUAL TO THE DRIPLINE EDGE DURING CONSTRUCTION. ALLOW NO CONSTRUCTION EQUIPMENT OR STORAGE WITHIN THE DRIPLINE DURING CONSTRUCTION.

NATIVE GRASSES AND BIO-SWALE -

OWNER PROVIDED SEED AND OWNER INSTALLED, CONTRACTOR SHALL PROVIDE SEEDBED PREPARATION, AND EROSION CONTROL BLANKET AFTER SEEDING

SOD
CONTRACTOR PROVIDED AND INSTALLED

MATCH OR SIMILAR TO ATHLETIC TURF MIX: SOD

BIO-CELL - CONTRACTOR PROVIDED AND CONTRACTOR INSTALLED

Butterfly Milkweed (Asclepias tuberosa)
Cardinal Flower (Lobelia cardinalis)
Whorled Milkweed (Asclepias verticillata)
New England Aster (Symphyotrichum novae-angliae)
White Indigo (Baptisia alba)
Pale Purple Coneflower (Echinacea pallida)
Culvers Root (Veronicastrum virginicum)
Great Blue Lobelia (Lobelia siphilitica)
Prairie Blazingstar (Liatris pycnostachya)
Narrowleaf Mountain Mint (Pycnanthemum tenuifolium)
Sweet Black-eyed Susan (Rudbeckia subtomentosa)
Blue Vervain (Verbena hastata)
Sideoats Gramma (Bouteloua curtipendula)
Red Columbine (Aquilegia canadensis, native ecotype)

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JOHNSON COUNTY CONSERVATION BOARD

PROJECT NO.: 2250000910

ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: LANDSCAPE PLAN

SHEET NO.: L101

GENERAL NOTES

1. THE GENERAL STRUCTURAL NOTES ARE INTENDED TO SUPPLEMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS NOTIFY THE ENGINEER OF ANY SUCH CONFLICTS.

2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL PROJECT DRAWINGS AND SPECIFICATIONS. REFER TO ALL DRAWINGS FOR THE COORDINATION OF THE WORK IN THIS PROJECT.

3. THE INTENT OF THESE PLANS AND NOTES IS TO PRESENT THE PROJECT REQUIREMENTS. MAJOR DETAILS HAVE BEEN SHOWN ON THE DRAWINGS. HOWEVER, CERTAIN MINOR DETAILS MUST BE WORKED OUT IN THE FIELD OR SHOP DRAWING PROCESS BY THE CONTRACTOR.

4. UNLESS NOTED OTHERWISE, DETAILS SHOWN ON DRAWINGS ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

5. THE STRUCTURE IS DESIGNED TO BE STABLE AND SELF-SUPPORTING AFTER THE BUILDING IS FULLY ERECTED AND ALL CONNECTIONS ARE COMPLETED. UNLESS NOTED OTHERWISE, THE DRAWINGS DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURE AND SEQUENCING TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF TEMPORARY BRACING, GUYS AND TIE-DOWNS NECESSARY FOR THE ERECTION PROCESS.

6. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW THE APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.

7. CONTRACTOR'S CONSTRUCTION AND ERECTION SEQUENCE SHALL CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF THE STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.

8. EXISTING CONDITIONS:
   A. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS RELATING TO EXISTING CONSTRUCTION AND EXISTING SERVICES ON SITE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING COLUMNS, WALLS, OPENINGS, ETC, WITH THE ARCHITECTURAL DRAWINGS PRIOR TO PROCEEDING WITH THE WORK. ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
   B. DURING CONSTRUCTION THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS WHICH ARE NOT KNOWN OR ARE AT VARIANCE WITH PROJECT DOCUMENTATION (DISCOVERY). SUCH CONDITIONS MAY INTERFERE WITH THE NEW CONSTRUCTION OR REQUIRE PROTECTION AND/OR SUPPORT OF EXISTING WORK DURING CONSTRUCTION. IT MAY ALSO CONSIST OF DAMAGED OR DETERIORATION OF STRUCTURAL MATERIALS OR COMPONENTS WHICH COULD JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING(S). THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL DISCOVERIES WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF THE WORK OR JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING(S) PRIOR TO PROCEEDING WITH THE WORK RELATED TO SUCH DISCOVERIES.
   C. DURING THE CONSTRUCTION PROCESS, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF THE EXISTING STRUCTURE AND TO PROTECT IT FROM DAMAGE ANY PORTIONS THAT ARE TO REMAIN.
   D. CONTRACTOR SHALL INVESTIGATE THE SITE DURING EARTHWORK OPERATIONS FOR FILL MATERIAL OR BURIED STRUCTURES. IMMEDIATELY, NOTIFY THE ENGINEER IF ANY SUCH MATERIALS OR STRUCTURES ARE DISCOVERED.

9. STRUCTURAL COORDINATION
   A. MECHANICAL, ELECTRICAL OR PLUMBING LOADS, OPENINGS AND SUPPORT FRAMING ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF THE MECHANICAL, ELECTRICAL OR PLUMBING CONTRACTOR BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK.
   B. THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL OPENINGS, HOLES AND SLEEVES THROUGH FOUNDATIONS AND OTHER STRUCTURAL ELEMENTS WITH THE MECHANICAL, ELECTRICAL AND PLUMBING CONTRACTORS. NO OPENINGS SHALL PASS THROUGH STRUCTURAL MEMBERS UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
   C. EXCESS COST DUE TO VARIATION IN THE STRUCTURE TO ACCOMMODATE A SUBSTITUTION OR ALTERNATE MANUFACTURER(S) FROM THE LISTED BASIS OF DESIGN SHALL BE BORNE BY THE CONTRACTOR.

10. BEFORE SUBMITTING A BID, EACH BIDDER SHALL VISIT THE SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS, CONSTRUCTION REQUIREMENTS, RESTRICTIONS, QUANTITIES AND EQUIPMENT NECESSARY TO COMPLETE THE WORK. THE BID SHALL INCLUDE ALL ITEMS REQUIRED TO COMPLETE THE WORK WITHIN THE EXISTING CONDITIONS. DISRUPTION OF THE OWNERS NORMAL ACTIVITIES AROUND THE CONSTRUCTION SITE SHALL BE KEPT TO A MINIMUM.

11. THE COST OF ADDITIONAL DESIGN WORK DUE TO ERRORS AND OMISSIONS BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE BORNE BY THE RESPONSIBLE CONTRACTOR.

12. ANY ENGINEERING DESIGN PROVIDED BY OTHER AND SUBMITTED FOR REVIEW OR RECORD SHALL BEAR THE STAMP AND SIGNATURE OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT EXISTS.

13. CONTRACTOR SHALL COORDINATE WORK SCHEDULES WITH THE OWNER TO ESTABLISH CONSTRUCTION SEQUENCING AROUND ANY OCCUPIED AREAS. CONTRACTOR SHALL NOT PROCEED TO OCCUPIED AREAS UNTIL AUTHORIZED BY THE OWNER.

14. ALL ELEMENTS AND SURFACES DAMAGED BY DEMOLITION, BUT NOT SCHEDULED FOR REMOVAL SHALL BE REPAIRED AND REFINISHED TO MATCH THE ADJACENT SURFACES AT NO ADDITIONAL COST TO THE OWNER.

15. CONTRACTOR SHALL REMOVE ALL DEBRIS AND WASTE MATERIALS RESULTING FROM CONSTRUCTION FROM THE SITE, UNLESS NOTED OTHERWISE.

16. CONTRACTOR SHALL MINIMIZE CREATION OF DUST, DIRT AND WINDBORNE DEBRIS FROM BLOWING ACROSS THE SITE AND ONTO ADJACENT SITES.

17. CONTRACTOR SHALL COVER ANY EXTERIOR OPENING WITH TEMPORARY CLOSURES WHEN NOT WORKING ON SITE TO PROTECT THE INTERIOR SPACES FROM WEATHER, INSECTS, RODENTS AND INTRUDERS.

DESIGN INFORMATION

1. CODES:
   A. INTERNATIONAL BUILDING CODE (IBC) 2024
   B. AMERICAN CONCRETE INSTITUTE - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)
   C. THE MASONRY SOCIETY - BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES (402/602)
   D. AMERICAN INSTITUTE OF STEEL CONSTRUCTION - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360)
      ALLOWABLE STRENGTH DESIGN (ASD)
   E. AMERICAN SOCIETY OF CIVIL ENGINEERS AND STRUCTURAL ENGINEERING INSTITUTE (ASCE/SEI 7) - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
   F. AMERICAN WELDING SOCIETY D1.1
   G. AMERICAN IRON AND STEEL INSTITUTE (AISI S100) SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS
   H. AMERICAN FOREST & PAPER ASSOCIATION (AF&PA) NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS)

2. DESIGN LOADS PER THE 2024 IBC (RISK CATEGORY II)
   A. DEAD LOADS

STRUCTURE SELF WEIGHT AS SHOWN	
CEILING, MEP & FP	5 PSF
PRE-MANUFACTURED SHOWER BLDG	

   B. LIVE LOADS

TYPICAL ROOF LIVE LOAD - 20 PSF	
LIGHT STORAGE (UNREDUCIBLE)	125 PSF

   C. ROOF SNOW LOAD

GROUND SNOW LOAD, Pg	49 PSF
FLAT ROOF SNOW LOAD, Pf	41 PSF
MINIMUM ROOF SNOW LOAD, Pm	30 PSF
SNOW EXPOSURE FACTOR, Ce	1.0
SNOW IMPORTANCE FACTOR, Is	1.0
THERMAL FACTOR, Ct	1.2
UNBALANCED SNOW LOAD: REFER TO DIAGRAM	

   D. WIND PRESSURE (ASCE 7-22)

WIND SPEED, Vult	109 MPH
NOMINAL DESIGN WIND SPEED, Vasd	84 MPH
WIND EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT	+/-0.18

   E. SEISMIC DESIGN DATA

SEISMIC IMPORTANCE FACTOR	1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS, Ss	0.11
MAPPED SPECTRAL RESPONSE ACCELERATIONS, S1	0.066
SITE CLASS	D
SPECTRAL RESPONSE COEFFICIENTS, Sds	0.11
SPECTRAL RESPONSE COEFFICIENTS, Sd1	0.096
SEISMIC DESIGN CATEGORY	B

3. SOILS INFORMATION BASED ON GEOTECHNICAL REPORT PREPARED BY TEAM SERVICES, REPORT NO. 1-3658, DATED JANUARY 27, 2015.
   NET ALLOWABLE SOIL BEARING PRESSURES:

SPREAD FOOTINGS	1500 PSF
CONTINUOUS WALL FOOTINGS	1500 PSF

4. MINIMUM FROST PROTECTION DEPTH MEASURED FROM GRADE

EXTERIOR FOOTING ADJACENT TO HEATED AREA	(-3'-6")
EXTERIOR FOOTING AT UNHEATED AREA	(-3'-6")

SUBMITTALS

1. CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL THE FOLLOWING SUBMITTALS FOR EACH MATERIAL INDICATED BELOW.

2. CONCRETE REINFORCING
   A. SUBMIT CONCRETE REINFORCEMENT SHOP DRAWINGS IN ACCORDANCE WITH ACI 315 FOR APPROVAL.
      a. DETAIL BARS IN ACCORDANCE WITH "ACI DETAILING MANUAL", PUBLICATION SP-66 AND THE LATEST EDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".

3. CONCRETE REINFORCING
   A. SUBMIT CONCRETE MIX DESIGNS FOR EACH APPLICATION LOCATION INDICATED IN THE DRAWINGS
   B. SUBMIT SHOP DRAWING OF EMBEDDED STEEL ELEMENTS AND CONNECTION

4. PRECAST CONCRETE - SHOWER BUILDING
   A. REFER TO SPECIFICATION SECTION 13 4345 "PREFABRICATED CONCRETE STRUCTURES" FOR REQUIRED SUBMITTALS

CAST-IN-PLACE CONCRETE

1. ALL CONCRETE SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTES PUBLICATIONS: ACI 301, ACI 305.1, ACI 306.1, ACI 315, AND ACI 318 UNLESS NOTED OTHERWISE.

2. CONCRETE COMPRESSIVE STRENGTH (28 DAY)(F'c)

FOOTINGS	5000 PSI
FOUNDATION WALLS AND PIERS	5000 PSI
SLAB ON GRADE	5000 PSI

3. CONCRETE REINFORCEMENT STANDARDS:

DEFORMED BARS	ASTM A615	Fy = 60 KSI
WELDED WIRE REINFORCEMENT (WWR)	ASTM A1064	Fy = 65 KSI
WELDABLE REINFORCING BARS	ASTM A706	Fy = 60 KSI
SYNTHETIC MACRO FIBER REINFORCING	ASTM C1116	
EPOXY COATED REINFORCING	ASTM A775	Fy = 60 KSI

4. ALL CONCRETE SHALL BE STONE AGGREGATE UNLESS NOTED OTHERWISE. SUBMIT MIX DESIGN AND DOCUMENTATION FOR APPROVAL PER ACI 318.

5. REINFORCEMENT PROTECTION
   A. CONCRETE PLACED AGAINST EARTH - 3"
   B. CONCRETE PLACED IN FORMS BUT EXPOSED TO WEATHER OR EARTH:
      a. BARS #5 AND SMALLER - 1 1/2"
      b. BARS LARGER THAN #5 - 2"
   C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
      a. SLABS, WALLS, AND JOISTS - 3/4"
      b. BEAMS, COLUMNS - 1 1/2"

6. WHERE REQUIRED, DOWELS SHALL MATCH THE SIZE, NUMBER AND SPACING OF THE MAIN REINFORCING UNLESS NOTED OTHERWISE.

7. ALL SPLICES, STANDARD HOOKS, AND DEVELOPMENT LENGTHS TO BE PER THE REFERENCED EDITION OF ACI 318. MAKE BARS CONTINUOUS AROUND CORNERS. ALL SPLICES SHALL BE BY CONTACT LAP.

8. ALL SPLICES SHALL BE A CLASS "B" TENSION SPLICE AS DEFINED IN ACI 318. PROVIDE LAP SPLICES LENGTHS AS FOLLOWS:

	4000 PSI	
BAR SIZE	TYPICAL	TOP BARS
#3	19"	25"
#4	25"	33"
#5	31"	41"
#6	37"	49"
#7	54"	71"
#8	62"	81"
#9	70"	91"
#10	79"	102"
#11	87"	114"

   LAP SPLICE LENGTHS GIVEN, ASSUME CLEAR SPACING BETWEEN BARS OF 2 BAR DIAMETERS, AND A MINIMUM CLEAR COVER OF 1 BAR DIAMETER. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" ON FRESH CONCRETE BENEATH THE BARS.

9. WALLS AND GRADE BEAMS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE, UNLESS APPROVED BY THE ENGINEER.

10. CONSTRUCTION JOINTS IN STRUCTURAL CONCRETE WORK MUST BE MADE AT CENTER OF SPAN OR AT CENTER OF SUPPORT WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS, UNLESS OTHERWISE SHOWN.

11. THERE SHALL BE NO ADDITIONAL OPENINGS LARGER THAN 10" IN CONCRETE WALLS AND SLABS NOT SHOWN. REFER TO CONCRETE OPENING DETAIL FOR ADDITIONAL REINFORCEMENT AROUND OPENINGS.

12. REINFORCING STEEL SHALL BE SECURELY FASTENED INTO FORMS PRIOR TO POURING CONCRETE. WET SETTING OF REINFORCING STEEL WILL NOT BE ACCEPTED PER ACI.

13. CONCRETE MIX - FOUNDATIONS

COARSE AGGREGATE	100% PASSING 1" SIEVE
FINE AGGREGATE	100% PASSING 3/8" SIEVE
WATER/CEMENT RATIO	0.45
SLUMP (NO WATER REDUCER)	4" +/- 1"
SLUMP (WITH WATER REDUCER)	4" TO 8"
AIR CONTENT	6% +/- 1.5%

FOUNDATIONS

1. ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED. DO NOT PLACE BACKFILL BEHIND BASEMENT WALLS OR RETAINING WALLS UNTIL CONCRETE HAS ATTAINED THE SPECIFIED COMPRESSIVE STRENGTH. BASEMENT WALLS SHALL NOT BE BACKFILLED UNTIL SUPPORTING FLOOR IS COMPLETED AND ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROTECT ALL BELOW GRADE WALLS FROM LATERAL EARTH PRESSURES UNTIL SUPPORTING FLOOR STRUCTURE IS COMPLETED. CONTRACTOR PROVIDE FOR DESIGN, PERMITS AND INSTALLATION OF LATERAL SHORING TO BRACE WALLS IN LIEU OF WAITING FOR FLOOR SLAB COMPLETION.

2. FOOTING SHALL BE CENTERED UNDER WALLS AND COLUMNS UNLESS NOTED OTHERWISE.

3. CONTRACTOR SHALL ACCOUNT FOR PUMPING OF WATER FROM THE EXCAVATION DUE TO SURFACE WATER, GROUND WATER AND SEEPAGE.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL SHEETING, SHORING AND CRIBBING REQUIRED TO SAFELY RETAIN THE EARTH BANK AROUND THE EXCAVATIONS.

5. ALL FOOTINGS SHALL BE PLACED ONTO FIRM UNDISTURBED SOIL OR ACCEPTABLE COMPACTED BACKFILL AS OUTLINED IN THE SOIL REPORT AND PROJECT SPECIFICATIONS.

6. FOOTING ELEVATIONS SHOWN DESIGNATE THE MINIMUM DEPTH OF THE FOOTING WHERE THE ALLOWABLE SOIL BEARING IS EXPECTED. LOCALIZED AREAS OF UNACCEPTABLE SOILS OR POOR COMPACTION MAY BE DISCOVERED DURING THE EXCAVATION PROCESS REQUIRING OVEREXCAVATION AND BACKFILL WITH ACCEPTABLE FILL. FOOTING EXCAVATIONS SHALL BE LOWERED TO REACH SOIL MEETS THE DESIGN BEARING PRESSURE AND APPROVED BY THE GEOTECHNICAL SPECIAL INSPECTION AGENCY.

7. ACCEPTABLE BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT (8) INCHES IN LOOSE THICKNESS.

8. FOR FOOTING AND FOUNDATIONS, THE SUBGRADE OR FILL MATERIAL SHALL BE COMPACTED AND VERIFIED TO MEET 98% STANDARD PROCTOR MAXIMUM DRY DENSITY ACCORDANCE WITH ASTM D698. FOR RELATIVELY COHESIONLESS GRANULAR FILL WHICH HAS A PERCENT PASSING THE #200 SIEVE LESS THAN 10 PERCENT AND HAS ONLY A SLIGHT SENSITIVITY TO MOISTURE CHANGES, COMPACTION SHALL BE 75 PERCENT RELATIVE DENSITY IN ACCORDANCE WITH ASTM D4253 AND D4254. IF COMPACTION DOES NOT COMPLY, CONTRACTOR SHALL RECOMPACT AREA AND UNTIL TEST RESULTS ARE PASSING. AN AREA EXHIBITING WEAKNESS SUCH AS RUTTING OR PUMPING SHALL BE REMOVED AND REPLACED WITH COMPACTED GRANULAR FILL.

9. FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL SPECIAL INSPECTION AGENCY BEFORE CONCRETE IS PLACED. CONTRACTOR SHALL NOTIFY INSPECTION AGENCY WHEN EXCAVATION IS READY FOR TESTING. INSPECTION AGENCY SHALL PROVIDE A WRITTEN REPORT OF TEST RESULTS AND COMPLIANCE TO THE OWNER.

10. ACCEPTABLE SOIL SHALL BE DEFINED AS MEETING ASTM D2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, SM OR A COMBINATION OF THESE TYPES.

11. UNACCEPTABLE SOILS SHALL BE DEFINED AS MEETING ASTM D2487 SOIL CLASSIFICATION GROUPS GC, SC, ML, MH, CL, CH, OL, OH, PT OR A COMBINATION OF THESE TYPES. GROUPS CL AND ML MAY BE ACCEPTABLE IF THE LIQUID LIMIT IS LESS THAN 45 AND THE PLASTICITY INDEX IS LESS THAN 20.

12. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADES BEFORE AND AFTER PLACING THE CONCRETE AND UNTIL SUCH SUBGRADE IS FULLY PROTECTED BY THE PERMANENT BUILDING ENCLOSURE AND THE SPACE IS CONDITIONED TO REMAIN ABOVE FREEZING.

13. CONCRETE FOOTINGS AND SLABS SHALL NOT BE PLACED ON OR AGAINST SUBGRADES CONTAINING FROST, SNOW OR ICE. FROZEN SUBGRADES SHALL BE COMPLETELY THAWED AND RECONDITIONED BEFORE CONCRETE MAY BE PLACED.

14. REPEATED HEAVY CONSTRUCTION TRAFFIC OVER EXPOSED SUBGRADE WILL CAUSE RUTTING AND PUMPING WHEN SOIL IS ABOVE THE OPTIMUM MOISTURE CONTENT. AVOID EXCESS CONSTRUCTION ACTIVITY ON WET SOILS. IF SUBGRADE IS ABOVE THE OPTIMUM MOISTURE CONTENT DURING CONSTRUCTION, THEN DRYING OF THE SOIL SHALL BE CONDUCTED BY DISKING, SCARIFICATION, AND AERATION.

15. SOILS WITH A MOISTURE CONTENT ABOVE THE OPTIMUM LEVEL SHALL BE REMOVED AND REPLACED WITH COMPACTED GRANULAR FILL.

16. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER OF ANY UNUSUAL SOIL CONDITIONS THAT ARE IN VARIANCE WITH THE SOIL REPORT.

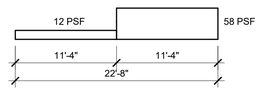
17. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY IF THE EXISTING FOUNDATIONS VARY FROM THAT SHOWN ON THE DRAWINGS.

18. CONTRACTOR SHALL VERIFY OPENINGS AND SLEEVES THROUGH FOUNDATION WALLS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL REQUIREMENTS. CHANGES IN SIZE, LOCATION AND NUMBER SHALL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL BY THE ENGINEER.

19. CONTINUOUS WALL FOOTING REINFORCING SHALL EXTEND THROUGH COLUMN SPREAD FOOTINGS UNLESS NOTED OTHERWISE.

20. GRADE BEAM TOP BARS SHALL BE CONTINUOUS OVER THE SUPPORTS. REINFORCEMENT SHALL BE SPLICED WITH TOP BARS SPLICED AT MIDSPAN AND BOTTOM BARS SPLICED OVER THE SUPPORT POINTS.

