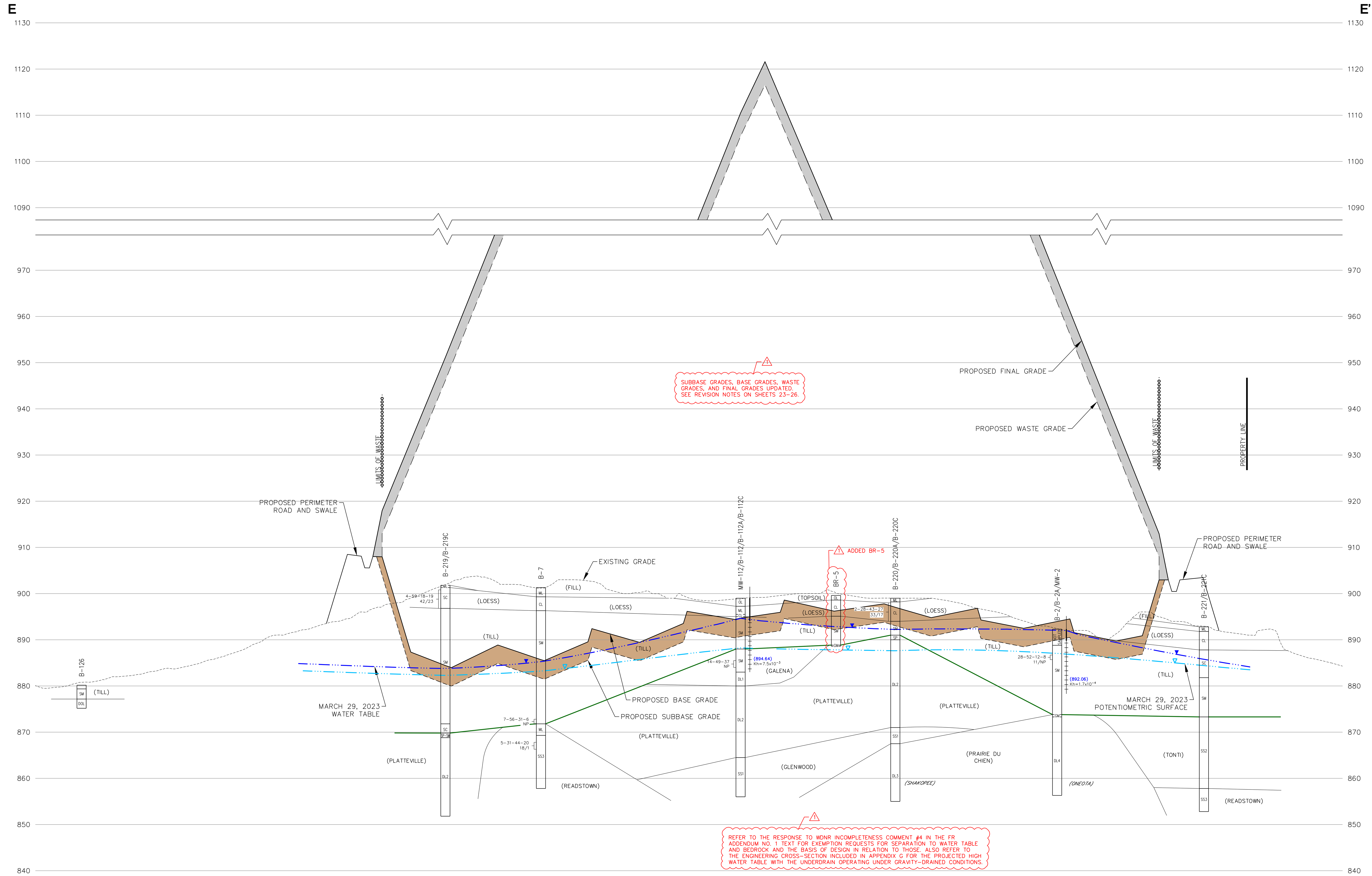


SYMBOLS AND TEST RESULTS

40.7/22.6	LIQUID LIMIT/PLASTICITY INDEX
NP	NON-PLASTIC
Kv	LABORATORY VERTICAL HYDRAULIC CONDUCTIVITY (cm/sec)
Kh	FIELD HORIZONTAL HYDRAULIC CONDUCTIVITY (cm/sec)
0-30-42-28	PERCENT GRAVEL, SAND, SILT, AND CLAY
0-87-13	PERCENT GRAVEL, SAND, AND SILT PLUS CLAY
72-5	PERCENT GRAVEL AND SAND
NS	NOT SAMPLED
(1,036.67)	GROUNDWATER ELEVATION ON 03/29/2024 (FEET ABOVE MEAN SEA LEVEL)
(NM)	NOT MEASURED
	WATER TABLE (SEE NOTE 8)
	POTENTIOMETRIC SURFACE (SEE NOTE 9)
	EXISTING GROUND (SPRING 2017)
	GEOLOGIC CONTACT
	UNCERTAIN GEOLOGIC CONTACT
	INFERRED GRADATIONAL GEOLOGIC CONTACT
	TOP OF BEDROCK (SEE NOTE 10)
	PROPOSED FINAL COVER SYSTEM
	PROPOSED COMPOSITE LINER SYSTEM

USCS CLASSES

CL	LEAN CLAY
CL-ML	SILTY CLAY
CH	FAT CLAY
GP	POORLY-GRADED GRAVEL
GP-GM	POORLY-GRADED GRAVEL WITH SILT
GM	SILTY GRAVEL
GW	WELL-GRADED GRAVEL
GW-GM	WELL-GRADED GRAVEL WITH SILT
ML	SILT
SC	CLAYEY SAND
SM	SILTY SAND
SP	POORLY-GRADED SAND
SP-SM	POORLY-GRADED SAND WITH SILT

BEDROCK STRATIGRAPHIC UNITS

SINNIPEE GROUP

DL1 – GALENA FORMATION

SH – DECORAH FORMATION

DL2 – PLATTEVILLE FORMATION

DL6 – SINNIPEE GROUP, UNDIFFERENTIATED

ANCELL GROUP

SS1 – GLENWOOD FORMATION

SS2 – ST. PETER FORMATION, TONTI MEMBER

SS3 – ST. PETER FORMATION, READSTOWN MEMBER

SS4 – ANCELL GROUP, UNDIFFERENTIATED

PRAIRIE DU CHIEN GROUP

DL3 – SHAKOPEE FORMATION

DL4 – ONEOTA FORMATION

DL5 – PRAIRIE DU CHIEN GROUP UNDIFFERENTIATED

UNDIFFERENTIATED

DOL – DOLOMITE

SS – SANDSTONE

GENERAL DESCRIPTION OF MAJOR GEOLOGIC UNITS

PLEISTOCENE SEDIMENTS

LOESS – GRAYISH BROWN, OR YELLOWISH BROWN, MOSTLY SILT WITH SOME CLAY AND FINE SAND, LEAN CLAY (CL), UNIFORM, MASSIVE. DEPOSITED PRIMARILY BY WIND DURING DEGLACIATION. CONTAINS THE MODERN SOIL PROFILE.

TILL – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN, OR YELLOWISH RED, MOSTLY FINE SAND WITH MEDIUM AND COARSE SAND, AND GRAVEL. SILTY SAND (SM) MATRIX, UNIFORM, WITH SOME COBBLES AND BOULDERS. DEPOSITED BY OR FROM GLACIAL ICE.

OUTWASH – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN OR YELLOWISH BROWN, FINE TO COARSE SAND AND SOME GRAVEL, GENERALLY POORLY-GRADED SAND WITH SILT (SP-SM), OR SILTY SAND (SM), MASSIVE TO STRATIFIED, DEPOSITED BY FLUVIAL PROCESSES NEAR GLACIAL ICE.

DRIFT (NOT A MAJOR GEOLOGIC UNIT) – UNDIFFERENTIATED PLEISTOCENE SEDIMENTS, LOESS, TILL, AND/OR OUTWASH.

ORDOVICIAN BEDROCK UNITS

SINNIPEE GROUP – DOLOMITE AND SHALY DOLOMITE, YELLOW BROWN TO LIGHT BROWNISH YELLOW AND GRAY; MASSIVE OR MEDIUM TO THICK BEDDED, BEDDING IS WAVY OR MOTTLED WITH SHALY LAYERS, MINOR WHITE CHERT, FOSSILIFEROUS.

GALENA FORMATION – DOLOMITE TO CHERTY DOLOMITE, GRAY TO BEIGE, AND YELLOW BROWN TO LIGHT BROWNISH YELLOW, MASSIVE TO MEDIUM-BEDDED WITH DISTINCTIVE MOTTLED WEATHERING PATTERN, BASE IS LIGHT GRAY AND SHALY, FOSSILIFEROUS. BIOGENIC CARBONATES.

DECORAH FORMATION – SHALY AND SILTY DOLOMITE. DARK GRAY, THIN BEDDED, MINOR CHERT AND PYRITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

PLATTEVILLE FORMATION – DOLOMITE TO SHALY DOLOMITE, YELLOW, BEIGE, AND GRAY TO LIGHT BROWNISH YELLOW. GRAY WEATHERING IS TYPICAL OF SHALY INTERVALS. MASSIVE, PLANAR-LAMINATED, OR MEDIUM TO THICK BEDDED, INTERBEDDED WITH THIN, WAVY BEDDED SHALE/SILT LAMINATIONS, MINOR CHERT, FOSSILIFEROUS. BIOGENIC CARBONATES.

ANCELL GROUP – MARINE AND AEOLIAN SANDSTONES, SHALES, RESIDUUM. HIGH-RELIEF UNCONFORMABLE CONTACT WITH THE UNDERLYING PRAIRIE DU CHIEN GROUP.

GLENWOOD FORMATION – SANDSTONE, DOLOMITIC (CARBONATE-CEMENTED), SILTY, AND/OR SHALY, POORLY SORTED, YELLOW-BROWN TO GREEN, WITH BLUE-GREEN SHALE OR SANDY DOLOMITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ST. PETER FORMATION, TONTI MEMBER – SANDSTONE, LIGHT BROWNISH YELLOW, WHITE, RED, GRAY, ORANGE, OR BROWN (IF CEMENTED BY IRON OXIDES), MEDIUM TO COARSE GRAINED, WELL ROUNDED AND WELL SORTED, POORLY CEMENTED, LOW TO HIGH ANGLED CROSS-BEDDING OR MASSIVE, POORLY CEMENTED BY DOLOMITE, LOCALIZED SULFIDE MINERALIZATION DISSEMINATED THROUGH THE MATRIX AND CONCENTRATED ALONG BEDDING PLANES AND FRACTURES, LOCALIZED THIN LAYERS OF PALE GREEN SHALE/SILT. MARINE AND AEOLIAN QUARTZ SANDSTONE.

ST. PETER FORMATION, READSTOWN MEMBER – SANDSTONE, SILTY SANDSTONE, CLAYEY SANDSTONE, GRAY, RED, PURPLE, GREEN SHALY LAYERS, INTERBEDDED WITH CLAY AND OR SILT, CONTAINS CLASTS OF CHERT OR DOLOMITE. PARTIALLY REWORKED RESIDUUM ON THE PRAIRIE DU CHIEN EROSIONAL SURFACE.

PRAIRIE DU CHIEN GROUP – DOLOMITE AND SANDY DOLOMITE, YELLOW, LIGHT BROWN, AND GRAY. MASSIVE TO MEDIUM BEDDED, SANDY, CHERTY, VUGGY, AND OOLITHIC.

SHAKOPEE FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY, BEIGE, AND RED (SANDY DOLOMITE IS PREDOMINANTLY RED), INTERBEDDED WITH COARSE GRAINED WELL ROUNDED SANDSTONE, AND/OR GREEN TO GRAY SILTSTONE OR CLAY. MASSIVE, PLANAR, OR LOW-ANGEL CROSS-BEDDING; OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

WILLOW RIVER MEMBER – SANDY, GLAUCONITIC DOLOMITE, GRAY, LIGHT GRAY. BIOGENIC CARBONATES.

NEW RICHMOND MEMBER – SANDSTONE, DOLOMITIC SANDSTONE. YELLOW AND LIGHT GRAY, FINE TO COARSE SAND, MASSIVE TO BEDDED, CHERT AND GLAUCONITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

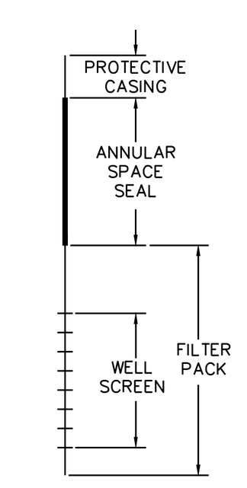
ONEOTA FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY TO BEIGE, MASSIVE, PLANAR, AND WAVY-LAMINATED BEDDING, OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

DOLOMITE – UNDIFFERENTIATED CARBONATE ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY WEATHERED AND/OR POORLY INDURATED.

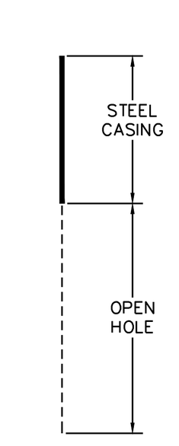
SANDSTONE – UNDIFFERENTIATED SILICLASTIC ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY POORLY INDURATED.

NOTE: FILL IS UNCONSOLIDATED SEDIMENT, INCLUDING MIXTURES OF SAND, SILT, CLAY, GRAVEL, AND POSSIBLY BEDROCK FRAGMENTS OF VARIOUS SIZES, THAT HAS BEEN RELOCATED ON THE SITE OR HAS BEEN BROUGHT TO THE SITE FROM OFFSITE SOURCES. FILL IS NOT A GEOLOGIC UNIT.

1 ADDED NOTE



MONITORING WELL DETAIL
NOT TO SCALE



SUPPLY WELL DETAIL
NOT TO SCALE

0 100

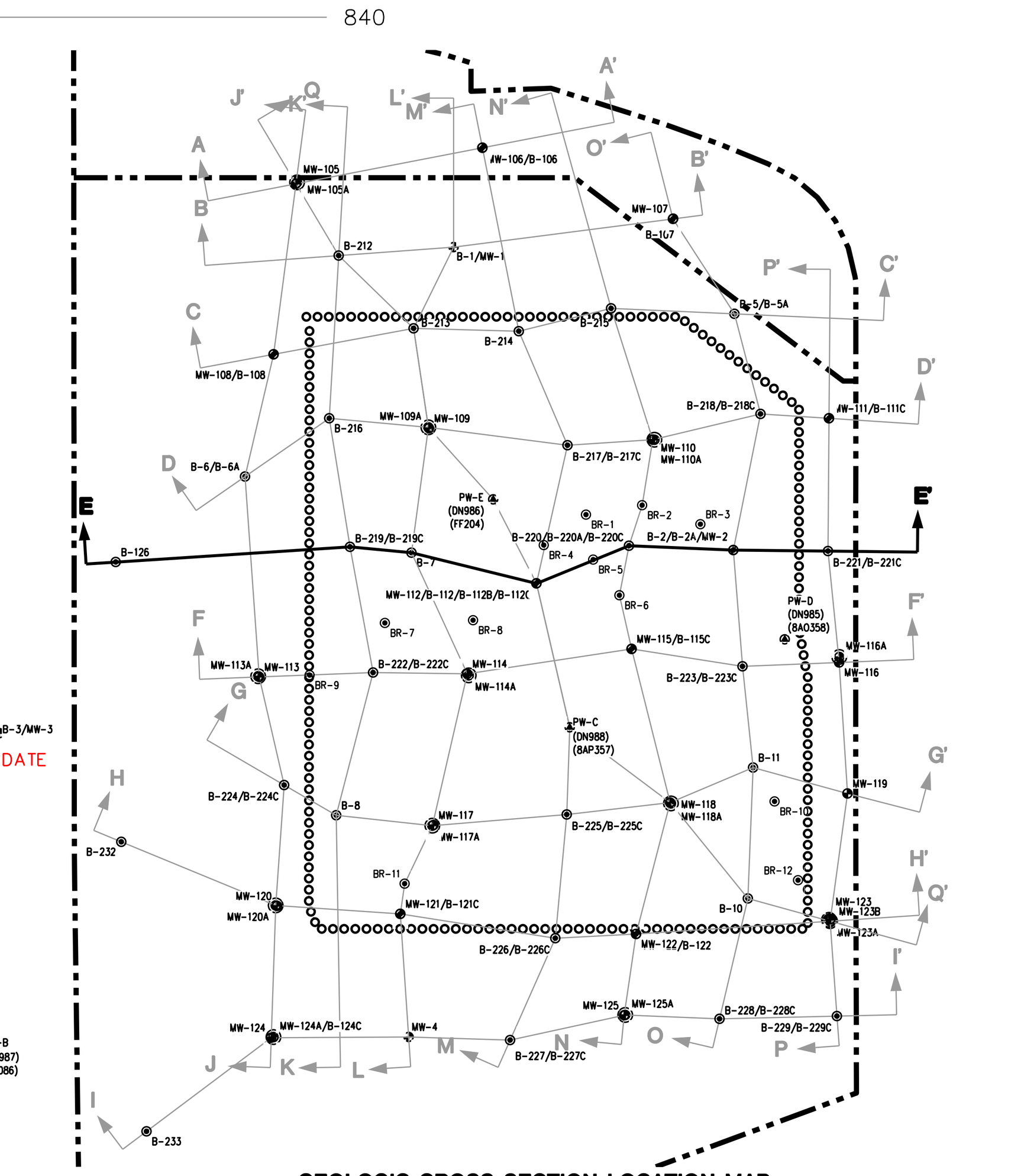
HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'
VERTICAL EXAGGERATION = 10X

NOTES

1. HORIZONTAL DISTANCES ARE MEASURED WITH RESPECT TO THE CENTER OF EACH BORING LOCATION.
2. FOR WELL NESTS, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE WATER TABLE WELL AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE NEST LOCATION.
3. FOR LOCATIONS WITH MORE THAN ONE BORING, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE SHALLOWEST BORING AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE DRILLING LOCATION.
4. REFER TO BORING LOGS IN APPENDIX F OF THE FEASIBILITY REPORT FOR DETAILED DESCRIPTIONS OF GEOLOGIC CONDITIONS AT INDIVIDUAL BORING LOCATIONS.
5. REFER TO APPENDIX F (OF 02/13/2024 FEASIBILITY REPORT) FOR MONITORING WELL CONSTRUCTION DETAILS.
6. EXISTING GROUND SURFACE WAS TAKEN FROM SHEET NUMBER 2.
7. ELEVATIONS ARE REFERENCED TO USGS DATUM.
8. THE POSITION OF THE WATER TABLE BETWEEN WELLS IS BASED ON THE WATER TABLE CONTOUR MAP, SHEET NUMBER 3.
9. THE POSITION OF THE POTENTIOMETRIC SURFACE BETWEEN WELLS IS BASED ON THE POTENTIOMETRIC SURFACE CONTOUR MAP, SHEET NUMBER 5.
10. THE BEDROCK SURFACE SHOWN BETWEEN BORINGS ON THE CROSS-SECTION IS THE STRAIGHT-LINE CONNECTION OF THE UPPERMOST ROCK SURFACES OBSERVED AT THE DRILLING LOCATIONS OR IS BASED ON GEOLOGIC INTERPRETATION OF AN EROSIONAL SURFACE BETWEEN BORING LOCATIONS. THE BEDROCK SURFACE CONTOURS SHOWN BETWEEN BORINGS ON PLAN SHEET 6, BEDROCK SURFACE MAP, ARE BASED ON INTERPOLATION USING KRIGING WITH THE PROGRAM "SURFER".
11. BORINGS WITH DESIGNATION "BR" WERE DRILLED 02/12-13/2024 AND ADDED TO THE FEASIBILITY REPORT CROSS SECTION. SEE FEASIBILITY REPORT-ADDENDUM NO. 1 FOR BORING LOGS.