21. IF GRADE BEAM IS A SINGLE SIMPLE SPAN THEN TOP BARS SHALL BE CONTINUOUS FULL LENGTH OF BEAM WITH STANDARD HOOKS AT EACH END AND BOTTOM BARS SHALL BE CONTINUOUS BETWEEN SUPPORTS.



1 UNBALANCE SNOW LOAD - SHOWERHOUSE
1/8" = 1'-0"

BUILDING ELEVATION TABLE		
BUILDING NAME	ACTUAL ELEVATION	REFERENCE ELEVATION
SHOWER HOUSE	840.00'	100'-0"

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JOHNSON COUNTY CONSERVATION | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: STRUCTURAL GENERAL INFORMATION | SHEET NO.: S000

STATEMENT OF SPECIAL INSPECTIONS

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION AND STRUCTURAL TESTING REQUIREMENTS OF THE BUILDING CODE. IT INCLUDES A SCHEDULE OF SPECIAL INSPECTION SERVICES APPLICABLE TO THE STRUCTURAL COMPONENTS OF THIS PROJECT. IF APPLICABLE, IT INCLUDES REQUIREMENTS FOR SEISMIC RESISTANCE AND/OR REQUIREMENTS FOR WIND RESISTANCE. THIS STATEMENT OF SPECIAL INSPECTIONS ENCOMPASSES THE FOLLOWING DISCIPLINES:

[X] STRUCTURAL
[ ] ARCHITECTURAL
[ ] MECHANICAL / ELECTRICAL / PLUMBING
[ ] OTHER

GENERAL. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED BELOW IN ACCORDANCE WITH THE [2021 INTERNATIONAL BUILDING CODE (IBC 2021) CHAPTER 17 "STRUCTURAL TESTS AND SPECIAL INSPECTIONS"]. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE INDIVIDUAL TECHNICAL SPECIFICATIONS.

APPROVED AGENCY. AN APPROVED AGENCY SHALL PROVIDE ALL INFORMATION AS NECESSARY FOR THE BUILDING OFFICIAL TO DETERMINE THAT THE AGENCY MEETS THE APPLICABLE REQUIREMENTS.

THE SPECIAL INSPECTION COORDINATOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES.

INTERIM REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS, TESTING AND CORRECTIONS OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY. JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

QUALIFICATIONS OF INSPECTORS AND TESTING TECHNICIANS

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION AND TESTING ACTIVITIES ARE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED IF REQUESTED.

KEY FOR MINIMUM QUALIFICATIONS OF INSPECTION AGENTS:

WHEN THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE DEEMS IT APPROPRIATE THAT THE INDIVIDUAL PERFORMING A STIPULATED TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION OR LICENSE AS INDICATED BELOW, SUCH DESIGNATIONS SHALL APPEAR BELOW THE AGENT ON THE SCHEDULE.

PE/SE	STRUCTURAL ENGINEER - A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURE
PE/GE	GEOTECHNICAL ENGINEER - A LICENSED PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS
EIT	ENGINEER-IN-TRAINING - A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTS OF ENGINEERING EXAMINATION

AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION

ACI-CFTT	CONCRETE FIELD TESTING TECHNICIAN - GRADE 1
ACI-CCI	CONCRETE CONSTRUCTION INSPECTOR
ACI-LTT	LABORATORY TESTING TECHNICIAN - GRADE 1 & 2
ACI-STT	STRENGTH TESTING TECHNICIAN

AMERICAN WELDING SOCIETY (AWS) CERTIFICATION

AWS-CWI	CERTIFIED WELDING INSPECTOR
AWS/AISC-SSI	CERTIFIED STRUCTURAL STEEL INSPECTOR

AMERICAN SOCIETY OF NON-DESTRUCTIVE TESTING (ASNT) INSPECTION

ASNT	NON-DESTRUCTIVE TESTING TECHNICIAN - LEVEL II OR III

INTERNATIONAL CODE COUNCIL (ICC) CERTIFICATION

ICC-SMSI	STRUCTURAL MASONRY SPECIAL INSPECTOR
ICC-SFSI	SPRAY-APPLIED FIREPROOFING SPECIAL INSPECTOR
ICC-RCSI	REINFORCED CONCRETE SPECIAL INSPECTOR
ICC-SWSI	STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR
ICC-PCSI	PRESTRESSED CONCRETE SPECIAL INSPECTOR

NATIONAL INSTITUTE OF CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET)

"NICET-CT	CONCRETE TECHNICIAN - LEVELS I, II, III, & IV"
"NICET-ST	SOILS TECHNICIAN - LEVELS I, II, III & IV"
"NICET-GET	GEOTECHNICAL ENGINEERING TECHNICIAN - LEVEL I, II, III & IV"

EXTERIOR DESIGN INSTITUTE (EDI) CERTIFICATION

EDI-EIFS	EIFS THIRD PARTY INSPECTOR

QUALITY ASSURANCE PLAN

QUALITY ASSURANCE FOR SEISMIC RESISTANCE:

1.	SEISMIC DESIGN CATEGORY:	B
2.	STATEMENT OF SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE REQUIRED (Y/N):	N
3.	DESCRIPTION OF SEISMIC-FORCE RESISTING SYSTEM SUBJECT TO SPECIAL INSPECTION AND TESTING FOR SEISMIC RESISTANCE:	NA
4.	DESCRIPTION OF DESIGNATED SEISMIC SYSTEMS SUBJECT TO SPECIAL INSPECTIONS AND TESTING FOR SEISMIC RESISTANCE:	NA
5.	DESCRIPTION OF ADDITIONAL SEISMIC SYSTEMS AND COMPONENTS REQUIRING SPECIAL INSPECTIONS AND TESTING:	NA
6.	EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION AND FABRICATION OF A SYSTEM OR COMPONENT DESCRIBED ABOVE MUST SUBMIT A STATEMENT OF RESPONSIBILITY.	

QUALITY ASSURANCE PLAN FOR WIND REQUIREMENTS:

1.	NOMINAL DESIGN WIND SPEED, V_{ASD}	84
2.	WIND EXPOSURE CATEGORY:	C
3.	STATEMENT FOR SPECIAL INSPECTION FOR WIND RESISTANCE REQUIRED (Y/N):	N
4.	DESCRIPTION OF MAIN WIND FORCE-RESISTING SYSTEM SUBJECT TO SPECIAL INSPECTION FOR WIND RESISTANCE:	NA
5.	DESCRIPTION OF WIND FORCE-RESISTING COMPONENTS SUBJECT TO SPECIAL INSPECTION OF WIND RESISTANCE:	NA
6.	EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OR FABRICATION OF A SYSTEM OR COMPONENT DESCRIBED ABOVE MUST SUBMIT A STATEMENT OF RESPONSIBILITY.	

CONTRACTOR'S RESPONSIBILITY REGARDING INSPECTIONS

1. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION MEETING (SCHEDULED AT LEAST 5 BUSINESS DAYS BEFORE START OF CONSTRUCTION). MEETING SHOULD INCLUDE ALL RESPONSIBLE PARTIES (A/E, SI'S, FIELD INSPECTOR). MEETING IS FOR ENTIRE PROJECT, NOT PHASE OF WORK.
2. PRE-CONSTRUCTION MEETING IS TO BE CONDUCTED BY THE CONTRACTOR WITH MEETING MINUTES TO BE TAKEN AND DISTRIBUTED TO ALL MEMBERS ATTENDING. MEETING MINUTES TO INCLUDE A SIGN-IN SHEET FOR ALL PARTIES.
3. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING INSPECTIONS AND TESTS. SUFFICIENT NOTICE AND LEAD TIME MUST BE ALLOWED FOR THE INSPECTION AND TESTING TO BE PERFORMED WITHOUT IMPENDING CONSTRUCTION OPERATIONS.
4. THE CONTRACTOR MUST COOPERATE WITH THE INSPECTIONS AND TESTING AGENCIES. SAFE ACCESS MUST BE PROVIDED TO ALL INSPECTION AND TEST TO BE PERFORMED. THIS MAY REQUIRE THE CONTRACTOR TO PROVIDE SCAFFOLDING, LADDERS OR LIFTS.
5. WHEN DEFICIENCIES ARE IDENTIFIED, THE CONTRACTOR MUST TAKE CORRECTIVE ACTIONS TO COMPLY WITH THE CONTRACT DOCUMENTS OR REMEDY THE DEFICIENCIES AS DIRECTED BY THE REGISTERED DESIGN PROFESSIONAL.
6. THE SPECIAL INSPECTION AND QUALITY ASSURANCE PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITY TO PERFORM QUALITY CONTROL.
7. THE CONTRACTOR IS RESPONSIBLE FOR TESTING SERVICES THAT ARE REQUIRED FOR MATERIAL SUBMITTALS AND THAT NOT PART OF THE SPECIAL INSPECTIONS PROGRAM (E.G. AGGREGATE TESTS, CONCRETE MIX DESIGNS, TESTING OF CONTROLLED FILL, MATERIALS, ETC.).

SOILS	SERVICE	EXTENT	AGENT
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	FIELD INSPECTION	PERIODIC	PE/GE/EIT
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	FIELD INSPECTION	PERIODIC	PE/GE/EIT
3. PERFORM SIEVE TESTS (ASTM D422 & D1140) AND MODIFIED PROCTOR TESTS (ASTM D1557) OF EACH SOURCE OF FILL MATERIAL.	FIELD INSPECTION	PERIODIC	PE/GE/EIT
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	FIELD INSPECTION	PERIODIC	PE/GE/EIT

CONCRETE CONSTRUCTION	SERVICE	EXTENT	AGENT
1. INSPECT SIZE, SPACING, COVER, POSITIONING AND GRADE OF REINFORCING STEEL. VERIFY THAT REINFORCING BARS ARE FREE OF FORM OIL OR OTHER DELETERIOUS MATERIALS. INSPECT BAR LAPS AND MECHANICAL SPLICES. VERIFY THAT BARS ARE ADEQUATELY TIED AND SUPPORTED OF CHAIRS OR BOLSTERS.	FIELD INSPECTION	PERIODIC	ACI-CCI ICC-RCSI
2. REINFORCING STEEL WELDING	FIELD INSPECTION		
A. VERIFICATION OF WELDABILITY OF STEEL OTHER THAN ASTM A707		PERIODIC	
B. INSPECTION TASKS DURING WELDING (OBSERVE OR PERFORM FOR EACH WELDED JOINT OR MEMBER, THE QA TASKS LISTED IN AISC 360, TABLE N5.4-2)		CONTINUOUS	
C. SHEAR REINFORCEMENT		CONTINUOUS	
3. INSPECT SIZE, POSITIONING AND EMBEDMENT OF ANCHOR RODS. INSPECT CONCRETE PLACEMENT AND CONSOLIDATION AROUND ANCHORS	FIELD INSPECTION	PERIODIC	
4. INSPECTION OF ANCHORS AND REINFORCING STEEL POST-INSTALLED IN HARDENED CONCRETE: PER RESEARCH REPORTS INCLUDING VERIFICATION OF ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE DIMENSIONS, HOLE CLEANING PROCEDURES, ANCHOR SPACING, EDGE DISTANCES, CONCRETE MINIMUM THICKNESS, ANCHOR EMBEDMENT AND TIGHTENING TORQUE	FIELD INSPECTION	PERIODIC OR AS REQUIRED BY THE RESEARCH REPORT ISSUED BY AN APPROVED SOURCE	ACI-CCI ICC-RCSI
5. REVIEW CONCRETE BATCH TICKETS AND VERIFY COMPLIANCE WITH APPROVED MIX DESIGN. VERIFY THAT WATER ADDED AT THE SITE DOES NOT EXCEED THAT ALLOWED BY THE MIX DESIGN	FIELD INSPECTION	PERIODIC	ACI-CCI ICC-RCSI
6. TEST CONCRETE COMPRESSIVE STRENGTH (ASTM C31 & C39), SLUMP (ASTM C143), AIR-CONTENT (ASTM C231 OR C173) AND TEMPERATURE (ASTM C1064).	FIELD INSPECTION	CONTINUOUS	ACI-CFTT ICC-STT
7. INSPECT PLACEMENT OF CONCRETE. VERIFY THAT CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION. VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED.	FIELD INSPECTION	CONTINUOUS	ACI-CCI ICC-RCSI
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	FIELD INSPECTION	PERIODIC	ACI-CCI ICC-RCSI
9. INSPECTION OF FORMWORK FOR SHAPE, LINES, LOCATION AND DIMENSIONS	FIELD INSPECTION	PERIODIC	ACI-CCI ICC-RCSI
10. CONCRETE STRENGTH TESTING AND VERIFICATION OF COMPLIANCE WITH CONSTRUCTION DOCUMENTS	FIELD TESTING AND REVIEW OF LABORATORY REPORTS	PERIODIC	
11. PERFORM FLOOR FLATNESS AND/OR LEVELNESS TESTING (ASTM E1155) FOR ALL SLAB-ON-GRADE AND ELEVATED SLABS PER SPECIFICATION.	FIELD INSPECTION	CONTINUOUS	ACI-CCI ICC-RCSI

PRECAST CONCRETE CONSTRUCTION	SERVICE	EXTENT	AGENT
1. REVIEW PLANT OPERATIONS AND QUALITY CONTROL PROCEDURES	PCI CERTIFIED PLANT REQUIRED BY SPECIFICATION		
2. ERECTION OF PRECAST CONCRETE MEMBERS			
A. INSPECT IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS	FIELD INSPECTION	PERIODIC	
B. PERFORM INSPECTIONS OF WELDING AND BOLTING IN ACCORDANCE WITH STEEL CONSTRUCTION	FIELD INSPECTION	PERIODIC	
3. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	FIELD INSPECTION	PERIODIC	

ABBREVIATIONS

A

@	AT
ADD	ADDENDUM
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ARCH	ARCHITECT (URAL)

B

B/	BOTTOM OF
BLDG	BUILDING
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BTWN	BETWEEN

C

CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CIP	CAST-IN PLACE
CJ	CONSTRUCTION/CONTROL JOINT
CL	CENTER LINE
CLR	CLEAR (ANCE)
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT (ION) (ED) (OR)
CONT	CONTINUOUS
COORD	COORDINATE
CFSF	COLD FORMED STEEL FRAMING

D

DBE	DECK BEARING ELEVATION
DEG, °	DEGREE
DEMO	DEMOLITION
DIA, Ø	DIAMETER
DIM	DIMENSION
DN	DOWN
DTL	DETAIL
DWG	DRAWING

E

(E)	EXISTING
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
ELEC	ELECTRIC / ELECTRICAL
ELEV or EL	ELEVATION
EMBED	EMBEDDED
EOR	ENGINEER OR RECORD
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY

F

FND	FOUNDATION
FF	FINISHED FLOOR
FRP	FIBER REINFORCED POLYMER
FTG	FOOTING
FV	FIELD VERIFY

G

GA	GAGE or GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GL	GRID LINE

H

HORIZ	HORIZONTAL
HWS	HEADED WELDED STUDS

I

ID	INSIDE DIAMETER

J

JBE	JOIST BEARING ELEVATION

L

LF	LINEAR FOOT
LLBB	LONG LEG BACK TO BACK
LLOS	LONG LEG OUTSTANDING
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LVL	LAMINATED VENEER LUMBER

M

MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS

N

N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE

O

OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED-CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED-OWNER INSTALLED
OPP	OPPOSITE HAND
OH	OVERHEAD

P

PAF	POWDER ACTUATED FASTENER
PC	PRECAST CONCRETE
PL	PLATE
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PVC	POLYVINYL CHLORIDE

Q

QTY	QUANTITY

R

R	RADIUS
REF	REFER (ENCE)
REINF	REINFORCE (D) (ING) (MENT)
REQD	REQUIRED
REV	REVISION
RO	ROUGH OPENING
RTU	ROOF TOP UNIT

S

SCHED	SCHEDULE
SEOR	STRUCTURAL ENGINEER OF RECORD
SIM	SIMILAR
SJ	SAW CUT JOINT
SLBB	SHORT LEG BACK TO BACK
SLOS	SHORT LEG OUTSTANDING
SOG	SLAB ON GRADE
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL

T

T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T/	TOP OF
TEMP	TEMPORARY
TRANS	TRANSVERSE
TYP	TYPICAL

U

UNO	UNLESS NOTED OTHERWISE

V

VERT	VERTICAL
VIF	VERIFY IN FIELD

W

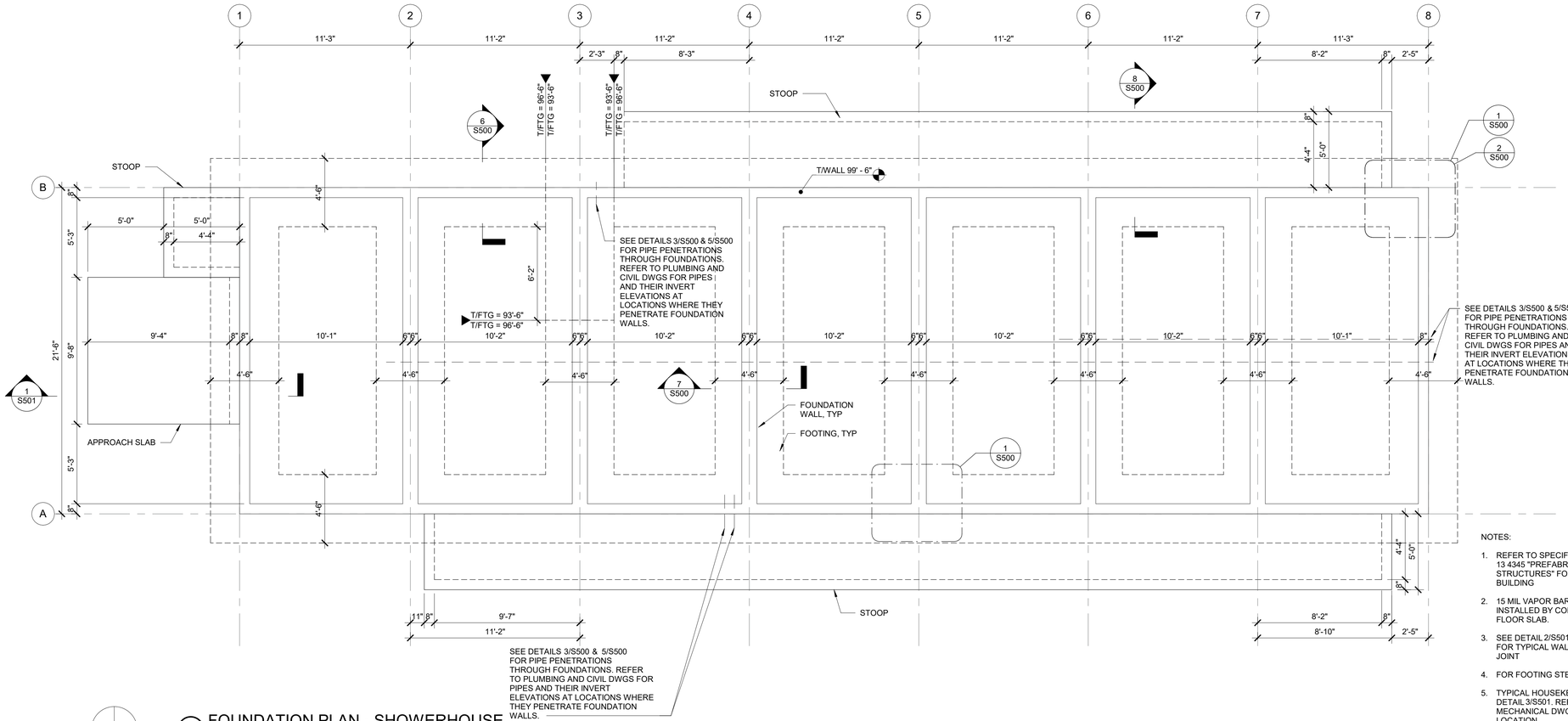
W/	WITH
W/O	WITHOUT
WP	WORKING POINT
WWR	WELDED WIRE REINFORCEMENT

GENERAL SYMBOLS LEGEND

MASONRY
STEEL
MISCELLANEOUS
CONCRETE
EARTH
GRANULAR FILL
GROUT
EXISTING
CHANGE IN SLAB ELEVATION MARK
STRUCTURAL COLUMN DESIGNATION (E) - EXISTING (D) - DEMOLISHED
BASE PLATE MARK (W10x49(E) BP2)
PIER MARK (TOP ELEVATION) (P# (X'-X"))
FOOTING MARK (TOP ELEVATION) (F# (X'-X"))
SPAN DIRECTION MARK - ONE WAY
SPAN DIRECTION MARK - TWO WAY
OPENING
MOMENT FRAMING CONNECTION MARK
SHEAR SPLICE FRAMING CONNECTION MARK
MOMENT SPLICE FRAMING CONNECTION MARK
SHEAR TRANSFER MARK
UPPER ELEVATION (100'-0")
BRICK LEDGE STEP MARK (99'-0")
LOWER ELEVATION
UPPER ELEVATION (100'-2")
WALL STEP MARK (100'-0")
LOWER ELEVATION
UPPER ELEVATION (95'-0")
FOUNDATION STEP MARK (97'-0")
LOWER ELEVATION

GENERAL SYMBOLS LEGEND

VIEW NUMBER
A1 VIEW NAME 1/8" = 1'-0" 0 12"
DRAWING SCALE
N NORTH ARROW
BUILDING SECTION MARK (A1 / A101) — VIEW NUMBER, SHEET NUMBER
DETAIL SECTION MARK (A1 / A101) — VIEW NUMBER, SHEET NUMBER
ELEVATION MARK (A1 / A101) — VIEW NUMBER, SHEET NUMBER
ENLARGED DETAIL MARK (A1 / A101) — VIEW NUMBER, SHEET NUMBER
A00 KEYNOTE VALUE
01 / RFI REVISION NUMBER, REVISION TYPE
D.8 EXISTING GRID BUBBLE
D.8 NEW GRID BUBBLE
FIRST FLOOR 100'-0" IDENTIFIED LEVEL NAME
ELEVATION MARK
100'-0" SPOT ELEVATION MARK
A4/S104 VIEW NUMBER / SHEET NUMBER OF CONTINUING VIEW
MATCHLINE



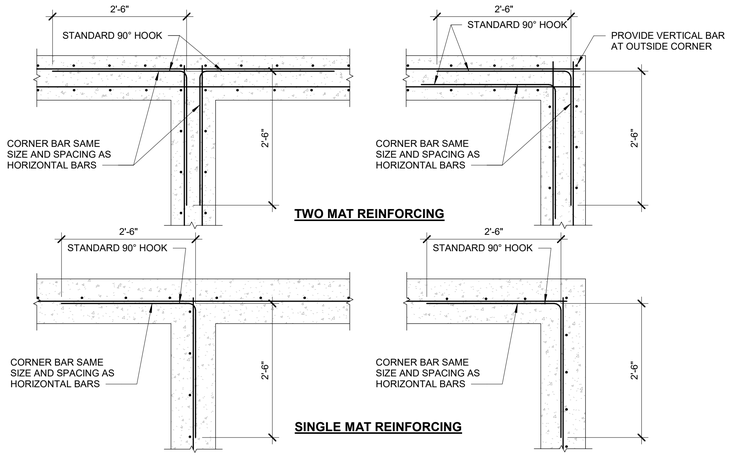
NOTES:

1. REFER TO SPECIFICATION SECTION 13 4345 "PREFABRICATED CONCRETE STRUCTURES" FOR SHOWER BUILDING
2. 15 MIL VAPOR BARRIER SHALL BE INSTALLED BY CONTRACTOR BELOW FLOOR SLAB.
3. SEE DETAIL 2/S501 FOR TYPICAL WALL CONSTRUCTION JOINT
4. FOR FOOTING STEP, SEE DETAIL 4/S500
5. TYPICAL HOUSEKEEPING PAD PER DETAIL 3/S501. REFER TO MECHANICAL DWGS FOR SIZE AND LOCATION.

NORTH

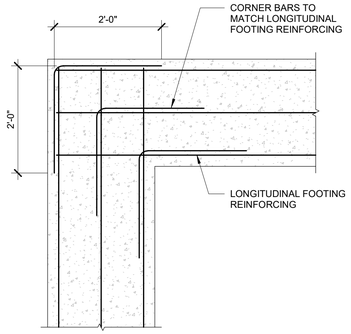
1 FOUNDATION PLAN - SHOWERHOUSE

1/4" = 1'-0" 0 6'



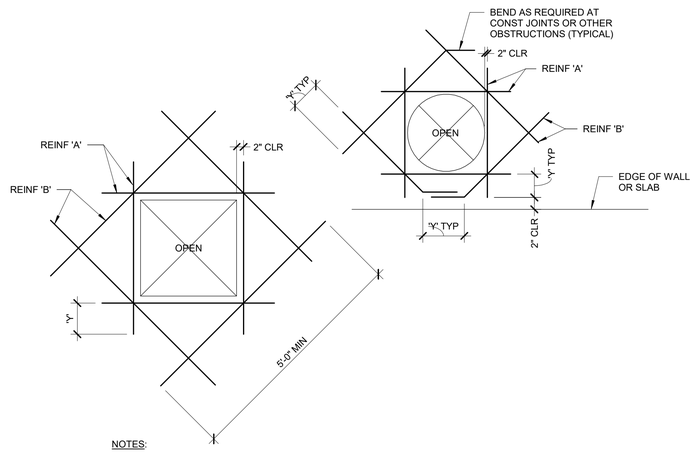
1 TYPICAL WALL CORNER DETAILS

3/4" = 1'-0"



2 TYPICAL FOOTING CORNER BARS

3/4" = 1'-0"

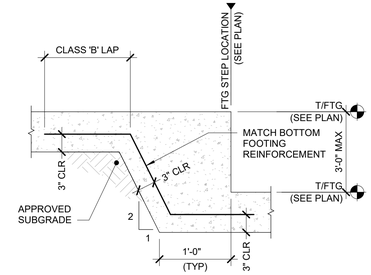


NOTES:

1. MINIMUM REINFORCING 'A' & 'B' AROUND ANY AND ALL OPENINGS SHALL BE #5 BAR.
2. Y = CLASS B LAP SPLICE FOR BAR SIZE USED.
3. MOVE REINFORCING MAX OF 2" TO CLEAR OPENING. CUT REMAINING BAR THROUGH OPENING. WHERE REINFORCING MUST BE CUT, ADD REINFORCING 'A' AT LEAST EQUAL IN AREA TO THAT WHICH WAS CUT AND EXTEND BEYOND OPENING DISTANCE 'Y'.
4. DIAGONAL BARS 'B' TO BE PLACED AT EACH FACE OF WALL WHERE TWO LAYERS OF REINFORCING ARE PROVIDED.

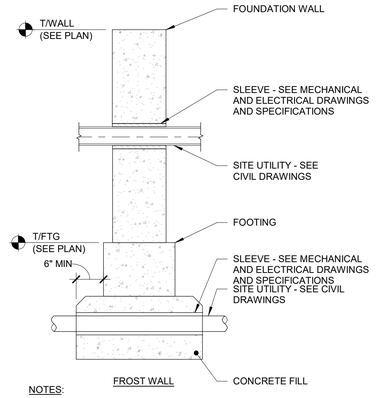
3 TYPICAL WALL OPENING REINFORCING DETAIL

1" = 1'-0"



4 STEP FOOTING DETAIL

1" = 1'-0"

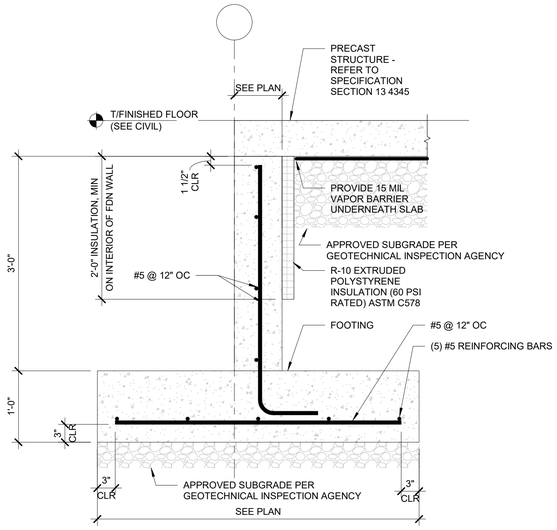


NOTES:

1. SEE UNDERGROUND PLUMBING, MECHANICAL, ELECTRICAL AND CIVIL DRAWINGS FOR ALL LOCATIONS, ELEVATIONS, ETC., OF SITE UTILITIES.
2. DETAIL REQUIRED AT ALL UTILITIES HAVING A PLAN WIDTH UP TO 3'-0" FOR WIDTHS GREATER THAN 3'-0", SEE PLAN FOR LOCATIONS.
3. SLEEVES AND UTILITIES SHALL NOT BE ALLOWED BELOW COLUMN SPREAD FOOTINGS. WHEN SITE UTILITY IS EXPECTED TO CONFLICT WITH SPREAD FOOTINGS, THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER AND ARCHITECT.

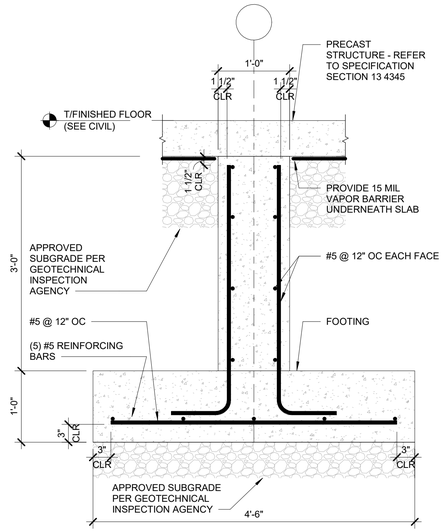
5 TYPICAL FOUNDATION DETAIL AT SITE UTILITIES

3/4" = 1'-0"



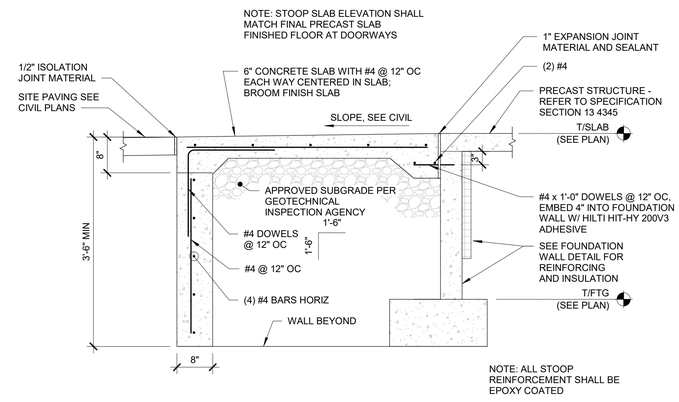
6 TYP EXTERIOR FOUNDATION WALL DETAIL

1" = 1'-0"



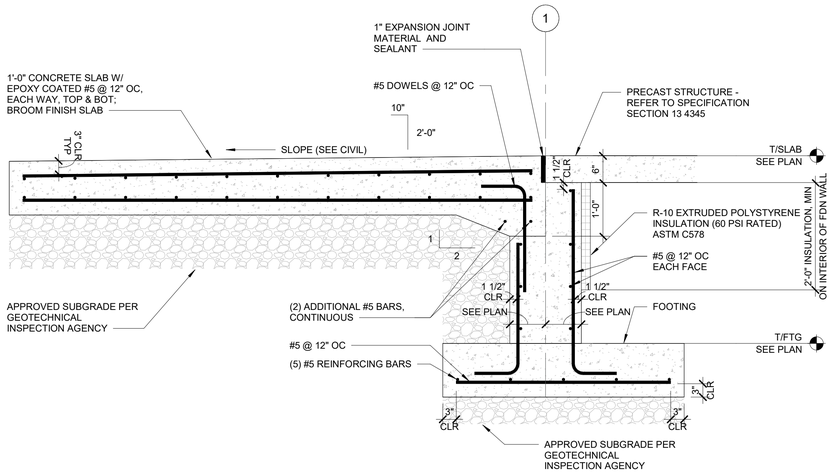
7 TYP INTERIOR FOUNDATION WALL DETAIL

1" = 1'-0"



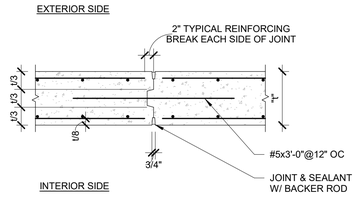
8 CONCRETE STOOP DETAIL

3/4" = 1'-0"



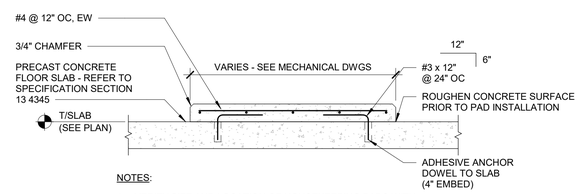
1 CONCRETE APPROACH SLAB DETAIL

3/4" = 1'-0"



2 TYPICAL WALL CONSTRUCTION JOINT

3/4" = 1'-0"



NOTES:

1. VERIFY SIZE AND LOCATION OF HOUSEKEEPING PADS WITH MECHANICAL AND ELECTRICAL CONTRACTORS.

3 TYPICAL HOUSEKEEPING PAD

3/4" = 1'-0"

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Iowa | Illinois | Indiana | Nebraska | Wisconsin

JOHNSON COUNTY CONSERVATION

PROJECT NO.: 2250000910

ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: DETAILS

SHEET NO.: S501

PLUMBING ABBREVIATIONS

SYMBOLS	
&	AND
@	AT
#	NUMBER or POUND

A	
AC	AIR COMPRESSOR
AD	AREA DRAIN
ADJ	ADJUSTABLE/ADJACENT
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AMB	AMBIENT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE(LY)
AR	ACID-RESISTANT OR AIR RECIVER
AS	AIR SEPARATOR
ASSY	ASSEMBLY
ATM	ATMOSPHERE
AUX	AUXILIARY
AVG	AVERAGE

B	
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BOP	BOTTOM OF PIPE
BP	BOOSTER PUMP
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR

C	
CAL	CALIBRATE
CAP	CAPACITY
CCR	CONCENTRIC REDUCER
CCW	COUNTER CLOCKWISE
CIRC	CIRCULATING
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR(ANCE)
CLW	CLOCKWISE
CO	CLEANOUT
CONSTR	CONSTRUCTION
CONT	CONTINUATION
CONTR	CONTRACTOR
COORD	COORDINATE
CP	CIRC PUMP
CS	CLINICAL SINK
CT	COOLING TOWER
CTRL	CONTROL
CU FT	CUBIC FEET
CU IN	CUBIC INCH

D	
°DEG	DEGREE
°C	DEGREES CELSIUS
°F	DEGREES FAHRENHEIT
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROLS
DEMO	DEMOLITION
DF	DRINKING FOUNTAIN
DFC	DRINKING FOUNTAIN CHILLER
DIA	DIAMETER
DIAG	DIAGRAM
DIP	DUCTILE IRON PIPE
DN	DOWN
DR	DRAIN
DS	DOWNSPOUT
DV	DRAIN VALVE
DW	DISHWASHER
DWG	DRAWING
DWV	DRAIN WASTE & VENT

E	
EA	EACH
EC	ELECTRICAL CONTRACTOR
ECCR	ECCENTRIC REDUCER
EE	EMERGENCY EYEWASH
EER	ENERGY EFFICIENCY RATIO
EES	EMERGENCY EYEWASH SHOWER
EF	ENERGY FACTOR
ELEV	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EMERGENCY SHOWER
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING

F	
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FS	FLOOR SINK
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR\
FT	FOOT/FEET
FT HD	FOOT HEAD OR PRESSURE DROP
FW	FEEDWATER

G	
G	GAS
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GCO	GROUND CLEANOUT
GI	GREASE INTERCEPTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GWH	GAS FIRED WATER HEATER

H	
HB	HOSE BIBB
HD	HUB DRAIN
HG	MERCURY
HP	HORSEPOWER
HR	HOSE REEL
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HZ	HERTZ (FREQUENCY)

I	
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IMB	ICE MAKER BOX
IN	INCHES
IN WC	INCHES (WATER COLUMN)
INS	INSULATION
INSTR	INSTRUMENT
IP	IRON PIPE
IPS	IRON PIPE SIZE
ISO	ISOMETRIC

K	
K	KELVIN
KW	KILOWATT
KWH	KILOWATT HOUR

L	
LAV	LAVATORY
LB(S)	POUND(S)
LWT	LEAVING WATER TEMPERATURE

M	
MAINT	MAINTENANCE
MAX	MAXIMUM
MBH	BRITISH THERMAL UNIT (1000/HR)
MB	MOP BASIN
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MCA	MINIMUM CIRCUIT AMPS
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM OR MINUTE
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOV	MOTOR OPERATED VALVE

N	
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NTS	NOT TO SCALE

O	
OD	OUTER DIAMETER OR OVERFLOW ROOF DRAIN
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OI	OIL INTERCEPTOR
OWN	OWNER

P	
PG	PRESSURE GAUGE OR PROPYLENE GLYCOL
PH	PHASE
PLBG	PLUMBING
PRV	PRESSURE RELIEF VALVE OR PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE

Q	
QTY	QUANTITY

R	
RD	ROOF DRAIN
RECIRC	RECIRCULATE(ING)
REQD	REQUIRED
RHY	ROOF HYDRANT
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE

S	
SCH	SCHEDULE
SCHM	SCHEMATIC
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SQUARE FEET
SH	SHOWER
SK	SINK (SERVICE, LAUNDRY, KITCHEN, SCRUB)
SOI	SAND OIL INTERCEPTOR
SP	SUMP PUMP OR STATIC PRESSURE
SPEC	SPECIFICATION(S)
SQ IN	SQUARE INCH
SRV	SAFETY RELIEF VALVE
STD	STANDARD
SV	SAFETY VALVE
SYS	SYSTEM

T	
TCC	TEMPERATURE CONTROL CONTRACTOR
TD	TRENCH DRAIN
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE OR TEMPORARY
THRU	THROUGH
TMV	THERMOSTATIC MIXING VALVE
TOP	TOP OF PIPE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL

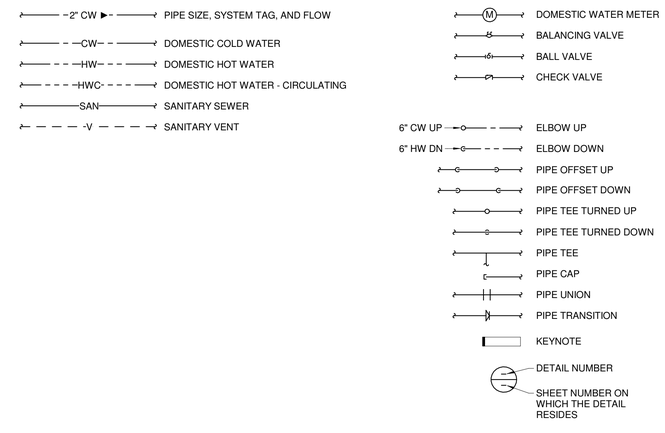
U	
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UTIL	UTILITY

V	
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF

W	
WATTS	WATTAGE
WB	WET BULB OR WALL BOX
WC	WATER CLOSET
WCO	WALL CLEANOUT
WHA	WATER HAMMER ARRESTOR
WHY	WALL HYDRANT
WMB	WASHING MACHINE BOX
WPD	WATER PRESSURE DROP
WT	WEIGHT