1 ADDED REPORT DATE

1 ADDED NOTE



GEOLOGIC CROSS SECTION LOCATION MAP
SCALE: 1" = 500'

REVISION	TITLE	DATE
1	FEASIBILITY REPORT ADDENDUM NO. 1	03/07/2025

PROJECT NO.	25222268.00	DRAWN BY:	KP
DRAWN:	04/11/2023	CHECKED BY:	MRH/BLP
REVISED:	08/21/2024	APPROVED BY:	BLP 03/07/2025

CLIENT:
DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713

ENGINEER:
SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

SITE:
FEASIBILITY REPORT – ADDENDUM NO. 1
DANE COUNTY LANDFILL SITE NO. 3
4402 BRANDT ROAD
MADISON, WISCONSIN

GEOLOGIC CROSS SECTION E–E'

SHEET
10 OF 28

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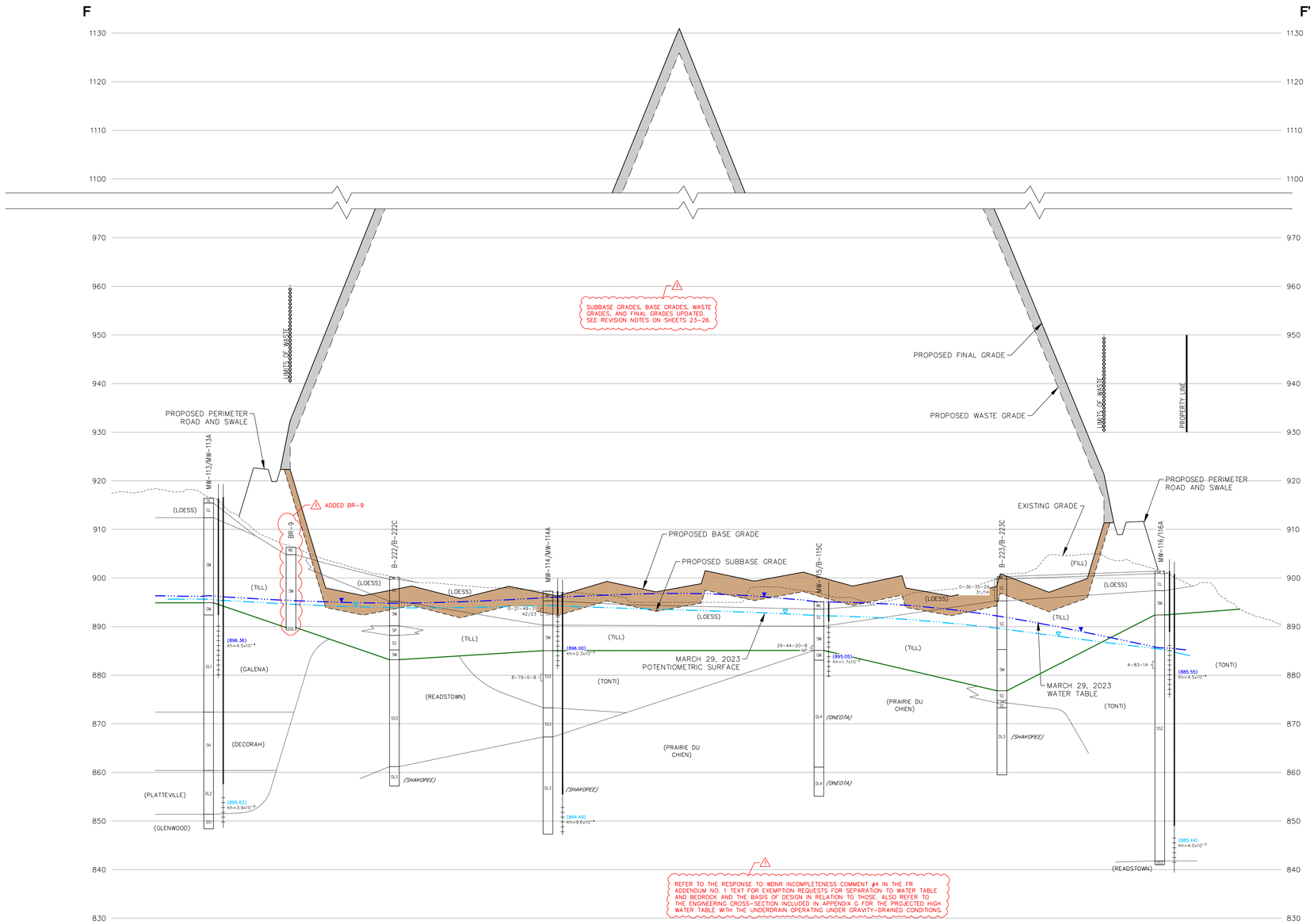

SYMBOLS AND TEST RESULTS

40.7/22.6	LIQUID LIMIT/PLASTICITY INDEX
NP	NON-PLASTIC
Kv	LABORATORY VERTICAL HYDRAULIC CONDUCTIVITY (cm/sec)
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(1,036.67)	GROUNDWATER ELEVATION ON 03/29/2024 (FEET ABOVE MEAN SEA LEVEL)
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SM	SILTY SAND
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SP-SM	POORLY-GRADED SAND WITH SILT

BEDROCK STRATIGRAPHIC UNITS

SINNIPEE GROUP

DL1 – GALENA FORMATION

SH – DECORAH FORMATION

DL2 – PLATTEVILLE FORMATION

DL6 – SINNIPEE GROUP, UNDIFFERENTIATED

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DL4 – ONEOTA FORMATION

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UNDIFFERENTIATED

DOL – DOLOMITE

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GENERAL DESCRIPTION OF MAJOR GEOLOGIC UNITS

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ST. PETER FORMATION, TONTI MEMBER – SANDSTONE, LIGHT BROWNISH YELLOW, WHITE, RED, GRAY, ORANGE, OR BROWN (IF CEMENTED BY IRON OXIDES), MEDIUM TO COARSE GRAINED, WELL ROUNDED AND WELL SORTED, POORLY CEMENTED, LOW TO HIGH ANGLED CROSS-BEDDING OR MASSIVE, POORLY CEMENTED BY DOLOMITE, LOCALIZED SULFIDE MINERALIZATION DISSEMINATED THROUGH THE MATRIX AND CONCENTRATED ALONG BEDDING PLANES AND FRACTURES, LOCALIZED THIN LAYERS OF PALE GREEN SHALE/SILT. MARINE AND AEOLIAN QUARTZ SANDSTONE.

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PRAIRIE DU CHIEN GROUP – DOLOMITE AND SANDY DOLOMITE, YELLOW, LIGHT BROWN, AND GRAY. MASSIVE TO MEDIUM BEDDED, SANDY, CHERTY, VUGGY, AND OOLITHIC.

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WILLOW RIVER MEMBER – SANDY, GLAUCONITIC DOLOMITE, GRAY, LIGHT GRAY. BIOGENIC CARBONATES.

NEW RICHMOND MEMBER – SANDSTONE, DOLOMITIC SANDSTONE, YELLOW AND LIGHT GRAY, FINE TO COARSE SAND, MASSIVE TO BEDDED, CHERT AND GLAUCONITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ONEOTA FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY TO BEIGE, MASSIVE, PLANAR, AND WAVY-LAMINATED BEDDING, OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

DOLOMITE – UNDIFFERENTIATED CARBONATE ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY WEATHERED AND/OR POORLY INDURATED.

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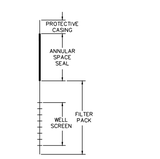
NOTE: FILL IS UNCONSOLIDATED SEDIMENT, INCLUDING MIXTURES OF SAND, SILT, CLAY, GRAVEL, AND POSSIBLY BEDROCK FRAGMENTS OF VARIOUS SIZES, THAT HAS BEEN RELOCATED ON THE SITE OR HAS BEEN BROUGHT TO THE SITE FROM OFFSITE SOURCES. FILL IS NOT A GEOLOGIC UNIT.

ADDED NOTE



MONITORING WELL DETAIL
NOT TO SCALE

SUPPLY WELL DETAIL
NOT TO SCALE

0 100
HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'
VERTICAL EXAGGERATION = 10X

NOTES

1. HORIZONTAL DISTANCES ARE MEASURED WITH RESPECT TO THE CENTER OF EACH BORING LOCATION.
2. FOR WELL NESTS, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE WATER TABLE WELL AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE NEST LOCATION.
3. FOR LOCATIONS WITH MORE THAN ONE BORING, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE SHALLOWEST BORING AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE DRILLING LOCATION.
4. REFER TO BORING LOGS IN APPENDIX F OF THE FEASIBILITY REPORT FOR DETAILED DESCRIPTIONS OF GEOLOGIC CONDITIONS AT INDIVIDUAL BORING LOCATIONS.
5. REFER TO APPENDIX K (OF 02/13/2024 FEASIBILITY REPORT) FOR MONITORING WELL CONSTRUCTION DETAILS.
6. EXISTING GROUND SURFACE WAS TAKEN FROM SHEET NUMBER 2.
7. ELEVATIONS ARE REFERENCED TO USGS DATUM.
8. THE POSITION OF THE WATER TABLE BETWEEN WELLS IS BASED ON THE WATER TABLE CONTOUR MAP, SHEET NUMBER 3.
9. THE POSITION OF THE POTENTIOMETRIC SURFACE BETWEEN WELLS IS BASED ON THE POTENTIOMETRIC SURFACE CONTOUR MAP, SHEET NUMBER 5.
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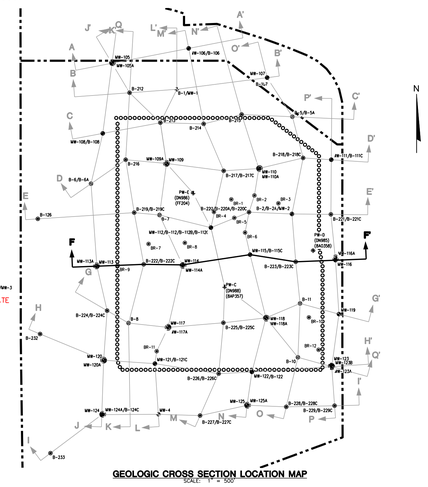
11. BORINGS WITH DESIGNATION "BR" WERE DRILLED 02/12-13/2024 AND ADDED TO THE FEASIBILITY REPORT CROSS SECTION. SEE FEASIBILITY REPORT–ADDENDUM NO. 1 FOR BORING LOGS.

ADDED REPORT DATE

ADDED NOTE



SCS ENGINEERS
2830 DAIRY DRIVE, MADISON, WI 53718-6751
PHONE: (608) 224-2830

REVISION	TITLE	DATE
1	FEASIBILITY REPORT ADDENDUM NO. 1	03/07/2025
	PROJECT NO. 25222688.00	DRAWN BY: KP
	DRAWN: 04/11/2023	CHECKED BY: MRH/BLP
	REVISED: 08/21/2024	APPROVED BY: BLP 03/07/2025

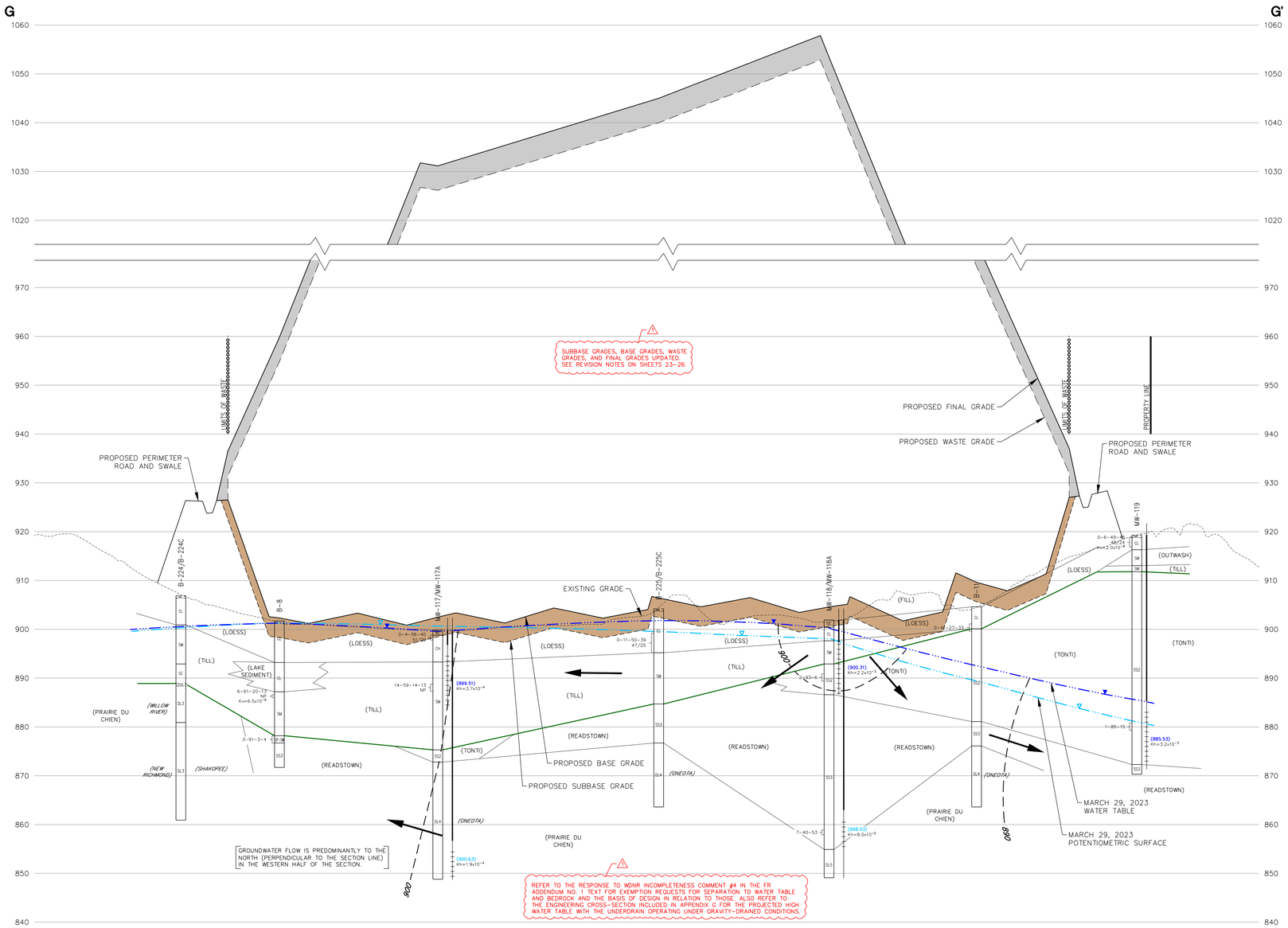
CLIENT: DANE COUNTY DEPARTMENT OF WASTE AND RECHARGES
1919 ALUMNI ENERGY CENTER WAY
MADISON, WI 53713

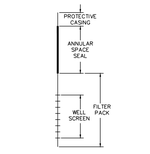
ENGINEER

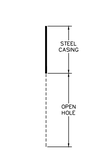
SITE: FEASIBILITY REPORT – ADDENDUM NO. 1
DANE COUNTY LANDFILL SITE NO. 3
2426 NELSON ROAD
MADISON, WISCONSIN

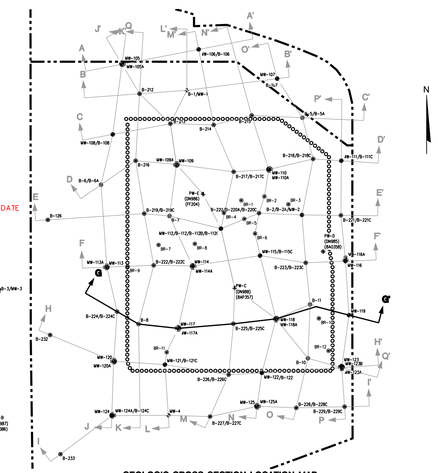
SHEET: GEOLOGIC CROSS SECTION F–F'

11 of 28









SUBBASE GRADES, BASE GRADES, WASTE GRADES, AND FINAL GRADES UPDATED. SEE REVISION NOTES ON SHEETS 23–26.