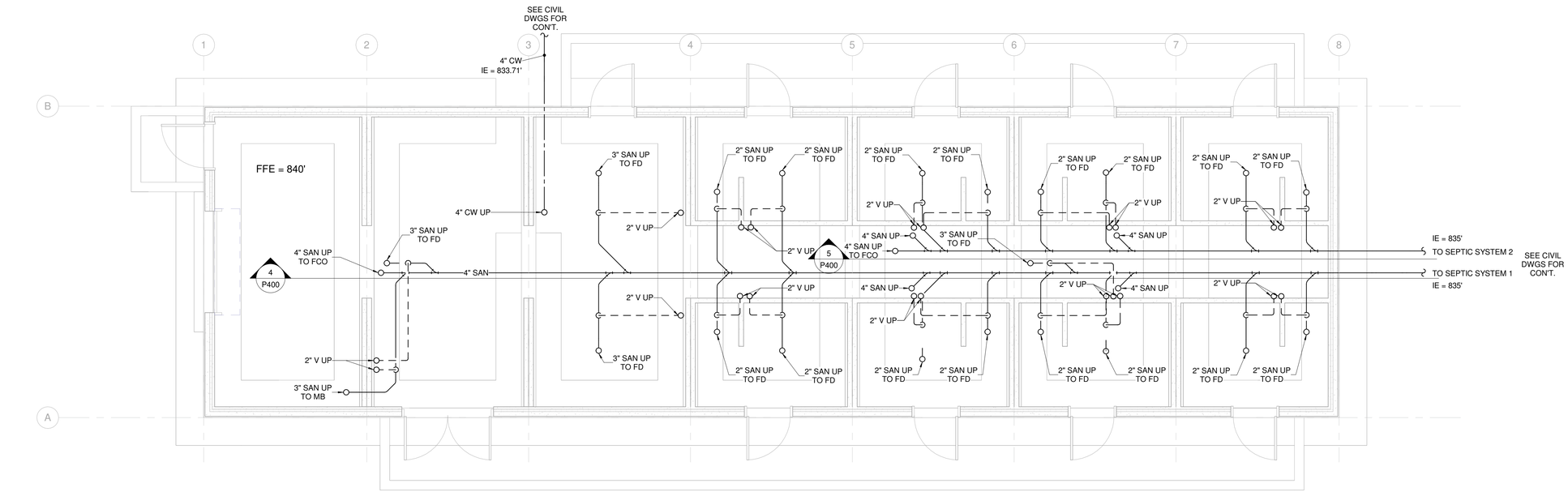
Z	
ZVB	ZONE VALVE BOX

PLUMBING SYMBOLS LEGEND



PLUMBING

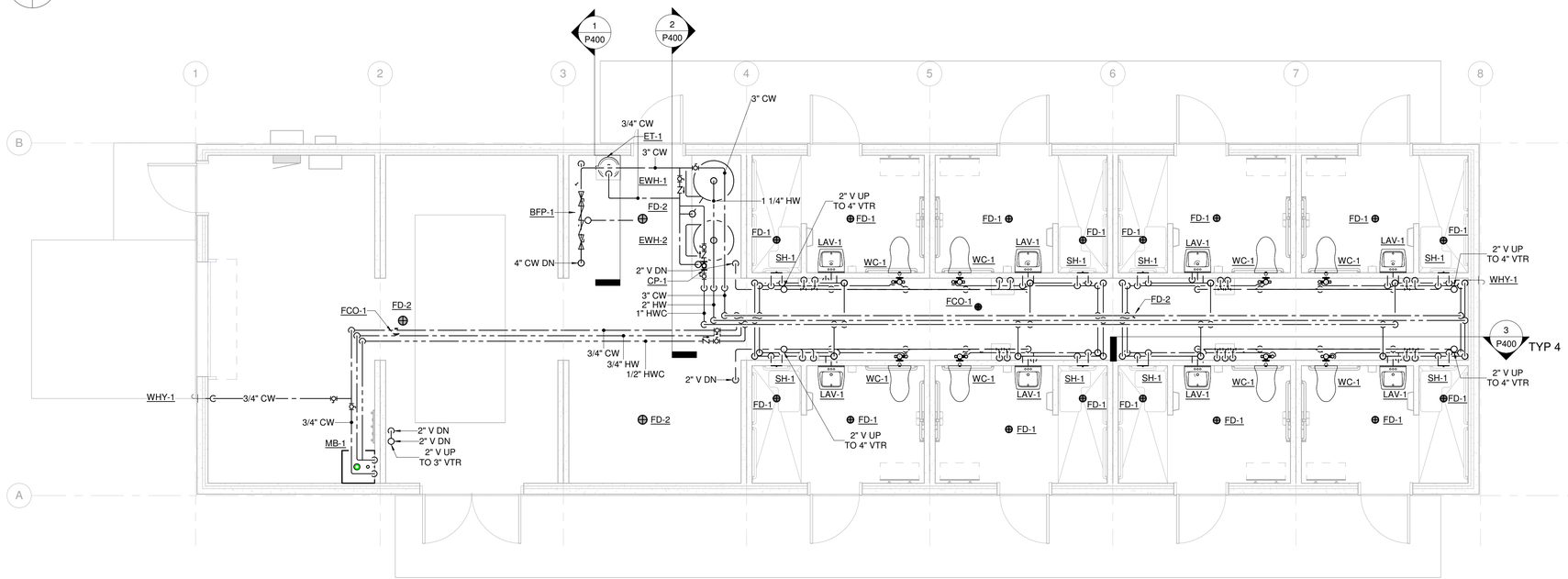
1. PIPING SHOWN IS IN SCHEMATIC FORM. NOT ALL RISERS AND DROPS ARE SHOWN. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND TO AVOID INTERFERENCE WITH OTHER TRADES. COORDINATE WITH OTHER TRADES PRIOR TO FABRICATION. THE CONTRACTOR SHALL PROVIDE COMPLETE FULLY FUNCTIONAL SYSTEMS.
2. PROVIDE ACCESSIBLE ISOLATION VALVES AT ALL BRANCH CONNECTIONS TO MAINS AND PIPING FIXTURE GROUPS. COORDINATE VALVE LOCATIONS ABOVE ACCESSIBLE CEILINGS OR COORDINATE WITH THE GC TO PROVIDE ACCESS PANELS.
3. REFER TO PLUMBING FIXTURE ROUGH-IN SCHEDULE FOR CONNECTION SIZES AT INDIVIDUAL FIXTURES.
4. PROVIDE WATER HAMMER ARRESTORS FOR EACH NEW PLUMBING FIXTURE OR GROUP OF FIXTURES. SIZE AND LOCATION REQUIREMENTS SHALL BE AS PER PDI STANDARD PDI-WH-201.
5. NEW FLOOR/WALL/CEILING PENETRATIONS REQUIRED FOR PIPING INSTALLATION SHALL BE CLEANLY BORED AT RIGHT ANGLES. AS NEW PIPING IS INSTALLED, NEW PIPING PENETRATIONS SHALL BE NEATLY CAULKED TO FILL VOID. WALL PENETRATIONS SHALL BE FINISHED WITH ESCUTCHEONS.
6. ALL NEW PIPING EXPOSED IN OCCUPIED SPACES SHALL HAVE PVC JACKETS INSTALLED OVER THE PIPING INSULATION. ANY PIPING REQUIRED TO BE EXPOSED SHALL BE INSTALLED VERTICALLY OR HORIZONTALLY IN LEAST VISIBLE LOCATION.
7. ALL EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED TO BE EASILY ACCESSIBLE.
8. ALL WORK SHALL BE COMPLETED IN A SAFE WORKMANLIKE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL AND NATIONAL CODES, REGULATIONS AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS OR ORDINANCE, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.
9. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS AS REQUIRED FOR PLUMBING INSTALLATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BOTH A COMPLETE AND COMPLIANT INSTALLATION AS MAY BE DETERMINED BY THE AUTHORITY(S) HAVING JURISDICTION.
10. CONTRACTOR SHALL NOT PROCURE OR FABRICATE ANY PIPING OR EQUIPMENT WITHOUT FIRST VERIFYING ALL DIMENSIONS AND CONDITIONS WHETHER CURRENTLY EXISTING OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING ANY REQUIRED REWORK.
11. MAINTAIN ALL MANUFACTURER RECOMMENDED EQUIPMENT SERVICE AND SAFETY CLEARANCES. DO NOT LOCATE ANY EQUIPMENT OR RUN MATERIALS ABOVE ANY ELECTRICAL PANELS OR SWITCHGEAR. MAINTAIN ALL NFPA/NEC CODE REQUIRED CLEARANCES.
12. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, SCHEDULING AND SEQUENCING OF THEIR WORK WITH ALL OTHER TRADES. PROVIDE OFFSETS, EASEMENTS, OR RELOCATE TO AVOID CONFLICTS WITH WORK OF OTHER TRADES. FURNISH SUFFICIENT RESOURCES TO MEET ALL PROJECT MILESTONES AND DEADLINES.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHER-PROOF INTEGRITY OF ROOFS, WALLS AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR AND WALL OPENINGS WITH THE GENERAL CONTRACTOR (GC) OR CONSTRUCTION MANAGER.
14. PROTECT NEW WORK FROM DAMAGE OR DECONTAMINATION. PROVIDE TEMPORARY PROTECTIVE CAPPING OR TAPED POLYETHYLENE ENCLOSURES OVER OPEN PIPING ENDS AND EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING PLUMBING SYSTEMS PRIOR TO PLACING THEM IN SERVICE.
15. IN A NEAT AND WORKMANLIKE MANNER: PATCH ANY REMAINING OPENINGS AND FILL EXCESSIVE GAPS; REWORK AND REFINISH TO MATCH ADJACENT STRUCTURES; FLASH AND SEAL ALL MECHANICAL AND ELECTRICAL PENETRATIONS THRU WALLS, CEILINGS AND FLOORS WITH METAL FRAMEWORK OR ESCUTCHEONS. ALL OPENINGS SHALL BE PROPERLY SEALED SO AS TO MEET FIRE RATING.



NORTH

1 UNDER SLAB PLUMBING PLAN

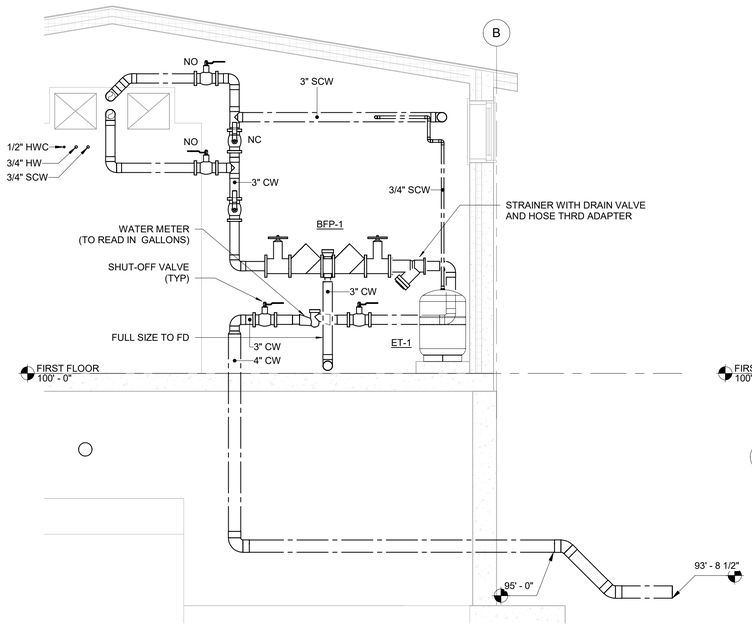
1/4" = 1'-0" 0 6'



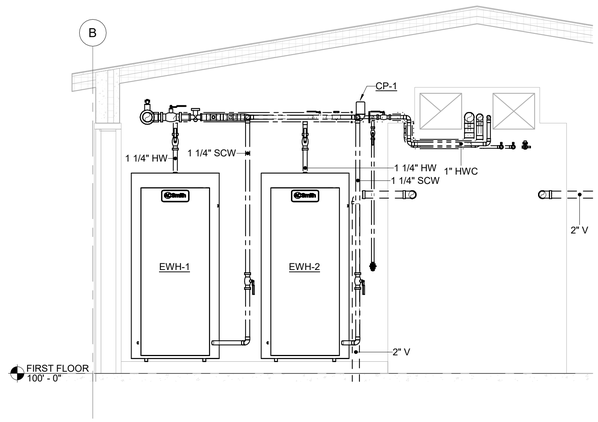
NORTH

2 PLUMBING PLAN

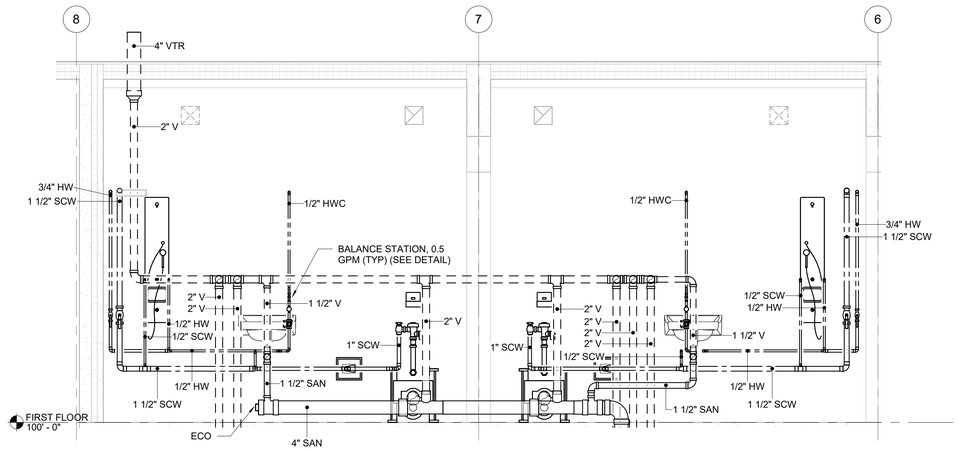
1/4" = 1'-0" 0 6'



1 PLUMBING SECTION - WATER SERVICE ENTERANCE
1/2" = 1'-0" 0 3'

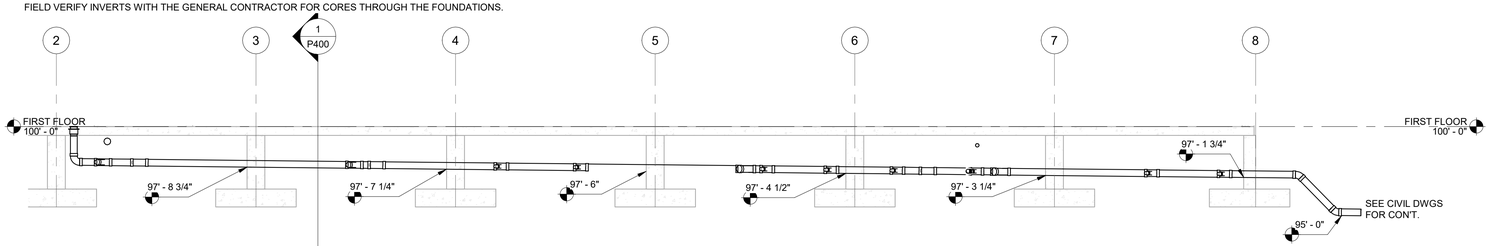


2 PLUMBING SECTION - WATER HEATERS
1/2" = 1'-0" 0 3'



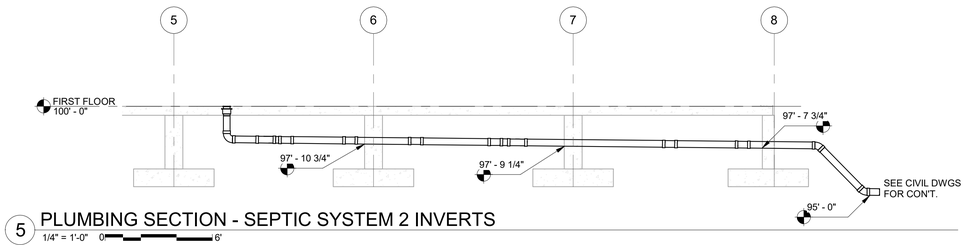
3 PLUMBING SECTION - CHASE PIPING (TYP 4)
1/2" = 1'-0" 0 3'

FIELD VERIFY INVERTS WITH THE GENERAL CONTRACTOR FOR CORES THROUGH THE FOUNDATIONS.



4 PLUMBING SECTION - SEPTIC SYSTEM 1 INVERTS
1/4" = 1'-0" 0 6'

FIELD VERIFY INVERTS WITH THE GENERAL CONTRACTOR FOR CORES THROUGH THE FOUNDATIONS.



5 PLUMBING SECTION - SEPTIC SYSTEM 2 INVERTS
1/4" = 1'-0" 0 6'

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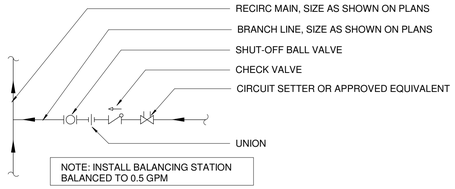
JOHNSON COUNTY CONSERVATION

PROJECT NO.: 2250000910

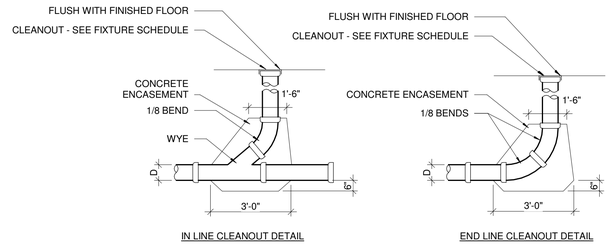
ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: PLUMBING SECTIONS

SHEET NO.: P400



1 BALANCING STATION DETAIL
NOT TO SCALE



2 CLEANOUT DETAILS
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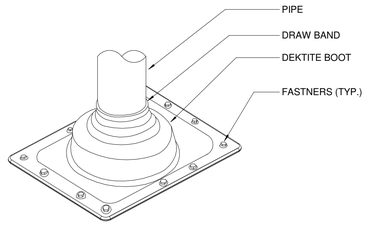

3 METAL ROOF PIPE PENETRATION
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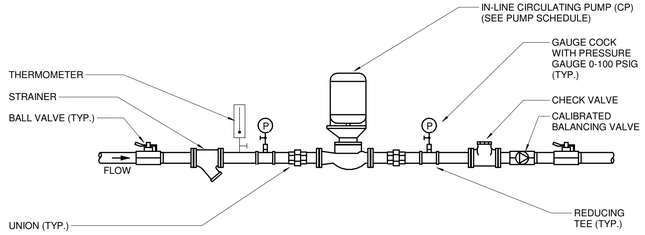
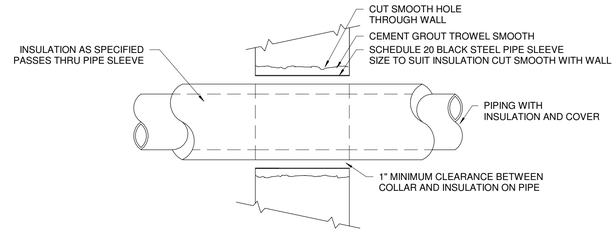
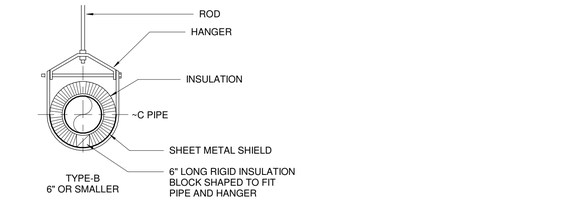


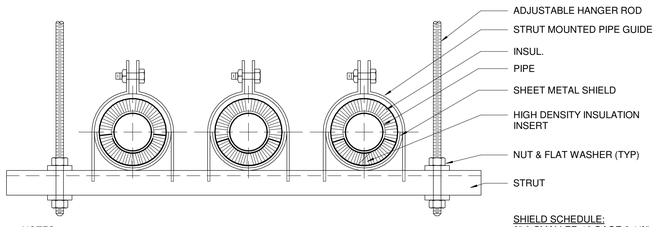
4 IN-LINE CIRCULATING PUMP DETAIL
NOT TO SCALE



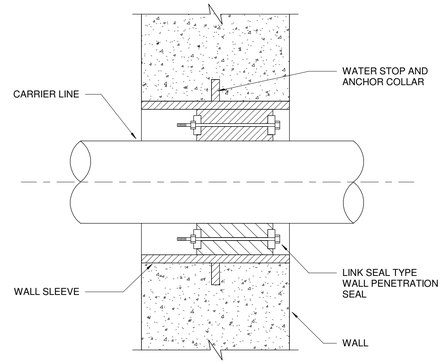
5 INTERIOR WALL PIPE PENETRATION DETAIL
NOT TO SCALE



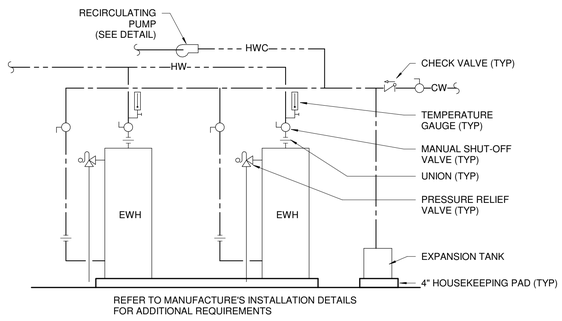
6 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



7 TRAPEZE TYPE HANGER DETAIL
NOT TO SCALE



8 PIPE PENETRATION IN CAST-IN-PLACE CONCRETE WALL
NOT TO SCALE



9 WATER HEATER DETAIL
NOT TO SCALE

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Iowa | Illinois | Indiana | Nebraska | Wisconsin

JOHNSON COUNTY CONSERVATION

PROJECT NO.: 2250000910

ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: PLUMBING DETAILS

SHEET NO.: P500

PLUMBING FIXTURE SCHEDULE

REMARKS:
1. WATER HAMMER ARRESTORS NOT SHOWN ON PLANS. REFER TO SPECIFICATIONS AND 2021 UPC. INSTALL ON BOTH COLD AND HOT WATER PIPING IN AN UPRIGHT POSITION. LOCATE AT THE ENDS OF PIPE RUNS OR NEAR A BATTERY OF FIXTURES. FOLLOW MANUFACTURER'S SPECIFICATIONS FOR LOCATION AND INSTALLATION. INSTALL IN AN ACCESSIBLE LOCATION. AIR CHAMBERS NOT ALLOWED.
2. NOT ALL CO, FCO, WCO, ECO ARE SHOWN ON PLANS, REFER TO SPECIFICATIONS AND 2021 UPC. CLEANOUT COVERS SHALL BE STAMPED OR ENGRAVED ON COVER AS "SAN". FIELD COORDINATE EXACT LOCATION OF FLOOR AND WALL CLEANOUTS WITH GENERAL CONTRACTOR.

		FIXTURE				FAUCET / FLUSH VALVE				PIPE CONNECTIONS / ROUGH-IN PIPE DIAMETER					ACCESSORIES
TAG	FIXTURE TYPE	MANUFACTURER	MODEL	MATERIAL	DESCRIPTION	MANUFACTURER	MODEL NO.	FINISH	DESCRIPTION	STM	SAN	VENT	CW	HW	COMMENTS
BFP-1	BACKFLOW PREVENTER	WATTS	LF909	CAST IRON	REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY, GATE VALVES, FDA EPOXY COATED WYE STRAINER, AIR GAP ACCESSORY.								3"		
FCO-1	FLOOR CLEANOUT - ROUND	SIOUX CHIEF	854-64NR	CAST IRON	ADJUSTABLE LEVELING FLOOR CLEANOUT, CAST IRON BODY, WITH GAS AND WATERTIGHT ABS TAPERED THREAD PLUG, AND ROUND SCORIATED SECURED NICKEL BRONZE LIGHT-DUTY TOP. INSTALL FLUSH WITH FINISHED FLOOR.						4"				
FD-1	FLOOR DRAIN - ROUND	SIOUX CHIEF	842	CAST IRON	FLOOR DRAIN, 4 1/2" DIAMETER ADJUSTABLE STRAINER HEAD, NICKEL BRONZE STRAINER DEEP CAST IRON P-TRAP. SET TOP OF STRAINER FLUSH WITH FINISHED FLOOR.						2"	2"			
FD-2	FLOOR DRAIN - ROUND	SIOUX CHIEF	842	CAST IRON	SAME AS FD-1 EXCEPT 6 1/2" DIAMETER ADJUSTABLE STRAINER HEAD.						3"	2"			
LAV-1	LAVATORY - WALL HUNG - ADA	KOHLER	K-1722-0	WHITE VITREOUS CHINA	WALL MOUNT LAVATORY, 19 1/4" x 17-1/4", SINGLE CENTER HOLE, WHITE VITREOUS CHINA. MOUNT RIM AT 34" AFF. PROVIDE CHROME PLATED TAILPIECE, GRID DRAIN AND P-TRAP. LOOSE KEY ANGLE STOPS AND SUPPLIES. MOUNT AT ADA COMPLIANT HEIGHT. INSULATE WATER AND WASTE TO MEET ADA REQUIREMENTS USING ADA INSULATION KIT, TRUEBRO OR EQUIVALENT.	MOEN	M8884	CHROME	SINGLE HANDLE FAUCET, 0.5 GPM, SINGLE HOLE INSTALLATION, VANDAL RESISTANT, ADA COMPLIANT.		1 1/2"	1 1/2"	1/2"	1/2"	PROVIDE WITH ZURN CONCEALED ARM CARRIER, MODEL AS REQUIRED. PROVIDE WITH LEONARD MODEL 270 THERMAL MIXING VALVE SET TO DELIVER A MIXED HOT WATER TEMPERATURE OF 110°F.
MB-1	MOP BASIN	PROFLO	PFMB24X24	MOLDED COMPOSITE	24" x 24" x 10", CORNER INSTALLATION, VINYL BUMBER GUARDS, STAINLESS STEEL WALL GUARDS ON TWO SIDES. DRAIN BODY SHALL BE FACTORY INSTALLED, STAINLESS STEEL FLAT STRAINER, LEAD CAULKED JOINT FOR 3" WASTE CONNECTION, DEEP SEAL CAST IRON P-TRAP.	CHICAGO FAUCET CO	835-369CP	CHROME	WALL MOUNTED, 6" CENTERS, TOP MOUNTED SUPPLIES, INTEGRAL STOPS AND VACUUM BREAKER SPOUT WITH PAIL HOOK AND WALL BRACE. VANDAL-PROOF, LEVER HANDLES.		3"	2"	3/4"	3/4"	PROVIDE STAINLESS STEEL MOP HANGER AND 3 RUBBER TOOL GRIPS, 30" LONG RUBBER HOSE WITH HOSE BRACKET AND RUBBER GRIP.
SH-1	SHOWER - FAUCET	-	-	-	-	ACORN	1741ADA	STAINLESS STEEL	42" X 11" SINGLE-PANEL WALL MOUNT, T/P TEMPERATURE/PRESSURE BALANCING MIXING VALVE, RECESSED SOAP DISH, UPPER SHOWER HEAD WITH LOWER HANDHELD SHOWER WITH 60" HOSE FOR ADA USE, VACUUM BREAKER, QUICK DISCONNECT, MOUNTING BRACKET, WALL SLEEVE. MOUNT AT ADA COMPLIANT HEIGHT.				1/2"	1/2"	
WC-1	WATER CLOSET - WALL HUNG - ADA	KOHLER	K-84454-0	WHITE VITREOUS CHINA	16 1/2" ELONGATED BOWL, WATERSENSE CERTIFIED 1.28 GPF, WHITE VITREOUS CHINA, 1 1/2" REAR SPUD. MOUNT RIM AT 17" AFF FOR ADA HEIGHT REQUIREMENTS.	SLOAN	S3914856	CHROME	CONCEALED MANUAL FLUSH VALVE, PUSH-BUTTON FLUSH ACTUATOR, 1.28 GPF, 1" I.P.S. WHEEL HANDLE ANGLE STOP, 14 1/2" ROUGH IN ABOVE FIXTURE, BACK-CHECK ANGLE STOP, VACUUM BREAKER, WALL AND SPUD FLANGE, ADA COMPLIANT.		4"	2"	1"		PROVIDE WITH ZURN ADJUSTABLE HORIZONTAL CARRIER, ZZ1203-N(L4/R4) MODEL AS REQUIRED. PROVIDE WITH BEMIS SEAT, ELONGATED, ANTI-MICROMBIAL SOLID PLASTIC, OPEN FRONT, WHITE, HEAVY DUTY SELF-SUSTAINING CHECK HINGE WITH BUMPERS, NO COVER.
WHY-1	EXTERIOR WALL HYDRANT	WOODFORD	B67	STAINLESS STEEL	FREEZELESS, AUTOMATIC DRAINING, ASSE 1052 'NIDEL' 50HA HIGH FLOW DOUBLE CHECK BACKFLOW PREVENTER, WALL CLAMP AND LOCKABLE DOOR W/LOOSE TEE KEY. EXACT HEIGHT, LOCATION AND FINISH TO BE COORDINATED WITH BUILDING MATERIALS, ARCHITECTURAL FINISHES AND G.C.								3/4"		

WATER HEATER SCHEDULE - ELECTRIC

REMARKS:
1. INSTALL ON 4" CONCRETE HOUSE KEEPING PAD.