REFER TO THE RESPONSE TO WDNR INCOMPLETENESS COMMENT #4 IN THE FR ADDENDUM NO. 1 TEXT FOR EXEMPTION REQUESTS FOR SEPARATION TO WATER TABLE AND BEDROCK AND THE BASIS OF DESIGN IN RELATION TO THOSE. ALSO REFER TO THE ENGINEERING CROSS–SECTION INCLUDED IN APPENDIX G FOR THE PROJECTED HIGH WATER TABLE WITH THE UNDERDRAIN OPERATING UNDER GRAVITY–DRAINED CONDITIONS.

SYMBOLS AND TEST RESULTS

40.7/22.6	LIQUID LIMIT/PLASTICITY INDEX
NP	NON–PLASTIC
Kv	LABORATORY VERTICAL HYDRAULIC CONDUCTIVITY (cm/sec)
Kh	FIELD HORIZONTAL HYDRAULIC CONDUCTIVITY (cm/sec)
0–30–42–28	PERCENT GRAVEL, SAND, SILT, AND CLAY
0–87–13	PERCENT GRAVEL, SAND, AND SILT PLUS CLAY
72–5	PERCENT GRAVEL AND SAND
NS	NOT SAMPLED
(1,036.67)	GROUNDWATER ELEVATION ON 03/29/2024 (FEET ABOVE MEAN SEA LEVEL)
(NM)	NOT MEASURED
▼	WATER TABLE (SEE NOTE 8)
▽	POTENTIOMETRIC SURFACE (SEE NOTE 9)
- - - -	EXISTING GROUND (SPRING 2017)
—	GEOLOGIC CONTACT
– – –	UNCERTAIN GEOLOGIC CONTACT
⌇	INFERRED GRADATIONAL GEOLOGIC CONTACT
🟩	TOP OF BEDROCK (SEE NOTE 10)
▨	PROPOSED FINAL COVER SYSTEM
🟫	PROPOSED COMPOSITE LINER SYSTEM

USCS CLASSES

CL	LEAN CLAY
CL–ML	SILTY CLAY
CH	FAT CLAY
GP	POORLY–GRADED GRAVEL
GP–GM	POORLY–GRADED GRAVEL WITH SILT
GM	SILTY GRAVEL
GW	WELL–GRADED GRAVEL
GW–GM	WELL–GRADED GRAVEL WITH SILT
ML	SILT
SC	CLAYEY SAND
SM	SILTY SAND
SP	POORLY–GRADED SAND
SP–SM	POORLY–GRADED SAND WITH SILT

BEDROCK STRATIGRAPHIC UNITS

SINNIPEE GROUP

DL1 – GALENA FORMATION
SH – DECORAH FORMATION
DL2 – PLATTEVILLE FORMATION
DL6 – SINNIPEE GROUP, UNDIFFERENTIATED

ANCELL GROUP

SS1 – GLENWOOD FORMATION
SS2 – ST. PETER FORMATION, TONTI MEMBER
SS3 – ST. PETER FORMATION, READSTOWN MEMBER
SS4 – ANCELL GROUP, UNDIFFERENTIATED

PRAIRIE DU CHIEN GROUP

DL3 – SHAKOPEE FORMATION
DL4 – ONEOTA FORMATION
DL5 – PRAIRIE DU CHIEN GROUP UNDIFFERENTIATED

UNDIFFERENTIATED

DOL – DOLOMITE
SS – SANDSTONE

GENERAL DESCRIPTION OF MAJOR GEOLOGIC UNITS

PLEISTOCENE SEDIMENTS

LOESS – GRAYISH BROWN, OR YELLOWISH BROWN, MOSTLY SILT WITH SOME CLAY AND FINE SAND, LEAN CLAY (CL), UNIFORM, MASSIVE. DEPOSITED PRIMARILY BY WIND DURING DEGLACIATION. CONTAINS THE MODERN SOIL PROFILE.

TILL – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN, OR YELLOWISH RED, MOSTLY FINE SAND WITH MEDIUM AND COARSE SAND, AND GRAVEL. SILTY SAND (SM) MATRIX, UNIFORM, WITH SOME COBBLES AND BOULDERS. DEPOSITED BY OR FROM GLACIAL ICE.

OUTWASH – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN OR YELLOWISH BROWN, FINE TO COARSE SAND AND SOME GRAVEL, GENERALLY POORLY–GRADED SAND WITH SILT (SP–SM), OR SILTY SAND (SM), MASSIVE TO STRATIFIED, DEPOSITED BY FLUVIAL PROCESSES NEAR GLACIAL ICE.

DRIFT (NOT A MAJOR GEOLOGIC UNIT) – UNDIFFERENTIATED PLEISTOCENE SEDIMENTS, LOESS, TILL, AND/OR OUTWASH.

ORDOVICIAN BEDROCK UNITS

SINNIPEE GROUP – DOLOMITE AND SHALY DOLOMITE, YELLOW BROWN TO LIGHT BROWNISH YELLOW AND GRAY; MASSIVE OR MEDIUM TO THICK BEDDED, BEDDING IS WAVY OR MOTTLED WITH SHALY LAYERS, MINOR WHITE CHERT, FOSSILIFEROUS.

GALENA FORMATION – DOLOMITE TO CHERTY DOLOMITE, GRAY TO BEIGE, AND YELLOW BROWN TO LIGHT BROWNISH YELLOW, MASSIVE TO MEDIUM–BEDDED WITH DISTINCTIVE MOTTLED WEATHERING PATTERN, BASE IS LIGHT GRAY AND SHALY, FOSSILIFEROUS. BIOGENIC CARBONATES.

DECORAH FORMATION – SHALY AND SILTY DOLOMITE. DARK GRAY, THIN BEDDED, MINOR CHERT AND PYRITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

PLATTEVILLE FORMATION – DOLOMITE TO SHALY DOLOMITE, YELLOW, BEIGE, AND GRAY TO LIGHT BROWNISH YELLOW. GRAY WEATHERING IS TYPICAL OF SHALY INTERVALS. MASSIVE, PLANAR–LAMINATED, OR MEDIUM TO THICK BEDDED, INTERBEDDED WITH THIN, WAVY BEDDED SHALE/SILT LAMINATIONS, MINOR CHERT, FOSSILIFEROUS. BIOGENIC CARBONATES.

ANCELL GROUP – MARINE AND AEOLIAN SANDSTONES, SHALES, RESIDUUM. HIGH–RELIEF UNCONFORMABLE CONTACT WITH THE UNDERLYING PRAIRIE DU CHIEN GROUP.

GLENWOOD FORMATION – SANDSTONE, DOLOMITIC (CARBONATE–CEMENTED), SILTY, AND/OR SHALY, POORLY SORTED, YELLOW–BROWN TO GREEN, WITH BLUE–GREEN SHALE OR SANDY DOLOMITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ST. PETER FORMATION, TONTI MEMBER – SANDSTONE, LIGHT BROWNISH YELLOW, WHITE, RED, GRAY, ORANGE, OR BROWN (IF CEMENTED BY IRON OXIDES), MEDIUM TO COARSE GRAINED, WELL ROUNDED AND WELL SORTED, POORLY CEMENTED, LOW TO HIGH ANGLED CROSS–BEDDING OR MASSIVE, POORLY CEMENTED BY DOLOMITE, LOCALIZED SULFIDE MINERALIZATION DISSEMINATED THROUGH THE MATRIX AND CONCENTRATED ALONG BEDDING PLANES AND FRACTURES, LOCALIZED THIN LAYERS OF PALE GREEN SHALE/SILT. MARINE AND AEOLIAN QUARTZ SANDSTONE.

ST. PETER FORMATION, READSTOWN MEMBER – SANDSTONE, SILTY SANDSTONE, CLAYEY SANDSTONE, GRAY, RED, PURPLE, GREEN SHALY LAYERS, INTERBEDDED WITH CLAY AND OR SILT, CONTAINS CLASTS OF CHERT OR DOLOMITE. PARTIALLY REWORKED RESIDUUM ON THE PRAIRIE DU CHIEN EROSIONAL SURFACE.

PRAIRIE DU CHIEN GROUP – DOLOMITE AND SANDY DOLOMITE, YELLOW, LIGHT BROWN, AND GRAY. MASSIVE TO MEDIUM BEDDED, SANDY, CHERTY, VUGGY, AND OOLITHIC.

SHAKOPEE FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY, BEIGE, AND RED (SANDY DOLOMITE IS PREDOMINANTLY RED), INTERBEDDED WITH COARSE GRAINED WELL ROUNDED SANDSTONE, AND/OR GREEN TO GRAY SILTSTONE OR CLAY. MASSIVE, PLANAR, OR LOW–ANGEL CROSS–BEDDING; OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

WILLOW RIVER MEMBER – SANDY, GLAUCONITIC DOLOMITE, GRAY, LIGHT GRAY. BIOGENIC CARBONATES.

NEW RICHMOND MEMBER – SANDSTONE, DOLOMITIC SANDSTONE. YELLOW AND LIGHT GRAY, FINE TO COARSE SAND, MASSIVE TO BEDDED, CHERT AND GLAUCONITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ONEOTA FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY TO BEIGE, MASSIVE, PLANAR, AND WAVY–LAMINATED BEDDING, OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

DOLOMITE – UNDIFFERENTIATED CARBONATE ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY WEATHERED AND/OR POORLY INDURATED.

SANDSTONE – UNDIFFERENTIATED SILICLASTIC ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY POORLY INDURATED.

NOTE: FILL IS UNCONSOLIDATED SEDIMENT, INCLUDING MIXTURES OF SAND, SILT, CLAY, GRAVEL, AND POSSIBLY BEDROCK FRAGMENTS OF VARIOUS SIZES, THAT HAS BEEN RELOCATED ON THE SITE OR HAS BEEN BROUGHT TO THE SITE FROM OFFSITE SOURCES. FILL IS NOT A GEOLOGIC UNIT.

1 ADDED NOTE

MONITORING WELL DETAIL
NOT TO SCALE

SUPPLY WELL DETAIL
NOT TO SCALE

0 100

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'
VERTICAL EXAGGERATION = 10X

NOTES

1. HORIZONTAL DISTANCES ARE MEASURED WITH RESPECT TO THE CENTER OF EACH BORING LOCATION.
2. FOR WELL NESTS, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE WATER TABLE WELL AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE NEST LOCATION.
3. FOR LOCATIONS WITH MORE THAN ONE BORING, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE SHALLOWEST BORING AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE DRILLING LOCATION.
4. REFER TO BORING LOGS IN APPENDIX F OF THE FEASIBILITY REPORT FOR DETAILED DESCRIPTIONS OF GEOLOGIC CONDITIONS AT INDIVIDUAL BORING LOCATIONS.
5. REFER TO APPENDIX F (OF 02/13/2024 FEASIBILITY REPORT) FOR MONITORING WELL CONSTRUCTION DETAILS.
6. EXISTING GROUND SURFACE WAS TAKEN FROM SHEET NUMBER 2.
7. ELEVATIONS ARE REFERENCED TO USGS DATUM.
8. THE POSITION OF THE WATER TABLE BETWEEN WELLS IS BASED ON THE WATER TABLE CONTOUR MAP, SHEET NUMBER 3.
9. THE POSITION OF THE POTENTIOMETRIC SURFACE BETWEEN WELLS IS BASED ON THE POTENTIOMETRIC SURFACE CONTOUR MAP, SHEET NUMBER 5.
10. THE BEDROCK SURFACE SHOWN BETWEEN BORINGS ON THE CROSS–SECTION IS THE STRAIGHT–LINE CONNECTION OF THE UPPERMOST ROCK SURFACES OBSERVED AT THE DRILLING LOCATIONS OR IS BASED ON GEOLOGIC INTERPRETATION OF AN EROSIONAL SURFACE BETWEEN BORING LOCATIONS. THE BEDROCK SURFACE CONTOURS SHOWN BETWEEN BORINGS ON PLAN SHEET 6, BEDROCK SURFACE MAP, ARE BASED ON INTERPOLATION USING KRIGING WITH THE PROGRAM "SURFER".
11. BORINGS WITH DESIGNATION "BR" WERE DRILLED 02/12–13/2024 AND ADDED TO THE FEASIBILITY REPORT CROSS SECTION. SEE FEASIBILITY REPORT–ADDENDUM NO. 1 FOR BORING LOGS.

1 ADDED REPORT DATE

1 ADDED NOTE

GEOLOGIC CROSS SECTION LOCATION MAP
SCALE: 1" = 500'

FLOW NET LEGEND

— —880— — EQUIPOTENTIAL CONTOUR FOR GROUNDWATER HEAD (10' INTERVAL)
➔ GROUNDWATER FLOW DIRECTION

FLOW NET NOTES

1. FLOW ARROWS ARE NOT PERPENDICULAR TO EQUIPOTENTIAL LINES DUE TO ANISOTROPY IN BEDROCK (Kh >> Kv).
2. FLOW NET IS BASED ON CROSS SECTION DATA AND CONCEPTUAL HYDROGEOLOGIC MODEL DEVELOPED FROM SITE–WIDE GEOLOGICAL INFORMATION.

1 FLOW NET INFORMATION ADDED TO CROSS SECTION AND LEGEND

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REVISION	TITLE	DATE
1	FEASIBILITY REPORT ADDENDUM NO. 1	03/07/2025

PROJECT NO.	25222268.00	DRAWN BY:	KP
DRAWN:	04/11/2023	CHECKED BY:	MRH/BLP
REVISED:	08/21/2024	APPROVED BY:	BLP 03/07/2025

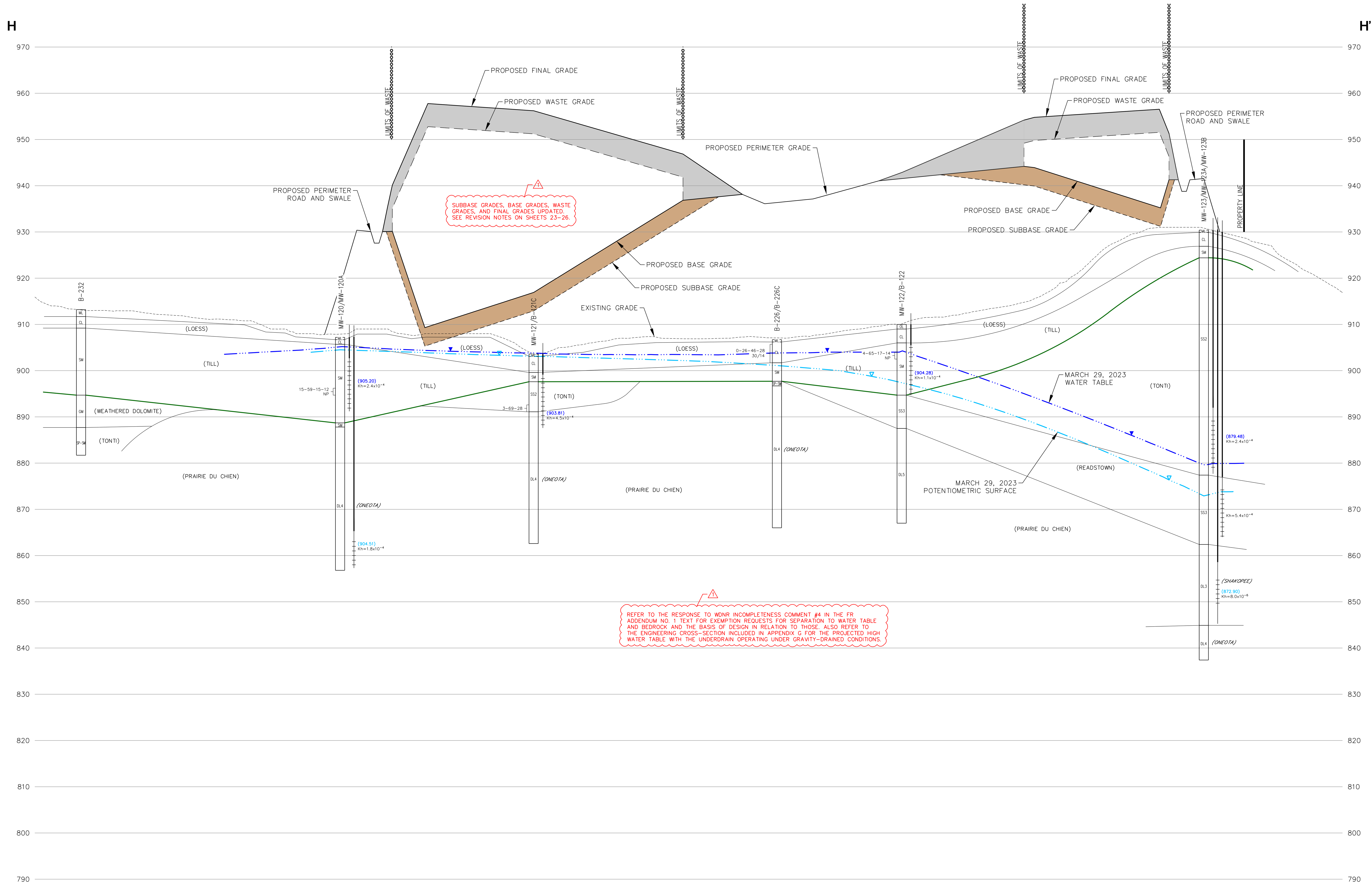
CLIENT
DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713

ENGINEER
SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718–6751
PHONE: (608) 224–2830

SITE
FEASIBILITY REPORT – ADDENDUM NO. 1
DANE COUNTY LANDFILL SITE NO. 3
4402 BRANDT ROAD
MADISON, WISCONSIN

GEOLOGIC CROSS SECTION G–G' WITH FLOW NET

SHEET
12 OF 28



SYMBOLS AND TEST RESULTS

40.7/22.6	LIQUID LIMIT/PLASTICITY INDEX
NP	NON-PLASTIC
Kv	LABORATORY VERTICAL HYDRAULIC CONDUCTIVITY (cm/sec)
Kh	FIELD HORIZONTAL HYDRAULIC CONDUCTIVITY (cm/sec)
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0-87-13	PERCENT GRAVEL, SAND, AND SILT PLUS CLAY
72-5	PERCENT GRAVEL AND SAND
NS	NOT SAMPLED
(1,036.67)	GROUNDWATER ELEVATION ON 03/29/2024 (FEET ABOVE MEAN SEA LEVEL)
(NM)	NOT MEASURED
	WATER TABLE (SEE NOTE 8)
	POTENTIOMETRIC SURFACE (SEE NOTE 9)
	EXISTING GROUND (SPRING 2017)
	GEOLOGIC CONTACT
	UNCERTAIN GEOLOGIC CONTACT
	INFERRED GRADATIONAL GEOLOGIC CONTACT
	TOP OF BEDROCK (SEE NOTE 10)
	PROPOSED FINAL COVER SYSTEM
	PROPOSED COMPOSITE LINER SYSTEM

USCS CLASSES

CL	LEAN CLAY
CL-ML	SILTY CLAY
CH	FAT CLAY
GP	POORLY-GRADED GRAVEL
GP-GM	POORLY-GRADED GRAVEL WITH SILT
GM	SILTY GRAVEL
GW	WELL-GRADED GRAVEL
GW-GM	WELL-GRADED GRAVEL WITH SILT
ML	SILT
SC	CLAYEY SAND
SM	SILTY SAND
SP	POORLY-GRADED SAND
SP-SM	POORLY-GRADED SAND WITH SILT

BEDROCK STRATIGRAPHIC UNITS

SINNIPEE GROUP

DL1 – GALENA FORMATION

SH – DECORAH FORMATION

DL2 – PLATTEVILLE FORMATION

DL6 – SINNIPEE GROUP, UNDIFFERENTIATED

ANCELL GROUP

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SS2 – ST. PETER FORMATION, TONTI MEMBER

SS3 – ST. PETER FORMATION, READSTOWN MEMBER

SS4 – ANCELL GROUP, UNDIFFERENTIATED

PRAIRIE DU CHIEN GROUP

DL3 – SHAKOPEE FORMATION

DL4 – ONEOTA FORMATION

DL5 – PRAIRIE DU CHIEN GROUP UNDIFFERENTIATED

UNDIFFERENTIATED

DOL – DOLOMITE

SS – SANDSTONE

GENERAL DESCRIPTION OF MAJOR GEOLOGIC UNITS

PLEISTOCENE SEDIMENTS

LOESS – GRAYISH BROWN, OR YELLOWISH BROWN, MOSTLY SILT WITH SOME CLAY AND FINE SAND, LEAN CLAY (CL), UNIFORM, MASSIVE. DEPOSITED PRIMARILY BY WIND DURING DEGLACIATION. CONTAINS THE MODERN SOIL PROFILE.

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DRIFT (NOT A MAJOR GEOLOGIC UNIT) – UNDIFFERENTIATED PLEISTOCENE SEDIMENTS, LOESS, TILL, AND/OR OUTWASH.

ORDOVICIAN BEDROCK UNITS

SINNIPEE GROUP – DOLOMITE AND SHALY DOLOMITE, YELLOW BROWN TO LIGHT BROWNISH YELLOW AND GRAY; MASSIVE OR MEDIUM TO THICK BEDDED, BEDDING IS WAVY OR MOTTLED WITH SHALY LAYERS, MINOR WHITE CHERT, FOSSILIFEROUS.

GALENA FORMATION – DOLOMITE TO CHERTY DOLOMITE, GRAY TO BEIGE, AND YELLOW BROWN TO LIGHT BROWNISH YELLOW, MASSIVE TO MEDIUM-BEDDED WITH DISTINCTIVE MOTTLED WEATHERING PATTERN, BASE IS LIGHT GRAY AND SHALY, FOSSILIFEROUS. BIOGENIC CARBONATES.

DECORAH FORMATION – SHALY AND SILTY DOLOMITE. DARK GRAY, THIN BEDDED, MINOR CHERT AND PYRITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

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ANCELL GROUP – MARINE AND AEOLIAN SANDSTONES, SHALES, RESIDUUM. HIGH-RELIEF UNCONFORMABLE CONTACT WITH THE UNDERLYING PRAIRIE DU CHIEN GROUP.

GLENWOOD FORMATION – SANDSTONE, DOLOMITIC (CARBONATE-CEMENTED), SILTY, AND/OR SHALY, POORLY SORTED, YELLOW-BROWN TO GREEN, WITH BLUE-GREEN SHALE OR SANDY DOLOMITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ST. PETER FORMATION, TONTI MEMBER – SANDSTONE, LIGHT BROWNISH YELLOW, WHITE, RED, GRAY, ORANGE, OR BROWN (IF CEMENTED BY IRON OXIDES), MEDIUM TO COARSE GRAINED, WELL ROUNDED AND WELL SORTED, POORLY CEMENTED, LOW TO HIGH ANGLED CROSS-BEDDING OR MASSIVE, POORLY CEMENTED BY DOLOMITE, LOCALIZED SULFIDE MINERALIZATION DISSEMINATED THROUGH THE MATRIX AND CONCENTRATED ALONG BEDDING PLANES AND FRACTURES, LOCALIZED THIN LAYERS OF PALE GREEN SHALE/SILT. MARINE AND AEOLIAN QUARTZ SANDSTONE.

ST. PETER FORMATION, READSTOWN MEMBER – SANDSTONE, SILTY SANDSTONE, CLAYEY SANDSTONE, GRAY, RED, PURPLE, GREEN SHALY LAYERS, INTERBEDDED WITH CLAY AND OR SILT, CONTAINS CLASTS OF CHERT OR DOLOMITE. PARTIALLY REWORKED RESIDUUM ON THE PRAIRIE DU CHIEN EROSIONAL SURFACE.

PRAIRIE DU CHIEN GROUP – DOLOMITE AND SANDY DOLOMITE, YELLOW, LIGHT BROWN, AND GRAY. MASSIVE TO MEDIUM BEDDED, SANDY, CHERTY, VUGGY, AND OOLITHIC.

SHAKOPEE FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY, BEIGE, AND RED (SANDY DOLOMITE IS PREDOMINANTLY RED), INTERBEDDED WITH COARSE GRAINED WELL ROUNDED SANDSTONE, AND/OR GREEN TO GRAY SILTSTONE OR CLAY. MASSIVE, PLANAR, OR LOW-ANGEL CROSS-BEDDING; OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

WILLOW RIVER MEMBER – SANDY, GLAUCONITIC DOLOMITE, GRAY, LIGHT GRAY. BIOGENIC CARBONATES.

NEW RICHMOND MEMBER – SANDSTONE, DOLOMITIC SANDSTONE. YELLOW AND LIGHT GRAY, FINE TO COARSE SAND, MASSIVE TO BEDDED, CHERT AND GLAUCONITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

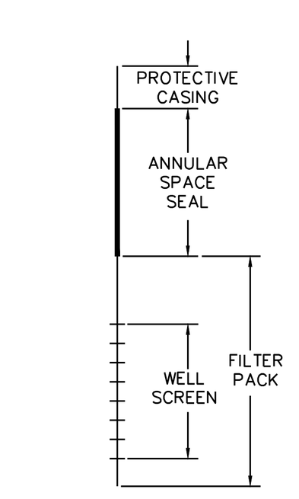
ONEOTA FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY TO BEIGE, MASSIVE, PLANAR, AND WAVY-LAMINATED BEDDING, OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

DOLOMITE – UNDIFFERENTIATED CARBONATE ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY WEATHERED AND/OR POORLY INDURATED.

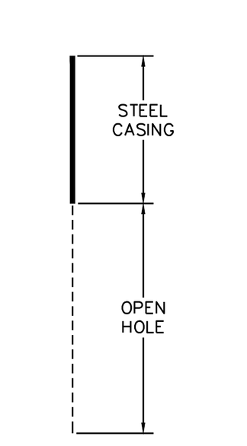
SANDSTONE – UNDIFFERENTIATED SILICLASTIC ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY POORLY INDURATED.

NOTE: FILL IS UNCONSOLIDATED SEDIMENT, INCLUDING MIXTURES OF SAND, SILT, CLAY, GRAVEL, AND POSSIBLY BEDROCK FRAGMENTS OF VARIOUS SIZES, THAT HAS BEEN RELOCATED ON THE SITE OR HAS BEEN BROUGHT TO THE SITE FROM OFFSITE SOURCES. FILL IS NOT A GEOLOGIC UNIT.

1 ADDED NOTE



MONITORING WELL DETAIL
NOT TO SCALE

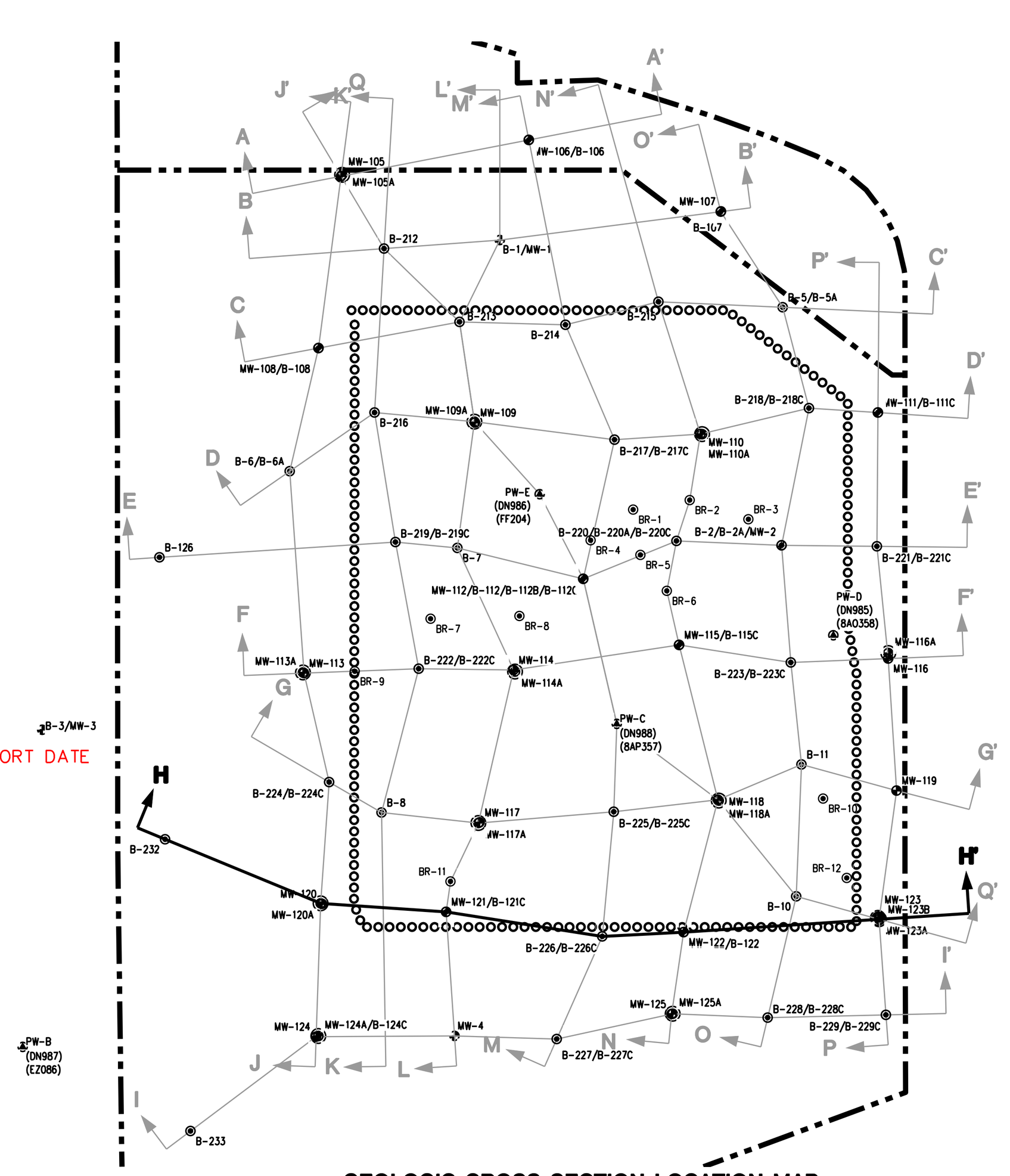


SUPPLY WELL DETAIL
NOT TO SCALE

0 100
HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'
VERTICAL EXAGGERATION = 10X

NOTES

1. HORIZONTAL DISTANCES ARE MEASURED WITH RESPECT TO THE CENTER OF EACH BORING LOCATION.
2. FOR WELL NESTS, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE WATER TABLE WELL AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE NEST LOCATION.
3. FOR LOCATIONS WITH MORE THAN ONE BORING, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE SHALLOWEST BORING AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE DRILLING LOCATION.
4. REFER TO BORING LOGS IN APPENDIX F OF THE FEASIBILITY REPORT FOR DETAILED DESCRIPTIONS OF GEOLOGIC CONDITIONS AT INDIVIDUAL BORING LOCATIONS.
5. REFER TO APPENDIX F (OF 02/13/2024 FEASIBILITY REPORT) FOR MONITORING WELL CONSTRUCTION DETAILS. (1 ADDED REPORT DATE)
6. EXISTING GROUND SURFACE WAS TAKEN FROM SHEET NUMBER 2.
7. ELEVATIONS ARE REFERENCED TO USGS DATUM.
8. THE POSITION OF THE WATER TABLE BETWEEN WELLS IS BASED ON THE WATER TABLE CONTOUR MAP, SHEET NUMBER 3.
9. THE POSITION OF THE POTENTIOMETRIC SURFACE BETWEEN WELLS IS BASED ON THE POTENTIOMETRIC SURFACE CONTOUR MAP, SHEET NUMBER 5.
10. THE BEDROCK SURFACE SHOWN BETWEEN BORINGS ON THE CROSS-SECTION IS THE STRAIGHT-LINE CONNECTION OF THE UPPERMOST ROCK SURFACES OBSERVED AT THE DRILLING LOCATIONS OR IS BASED ON GEOLOGIC INTERPRETATION OF AN EROSIONAL SURFACE BETWEEN BORING LOCATIONS. THE BEDROCK SURFACE CONTOURS SHOWN BETWEEN BORINGS ON PLAN SHEET 6, BEDROCK SURFACE MAP, ARE BASED ON INTERPOLATION USING KRIGING WITH THE PROGRAM "SURFER".
11. BORINGS WITH DESIGNATION "BR" WERE DRILLED 02/12-13/2024 AND ADDED TO THE FEASIBILITY REPORT CROSS SECTION. SEE FEASIBILITY REPORT-ADDENDUM NO. 1 FOR BORING LOGS. (1 ADDED NOTE)



GEOLOGIC CROSS SECTION LOCATION MAP
SCALE: 1" = 500'

REVISION	TITLE	DATE
1	FEASIBILITY REPORT ADDENDUM NO. 1	03/07/2025

PROJECT NO.	25222268.00	DRAWN BY:	KP
DRAWN:	04/11/2023	CHECKED BY:	MRH/BLP
REVISED:	08/21/2024	APPROVED BY:	BLP 03/07/2025

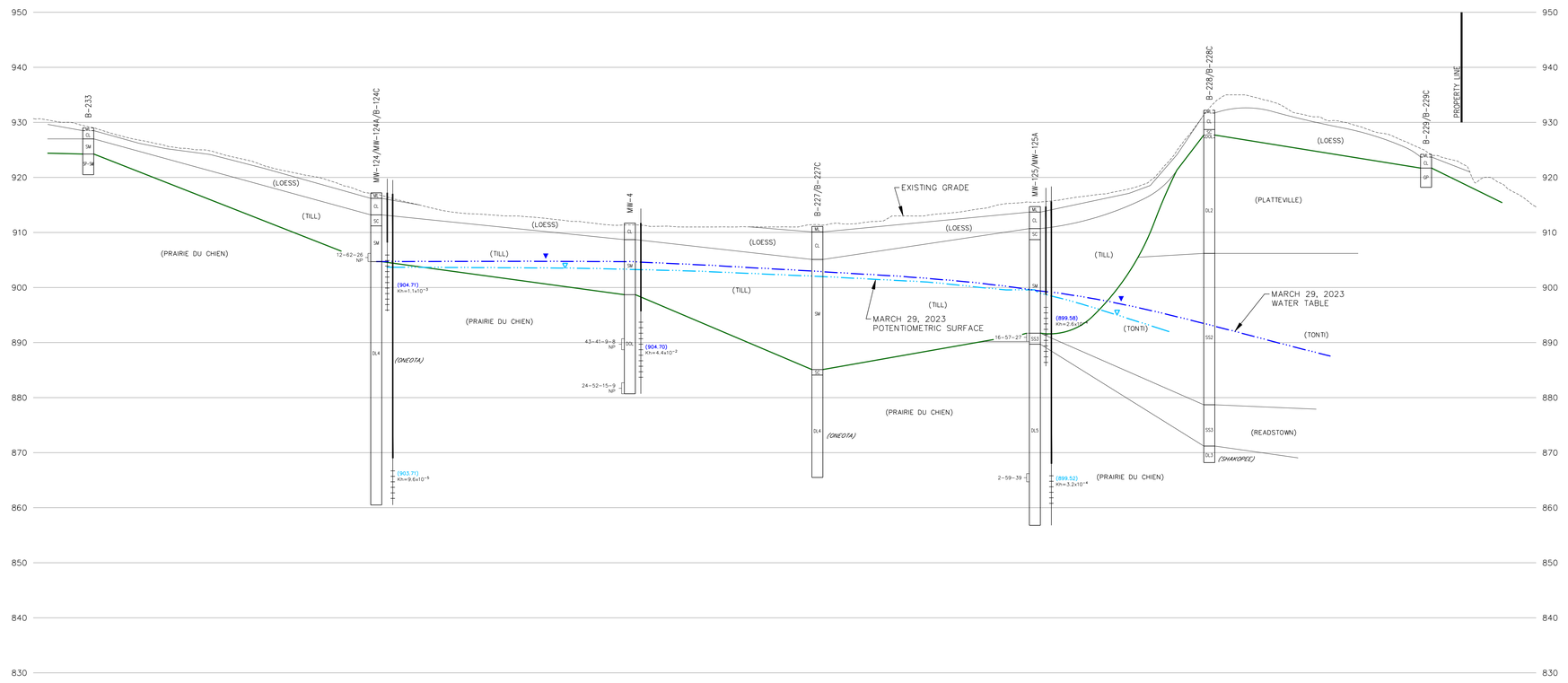
CLIENT: DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