			WATER (°F)				ELECTRICAL DATA					
MARK	STORAGE (GAL)	RECOVERY (GPH)	IN	OUT	ELEMENT KW	# OF ELEMENTS	TOTAL KW	VOLTS	PHASE	CONTROL OR STARTER	DISCONNECT FURNISHED / INSTALLED	DESIGN BASIS
EWH-1	120	99	40	140	4	3	12	240	1	INTERNAL	EC/EC	AO SMITH DRE-120-12
EWH-2	120	99	40	140	4	3	12	240	1	INTERNAL	EC/EC	AO SMITH DRE-120-12

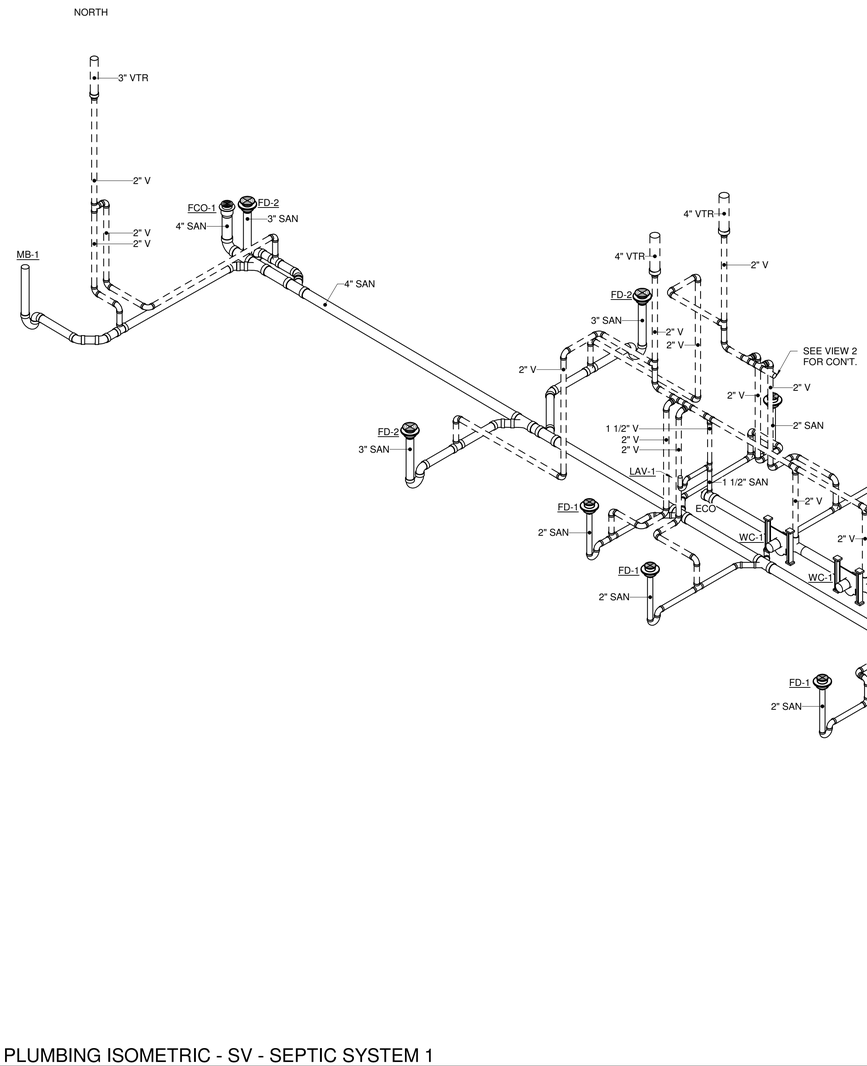
PLUMBING PUMP SCHEDULE

REMARKS:
1. PROVIDE WITH AQUASTAT AND TIMER. 115V, MAX 16A, COORDINATE WITH EC.
2. INSTALL PUMP PER MANUFACTURER'S INSTRUCTIONS.
3. STARTER, DISCONNECT AND TIMER INTERLOCK WIRING BY EC.

				ELECTRICAL DATA								
MARK	TYPE	GPM	HEAD (FT)	WATTS	FLA	RPM	VOLTS	PHASE	CONTROL OR STARTER	CONTROLLER OR STARTER FURNISHED / INSTALLED	DISCONNECT FURNISHED / INSTALLED	DESIGN BASIS
CP-1	IN-LINE	4.5	10	92	0.8	2940	115	1	AQUASTAT	MC/EC	EC/EC	BELL&GOSSET NBF-22

PLUMBING EXPANSION TANK SCHEDULE

MARK	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	DESIGN BASIS
ET-1	DIAPHRAGM	16.6	11.3	AMTROL ST-30VC-DD



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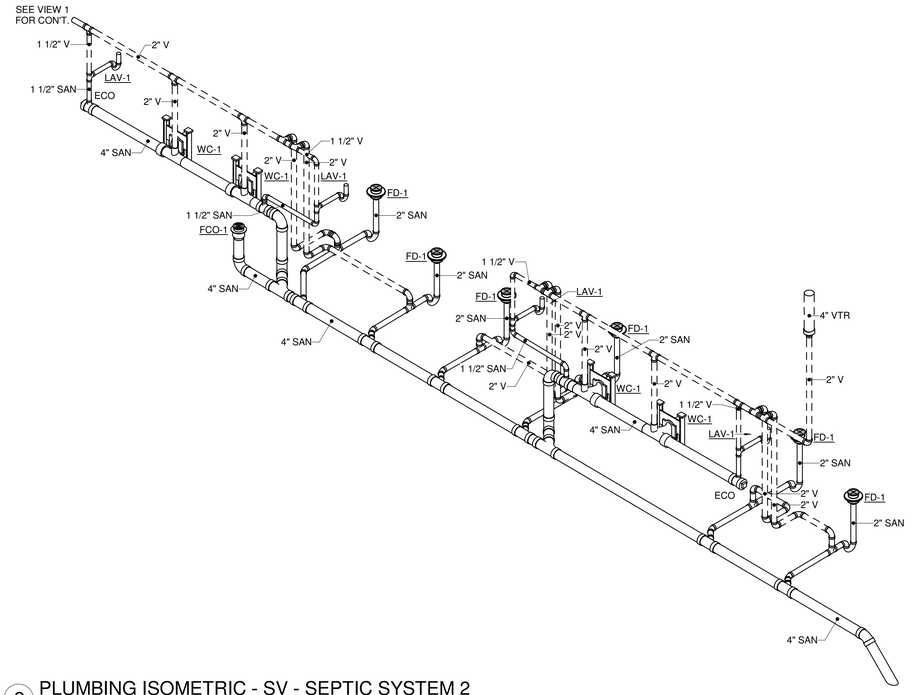
NOT TO SCALE



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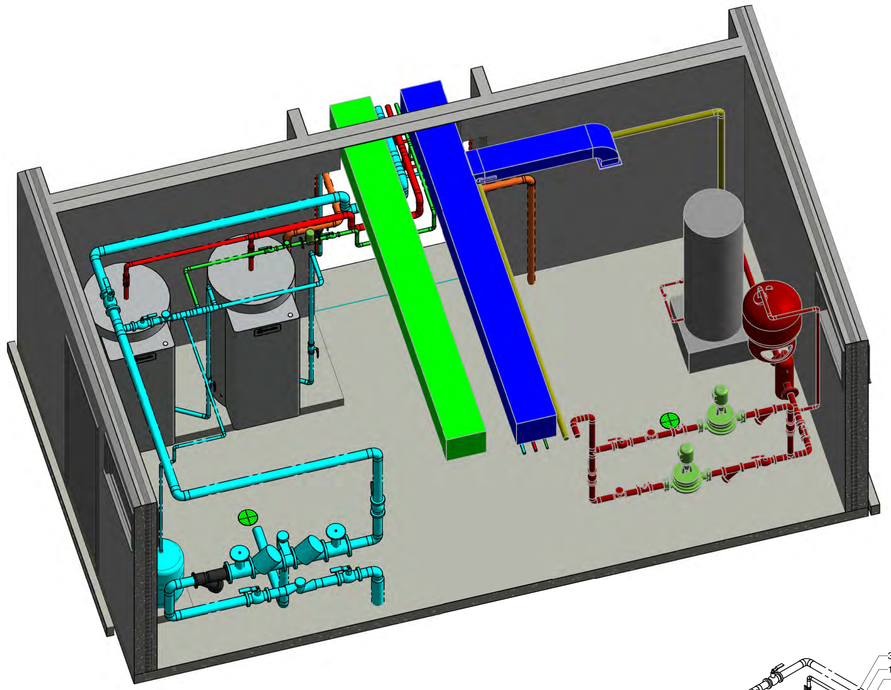

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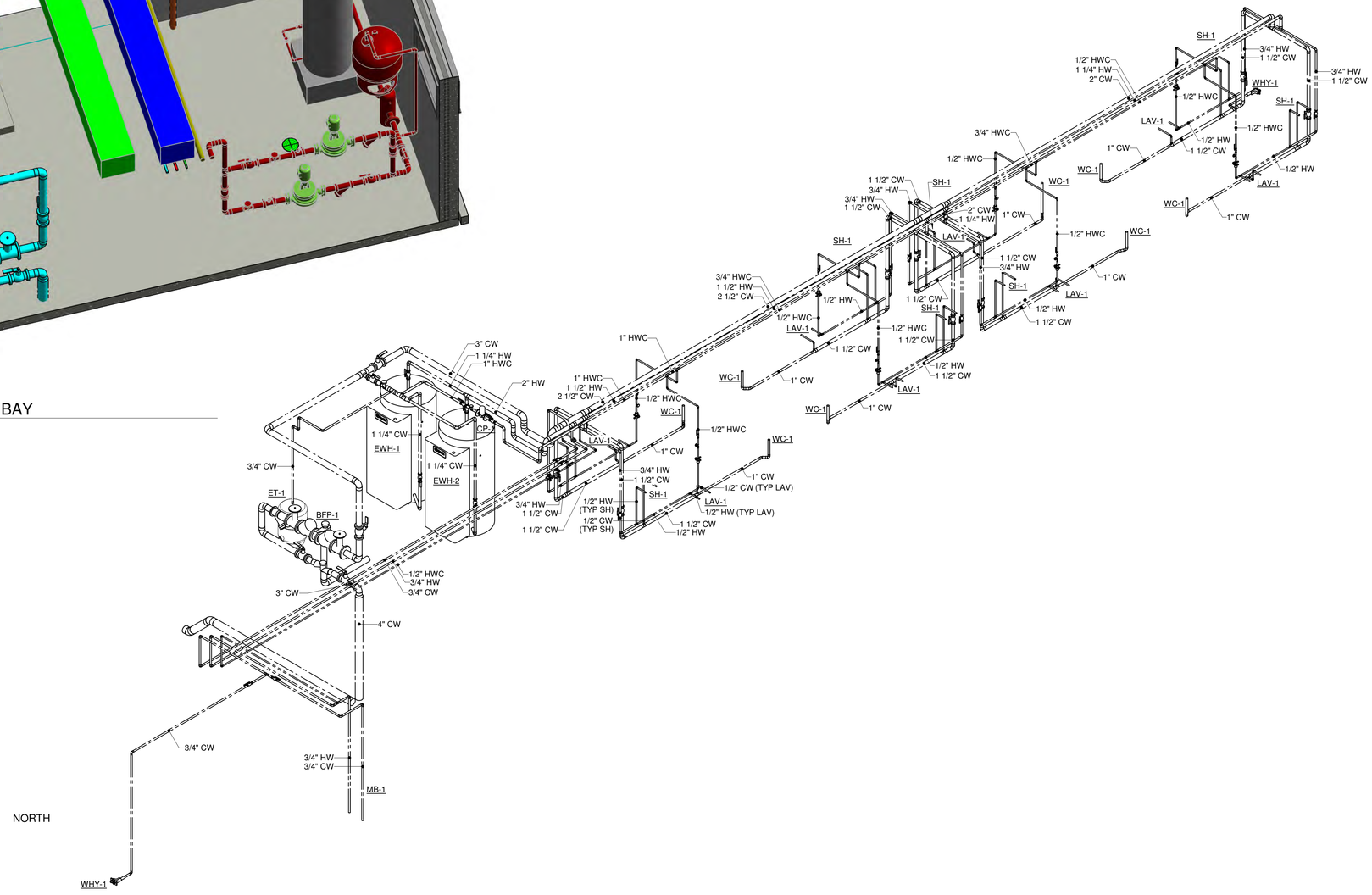

1 PLUMBING ISOMETRIC - DOMESTIC
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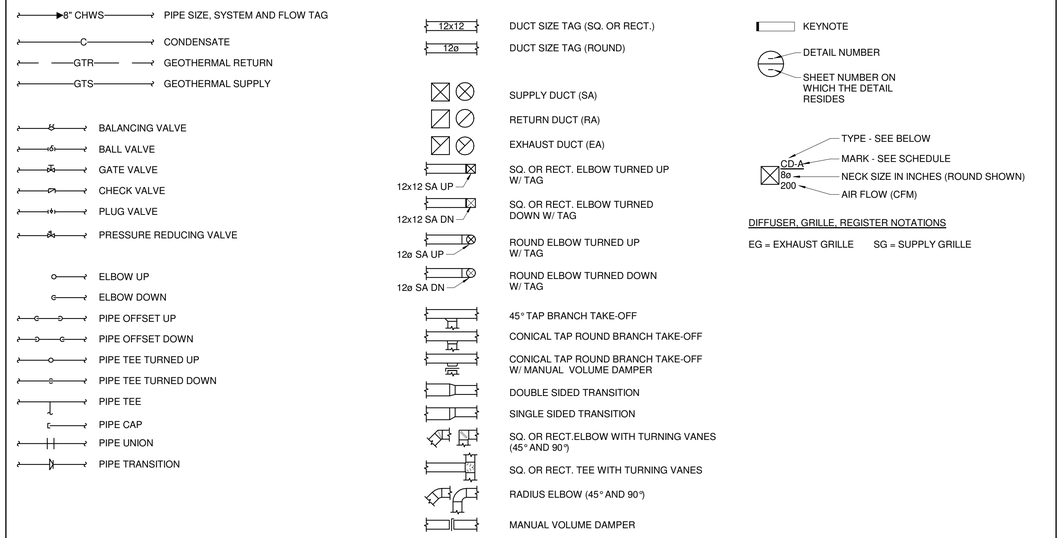
MECHANICAL SYMBOLS LEGEND



DIFFUSER, GRILLE, REGISTER NOTATIONS

EG = EXHAUST GRILLE SG = SUPPLY GRILLE

MECHANICAL DUCTWORK

1. UNLESS NOTED OTHERWISE: LIGHT LINES INDICATE EXISTING DUCTWORK OR EQUIPMENT WHICH IS TO REMAIN. BOLD LINES INDICATE DUCTWORK AND EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT.
2. DUCTWORK SHOWN IS IN SCHEMATIC FORM. NOT ALL RISERS AND DROPS ARE SHOWN. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND TO AVOID INTERFERENCE WITH OTHER TRADES. COORDINATE WITH OTHER TRADES PRIOR TO FABRICATION. THE CONTRACTOR SHALL PROVIDE COMPLETE FULLY FUNCTIONAL SYSTEMS.
3. INSTALL MANUAL VOLUME DAMPERS IN ALL SUPPLY, RETURN AND EXHAUST DUCT SYSTEMS AS REQUIRED FOR CONTROLLING AIR VOLUMES TO TRUNK DUCTS, BRANCH DUCTS, OUTLETS, AND INLETS. CONTRACTOR SHALL INSTALL A COMPLETE SYSTEM OF DAMPERS AS REQUIRED FOR BALANCING AIR SYSTEMS.
4. ALL FLOOR MOUNTED MECHANICAL EQUIPMENT SHALL BE MOUNTED ON MINIMUM 4" CONCRETE HOUSEKEEPING PAD(S).
5. ALL EQUIPMENT AND DUCTWORK SUSPENDED BELOW THE ROOF SHALL BE SUSPENDED FROM THE STRUCTURE AND NOT THE ROOF DECK.
6. ALL EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED TO BE EASILY ACCESSIBLE.
7. ALL WORK SHALL BE COMPLETED IN A SAFE WORKMANLIKE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL AND NATIONAL CODES, REGULATIONS AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS OR ORDINANCE, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.
8. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS AS REQUIRED FOR MECHANICAL INSTALLATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BOTH A COMPLETE AND COMPLIANT INSTALLATION AS MAY BE DETERMINED BY THE AUTHORITY(S) HAVING JURISDICTION.
9. CONTRACTOR SHALL NOT PROCURE OR FABRICATE ANY DUCTWORK OR EQUIPMENT WITHOUT FIRST VERIFYING ALL DIMENSIONS AND CONDITIONS WHETHER CURRENTLY EXISTING OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING ANY REQUIRED REWORK.
10. MAINTAIN ALL MANUFACTURER RECOMMENDED EQUIPMENT SERVICE AND SAFETY CLEARANCES. DO NOT LOCATE ANY EQUIPMENT OR RUN MATERIALS ABOVE ANY ELECTRICAL PANELS OR SWITCHGEAR. MAINTAIN ALL NFPA/NEC CODE REQUIRED CLEARANCES.
11. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, SCHEDULING AND SEQUENCING OF THEIR WORK WITH ALL OTHER TRADES. PROVIDE OFFSETS, EASEMENTS, OR RELOCATE TO AVOID CONFLICTS WITH WORK OF OTHER TRADES. FURNISH SUFFICIENT RESOURCES TO MEET ALL PROJECT MILESTONES AND DEADLINES.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHER-PROOF INTEGRITY OF ROOFS, WALLS AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR AND WALL OPENINGS WITH THE GENERAL CONTRACTOR (GC) OR CONSTRUCTION MANAGER.
13. PROTECT NEW WORK FROM DAMAGE OR DECONTAMINATION. PROVIDE TEMPORARY PROTECTIVE CAPPING OR TAPED POLYETHYLENE ENCLOSURES OVER OPEN DUCTWORK ENDS AND EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING DUCTWORK SYSTEMS PRIOR TO PLACING THEM IN SERVICE.
14. IN A NEAT AND WORKMANLIKE MANNER: PATCH ANY REMAINING OPENINGS AND FILL EXCESSIVE GAPS; REWORK AND REFINISH TO MATCH ADJACENT STRUCTURES; FLASH AND SEAL ALL MECHANICAL AND ELECTRICAL PENETRATIONS THRU WALLS, CEILINGS AND FLOORS WITH METAL FRAMEWORK OR ESCUTCHEONS. ALL OPENINGS SHALL BE PROPERLY SEALED SO AS TO MEET FIRE RATING.

MECHANICAL PIPING

1. PIPING SHOWN IS IN SCHEMATIC FORM. NOT ALL RISERS AND DROPS ARE SHOWN. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND TO AVOID INTERFERENCE WITH OTHER TRADES. COORDINATE WITH OTHER TRADES PRIOR TO FABRICATION. THE CONTRACTOR SHALL PROVIDE COMPLETE FULLY FUNCTIONAL SYSTEMS.
2. PROVIDE ACCESSIBLE ISOLATION VALVES AT ALL BRANCH CONNECTIONS TO MAINS. COORDINATE VALVE LOCATIONS ABOVE ACCESSIBLE CEILINGS OR COORDINATE WITH THE GC TO PROVIDE ACCESS PANELS.
3. BREAK CONNECTIONS REQUIRED AT ALL MAJOR EQUIPMENT AND PIPING ITEMS THAT REQUIRE REMOVAL FOR MAINTENANCE.
4. PIPE REDUCTIONS ON HORIZONTAL PIPING GOING FROM LARGER TO SMALLER SHALL BE MADE WITH ECCENTRIC REDUCERS: TOP FLAT FOR LIQUID SYSTEMS, CONCENTRIC REDUCERS MAY BE USED FOR FLOW GOING FROM SMALL TO LARGER SIZE PIPE.
5. NEW FLOOR/WALL/CEILING PENETRATIONS REQUIRED FOR MECHANICAL PIPING INSTALLATION SHALL BE CLEANLY BORED AT RIGHT ANGLES. AS NEW PIPING IS INSTALLED, NEW PIPING PENETRATIONS SHALL BE NEATLY CAULKED TO FILL VOID. WALL PENETRATIONS SHALL BE FINISHED WITH ESCUTCHEONS.
6. ALL NEW PIPING EXPOSED IN OCCUPIED SPACES SHALL HAVE PVC JACKETS INSTALLED OVER THE PIPING INSULATION. ANY PIPING REQUIRED TO BE EXPOSED SHALL BE INSTALLED VERTICALLY OR HORIZONTALLY IN LEAST VISIBLE LOCATION.
7. ALL BRANCH PIPING TO EQUIPMENT TO BE A MINIMUM OF 3/4" UNLESS OTHERWISE NOTED.
8. EXTEND ALL DRAIN CONNECTIONS FOR MECHANICAL EQUIPMENT TO NEAREST FLOOR DRAIN, MOP SINK, ETC., PROVIDE P-TRAP AS REQUIRED BY MANUFACTURER. DRAIN PIPING TO BE SIZED PER CODE OR LINE SIZE, WHICHEVER IS LARGER.
9. ALL EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED TO BE EASILY ACCESSIBLE.
10. ALL WORK SHALL BE COMPLETED IN A SAFE WORKMANLIKE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL AND NATIONAL CODES, REGULATIONS AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS OR ORDINANCE, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.
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12. CONTRACTOR SHALL NOT PROCURE OR FABRICATE ANY PIPING OR EQUIPMENT WITHOUT FIRST VERIFYING ALL DIMENSIONS AND CONDITIONS WHETHER CURRENTLY EXISTING OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING ANY REQUIRED REWORK.
13. MAINTAIN ALL MANUFACTURER RECOMMENDED EQUIPMENT SERVICE AND SAFETY CLEARANCES. DO NOT LOCATE ANY EQUIPMENT OR RUN MATERIALS ABOVE ANY ELECTRICAL PANELS OR SWITCHGEAR. MAINTAIN ALL NFPA/NEC CODE REQUIRED CLEARANCES.
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15. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHER-PROOF INTEGRITY OF ROOFS, WALLS AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR AND WALL OPENINGS WITH THE GENERAL CONTRACTOR (GC) OR CONSTRUCTION MANAGER.
16. PROTECT NEW WORK FROM DAMAGE OR DECONTAMINATION. PROVIDE TEMPORARY PROTECTIVE CAPPING OR TAPED POLYETHYLENE ENCLOSURES OVER OPEN PIPING ENDS AND EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING PIPING SYSTEMS PRIOR TO PLACING THEM IN SERVICE.
17. IN A NEAT AND WORKMANLIKE MANNER: PATCH ANY REMAINING OPENINGS AND FILL EXCESSIVE GAPS; REWORK AND REFINISH TO MATCH ADJACENT STRUCTURES; FLASH AND SEAL ALL MECHANICAL AND ELECTRICAL PENETRATIONS THRU WALLS, CEILINGS AND FLOORS WITH METAL FRAMEWORK OR ESCUTCHEONS. ALL OPENINGS SHALL BE PROPERLY SEALED SO AS TO MEET FIRE RATING.