SITE: FEASIBILITY REPORT – ADDENDUM NO. 1
DANE COUNTY LANDFILL SITE NO. 3
4402 BRANDT ROAD
MADISON, WISCONSIN

GEOLOGIC CROSS SECTION H-H'

SHEET 13 of 28



SYMBOLS AND TEST RESULTS

40.7/22.6	LIQUID LIMIT/PLASTICITY INDEX
NP	NON-PLASTIC
Kv	LABORATORY VERTICAL HYDRAULIC CONDUCTIVITY (cm/sec)
Kh	FIELD HORIZONTAL HYDRAULIC CONDUCTIVITY (cm/sec)
0-30-42-28	PERCENT GRAVEL, SAND, SILT, AND CLAY
0-87-13	PERCENT GRAVEL, SAND, AND SILT PLUS CLAY
72-5	PERCENT GRAVEL AND SAND
NS	NOT SAMPLED
(1,036.67)	GROUNDWATER ELEVATION ON 03/29/2024 (FEET ABOVE MEAN SEA LEVEL)
(NM)	NOT MEASURED
	WATER TABLE (SEE NOTE 8)
	POTENTIOMETRIC SURFACE (SEE NOTE 9)
	EXISTING GROUND (SPRING 2017)
	GEOLOGIC CONTACT
	UNCERTAIN GEOLOGIC CONTACT
	INFERRED GRADATIONAL GEOLOGIC CONTACT
	TOP OF BEDROCK (SEE NOTE 10)
	PROPOSED FINAL COVER SYSTEM
	PROPOSED COMPOSITE LINER SYSTEM

USCS CLASSES

CL	LEAN CLAY
CL-ML	SILTY CLAY
CH	FAT CLAY
GP	POORLY-GRADED GRAVEL
GP-GM	POORLY-GRADED GRAVEL WITH SILT
GM	SILTY GRAVEL
GW	WELL-GRADED GRAVEL
GW-GM	WELL-GRADED GRAVEL WITH SILT
ML	SILT
SC	CLAYEY SAND
SM	SILTY SAND
SP	POORLY-GRADED SAND
SP-SM	POORLY-GRADED SAND WITH SILT

BEDROCK STRATIGRAPHIC UNITS

SINNIPEE GROUP

DL1 – GALENA FORMATION

SH – DECORAH FORMATION

DL2 – PLATTEVILLE FORMATION

DL6 – SINNIPEE GROUP, UNDIFFERENTIATED

ANCELL GROUP

SS1 – GLENWOOD FORMATION

SS2 – ST. PETER FORMATION, TONTI MEMBER

SS3 – ST. PETER FORMATION, READSTOWN MEMBER

SS4 – ANCELL GROUP, UNDIFFERENTIATED

PRAIRIE DU CHIEN GROUP

DL3 – SHAKOPEE FORMATION

DL4 – ONEOTA FORMATION

DL5 – PRAIRIE DU CHIEN GROUP UNDIFFERENTIATED

UNDIFFERENTIATED

DOL – DOLOMITE

SS – SANDSTONE

GENERAL DESCRIPTION OF MAJOR GEOLOGIC UNITS

PLEISTOCENE SEDIMENTS

LOESS – GRAYISH BROWN, OR YELLOWISH BROWN, MOSTLY SILT WITH SOME CLAY AND FINE SAND, LEAN CLAY (CL), UNIFORM, MASSIVE. DEPOSITED PRIMARILY BY WIND DURING DEGLACIATION. CONTAINS THE MODERN SOIL PROFILE.

TILL – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN, OR YELLOWISH RED, MOSTLY FINE SAND WITH MEDIUM AND COARSE SAND, AND GRAVEL. SILTY SAND (SM) MATRIX, UNIFORM, WITH SOME COBBLES AND BOULDERS. DEPOSITED BY OR FROM GLACIAL ICE.

OUTWASH – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN OR YELLOWISH BROWN, FINE TO COARSE SAND AND SOME GRAVEL, GENERALLY POORLY-GRADED SAND WITH SILT (SP-SM), OR SILTY SAND (SM), MASSIVE TO STRATIFIED, DEPOSITED BY FLUVIAL PROCESSES NEAR GLACIAL ICE.

DRIFT (NOT A MAJOR GEOLOGIC UNIT) – UNDIFFERENTIATED PLEISTOCENE SEDIMENTS, LOESS, TILL, AND/OR OUTWASH.

ORDOVICIAN BEDROCK UNITS

SINNIPEE GROUP – DOLOMITE AND SHALY DOLOMITE, YELLOW BROWN TO LIGHT BROWNISH YELLOW AND GRAY, MASSIVE OR MEDIUM TO THICK BEDDED, BEDDING IS WAVY OR MOTTLED WITH SHALY LAYERS, MINOR WHITE CHERT, FOSSILIFEROUS.

GALENA FORMATION – DOLOMITE TO CHERTY DOLOMITE, GRAY TO BEIGE, AND YELLOW BROWN TO LIGHT BROWNISH YELLOW, MASSIVE TO MEDIUM-BEDDED WITH DISTINCTIVE MOTTLED WEATHERING PATTERN, BASE IS LIGHT GRAY AND SHALY, FOSSILIFEROUS. BIOGENIC CARBONATES.

DECORAH FORMATION – SHALY AND SILTY DOLOMITE, DARK GRAY, THIN BEDDED, MINOR CHERT AND PYRITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

PLATTEVILLE FORMATION – DOLOMITE TO SHALY DOLOMITE, YELLOW, BEIGE, AND GRAY TO LIGHT BROWNISH YELLOW. GRAY WEATHERING IS TYPICAL OF SHALY INTERVALS. MASSIVE, PLANAR-LAMINATED, OR MEDIUM TO THICK BEDDED, INTERBEDDED WITH THIN, WAVY BEDDED SHALE/SILT LAMINATIONS, MINOR CHERT, FOSSILIFEROUS. BIOGENIC CARBONATES.

ANCELL GROUP – MARINE AND AEOLIAN SANDSTONES, SHALES, RESIDUUM. HIGH-RELIEF UNCONFORMABLE CONTACT WITH THE UNDERLYING PRAIRIE DU CHIEN GROUP.

GLENWOOD FORMATION – SANDSTONE, DOLOMITIC (CARBONATE-CEMENTED), SILTY, AND/OR SHALY, POORLY SORTED, YELLOW-BROWN TO GREEN, WITH BLUE-GREEN SHALE OR SANDY DOLOMITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ST. PETER FORMATION, TONTI MEMBER – SANDSTONE, LIGHT BROWNISH YELLOW, WHITE, RED, GRAY, ORANGE, OR BROWN (IF CEMENTED BY IRON OXIDES), MEDIUM TO COARSE GRAINED, WELL ROUNDED AND WELL SORTED, POORLY CEMENTED, LOW TO HIGH ANGLED CROSS-BEDDING OR MASSIVE, POORLY CEMENTED BY DOLOMITE, LOCALIZED SULFIDE MINERALIZATION DISSEMINATED THROUGH THE MATRIX AND CONCENTRATED ALONG BEDDING PLANES AND FRACTURES, LOCALIZED THIN LAYERS OF PALE GREEN SHALE/SILT. MARINE AND AEOLIAN QUARTZ SANDSTONE.

ST. PETER FORMATION, READSTOWN MEMBER – SANDSTONE, SILTY SANDSTONE, CLAYEY SANDSTONE, GRAY, RED, PURPLE, GREEN SHALY LAYERS, INTERBEDDED WITH CLAY AND OR SILT, CONTAINS CLASTS OF CHERT OR DOLOMITE. PARTIALLY REWORKED RESIDUUM ON THE PRAIRIE DU CHIEN EROSIONAL SURFACE.

PRAIRIE DU CHIEN GROUP – DOLOMITE AND SANDY DOLOMITE, YELLOW, LIGHT BROWN, AND GRAY. MASSIVE TO MEDIUM BEDDED, SANDY, CHERTY, VUGGY, AND OOLITHIC.

SHAKOPEE FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY, BEIGE, AND RED (SANDY DOLOMITE IS PREDOMINANTLY RED), INTERBEDDED WITH COARSE GRAINED WELL ROUNDED SANDSTONE, AND/OR GREEN TO GRAY SILTSTONE OR CLAY. MASSIVE, PLANAR, OR LOW-ANGEL CROSS-BEDDING. OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

WILLOW RIVER MEMBER – SANDY, GLAUCONITIC DOLOMITE, GRAY, LIGHT GRAY. BIOGENIC CARBONATES.

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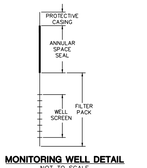
ONEOTA FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY TO BEIGE, MASSIVE, PLANAR, AND WAVY-LAMINATED BEDDING, OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

DOLOMITE – UNDIFFERENTIATED CARBONATE ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY WEATHERED AND/OR POORLY INDURATED.

SANDSTONE – UNDIFFERENTIATED SILICLASTIC ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY POORLY INDURATED.

NOTE: FILL IS UNCONSOLIDATED SEDIMENT, INCLUDING MIXTURES OF SAND, SILT, CLAY, GRAVEL, AND POSSIBLY BEDROCK FRAGMENTS OF VARIOUS SIZES, THAT HAS BEEN RELOCATED ON THE SITE OR HAS BEEN BROUGHT TO THE SITE FROM OFFSITE SOURCES. FILL IS NOT A GEOLOGIC UNIT.

ADDED NOTE



MONITORING WELL DETAIL
NOT TO SCALE

SUPPLY WELL DETAIL
NOT TO SCALE

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NOTES

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2. FOR WELL NESTS, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE WATER TABLE WELL AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE NEST LOCATION.
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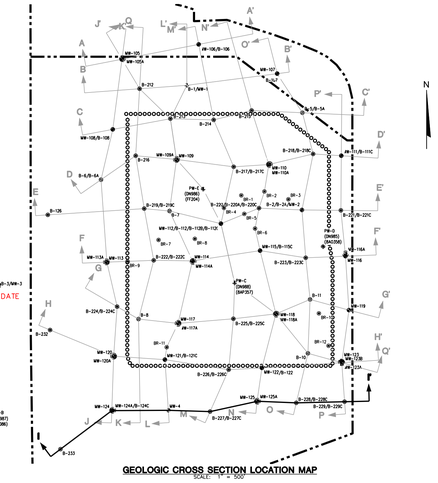
4. REFER TO BORING LOGS IN APPENDIX F OF THE FEASIBILITY REPORT FOR DETAILED DESCRIPTIONS OF GEOLOGIC CONDITIONS AT INDIVIDUAL BORING LOCATIONS.
5. REFER TO APPENDIX I (OF 02/13/2024 FEASIBILITY REPORT) FOR MONITORING WELL CONSTRUCTION DETAILS.
6. EXISTING GROUND SURFACE WAS TAKEN FROM SHEET NUMBER 2.
7. ELEVATIONS ARE REFERENCED TO USGS DATUM.
8. THE POSITION OF THE WATER TABLE BETWEEN WELLS IS BASED ON THE WATER TABLE CONTOUR MAP, SHEET NUMBER 3.
9. THE POSITION OF THE POTENTIOMETRIC SURFACE BETWEEN WELLS IS BASED ON THE POTENTIOMETRIC SURFACE CONTOUR MAP, SHEET NUMBER 5.
10. THE BEDROCK SURFACE SHOWN BETWEEN BORINGS ON THE CROSS-SECTION IS THE STRAIGHT-LINE CONNECTION OF THE UPPERMOST ROCK SURFACES OBSERVED AT THE DRILLING LOCATIONS OR IS BASED ON GEOLOGIC INTERPRETATION OF AN EROSIONAL SURFACE BETWEEN BORING LOCATIONS. THE BEDROCK SURFACE CONTOURS SHOWN BETWEEN BORINGS ON PLAN SHEET 6, BEDROCK SURFACE MAP, ARE BASED ON INTERPOLATION USING KRIGING WITH THE PROGRAM "SURFER".
11. BORINGS WITH DESIGNATION "BR" WERE DRILLED 02/12-13/2024 AND ADDED TO THE FEASIBILITY REPORT CROSS SECTION. SEE FEASIBILITY REPORT-ADDENDUM NO. 1 FOR BORING LOGS.

ADDED REPORT DATE

ADDED NOTE



GEOLOGIC CROSS SECTION LOCATION MAP
SCALE: 1" = 500'

REVISION	TITLE	DATE
1	FEASIBILITY REPORT ADDENDUM NO. 1	03/07/2025

PROJECT NO. 25222268.00
DRAWN: 04/11/2023
DRAWN BY: KP
CHECKED BY: MRH/BLP
REVISED: 08/21/2024
APPROVED BY: BLP 03/07/2025

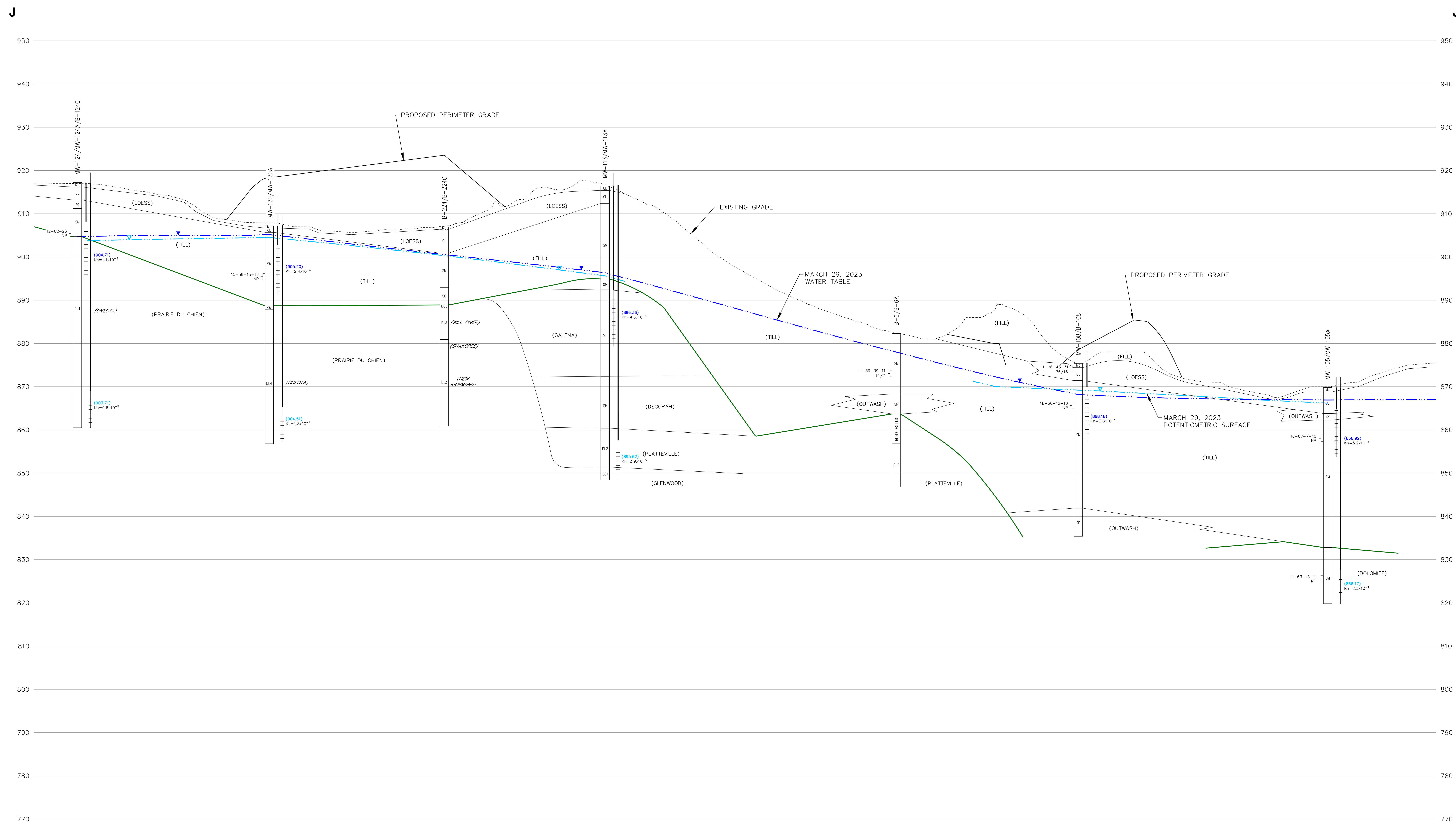
CLIENT
DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713