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Iowa | Illinois | Indiana | Nebraska | Wisconsin

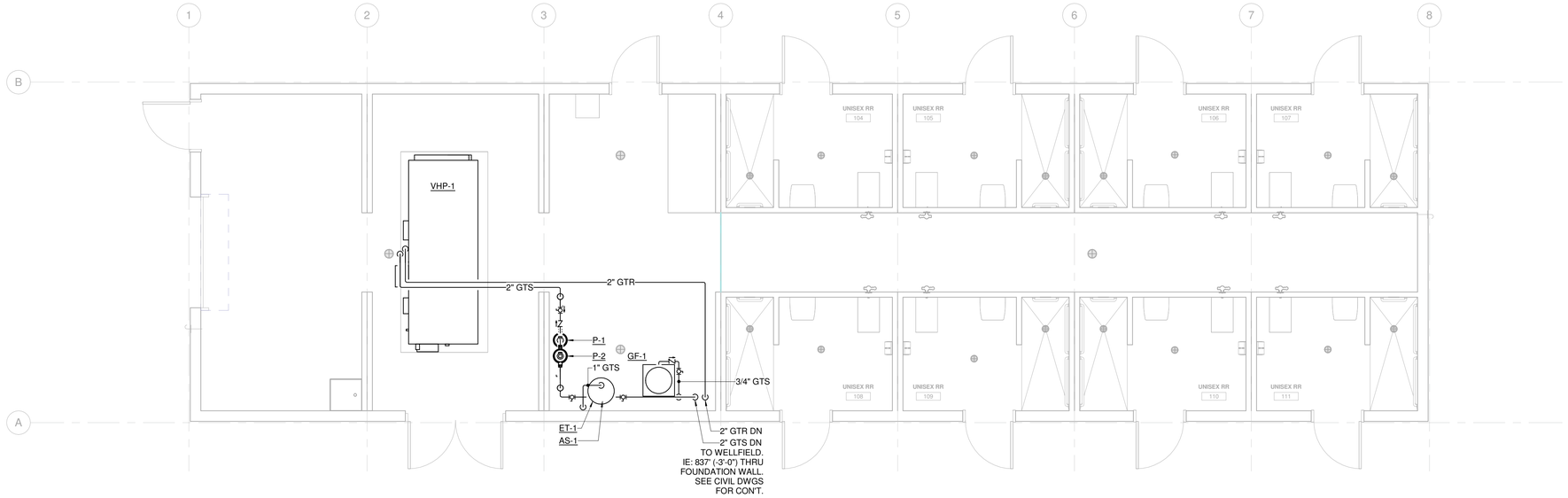
JOHNSON COUNTY CONSERVATION

PROJECT NO.: 2250000910

ISSUED FOR: BID DATE: 01/21/2026

SHEET NAME: MECHANICAL GENERAL INFORMATION

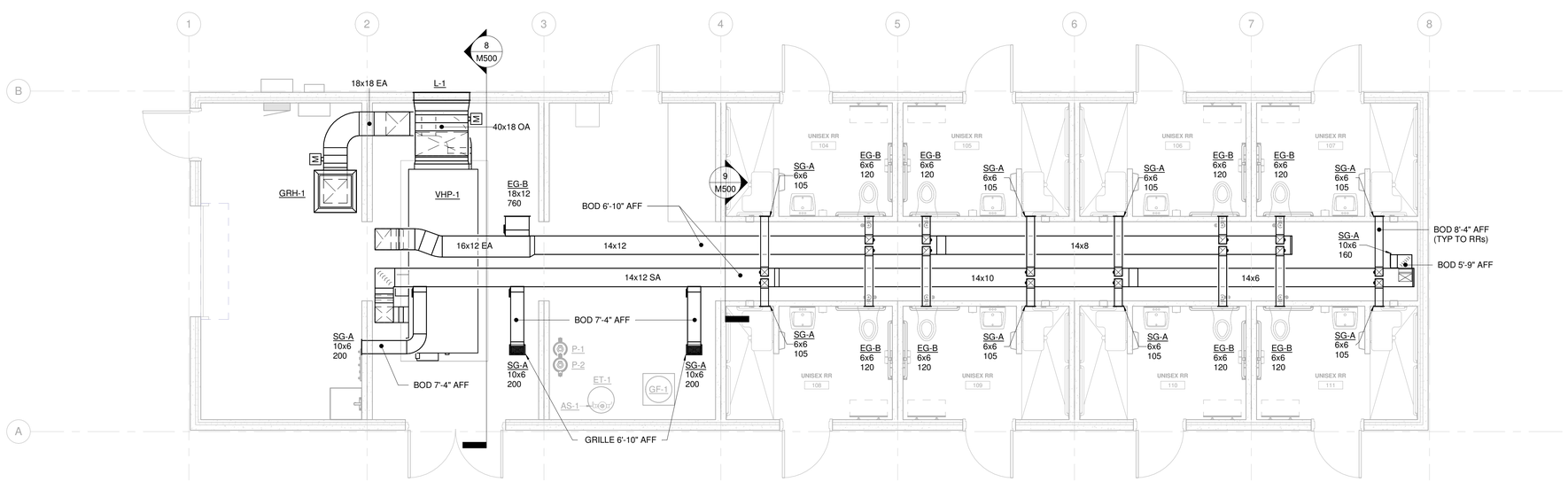
SHEET NO.: M000



NORTH

2 MECHANICAL PIPING PLAN

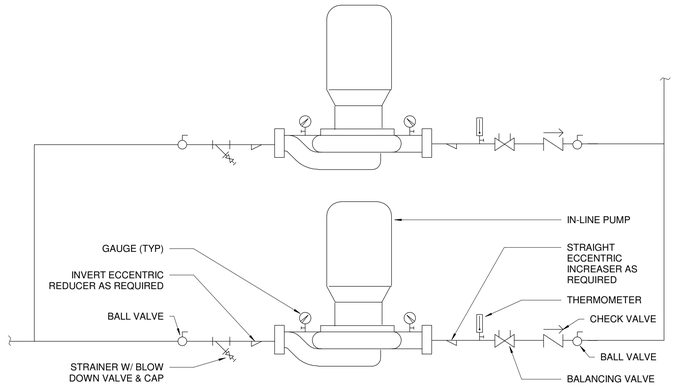
1/4" = 1'-0" 0 6'



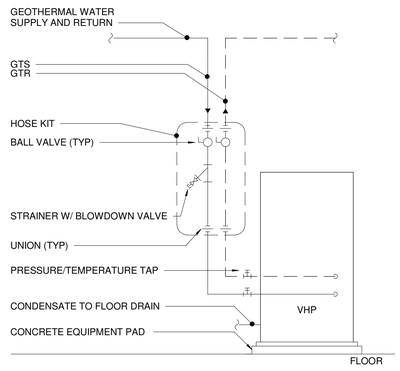
NORTH

1 MECHANICAL HVAC PLAN

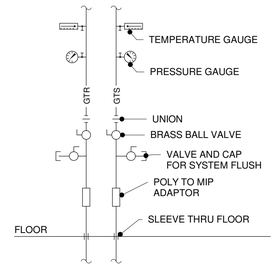
1/4" = 1'-0" 0 6'



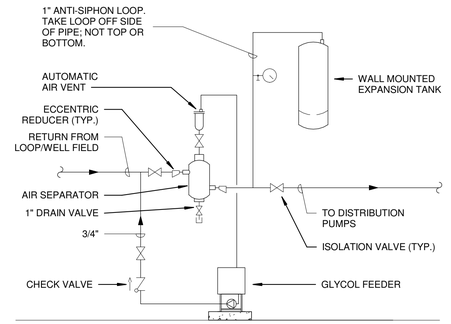
1 PIPING DIAGRAM - IN-LINE PUMP
NOT TO SCALE



2 HEAT PUMP PIPING DETAIL
NOT TO SCALE

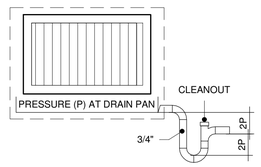


3 GEOTHERMAL LOOP HEADER DETAIL
NOT TO SCALE

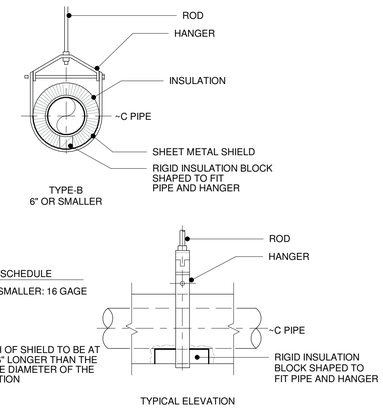


4 AIR SEPARATOR, EXPANSION TANK AND GLYCOL FEEDER DETAIL
NOT TO SCALE

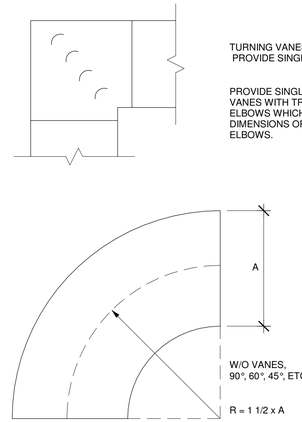
NOTE:
1. PIPING SHALL BE SLOPED IN THE DIRECTION OF FLOW AT 1/8" PER FOOT MINIMUM.
2. PIPING SHALL BE SUPPORTED INDEPENDENTLY OF THE COILS.
3. DRAIN LINES SHALL BE RUN FULL SIZE (MINIMUM) FROM THE DRAIN PAN CONNECTION.
4. "TRAP DEPTH" AND "THE DISTANCE BETWEEN THE TRAP AND TRAP OUTLET" SHALL BE TWICE (MINIMUM) THE STATIC PRESSURE IN THE DRAIN PAN SECTION.



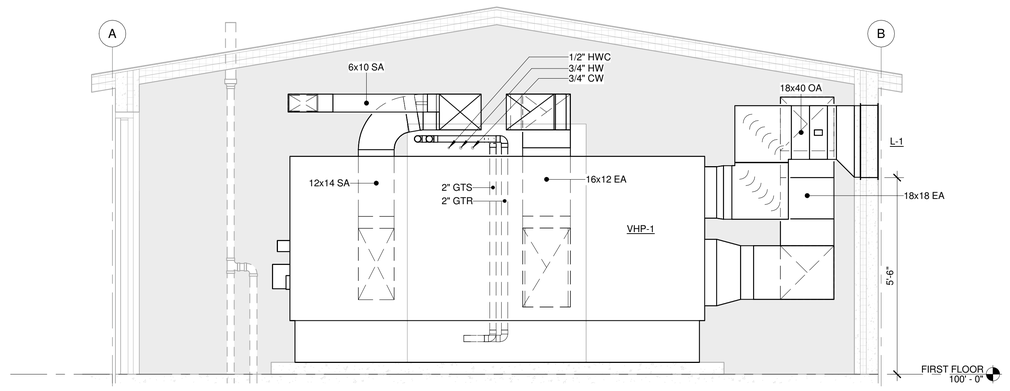
5 DRAIN PAN PIPING DETAIL
NOT TO SCALE



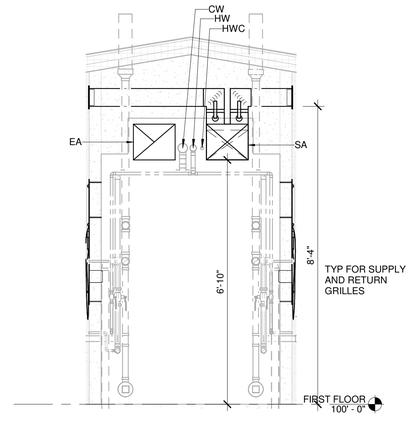
6 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



7 ELBOW DETAILS
NOT TO SCALE



8 MECHANICAL SECTION - VHP
1/2" = 1'-0" 0 3'



9 MECHANICAL SECTION - PIPE CHASE
1/2" = 1'-0" 0 3'

SHIVEHATTERY ARCHITECTURE + ENGINEERING
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319.364.0227 | fax 319.364.4251 | www.shive-hattery.com
Iowa | Illinois | Indiana | Nebraska | Wisconsin

JOHNSON COUNTY CONSERVATION | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: MECHANICAL DETAILS & SECTIONS | SHEET NO.: M500

HEAT PUMP SCHEDULE - WATER SOURCE

REMARKS:
1. SENSIBLE ENERGY RECOVERY WHEEL WITH BYPASS DAMPER, WATER COOLED HEAT PUMP, AND ELECTRIC REHEAT.
2. ALL MOTORS SHALL BE NEMA PREMIUM EFFICIENCY.
3. PROVIDE FACTORY MOUNTED DISCONNECT.
4. VHP-1 COOLING IS BASED ON 90°F EWT, HEATING IS BASED ON 40°F EWT. 30% PROPYLENE GLYCOL.
5. EER AND COP VALUE BASED AHRI STANDARD CONDITIONS.
6. HEAT PUMP SHALL HAVE MODULATING CAPACITY WITH VFD. FANS SHALL BE VARIABLE SPEED ECM MOTORS.
7. ALL ALUMINUM INTERIOR.
8. PROVIDE WITH EXTRA SET OF FILTERS. REPLACE AT TIME OF OWNER ACCEPTANCE.

	SUPPLY FAN DATA			EXHAUST FAN DATA			HEAT PUMP - COOLING										HOT GAS REHEAT		HEAT PUMP - HEATING							ENERGY RECOVERY WHEEL														ELECTRICAL INFORMATION				
							WATER FLOW				EAT (°F)		LAT (°F)		CAPACITY (MBH)											SUMMER OPERATION								WINTER OPERATION											
MARK	CFM	EXTERNAL STATIC PRESSURE (IN. WG)	HP	CFM	EXTERNAL STATIC PRESSURE (IN. WG)	HP	GPM	PD (FT H2O)	EWT (°F)	LWT (°F)	DB	WB	DB	WB	TOTAL	SENSIBLE	EER	LAT (°F)	MBH	EAT DB (°F)	LAT DB (°F)	EWT (°F)	LWT (°F)	TOTAL MBH	COP	ELECTRIC PRE-HEAT KW	OUTSIDE AIR EAT (°F) DB	OUTSIDE AIR EAT (°F) WB	EXHAUST AIR EAT (°F) DB	EXHAUST AIR EAT (°F) WB	TEMPERED AIR LAT (°F) DB	TEMPERED AIR LAT (°F) WB	EFFECTIVENESS %	TOTAL REC MBH	OUTSIDE AIR EAT (°F) DB	OUTSIDE AIR EAT (°F) WB	EXHAUST AIR EAT (°F) DB	EXHAUST AIR EAT (°F) WB	TEMPERED AIR LAT (°F) DB	TEMPERED AIR LAT (°F) WB	EFFECTIVENESS %	TOTAL REC MBH	VOLTS	PHASE	MCA	MOCP	DESIGN BASIS
VHP-1	1600	1	1	1720	1	1.5	20	8.4	90	103	80	68.1	45.8	45.8	100.6	59	16.3	70	18.9	51	100.8	40	33	88.3	3.8	10	95	76	75	63	80	67	71	53.91	-10	-11	70	58	52.8	46.2	74	124.9	240	3	83.7	100	TRANE OABF108D3

MECHANICAL PUMP SCHEDULE

1. WELLFIELD PRESSURE DROP ASSUMED TO BE 25 FEET. CONTRACTOR TO VERIFY PRIOR TO ORDERING PUMP.

MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	MOTOR DATA HP	RPM	VOLTS	PHASE	DESIGN BASIS	REMARKS
P-1	GEOTHERMAL	IN-LINE	20	40	1	1760	240	1	TACO 1915	VFD BY EC
P-2	GEOTHERMAL	IN-LINE	20	40	1	1760	240	1	TACO 1915	VFD BY EC

AIR/DIRT SEPARATOR

MARK	PIPE SIZE (IN)	CAPACITY (GPM)	MAX PD (FT)	AIR REMOVAL (%)	DESIGN BASIS	REMARKS
AS-1	2	20	0.4	99%	SPIROTHERM VDN200	REMOVABLE HEAD

GRAVITY INTAKE/RELIEF HOOD SCHEDULE

REMARKS:
1. PROVIDE WITH INSECT SCREEN AND 12" CURB.
2. PROVIDE WITH MOTORIZED DAMPER, GREENHECK MODEL ICD-45 WITH 24V/1PH ACTUATOR (OR EQUAL).

MARK	CFM	THROAT SIZE (WxL) (IN)	THROAT VELOCITY (FPM)	MAX PD (IN)	DESIGN BASIS
GRH-1	1925	18X18	856	0.15	GREENHECK WRH-18X18

DIFFUSERS REGISTERS AND GRILLES SCHEDULE

MARK	MATERIAL	DESCRIPTION	FACTORY FINISH	DESIGN BASIS
A	ALUMINUM	3/4" SPACING DBL DEF	WHITE	TITUS 350FS
B	ALUMINUM	3/4" SPACING 35° DEF	WHITE	TITUS 300FS

GLYCOL FEED SYSTEM SCHEDULE

MARK	SYSTEM SERVED	TANK VOLUME (GAL)	PRESSURE RANGES (PSI) CUT IN	CUT OUT	ELECTRICAL DATA VOLTS	PHASE	HP	DESIGN BASIS
GF-1	GEOTHERMAL	50	10-45	20-60	120	1	0.33	NEPTUNE G-50-1

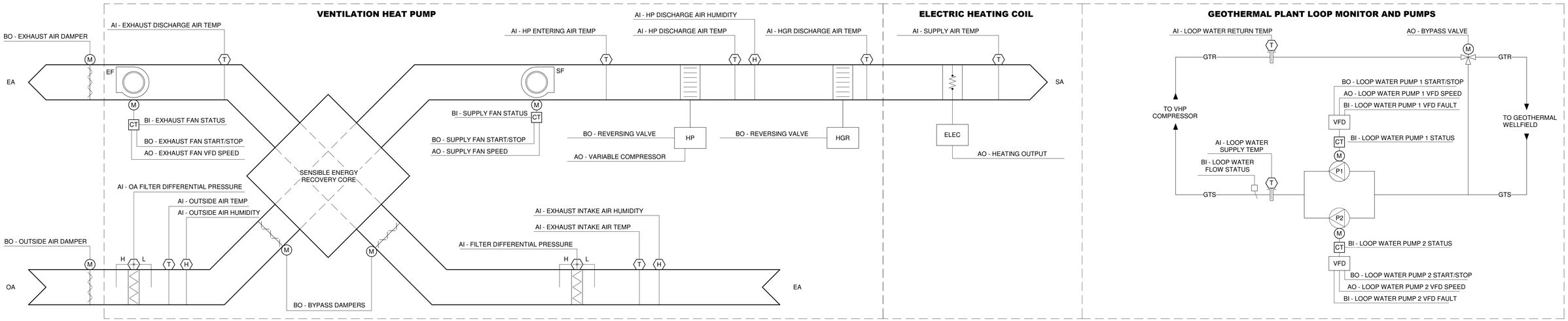
MECHANCAL PIPING EXPANSION TANK SCHEDULE

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	DESIGN BASIS
ET-1	GEOTHERMAL	BLADDER	23	23	TACO CA-90

LOUVER SCHEDULE

1. PROVIDE WITH BIRD SCREEN.
2. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTERER'S FULL RANGE OF COLOR OPTIONS.
3. PROVIDE WITH MOTORIZED DAMPER, GREENHECK MODEL ICD-45 WITH 24V/1PH ACTUATOR (OR EQUAL).

MARK	CFM	DIMENSIONS (IN) W	H	D	FREE AREA (%)	FREE AREA VELOCITY (FPM)	PRESSURE DROP (IN WG)	DESIGN BASIS
L-1	1825	42	24	6	49	540	0.05	RUSKIN ELF6375DX



2 CONTROLS SCHEMATIC

NOT TO SCALE

VENTILATION HEAT PUMP:

RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL RUN CONTINUOUSLY BASED ON A USER DEFINED SCHEDULE.

SUPPLY FAN:
THE SUPPLY FAN SHALL RUN CONTINUOUSLY, UNLESS SHUTDOWN ON SAFETIES.
OCCUPIED MODE: FAN SHALL OPERATE AT FULL SCHEDULED AIRFLOW
UNOCCUPIED MODE: FAN SHALL OPERATE AT 30% SCHEDULED AIRFLOW

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

EXHAUST FAN:
THE EXHAUST FAN SHALL RUN WHENEVER THE SUPPLY FAN RUNS.
OCCUPIED MODE: FAN SHALL OPERATE AT FULL SCHEDULED AIRFLOW
UNOCCUPIED MODE: FAN SHALL OPERATE AT 30% SCHEDULED AIRFLOW

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- EXHAUST FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- EXHAUST FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

HEATING AND COOLING - VARIABLE COMPRESSOR:
THE CONTROLLER SHALL MODULATE THE COMPRESSOR TO MAINTAIN EXHAUST INTAKE AIR TEMPERATURE SETPOINT. THE COMPRESSOR SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.
- COOLING MODE: 75°F (ADJ.) OCCUPIED / 78°F (ADJ.) UNOCCUPIED RETURN AIR TEMPERATURE
- HEATING MODE: 70°F (ADJ.) OCCUPIED / 67°F (ADJ.) UNOCCUPIED RETURN AIR TEMPERATURE

THE HEATING SHALL BE ENABLED WHENEVER:
- EXHAUST INTAKE AIR TEMPERATURE IS 2°F (ADJ.) LESS THAN SETPOINT
- AND THE FAN STATUS IS ON.
- AND THE REVERSING VALVE IS IN HEAT MODE.