ENGINEER
SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

SITE
FEASIBILITY REPORT – ADDENDUM NO. 1
DANE COUNTY LANDFILL SITE NO. 3
4602 DAIRY DRIVE
MADISON, WISCONSIN

GEOLOGIC CROSS SECTION I–I'

SHEET
14 of 28



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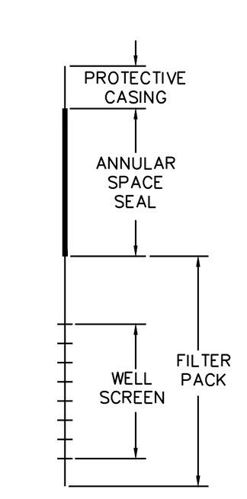
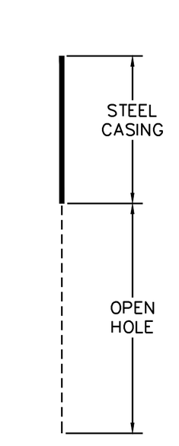


MONITORING WELL DETAIL
NOT TO SCALE



SUPPLY WELL DETAIL
NOT TO SCALE

0 100

HORIZONTAL SCALE: 1" = 100'
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NOTES

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1 ADDED REPORT DATE

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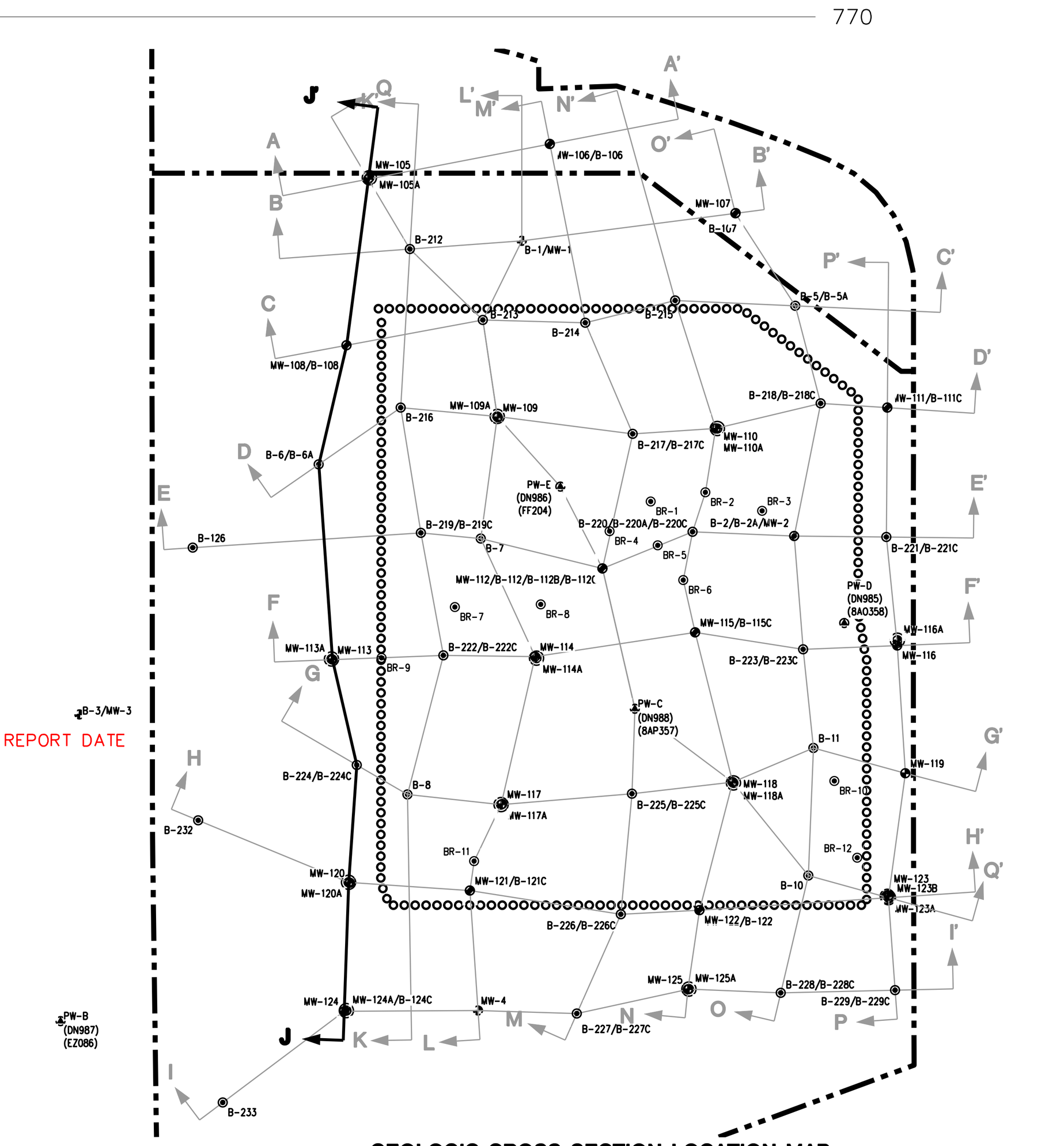

GEOLOGIC CROSS SECTION LOCATION MAP

REVISION	TITLE	DATE
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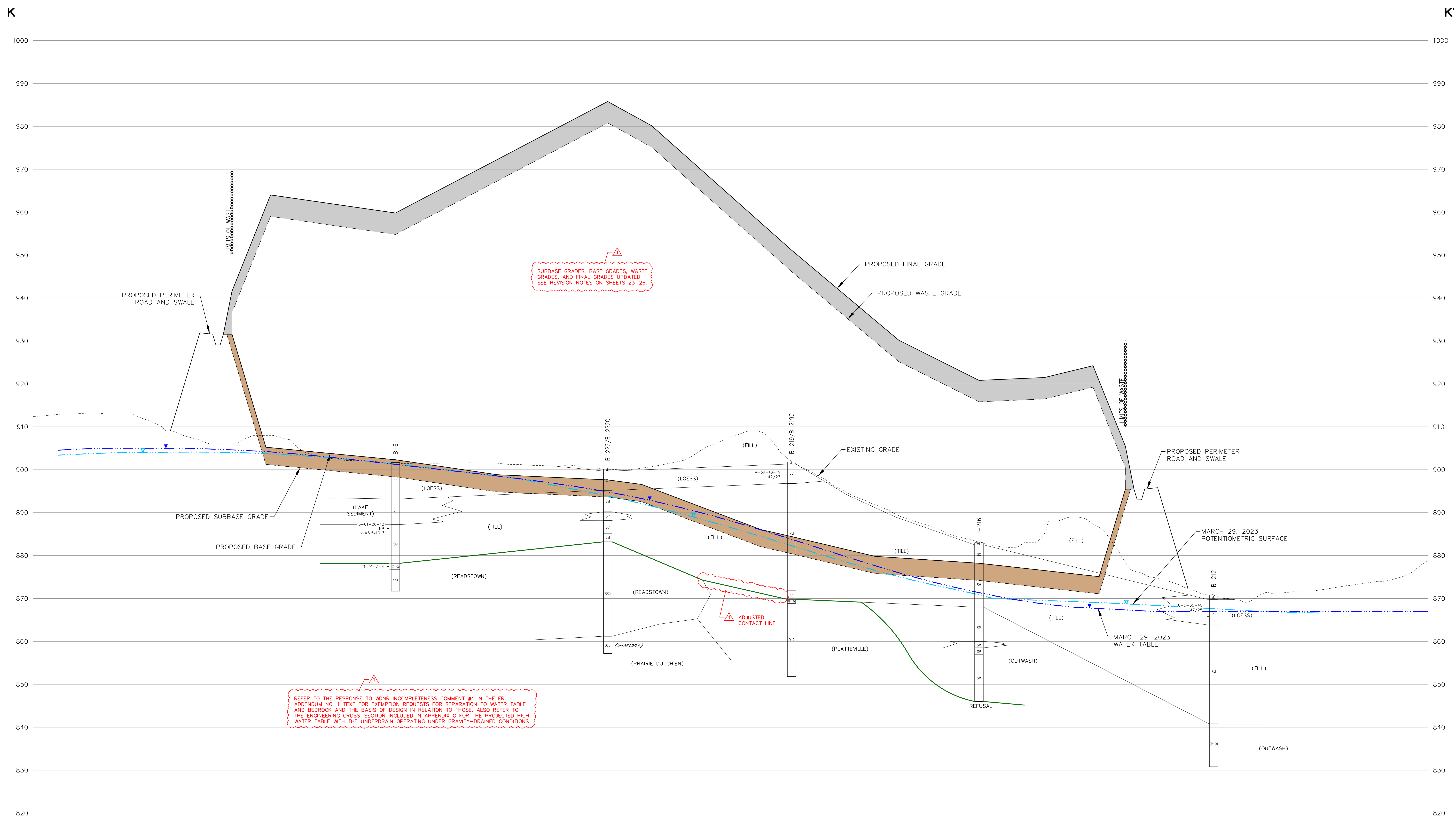
PROJECT NO.	25222268.00	DRAWN BY:	KP
DRAWN:	04/11/2023	CHECKED BY:	MRH/BLP
REVISED:	08/21/2024	APPROVED BY:	BLP 03/07/2025

CLIENT
DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713

ENGINEER
SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

SITE
FEASIBILITY REPORT – ADDENDUM NO. 1
DANE COUNTY LANDFILL SITE NO. 3
4402 BRANDT ROAD
MADISON, WISCONSIN

GEOLOGIC CROSS SECTION J–J'



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GP	POORLY-GRADED GRAVEL
GP-GM	POORLY-GRADED GRAVEL WITH SILT
GM	SILTY GRAVEL
GW	WELL-GRADED GRAVEL
GW-GM	WELL-GRADED GRAVEL WITH SILT
ML	SILT
SC	CLAYEY SAND
SM	SILTY SAND
SP	POORLY-GRADED SAND
SP-SM	POORLY-GRADED SAND WITH SILT

BEDROCK STRATIGRAPHIC UNITS

SINNIPEE GROUP

DL1 – GALENA FORMATION

SH – DECORAH FORMATION

DL2 – PLATTEVILLE FORMATION

DL6 – SINNIPEE GROUP, UNDIFFERENTIATED

ANCELL GROUP

SS1 – GLENWOOD FORMATION

SS2 – ST. PETER FORMATION, TONTI MEMBER

SS3 – ST. PETER FORMATION, READSTOWN MEMBER

SS4 – ANCELL GROUP, UNDIFFERENTIATED

PRAIRIE DU CHIEN GROUP

DL3 – SHAKOPEE FORMATION

DL4 – ONEOTA FORMATION

DL5 – PRAIRIE DU CHIEN GROUP UNDIFFERENTIATED

UNDIFFERENTIATED

DOL – DOLOMITE

SS – SANDSTONE

GENERAL DESCRIPTION OF MAJOR GEOLOGIC UNITS

PLEISTOCENE SEDIMENTS

LOESS – GRAYISH BROWN, OR YELLOWISH BROWN, MOSTLY SILT WITH SOME CLAY AND FINE SAND, LEAN CLAY (CL), UNIFORM, MASSIVE. DEPOSITED PRIMARILY BY WIND DURING DEGLACIATION. CONTAINS THE MODERN SOIL PROFILE.

TILL – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN, OR YELLOWISH RED, MOSTLY FINE SAND WITH MEDIUM AND COARSE SAND, AND GRAVEL. SILTY SAND (SM) MATRIX, UNIFORM, WITH SOME COBBLES AND BOULDERS. DEPOSITED BY OR FROM GLACIAL ICE.

OUTWASH – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN OR YELLOWISH BROWN, FINE TO COARSE SAND AND SOME GRAVEL, GENERALLY POORLY-GRADED SAND WITH SILT (SP-SM), OR SILTY SAND (SM), MASSIVE TO STRATIFIED, DEPOSITED BY FLUVIAL PROCESSES NEAR GLACIAL ICE.

DRIFT (NOT A MAJOR GEOLOGIC UNIT) – UNDIFFERENTIATED PLEISTOCENE SEDIMENTS, LOESS, TILL, AND/OR OUTWASH.

ORDOVICIAN BEDROCK UNITS

SINNIPEE GROUP – DOLOMITE AND SHALY DOLOMITE, YELLOW BROWN TO LIGHT BROWNISH YELLOW AND GRAY; MASSIVE OR MEDIUM TO THICK BEDDED, BEDDING IS WAVY OR MOTTLED WITH SHALY LAYERS, MINOR WHITE CHERT, FOSSILIFEROUS.

GALENA FORMATION – DOLOMITE TO CHERTY DOLOMITE, GRAY TO BEIGE, AND YELLOW BROWN TO LIGHT BROWNISH YELLOW, MASSIVE TO MEDIUM-BEDDED WITH DISTINCTIVE MOTTLED WEATHERING PATTERN, BASE IS LIGHT GRAY AND SHALY, FOSSILIFEROUS. BIOGENIC CARBONATES.

DECORAH FORMATION – SHALY AND SILTY DOLOMITE. DARK GRAY, THIN BEDDED, MINOR CHERT AND PYRITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

PLATTEVILLE FORMATION – DOLOMITE TO SHALY DOLOMITE, YELLOW, BEIGE, AND GRAY TO LIGHT BROWNISH YELLOW. GRAY WEATHERING IS TYPICAL OF SHALY INTERVALS. MASSIVE, PLANAR-LAMINATED, OR MEDIUM TO THICK BEDDED, INTERBEDDED WITH THIN, WAVY BEDDED SHALE/SILT LAMINATIONS, MINOR CHERT, FOSSILIFEROUS. BIOGENIC CARBONATES.

ANCELL GROUP – MARINE AND AEOLIAN SANDSTONES, SHALES, RESIDUUM. HIGH-RELIEF UNCONFORMABLE CONTACT WITH THE UNDERLYING PRAIRIE DU CHIEN GROUP.

GLENWOOD FORMATION – SANDSTONE, DOLOMITIC (CARBONATE-CEMENTED), SILTY, AND/OR SHALY, POORLY SORTED, YELLOW-BROWN TO GREEN, WITH BLUE-GREEN SHALE OR SANDY DOLOMITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ST. PETER FORMATION, TONTI MEMBER – SANDSTONE, LIGHT BROWNISH YELLOW, WHITE, RED, GRAY, ORANGE, OR BROWN (IF CEMENTED BY IRON OXIDES), MEDIUM TO COARSE GRAINED, WELL ROUNDED AND WELL SORTED, POORLY CEMENTED, LOW TO HIGH ANGLED CROSS-BEDDING OR MASSIVE, POORLY CEMENTED BY DOLOMITE, LOCALIZED SULFIDE MINERALIZATION DISSEMINATED THROUGH THE MATRIX AND CONCENTRATED ALONG BEDDING PLANES AND FRACTURES, LOCALIZED THIN LAYERS OF PALE GREEN SHALE/SILT. MARINE AND AEOLIAN QUARTZ SANDSTONE.

ST. PETER FORMATION, READSTOWN MEMBER – SANDSTONE, SILTY SANDSTONE, CLAYEY SANDSTONE, GRAY, RED, PURPLE, GREEN SHALY LAYERS, INTERBEDDED WITH CLAY AND OR SILT, CONTAINS CLASTS OF CHERT OR DOLOMITE. PARTIALLY REWORKED RESIDUUM ON THE PRAIRIE DU CHIEN EROSIONAL SURFACE.

PRAIRIE DU CHIEN GROUP – DOLOMITE AND SANDY DOLOMITE, YELLOW, LIGHT BROWN, AND GRAY. MASSIVE TO MEDIUM BEDDED, SANDY, CHERTY, VUGGY, AND OOLITHIC.

SHAKOPEE FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY, BEIGE, AND RED (SANDY DOLOMITE IS PREDOMINANTLY RED), INTERBEDDED WITH COARSE GRAINED WELL ROUNDED SANDSTONE, AND/OR GREEN TO GRAY SILTSTONE OR CLAY. MASSIVE, PLANAR, OR LOW-ANGEL CROSS-BEDDING; OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

WILLOW RIVER MEMBER – SANDY, GLAUCONITIC DOLOMITE, GRAY, LIGHT GRAY. BIOGENIC CARBONATES.

NEW RICHMOND MEMBER – SANDSTONE, DOLOMITIC SANDSTONE. YELLOW AND LIGHT GRAY, FINE TO COARSE SAND, MASSIVE TO BEDDED, CHERT AND GLAUCONITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

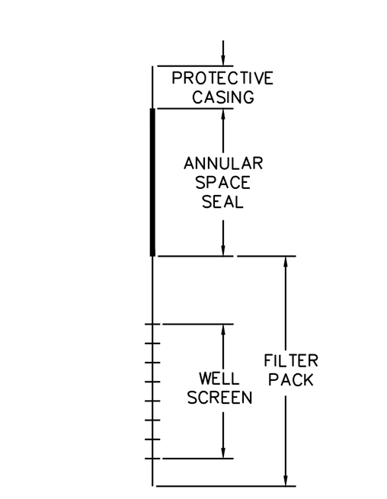
ONEOTA FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY TO BEIGE, MASSIVE, PLANAR, AND WAVY-LAMINATED BEDDING, OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

DOLOMITE – UNDIFFERENTIATED CARBONATE ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY WEATHERED AND/OR POORLY INDURATED.

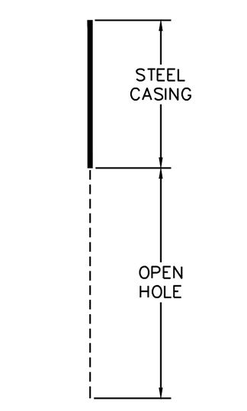
SANDSTONE – UNDIFFERENTIATED SILICLASTIC ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY POORLY INDURATED.