THE COOLING SHALL BE ENABLED WHENEVER:
- EXHAUST INTAKE AIR TEMPERATURE IS 2°F (ADJ.) MORE THAN SETPOINT
- AND THE FAN STATUS IS ON.
- AND THE REVERSING VALVE IS IN COOL MODE.

ON MODE CHANGE, THE COMPRESSOR SHALL BE DISABLED AND REMAIN OFF UNTIL AFTER THE REVERSING VALVE HAS CHANGED POSITION.

DEHUMIDIFICATION:
THE CONTROLLER SHALL MEASURE THE EXHAUST INTAKE AIR HUMIDITY AND OVERRIDE THE COOLING SEQUENCE WHEN THE EXHAUST INTAKE AIR HUMIDITY IS AT OR ABOVE 60% RH (ADJ.). THE FANS SHALL OPERATE AT FULL AIRFLOW WHEN IN DEHUMIDIFICATION MODE. THE HP DISCHARGE AIR TEMPERATURE SHALL BE MAINTAINED AT 51°F (ADJ.) AND THE HOT GAS REHEAT COIL VALVE SHALL MODULATE TO MAINTAIN EXHAUST INTAKE AIR TEMPERATURE SETPOINT. DEHUMIDIFICATION SHALL BE ENABLED WHENEVER THE SUPPLY FAN STATUS IS ON.

HGR DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE HGR DISCHARGE AIR TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH SUPPLY AIR TEMP: IF THE HGR DISCHARGE AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
- LOW SUPPLY AIR TEMP: IF THE HGR DISCHARGE AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

OUTSIDE AIR TEMPERATURE:
MONITOR THE OUTSIDE AIR TEMPERATURE.

OUTSIDE AIR HUMIDITY:
MONITOR THE OUTSIDE AIR HUMIDITY.

OUTSIDE AIR FILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

EXHAUST INTAKE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE EXHAUST INTAKE AIR TEMPERATURE AND USE AS REQUIRED FOR SETPOINT CONTROL

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH EXHAUST INTAKE AIR TEMP: IF THE EXHAUST INTAKE AIR TEMPERATURE IS GREATER THAN 95°F (ADJ.).
- LOW EXHAUST INTAKE AIR TEMP: IF THE EXHAUST INTAKE AIR TEMPERATURE IS LESS THAN 60°F (ADJ.).

EXHAUST INTAKE AIR HUMIDITY:
THE CONTROLLER SHALL MONITOR THE EXHAUST INTAKE AIR HUMIDITY AND USE AS REQUIRED FOR HUMIDITY CONTROL.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH EXHAUST INTAKE AIR HUMIDITY: IF THE EXHAUST INTAKE AIR HUMIDITY IS GREATER THAN 70% (ADJ.).
- LOW EXHAUST INTAKE AIR HUMIDITY: IF THE EXHAUST INTAKE AIR HUMIDITY IS LESS THAN 35% (ADJ.).

EXHAUST AIR FILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

EXHAUST DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE EXHAUST DISCHARGE AIR TEMPERATURE.

ENERGY RECOVERY ECONOMIZER:
THE SENSIBLE ENERGY RECOVERY CORE BYPASS DAMPERS SHALL OPEN WHEN THE OUTSIDE AIR TEMPERATURE IS LESS THAN THE EXHAUST INTAKE AIR TEMPERATURE BY A USER DEFINABLE AMOUNT (ADJ.) IN COOLING MODE.
THE SENSIBLE ENERGY RECOVERY CORE BYPASS DAMPERS SHALL OPEN WHEN THE OUTSIDE AIR TEMPERATURE IS GREATER THAN THE EXHAUST INTAKE AIR TEMPERATURE BY A USER DEFINABLE AMOUNT (ADJ.) IN HEATING MODE.

OUTSIDE AIR AND EXHAUST AIR DAMPERS:
THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE WHEN THE UNIT IS OFF.

FROST CONTROL:
MODULATE THE OUTSIDE AIR BYPASS DAMPER TO MAINTAIN AN EXHAUST DISCHARGE AIR TEMPERATURE AT OR ABOVE 35°F

ELECTRIC HEATING COIL:

THE CONTROLLER SHALL MEASURE THE EXHAUST INTAKE AIR TEMPERATURE AND MODULATE THE HEATING TO MAINTAIN ITS HEATING SETPOINT SHOULD THE COMPRESSORS NOT MEET THE HEATING DEMAND.

THE ELECTRIC DUCT HEATER SHALL BE ENABLED WHENEVER:
- THE HEAT PUMP IS IN HEATING MODE
- AND THE EXHAUST INTAKE AIR TEMPERATURE IS BELOW HEATING SETPOINT.
- AND THE FAN IS ON.

SUPPLY AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
- LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 40°F (ADJ.).

SUPPLEMENTAL HEATING - HIGH SUPPLY AIR TEMPERATURE LIMIT:
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND, ON RISING TEMPERATURE, LIMIT THE SUPPLEMENTAL HEATING AS FOLLOWS:
- AS THE SUPPLY AIR TEMPERATURE RISES FROM 90°F TO 120°F (ADJ.),THE CONTROLLER SHALL LIMIT THE HEATING OUTPUT FROM 100% TO 0% (ADJ.).

GEOTHERMAL PLANT LOOP MONITOR AND PUMPS

WATER SOURCE HEAT PUMP LOOP MONITOR - RUN CONDITIONS:
THE LOOP MONITOR SHALL RUN WHENEVER:
- THE BUILDING IS IN OCCUPIED MODE.
- THE VENTILATION HEAT PUMP IS CALLING FOR HEATING OR COOLING.

THE FOLLOWING LOOP WATER CONDITIONS SHALL BE MONITORED:
- FLOW STATUS.
- SUPPLY TEMPERATURE.
- RETURN TEMPERATURE.

ALARMS AND A HEAT PUMP SHUTDOWN SIGNAL SHALL BE GENERATED UPON ANY OF THE FOLLOWING LOOP WATER CONDITIONS:
- NO LOOP FLOW.
- HIGH LOOP WATER SUPPLY TEMP SHUTDOWN: IF THE LOOP WATER SUPPLY TEMPERATURE IS GREATER THAN 92°F (ADJ.).
- LOW LOOP WATER SUPPLY TEMP SHUTDOWN: IF THE LOOP WATER SUPPLY TEMPERATURE IS LESS THAN 38°F (ADJ.)

LOOP WATER PUMP LEAD/LAG OPERATION:
THE TWO LOOP WATER PUMPS SHALL OPERATE IN A LEAD/LAG FASHION.
- THE LEAD PUMP SHALL RUN FIRST.
- ON FAILURE OF THE LEAD PUMP, THE LAG PUMP SHALL RUN AND THE LEAD PUMP SHALL TURN OFF.
- ON LOOP WATER RETURN TEMPERATURE BEING ±2°F OUTSIDE OF RANGE, THE LAG PUMP SHALL STAGE ON AND RUN IN UNISON WITH THE LEAD PUMP TO MAINTAIN LOOP WATER RETURN TEMPERATURE SETPOINT.

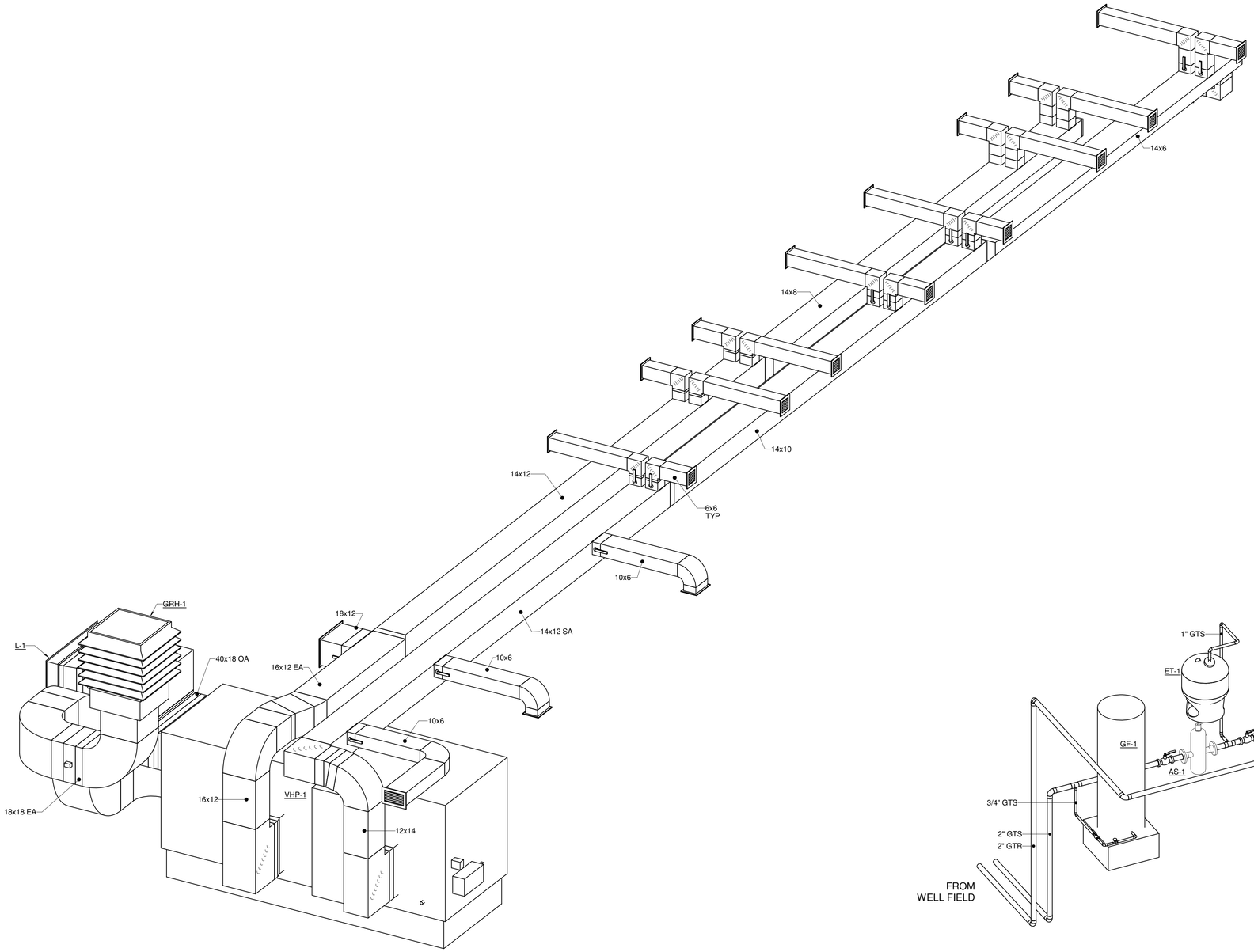
THE DESIGNATED LEAD PUMP SHALL ROTATE UPON ONE OF THE FOLLOWING CONDITIONS (USER SELECTABLE):
- MANUALLY THROUGH A SOFTWARE SWITCH
- IF PUMP RUNTIME (ADJ.) IS EXCEEDED
- DAILY
- WEEKLY
- MONTHLY

ALARMS SHALL BE PROVIDED AS FOLLOWS FOR EACH PUMP:
- LOOP WATER PUMP
  - FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - RUNNING IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
  - VFD FAULT.

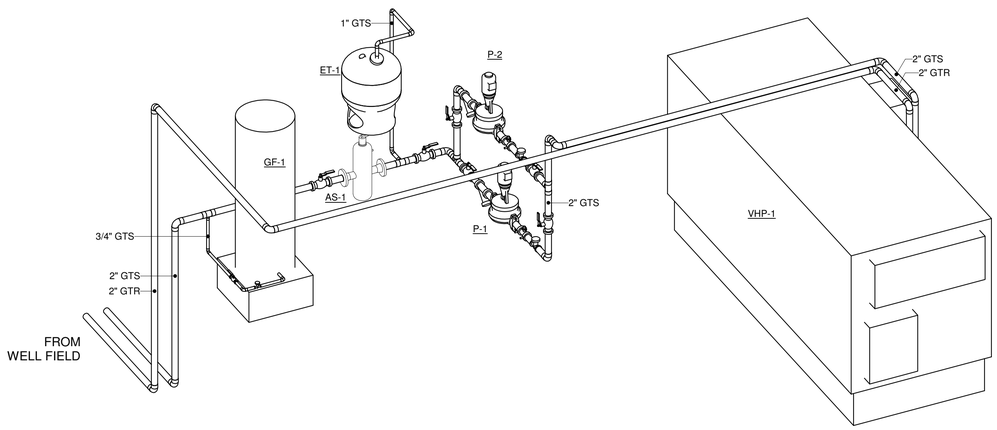
BYPASS VALVE:
A MODULATING 3-WAY, BYPASS CONTROL VALVE (FULL SIZED, BUTTERFLY STYLE), SHALL BE PROVIDED IN THE FULL SIZED LOOP FIELD BYPASS. THE VALVE AND PUMPS WILL BE PROGRAMMED TO OPERATE ACCORDING TO THE FOLLOWING SCHEDULE:

LOOP RETURN TEMPERATURE	VALVE POSITION (% OPEN TO BYPASS (ADJ.))	PUMP SPEED (ADJ)
≤ 40 F	0%	100%
41 TO 50 F	50%	75%
51 TO 70 F	100%	30%
71 TO 79 F	50%	75%
≥ 80 F	0%	100%

CONTACT MARTY PAUP AT CONTROL SYSTEM SPECIALISTS, LC
(712)299-5861
MPAUP@CSSHVAC.COM
ABB CONTROLS (CYLON AUTOMATRIX)



2 MECHANICAL ISOMETRIC - DUCTWORK



NOTE: SEE DETAILS ON SHEET M500 FOR ADDITIONAL VALVE AND ACCESSORY REQUIREMENTS.

1 MECHANICAL ISOMETRIC - GEOTHERMAL PIPING

NOT TO SCALE

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JOHNSON COUNTY CONSERVATION | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: MECHANICAL ISOMETRICS | SHEET NO.: M700

MECHANICAL AND ELECTRICAL COORDINATION SCHEDULE

GENERAL NOTES:

A. MOCP SIZES SHOWN BELOW ARE FOR BIDDING PURPOSES ONLY. VERIFY MOCP WITH EQUIPMENT NAME PLATE DATA PRIOR TO ORDERING EQUIPMENT.
B. MINIMUM WIRE SIZE SHALL BE #12 AWG AND MINIMUM CONDUIT SIZE SHALL BE 3/4".
C. INCLUDE A SEPARATE, GREEN, CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS.

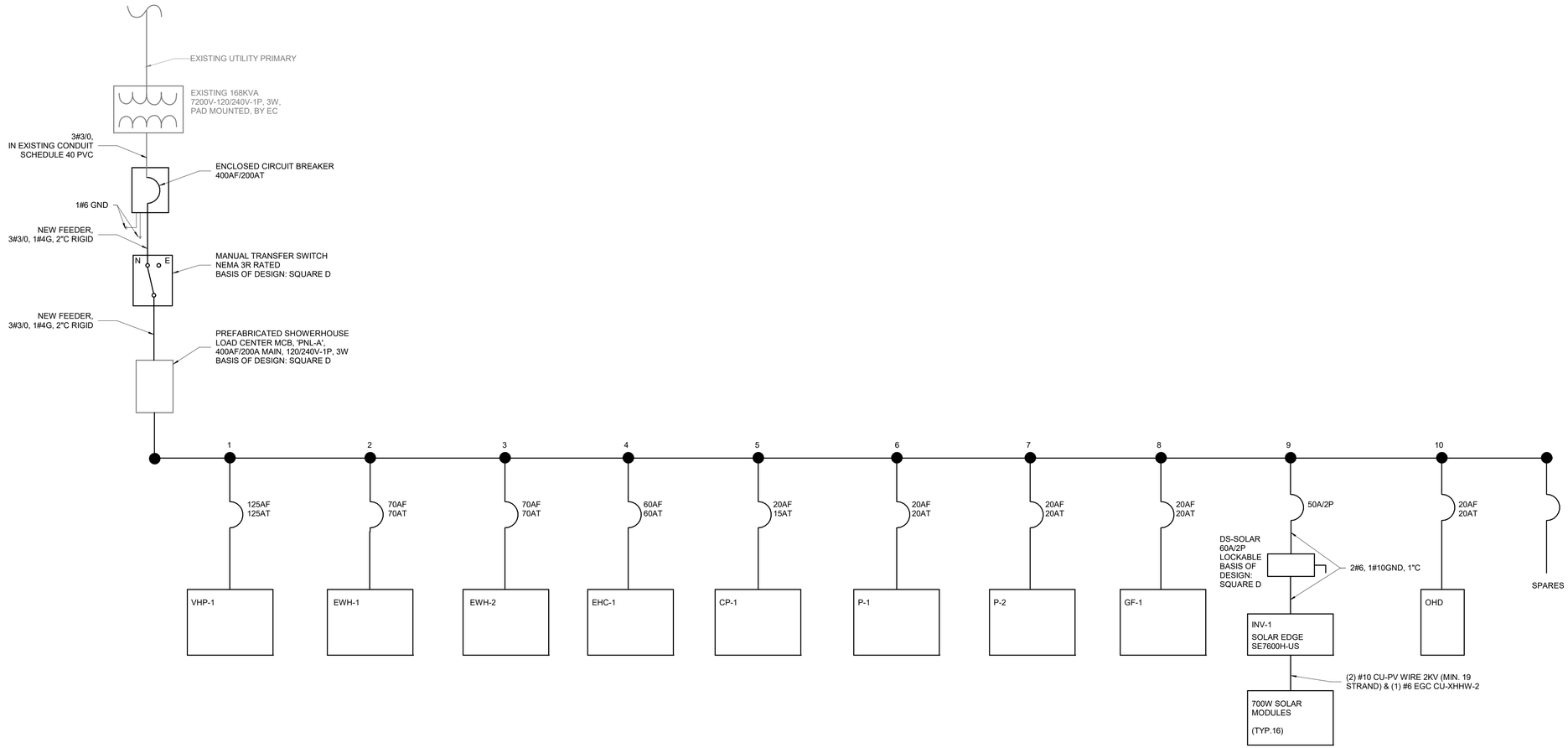
ABBREVIATIONS:

EC - ELECTRICAL CONTRACTOR
MC - MECHANICAL CONTRACTOR
MFR - MANUFACTURER
TCC - TEMPERATURE CONTROL CONTRACTOR
OWN - OWNER

REMARKS:

1. XXX.
2. XXX.

MARK	VOLTAGE	PHASE	FLA	MCA	MOCP	HP	KVA	CONDUIT AND WIRE SIZE	CONTROL OR STARTER	CONTROLLER OR STARTER FURNISHED / INSTALLED	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED	REMARKS
CP-1	120	1	0.8	1	15	-	0.092	2#12, 1#12GND, 3/4"C	AQUASTAT	MC/EC	NEMA 1, MS	EC/EC	XXX
EWH-1	240	1	50	62.5	70	-	12	2#4, 1#8GND, 1"C	INTERNAL	-	NEMA 1, MS	EC/EC	XXX
EWH-2	240	1	50	62.5	70	-	12	2#4, 1#8GND, 1"C	INTERNAL	-	NEMA 1, MS	EC/EC	XXX
GF-1	120	1	7.2	9	20	0.33	0.864	2#12, 1#12GND, 3/4"C	INTERNAL	-	NEMA 1, MS	EC/EC	XXX
P-1	240	1	8	10	20	1	1.92	2#12, 1#12GND, 3/4"C	VFD	EC/EC	NEMA 1, MS	EC/EC	XXX
P-2	240	1	8	10	20	1	1.92	2#12, 1#12GND, 3/4"C	VFD	EC/EC	NEMA 1, MS	EC/EC	XXX
VHP-1	240	3	68	83.7	100	-	28.267	2#3, 1#8GND, 1"C	VFD	MFR/EC	NEMA 3R, F	MFR/EC	XXX



A4 ONE-LINE DIAGRAM
NOT TO SCALE

ELECTRICAL SYMBOLS LEGEND

GENERAL

SYMBOL	DESCRIPTION
	CONDUIT CONCEALED IN WALL OR OVERHEAD
	CONDUIT CONCEALED BELOW FLOOR
	CONDUIT TRANSITION UP
	CONDUIT TRANSITION DOWN
	CONDUIT STUBBED OUT
	BRANCH CIRCUIT HOME RUN
	CABLE TRAY (TYPE DENOTED)
	CONDUIT SLEEVE (SIZE DENOTED)
E#	KEYNOTE (SEE SCHEDULE)
0000	SPECIALTY EQUIPMENT TAG
	SURFACE MOUNTED DEVICE (J-BOX SHOWN AS EXAMPLE)

GROUNDING

SYMBOL	DESCRIPTION
	STATIC GROUND RECEPTACLE (TYPE DENOTED)
	LIGHTNING PROTECTION AIR TERMINAL
	LIGHTNING PROTECTION CONDUCTOR SPLICE
	GROUND ROD (PLAN VIEW)
	GROUND CONNECTION TO STEEL OR STRUCTURE
	GROUND CONNECTION - EXOTHERMIC WELD
	GROUND BAR

POWER

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
FB	FLOOR BOX
FB	POKE-THROUGH FLOOR BOX
WB	WALL BOX
	DUPLEX RECEPTACLE - CEILING MOUNTED
	SPECIAL RECEPTACLE (CEILING, WALL, AND FLOOR MOUNTED)
E E	DIRECT POWER CONNECTION - WALL AND EQUIPMENT
HH	HANDHOLE
J J	JUNCTION BOX
	SIMPLEX RECEPTACLE
	SPLIT DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE PLUG LOAD CONTROL
	DOUBLE DUPLEX RECEPTACLE PLUG LOAD CONTROL
	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
	DOUBLE DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
	SURFACE MOUNTED RECEPTACLE, VARIES PER TYPE
	EMERGENCY POWER OFF
MX	MOTOR HORSEPOWER RATED SWITCH
	PUSH BUTTON

POWER - CONTINUED

	BRANCH PANEL WITH CLEARANCE (SURFACE OR RECESS MOUNTED)
	ELECTRICAL EQUIPMENT (SWITCHBOARD, DISTRIBUTION PANEL)
	SPECIAL CABINET
	TRANSFORMER
	SURFACE RACEWAY
	UNDERFLOOR RACEWAY SYSTEM
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MOTOR STARTER
VFD	VARIABLE FREQUENCY DRIVE
R	RELAY
	RECEPTACLE ON DROP CORD (DUPLEX SHOWN)
	RECEPTACLE ON CORD REEL (DUPLEX SHOWN)