NOTE: FILL IS UNCONSOLIDATED SEDIMENT, INCLUDING MIXTURES OF SAND, SILT, CLAY, GRAVEL, AND POSSIBLY BEDROCK FRAGMENTS OF VARIOUS SIZES, THAT HAS BEEN RELOCATED ON THE SITE OR HAS BEEN BROUGHT TO THE SITE FROM OFFSITE SOURCES. FILL IS NOT A GEOLOGIC UNIT.

ADDED NOTE



MONITORING WELL DETAIL
NOT TO SCALE

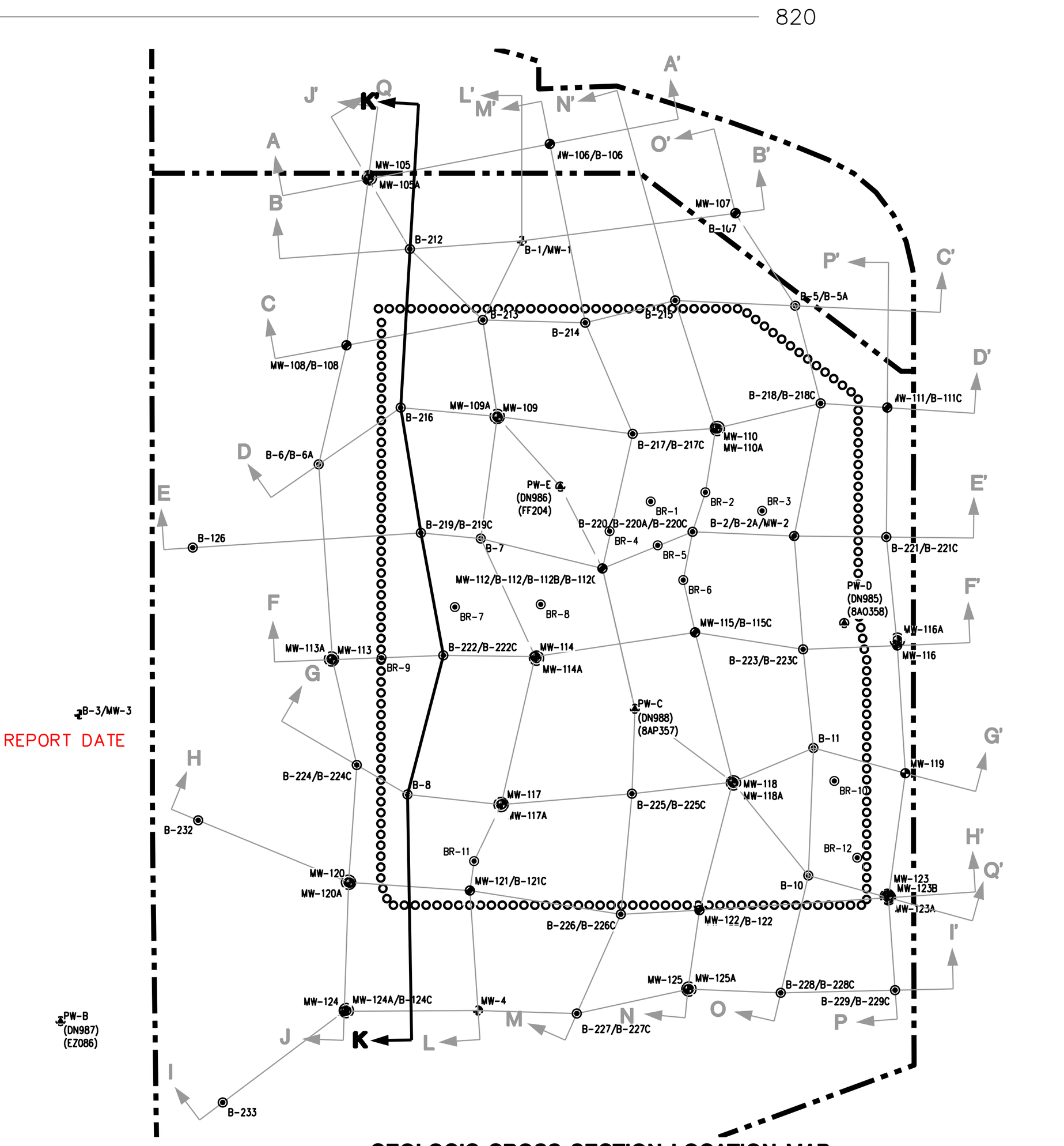


SUPPLY WELL DETAIL
NOT TO SCALE

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'
VERTICAL EXAGGERATION = 10X

NOTES

1. HORIZONTAL DISTANCES ARE MEASURED WITH RESPECT TO THE CENTER OF EACH BORING LOCATION.
2. FOR WELL NESTS, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE WATER TABLE WELL AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE NEST LOCATION.
3. FOR LOCATIONS WITH MORE THAN ONE BORING, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE SHALLOWEST BORING AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE DRILLING LOCATION.
4. REFER TO BORING LOGS IN APPENDIX F OF THE FEASIBILITY REPORT FOR DETAILED DESCRIPTIONS OF GEOLOGIC CONDITIONS AT INDIVIDUAL BORING LOCATIONS.
5. REFER TO APPENDIX F (OF 02/13/2024 FEASIBILITY REPORT) FOR MONITORING WELL CONSTRUCTION DETAILS. (ADDED REPORT DATE)
6. EXISTING GROUND SURFACE WAS TAKEN FROM SHEET NUMBER 2.
7. ELEVATIONS ARE REFERENCED TO USGS DATUM.
8. THE POSITION OF THE WATER TABLE BETWEEN WELLS IS BASED ON THE WATER TABLE CONTOUR MAP, SHEET NUMBER 3.
9. THE POSITION OF THE POTENTIOMETRIC SURFACE BETWEEN WELLS IS BASED ON THE POTENTIOMETRIC SURFACE CONTOUR MAP, SHEET NUMBER 5.
10. THE BEDROCK SURFACE SHOWN BETWEEN BORINGS ON THE CROSS-SECTION IS THE STRAIGHT-LINE CONNECTION OF THE UPPERMOST ROCK SURFACES OBSERVED AT THE DRILLING LOCATIONS OR IS BASED ON GEOLOGIC INTERPRETATION OF AN EROSIONAL SURFACE BETWEEN BORING LOCATIONS. THE BEDROCK SURFACE CONTOURS SHOWN BETWEEN BORINGS ON PLAN SHEET 6, BEDROCK SURFACE MAP, ARE BASED ON INTERPOLATION USING KRIGING WITH THE PROGRAM "SURFER".
11. BORINGS WITH DESIGNATION "BR" WERE DRILLED 02/12-13/2024 AND ADDED TO THE FEASIBILITY REPORT CROSS SECTION. SEE FEASIBILITY REPORT-ADDENDUM NO. 1 FOR BORING LOGS. (ADDED NOTE)



GEOLOGIC CROSS SECTION LOCATION MAP
SCALE: 1" = 500'

REVISION	TITLE	DATE
1	FEASIBILITY REPORT ADDENDUM NO. 1	03/07/2025

PROJECT NO.	25222268.00	DRAWN BY:	KP
DRAWN:	04/11/2023	CHECKED BY:	MRH/BLP
REVISED:	08/21/2024	APPROVED BY:	BLP 03/07/2025

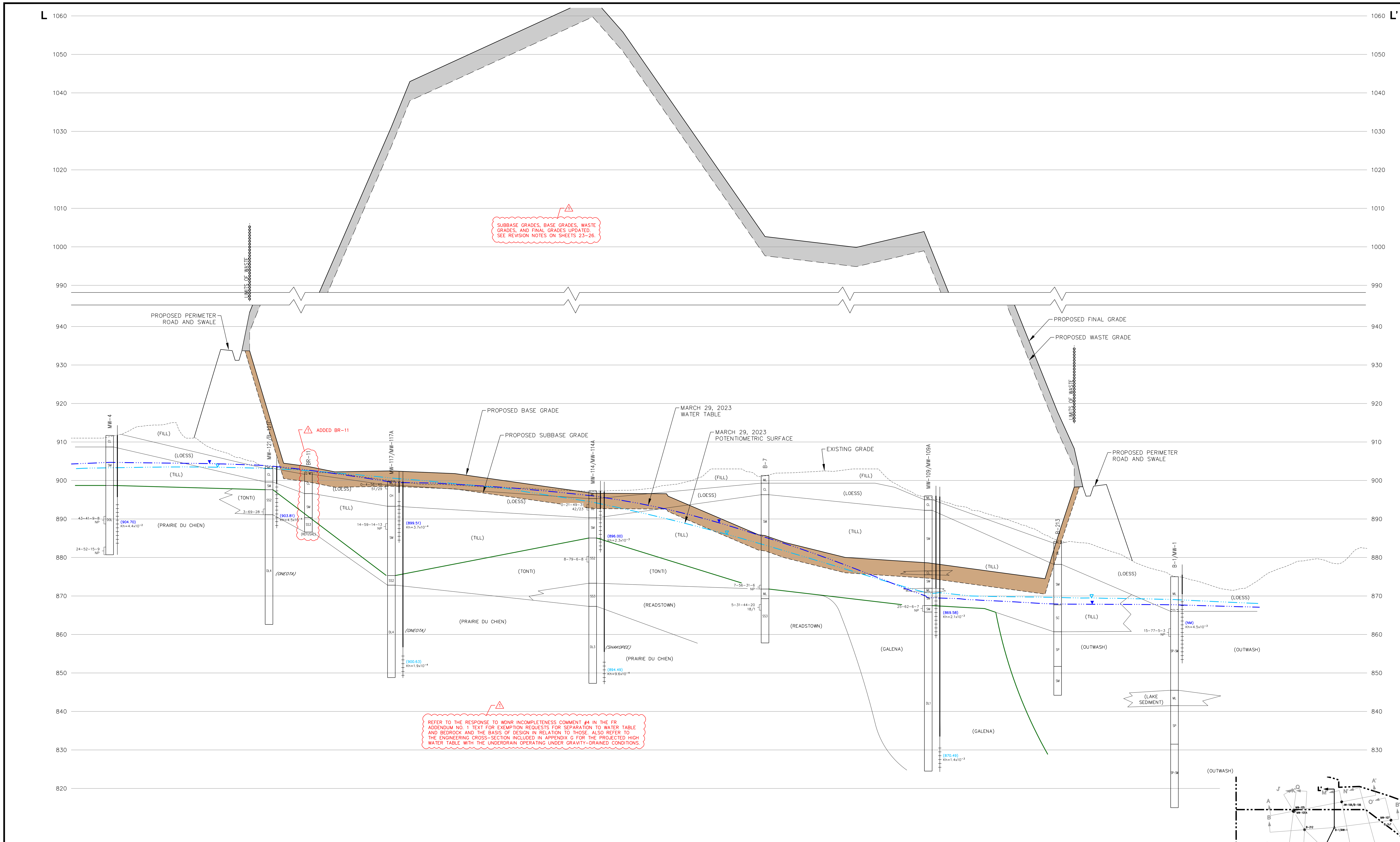
CLIENT: DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES, 1919 ALLIANT ENERGY CENTER WAY, MADISON, WI 53713

ENGINEER: SCS ENGINEERS, 2830 DAIRY DRIVE MADISON, WI 53718-6751, PHONE: (608) 224-2830

SITE: FEASIBILITY REPORT – ADDENDUM NO. 1, DANE COUNTY LANDFILL SITE NO. 3, 4402 BRANDT ROAD, MADISON, WISCONSIN

GEOLOGIC CROSS SECTION K-K'

SHEET 16 OF 28



SYMBOLS AND TEST RESULTS

40.7/22.6	LIQUID LIMIT/PLASTICITY INDEX
NP	NON-PLASTIC
Kv	LABORATORY VERTICAL HYDRAULIC CONDUCTIVITY (cm/sec)
Kh	FIELD HORIZONTAL HYDRAULIC CONDUCTIVITY (cm/sec)
0-30-42-28	PERCENT GRAVEL, SAND, SILT, AND CLAY
0-87-13	PERCENT GRAVEL, SAND, AND SILT PLUS CLAY
72-5	PERCENT GRAVEL AND SAND
NS	NOT SAMPLED
(1,036.67)	GROUNDWATER ELEVATION ON 03/29/2024 (FEET ABOVE MEAN SEA LEVEL)
(NM)	NOT MEASURED
	WATER TABLE (SEE NOTE 8)
	POTENTIOMETRIC SURFACE (SEE NOTE 9)
	EXISTING GROUND (SPRING 2017)
	GEOLOGIC CONTACT
	UNCERTAIN GEOLOGIC CONTACT
	INFERRED GRADATIONAL GEOLOGIC CONTACT
	TOP OF BEDROCK (SEE NOTE 10)
	PROPOSED FINAL COVER SYSTEM
	PROPOSED COMPOSITE LINER SYSTEM

USCS CLASSES

CL	LEAN CLAY
CL-ML	SILTY CLAY
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BEDROCK STRATIGRAPHIC UNITS

SINNIPEE GROUP

DL1 – GALENA FORMATION

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UNDIFFERENTIATED

DOL – DOLOMITE

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GENERAL DESCRIPTION OF MAJOR GEOLOGIC UNITS

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DRIFT (NOT A MAJOR GEOLOGIC UNIT) – UNDIFFERENTIATED PLEISTOCENE SEDIMENTS, LOESS, TILL, AND/OR OUTWASH.

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GALENA FORMATION – DOLOMITE TO CHERTY DOLOMITE, GRAY TO BEIGE, AND YELLOW BROWN TO LIGHT BROWNISH YELLOW, MASSIVE TO MEDIUM-BEDDED WITH DISTINCTIVE MOTTLED WEATHERING PATTERN, BASE IS LIGHT GRAY AND SHALY, FOSSILIFEROUS. BIOGENIC CARBONATES.

DECORAH FORMATION – SHALY AND SILTY DOLOMITE. DARK GRAY, THIN BEDDED, MINOR CHERT AND PYRITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

PLATTEVILLE FORMATION – DOLOMITE TO SHALY DOLOMITE, YELLOW, BEIGE, AND GRAY TO LIGHT BROWNISH YELLOW. GRAY WEATHERING IS TYPICAL OF SHALY INTERVALS. MASSIVE, PLANAR-LAMINATED, OR MEDIUM TO THICK BEDDED, INTERBEDDED WITH THIN, WAVY BEDDED SHALE/SILT LAMINATIONS, MINOR CHERT, FOSSILIFEROUS. BIOGENIC CARBONATES.

ANCELL GROUP – MARINE AND AEOLIAN SANDSTONES, SHALES, RESIDUUM. HIGH-RELIEF UNCONFORMABLE CONTACT WITH THE UNDERLYING PRAIRIE DU CHIEN GROUP.

GLENWOOD FORMATION – SANDSTONE, DOLOMITIC (CARBONATE-CEMENTED), SILTY, AND/OR SHALY, POORLY SORTED, YELLOW-BROWN TO GREEN, WITH BLUE-GREEN SHALE OR SANDY DOLOMITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ST. PETER FORMATION, TONTI MEMBER – SANDSTONE, LIGHT BROWNISH YELLOW, WHITE, RED, GRAY, ORANGE, OR BROWN (IF CEMENTED BY IRON OXIDES), MEDIUM TO COARSE GRAINED, WELL ROUNDED AND WELL SORTED, POORLY CEMENTED, LOW TO HIGH ANGLED CROSS-BEDDING OR MASSIVE, POORLY CEMENTED BY DOLOMITE, LOCALIZED SULFIDE MINERALIZATION DISSEMINATED THROUGH THE MATRIX AND CONCENTRATED ALONG BEDDING PLANES AND FRACTURES, LOCALIZED THIN LAYERS OF PALE GREEN SHALE/SILT. MARINE AND AEOLIAN QUARTZ SANDSTONE.

ST. PETER FORMATION, READSTOWN MEMBER – SANDSTONE, SILTY SANDSTONE, CLAYEY SANDSTONE, GRAY, RED, PURPLE, GREEN SHALY LAYERS, INTERBEDDED WITH CLAY AND OR SILT, CONTAINS CLASTS OF CHERT OR DOLOMITE. PARTIALLY REWORKED RESIDUUM ON THE PRAIRIE DU CHIEN EROSIONAL SURFACE.

PRAIRIE DU CHIEN GROUP – DOLOMITE AND SANDY DOLOMITE, YELLOW, LIGHT BROWN, AND GRAY. MASSIVE TO MEDIUM BEDDED, SANDY, CHERTY, VUGGY, AND OOLITHIC.

SHAKOPEE FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY, BEIGE, AND RED (SANDY DOLOMITE IS PREDOMINANTLY RED), INTERBEDDED WITH COARSE GRAINED WELL ROUNDED SANDSTONE, AND/OR GREEN TO GRAY SILTSTONE OR CLAY. MASSIVE, PLANAR, OR LOW-ANGEL CROSS-BEDDING; OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

WILLOW RIVER MEMBER – SANDY, GLAUCONITIC DOLOMITE, GRAY, LIGHT GRAY. BIOGENIC CARBONATES.