##" XX ##" XX ##" XX

EXAMPLE RECEPTACLE TAG

##" - MOUNTING HEIGHT AS INDICATED. IF OMITTED, 18" OR ABOVE COUNTER

XX - INDICATES RECEPTACLE CONFIGURATION:

- AC - ABOVE COUNTER (COORDINATE HEIGHT)
- GFI - GROUND FAULT CIRCUIT INTERRUPTER
- HZ - HORIZONTALLY MOUNTED
- IG - ISOLATED GROUND
- OC - OCCUPANCY CONTROLLED
- USB - INTEGRAL USB CHARGER
- WP - WEATHERPROOF
- XP - EXPLOSION PROOF

ELECTRICAL

1. ALL WORK SHALL BE IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE - LATEST EDITION ADOPTED BY THE STATE, THE STATE AMENDMENTS, LOCAL/MUNICIPAL CODES AND ORDINANCES, AND THE AUTHORITY HAVING JURISDICTION. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADAAG (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES).
2. IT IS THE INTENT OF THESE DOCUMENTS TO COMPLY WITH THE APPLICABLE CODES. WHERE DISCREPANCIES OCCUR, NOTIFY THE ENGINEER/ARCHITECT IN WRITING FOR INTERPRETATION. CORRECT ANY INSTALLATION THAT FAILS TO COMPLY WITH THE CODES AND STANDARDS AT NO ADDITIONAL COST TO THE OWNER.
3. CONTRACTOR SHALL PROVIDE ALL WORK NECESSARY INCLUDING ALL LABOR, MATERIALS, PERMITS, TAXES, FEES, INSPECTIONS, HARDWARE, AND COST FOR INSTALLATION FOR A COMPLETE AND OPERATIONAL SYSTEM.
4. ALL MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, COMPLETE WITH MANUFACTURER'S GUARANTEE OR WARRANTY AND SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL).
5. COORDINATE ELECTRICAL INSTALLATION WITH ALL TRADES PRIOR TO INSTALLATION. IF ELECTRICAL WORK INSTALLED INTERFERES WITH OTHER TRADES AFTER INSTALLATION, THE CONTRACTOR SHALL MAKE ALL NECESSARY CHANGES TO CORRECT THE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
6. DRAWINGS ARE DIAGRAMMATIC. ALL DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION THIS CONTRACTOR SHALL ADJUST CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
7. ALL ELECTRICAL PANELS WITH ANY BRANCH CIRCUIT/LOAD REVISIONS (DEMOLITION OR NEW WORK) SHALL HAVE A NEW TYPED UPDATED CIRCUIT DIRECTORY CARD INSTALLED INSIDE THE DOOR OF THE ELECTRICAL PANEL. THE CONTRACTOR SHALL VERIFY THAT ALL UNUSED CIRCUIT BREAKERS ARE TURNED 'OFF' AND PROPERLY INDICATED AS 'SPARE' ON THE NEW CIRCUIT DIRECTORY CARD. THE CONTRACTOR SHALL INSTALL FILLER PLATES WHERE BREAKERS ARE REMOVED AS PART OF THIS PROJECT OR HAVE BEEN REMOVED PREVIOUSLY.
8. NO ENERGIZED CONDUCTORS SHALL BE EXPOSED AT ANYTIME EXCEPT WHEN THE IMMEDIATE AREA IS UNDER THE SUPERVISION OF A QUALIFIED ELECTRICIAN.
9. WHERE CONDUIT IS SURFACE MOUNTED TO A WALL AND RUN VERTICALLY DOWN TO A SWITCH/OUTLET BOX, UTILIZE 1-HOLE OR 2-HOLE CONDUIT STRAPS.
10. REFER TO THE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF BUILDING EXPANSION JOINTS. ALL CONDUITS CROSSING EXPANSION JOINTS SHALL BE INSTALLED WITH EXPANSION FITTINGS, UNLESS THE CONDUIT IS BELOW SLAB IN THE COMPACTED GRANULAR FILL. EXPANSION FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, AND MANUFACTURE'S WRITTEN RECOMMENDATIONS.
11. PENETRATIONS THROUGH FIRE RATED WALLS BY DIVISION 26 CONTRACTOR SHALL BE SEALED WITH APPROPRIATE FIRE PROOFING MATERIAL TO RESTORE FIRE RATING. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALLS.
12. THE CONTRACTOR SHALL KEEP THE WORK AREA CLEAN OF ALL DEBRIS ON A DAILY BASIS. ALL NEW MATERIALS AWAITING INSTALLATION SHALL BE KEPT IN AREAS DESIGNATED BY THE OWNER.
13. THESE DRAWINGS SHALL NOT BE SCALED TO OBTAIN DIMENSIONS. REFER TO DIMENSIONED ARCHITECTURAL FLOOR PLANS. IF THE DIMENSIONS CANNOT BE DETERMINED BY THE INFORMATION GIVEN, CONTRACTOR SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION.
14. PERIODIC SITE OBSERVATION BY THE ENGINEER IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS OR DEFICIENCIES IN THE WORK OF THE CONTRACTOR.
15. THE INFORMATION CONTAINED ON THE ELECTRICAL DRAWINGS IS IN ITSELF INCOMPLETE AND VOID UNLESS USED IN CONJUNCTION WITH ALL OTHER DISCIPLINE DRAWINGS, THE SPECIFICATIONS, TRADE PRACTICES, OR APPLICABLE STANDARDS, CODES, ETC., AND SHALL BE CONSIDERED THE CONTRACT DOCUMENTS AND WITH ALL THEREIN BY REFERENCE, WHICH THE CONTRACTOR CERTIFIES KNOWLEDGE OF BY SIGNING THE CONTRACT.
16. CONTRACTOR IS TO ASSUME FULL RESPONSIBILITY, UNRELIEVED BY REVIEW OF SHOP DRAWINGS OR PERIODIC OBSERVATION OF CONSTRUCTION, FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED ON THE JOB SITE AND BETWEEN INDIVIDUAL DRAWINGS OR SETS OF DRAWINGS FOR FABRICATION PROCESSES AND CONSTRUCTION TECHNIQUES (INCLUDING EXCAVATION, SHORING, SCAFFOLDING, BRACING, ERECTION, FORM WORK, ETC.), FOR COORDINATION OF THE VARIOUS TRADES, AND FOR SAFE CONDITIONS ON THE JOB SITE. VARIATIONS IN FIELD CONDITIONS RELATIVE TO THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER AS SOON AS THEY ARE FOUND. WORK SHALL NOT PROGRESS UNTIL WRITTEN PERMISSION FROM THE ENGINEER IS OBTAINED.

ELECTRICAL DEMOLITION

1. LIGHT LINES INDICATE EXISTING WALLS AND EQUIPMENT TO REMAIN. DASHED LINES INDICATE WALLS, EQUIPMENT, AND ELECTRICAL ITEMS TO BE REMOVED.
2. COORDINATE PATCHING REQUIREMENTS FOR UNUSED OPENINGS WITH THE GENERAL CONTRACTOR. GENERAL CONTRACTOR SHALL PATCH ALL UNUSED OPENINGS. PATCHWORK SHALL MATCH MATERIALS, FINISH, AND TEXTURE OF ADJACENT SURFACES.
3. FIRE ALARM - REMOVE EXISTING CEILING MOUNTED DEVICES TO PERMIT REMOVAL OF CEILING. WALL MOUNTED NOTIFICATION DEVICES SHALL BE DEMOLISHED. COORDINATE WORK WITH PROJECT PHASING TO MAINTAIN FIRE ALARM SYSTEM PROTECTION OF SPACES AT ALL TIMES. INCLUDE COSTS OF ALL TEMPORARY DEVICES IN THE BID.
4. SECURITY/SURVEILLANCE - EXISTING DEVICES TO BE REMOVED BY SYSTEMS VENDOR. CONTRACTOR SHALL REMOVE ASSOCIATED CABLING, ROUGH-IN, AND POWER WIRING. PRIOR TO ANY DEMOLITION IDENTIFY AND PROTECT CABLING REQUIRED TO MAINTAIN THE SYSTEM IN AREAS THAT WILL NOT BE REMODELED.
5. COORDINATE DISPOSAL OF ALL ITEMS NOT REQUESTED AS SALVAGE BY THE OWNER.
6. TELEPHONE AND DATA HORIZONTAL CABLING SHALL BE REMOVED COMPLETELY BACK TO THE FIRST REMAINING DISTRIBUTION FRAME. PROTECT FIBER OPTIC AND COPPER TRUNK CABLING SERVING DISTRIBUTION RACKS.
7. LIGHTING FIXTURES AND CONTROLS - REMOVE EXISTING LIGHT FIXTURES, WALL SWITCHES, OCCUPANCY SENSORS, AND ASSOCIATED WIRING. VERIFY AND MAINTAIN CONNECTION TO EXISTING LIGHTING THAT WILL NOT BE REMOVED BUT ARE ON COMMON CIRCUITS WITH ITEMS TO BE REMOVED.
8. DISCONNECT OUTLETS, WIRING, AND OTHER NOTED EQUIPMENT TO PERMIT DEMOLITION OF WALLS. VERIFY AND MAINTAIN CONNECTION TO EXISTING OUTLETS THAT WILL NOT BE REMOVED BUT ARE ON COMMON CIRCUITS WITH ITEMS TO BE REMOVED.
9. DRAWINGS DO NOT IDENTIFY ALL OUTLETS, SWITCHES, CABLING, OR EQUIPMENT TO BE REMOVED. CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE PRIOR TO BIDDING AND INCLUDE LABOR AND MATERIAL NECESSARY FOR REQUIRED DEMOLITION IN THEIR BID.
10. WIRING SHALL BE REMOVED BACK TO SERVING PANEL. INSTALLATION OF NEW CONDUCTORS IN EXISTING CONDUITS WILL BE PERMITTED AS DESCRIBED IN THE DIVISION 26 SPECIFICATIONS.
11. HVAC EQUIPMENT NOTED FOR REMOVAL IS FOR REFERENCE ONLY. THE ELECTRICAL CONTRACTOR SHALL REVIEW THE MECHANICAL SYSTEMS DEMOLITION PLANS AND INCLUDE ALL LABOR AND MATERIAL NECESSARY TO FACILITATE REMOVAL OF EQUIPMENT AS SHOWN ON THOSE DRAWINGS. THIS SHALL INCLUDE ALL ITEMS NOTED ON EITHER THE PLUMBING OR MECHANICAL SERIES OF DRAWINGS.

SITE ELECTRICAL

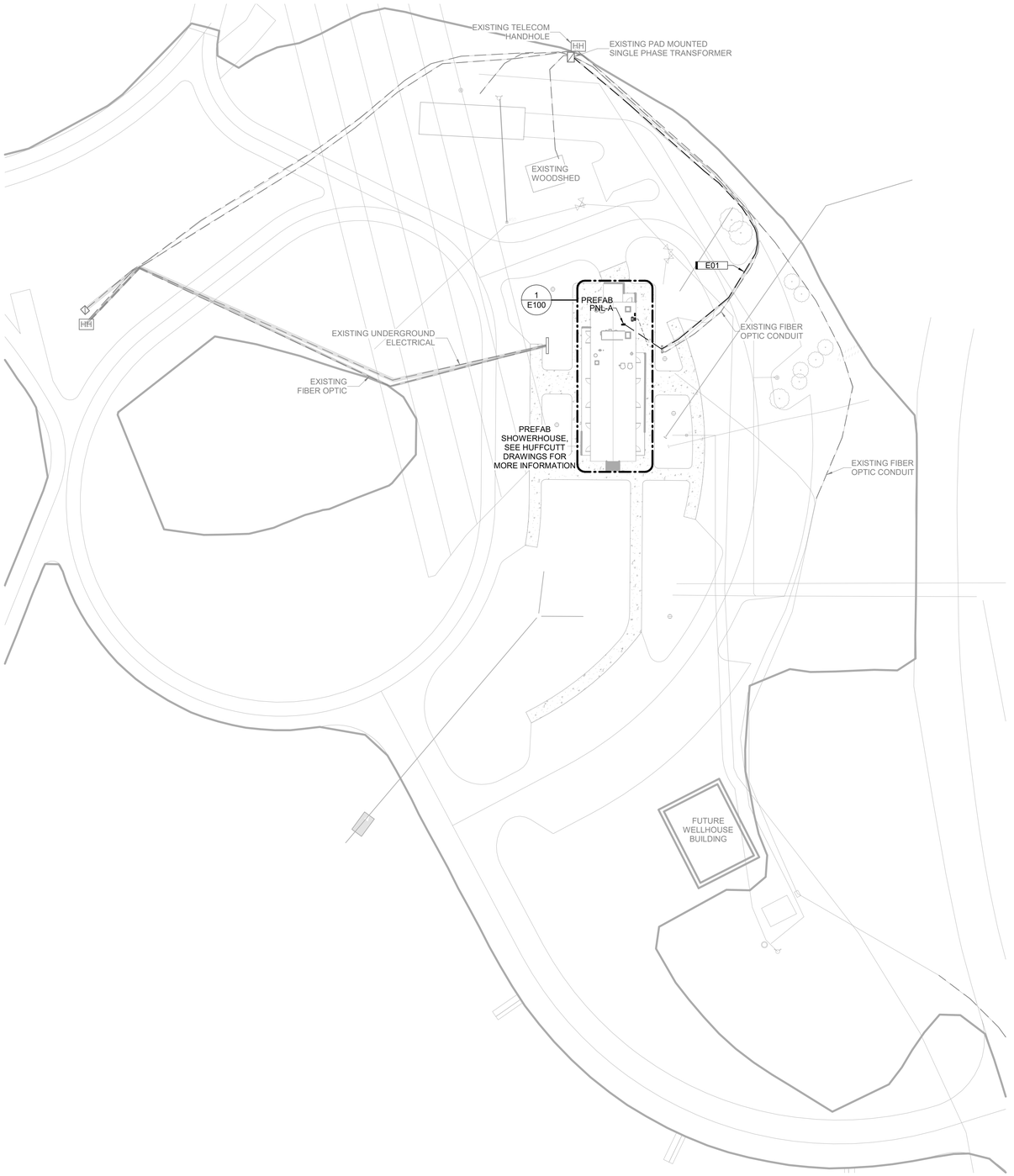
1. ALL UTILITY FEEDERS INDICATED ON PLANS ARE DIAGRAMMATIC IN NATURE AND RELEVANT UTILITIES SHALL BE IDENTIFIED AND STAKED PRIOR TO NEW CONSTRUCTION.

2. –LINE TYPE KEY:

— — — NEW WORK UNDERGROUND BY THIS CONTRACTOR (DARK LONG DASHED LINE)

— — — WORK BY OTHERS AND/OR EXISTING TO REMAIN (GRAYSCALE DASHED LINE)

KEYNOTES	
KEY	NOTE
E01	PULL NEW FEEDERS THROUGH EXISTING IN PLACE (3) 3" HDPE CONDUIT WITH PULL STRING AND TRACER WIRE. REFER TO SHEET E500 FOR FULL ONE-LINE DIAGRAM. VERIFY EXISTING CAPPED CONDUIT LOCATION ON SITE PRIOR TO NEW INSTALLATION.



1 ELECTRICAL SITE PLAN
1" = 30'-0" 0

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JOHNSON COUNTY CONSERVATION | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: ELECTRICAL SITE PLAN | SHEET NO.: E010

POWER

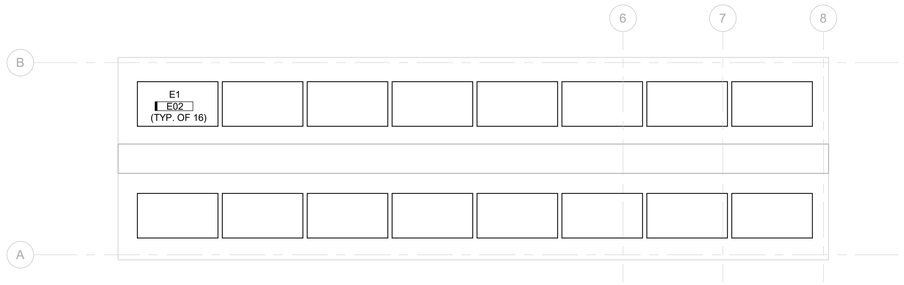
1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON THIS DRAWING.
2. WHERE CONNECTED TO A 20A. BRANCH CIRCUIT SUPPLYING AN INDIVIDUAL RECEPTACLE (SIMPLEX OR DUPLEX), THE RECEPTACLE SHALL BE RATED AT 20A.
3. VERIFY LOCATIONS AND ROUGH-IN REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT PRIOR TO ROUGH-IN.
4. PROVIDE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED AND GRADE MOUNTED ELECTRICAL EQUIPMENT. MINIMUM REQUIREMENTS: 4" HIGH, 4% AIR ENTRAINED, POLYFIBER REINFORCED CONCRETE, 4" WIDER AND 4" LONGER THAN EQUIPMENT TO BE PLACED ON IT. REFER TO ELECTRICAL DETAIL DRAWINGS FOR TRANSFORMER, GENERATOR, OR SWITCHGEAR PADS THAT MAY EXCEED THESE REQUIREMENTS.
5. CONDUIT AND WIRE SHALL NOT BE INSTALLED BELOW FLOOR SLAB UNLESS INDICATED ON PLAN BY DASHED CONDUIT.
6. ANY MODIFICATIONS TO THE NUMBER, SIZE, AND TYPE OF WIRES OR CONDUITS FROM THOSE INDICATED ON THIS DRAWING ARE PROHIBITED.

SYSTEMS

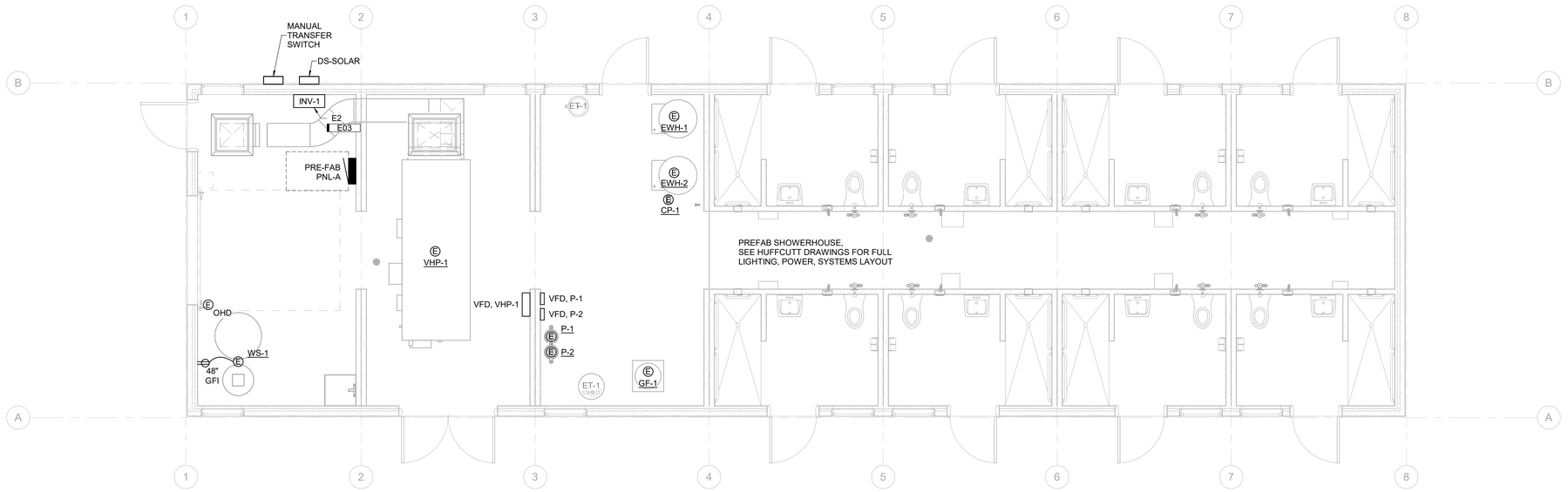
1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL ELECTRICAL ITEMS SHOWN ON THE DRAWINGS, EXCEPT FOR SECURITY DEVICES. PROVIDE ROUGH-IN ONLY FOR SECURITY DEVICES, CAMERAS AND CARD READERS.
2. MAXIMUM NUMBER OF 4 INFORMATION OUTLET LOCATIONS PER CONDUIT HOME RUN TO MDF OR IDF IS PERMITTED. CONDUIT SHALL BE SIZED AS FOLLOWS:
   - 1 INFORMATION OUTLET LOCATION: 1"
   - 2 INFORMATION OUTLET LOCATIONS: 1 1/4"
   - 3 INFORMATION OUTLET LOCATIONS: 1 1/2"
3. INSTALL CONDUIT WITH NO MORE THAN (2) 90° BENDS BETWEEN PULL BOXES, AND NO MORE THAN 100'-0" BETWEEN PULL BOXES. PULL BOXES SHALL BE INSTALLED FOR STRAIGHT THRU PULLS ONLY.
4. ALL COMMUNICATIONS CABLES SHALL BE INSTALLED IN CONDUIT, CABLE TRAY, OR SUPPORTED BY CABLE HOOKS. PROVIDE BUSHINGS AT THE ENDS OF ALL CONDUIT WHERE STUBBED ABOVE ACCESSIBLE CEILINGS OR WHERE DROPPED INTO CABLE TRAY. PROVIDE CABLE HOOKS ABOVE ACCESSIBLE CEILINGS FOR CABLE INSTALLATION WHERE NOT INSTALLED IN CONDUIT OR CABLE TRAY.
5. FIRE ALARM WIRING DOES NOT NEED TO BE IN CONDUIT.

KEYNOTES

KEY	NOTE
E02	700 WATT SOLAR MODULE MOUNTED TO PRECAST ROOF. MOUNT PER PRECAST AND MODULE MANUFACTURER RECOMMENDATIONS.
E03	NEW INVERTER TO BE CONNECTED TO EXISTING SOLAR EDGE INVERTERS ON EXISTING GROUND MOUNTED SOLAR INSTALLATION. FURNISH AND INSTALL MEDIA CONVERTERS AND UTILIZE EXISTING FIBER NETWORK TO CONNECT THE INVERTERS.



1 SOLAR ROOF PLAN
1/8" = 1'-0" 0



2 SHOWERHOUSE LIGHTING, POWER & SYSTEMS PLAN
1/4" = 1'-0" 0

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JOHNSON COUNTY CONSERVATION | PROJECT NO.: 2250000910 | ISSUED FOR: BID | DATE: 01/21/2026 | SHEET NAME: ENLARGED LIGHTING, POWER & SYSTEMS PLANS | SHEET NO.: E100