NEW RICHMOND MEMBER – SANDSTONE, DOLOMITIC SANDSTONE. YELLOW AND LIGHT GRAY, FINE TO COARSE SAND, MASSIVE TO BEDDED, CHERT AND GLAUCONITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ONEOTA FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY TO BEIGE, MASSIVE, PLANAR, AND WAVY-LAMINATED BEDDING, OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

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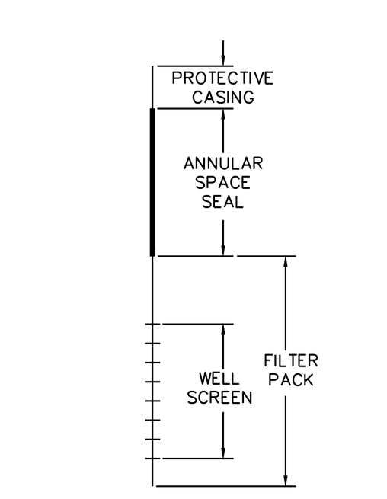
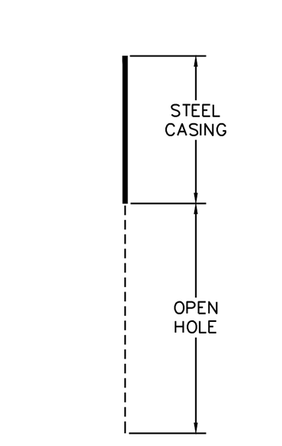
NOTE: FILL IS UNCONSOLIDATED SEDIMENT, INCLUDING MIXTURES OF SAND, SILT, CLAY, GRAVEL, AND POSSIBLY BEDROCK FRAGMENTS OF VARIOUS SIZES, THAT HAS BEEN RELOCATED ON THE SITE OR HAS BEEN BROUGHT TO THE SITE FROM OFFSITE SOURCES. FILL IS NOT A GEOLOGIC UNIT.

ADDED NOTE



MONITORING WELL DETAIL
NOT TO SCALE



SUPPLY WELL DETAIL
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0 100

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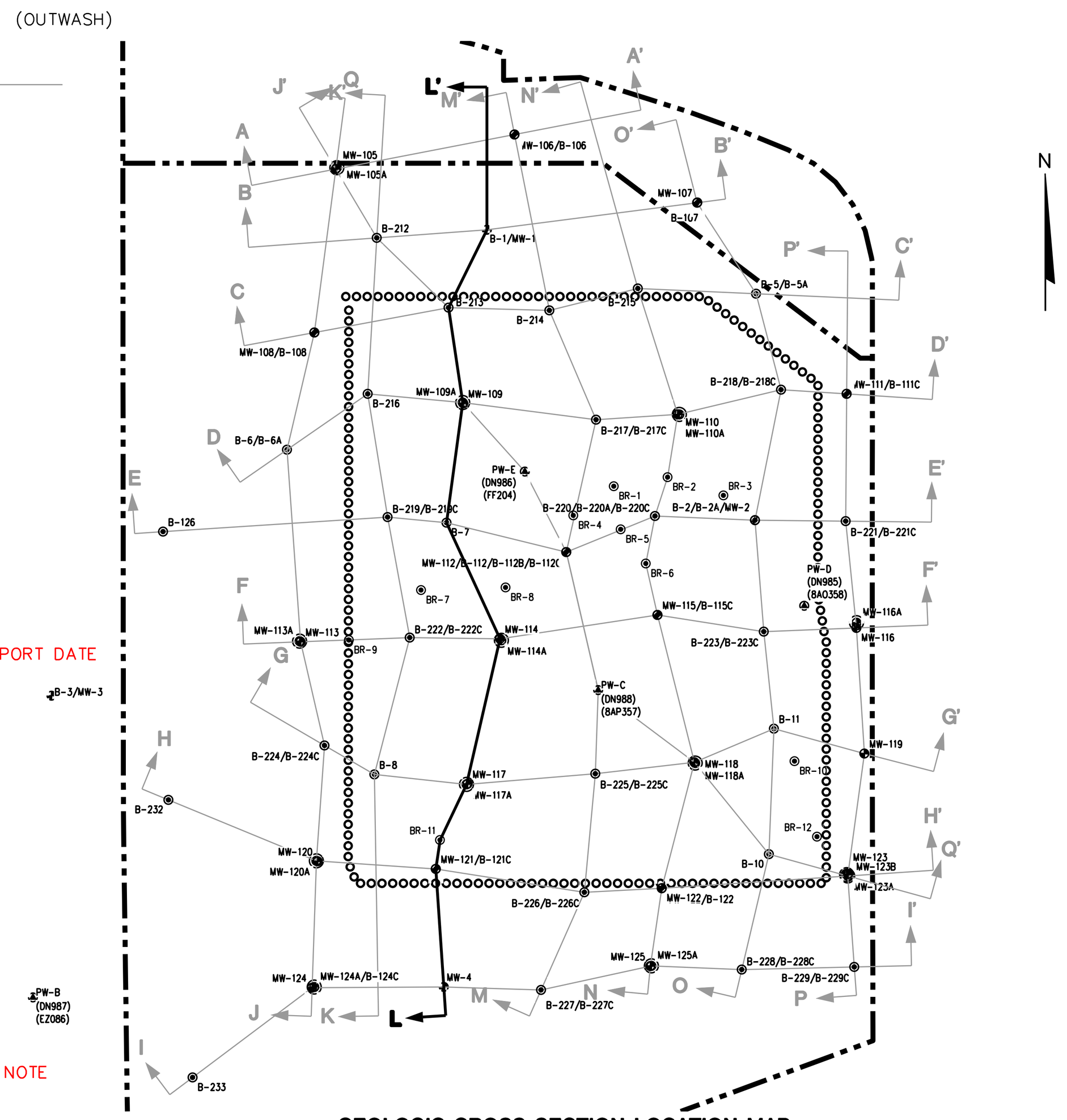
11. BORINGS WITH DESIGNATION "BR" WERE DRILLED 02/12-13/2024 AND ADDED TO THE FEASIBILITY REPORT CROSS SECTION. SEE FEASIBILITY REPORT-ADDENDUM NO. 1 FOR BORING LOGS.

ADDED REPORT DATE

ADDED NOTE



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DRAWN:	04/11/2023	CHECKED BY:	MRH/BLP
REVISED:	08/21/2024	APPROVED BY:	BLP 03/07/2025

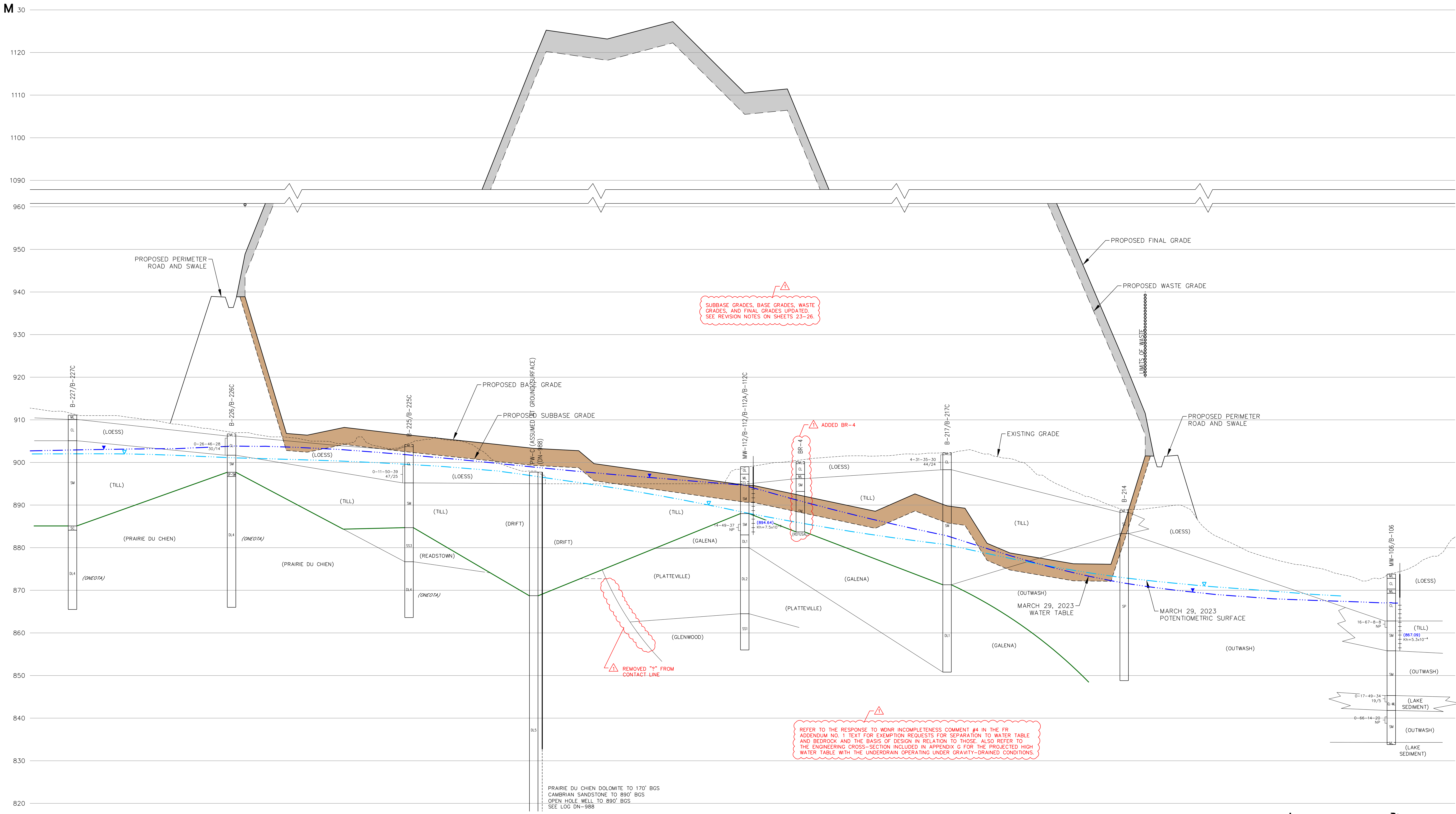
CLIENT
DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713

ENGINEER
SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

SITE
FEASIBILITY REPORT – ADDENDUM NO. 1
DANE COUNTY LANDFILL SITE NO. 3
4402 BRANDT ROAD
MADISON, WISCONSIN

GEOLOGIC CROSS SECTION L–L'

SHEET
17 OF 28



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	UNCERTAIN GEOLOGIC CONTACT
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GENERAL DESCRIPTION OF MAJOR GEOLOGIC UNITS

PLEISTOCENE SEDIMENTS

LOESS – GRAYISH BROWN, OR YELLOWISH BROWN, MOSTLY SILT WITH SOME CLAY AND FINE SAND, LEAN CLAY (CL), UNIFORM, MASSIVE. DEPOSITED PRIMARILY BY WIND DURING DEGLACIATION. CONTAINS THE MODERN SOIL PROFILE.

TILL – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN, OR YELLOWISH RED, MOSTLY FINE SAND WITH MEDIUM AND COARSE SAND, AND GRAVEL. SILTY SAND (SM) MATRIX, UNIFORM, WITH SOME COBBLES AND BOULDERS. DEPOSITED BY OR FROM GLACIAL ICE.

OUTWASH – HORICON MEMBER OF THE HOLY HILL FORMATION – BROWN OR YELLOWISH BROWN, FINE TO COARSE SAND AND SOME GRAVEL, GENERALLY POORLY-GRADED SAND WITH SILT (SP-SM), OR SILTY SAND (SM), MASSIVE TO STRATIFIED, DEPOSITED BY FLUVIAL PROCESSES NEAR GLACIAL ICE.

DRIFT (NOT A MAJOR GEOLOGIC UNIT) – UNDIFFERENTIATED PLEISTOCENE SEDIMENTS, LOESS, TILL, AND/OR OUTWASH.

ORDOVICIAN BEDROCK UNITS

SINNIPEE GROUP – DOLOMITE AND SHALY DOLOMITE, YELLOW BROWN TO LIGHT BROWNISH YELLOW AND GRAY; MASSIVE OR MEDIUM TO THICK BEDDED, BEDDING IS WAVY OR MOTTLED WITH SHALY LAYERS, MINOR WHITE CHERT, FOSSILIFEROUS.

GALENA FORMATION – DOLOMITE TO CHERTY DOLOMITE, GRAY TO BEIGE, AND YELLOW BROWN TO LIGHT BROWNISH YELLOW, MASSIVE TO MEDIUM-BEDDED WITH DISTINCTIVE MOTTLED WEATHERING PATTERN, BASE IS LIGHT GRAY AND SHALY, FOSSILIFEROUS. BIOGENIC CARBONATES.

DECORAH FORMATION – SHALY AND SILTY DOLOMITE. DARK GRAY, THIN BEDDED, MINOR CHERT AND PYRITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

PLATTEVILLE FORMATION – DOLOMITE TO SHALY DOLOMITE, YELLOW, BEIGE, AND GRAY TO LIGHT BROWNISH YELLOW. GRAY WEATHERING IS TYPICAL OF SHALY INTERVALS. MASSIVE, PLANAR-LAMINATED, OR MEDIUM TO THICK BEDDED, INTERBEDDED WITH THIN, WAVY BEDDED SHALE/SILT LAMINATIONS, MINOR CHERT, FOSSILIFEROUS. BIOGENIC CARBONATES.

ANCELL GROUP – MARINE AND AEOLIAN SANDSTONES, SHALES, RESIDUUM. HIGH-RELIEF UNCONFORMABLE CONTACT WITH THE UNDERLYING PRAIRIE DU CHIEN GROUP.

GLENWOOD FORMATION – SANDSTONE, DOLOMITIC (CARBONATE-CEMENTED), SILTY, AND/OR SHALY, POORLY SORTED, YELLOW-BROWN TO GREEN, WITH BLUE-GREEN SHALE OR SANDY DOLOMITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

ST. PETER FORMATION, TONTI MEMBER – SANDSTONE, LIGHT BROWNISH YELLOW, WHITE, RED, GRAY, ORANGE, OR BROWN (IF CEMENTED BY IRON OXIDES), MEDIUM TO COARSE GRAINED, WELL ROUNDED AND WELL SORTED, POORLY CEMENTED, LOW TO HIGH ANGLED CROSS-BEDDING OR MASSIVE, POORLY CEMENTED BY DOLOMITE, LOCALIZED SULFIDE MINERALIZATION DISSEMINATED THROUGH THE MATRIX AND CONCENTRATED ALONG BEDDING PLANES AND FRACTURES, LOCALIZED THIN LAYERS OF PALE GREEN SHALE/SILT. MARINE AND AEOLIAN QUARTZ SANDSTONE.

ST. PETER FORMATION, READSTOWN MEMBER – SANDSTONE, SILTY SANDSTONE, CLAYEY SANDSTONE, GRAY, RED, PURPLE, GREEN SHALY LAYERS, INTERBEDDED WITH CLAY AND OR SILT, CONTAINS CLASTS OF CHERT OR DOLOMITE. PARTIALLY REWORKED RESIDUUM ON THE PRAIRIE DU CHIEN EROSIONAL SURFACE.

PRAIRIE DU CHIEN GROUP – DOLOMITE AND SANDY DOLOMITE, YELLOW, LIGHT BROWN, AND GRAY. MASSIVE TO MEDIUM BEDDED, SANDY, CHERTY, VUGGY, AND OOLITHIC.

SHAKOPEE FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY, BEIGE, AND RED (SANDY DOLOMITE IS PREDOMINANTLY RED), INTERBEDDED WITH COARSE GRAINED WELL ROUNDED SANDSTONE, AND/OR GREEN TO GRAY SILTSTONE OR CLAY. MASSIVE, PLANAR, OR LOW-ANGEL CROSS-BEDDING; OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

WILLOW RIVER MEMBER – SANDY, GLAUCONITIC DOLOMITE, GRAY, LIGHT GRAY. BIOGENIC CARBONATES.

NEW RICHMOND MEMBER – SANDSTONE, DOLOMITIC SANDSTONE. YELLOW AND LIGHT GRAY, FINE TO COARSE SAND, MASSIVE TO BEDDED, CHERT AND GLAUCONITE. REWORKED SHALLOW WATER OR LAGOONAL DEPOSITS.

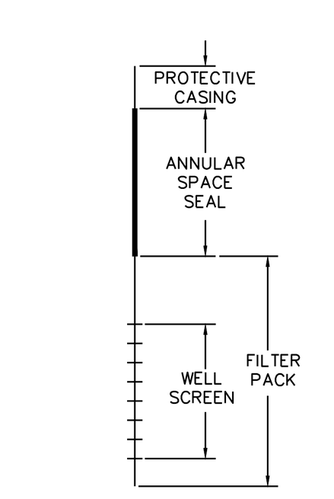
ONEOTA FORMATION – DOLOMITE AND SANDY DOLOMITE, GRAY TO BEIGE, MASSIVE, PLANAR, AND WAVY-LAMINATED BEDDING, OOLITHIC, VUGGY, CHERTY, AND GLAUCONITIC. BIOGENIC CARBONATES.

DOLOMITE – UNDIFFERENTIATED CARBONATE ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY WEATHERED AND/OR POORLY INDURATED.

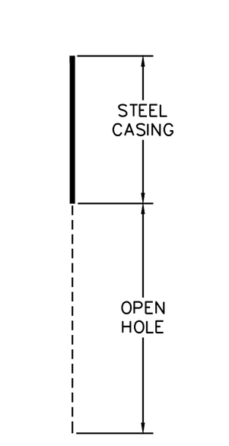
SANDSTONE – UNDIFFERENTIATED SILICLASTIC ROCK. LITTLE OR NO SAMPLE RECOVERED. LIKELY POORLY INDURATED.

NOTE: FILL IS UNCONSOLIDATED SEDIMENT, INCLUDING MIXTURES OF SAND, SILT, CLAY, GRAVEL, AND POSSIBLY BEDROCK FRAGMENTS OF VARIOUS SIZES, THAT HAS BEEN RELOCATED ON THE SITE OR HAS BEEN BROUGHT TO THE SITE FROM OFFSITE SOURCES. FILL IS NOT A GEOLOGIC UNIT.

1 ADDED NOTE



MONITORING WELL DETAIL
NOT TO SCALE



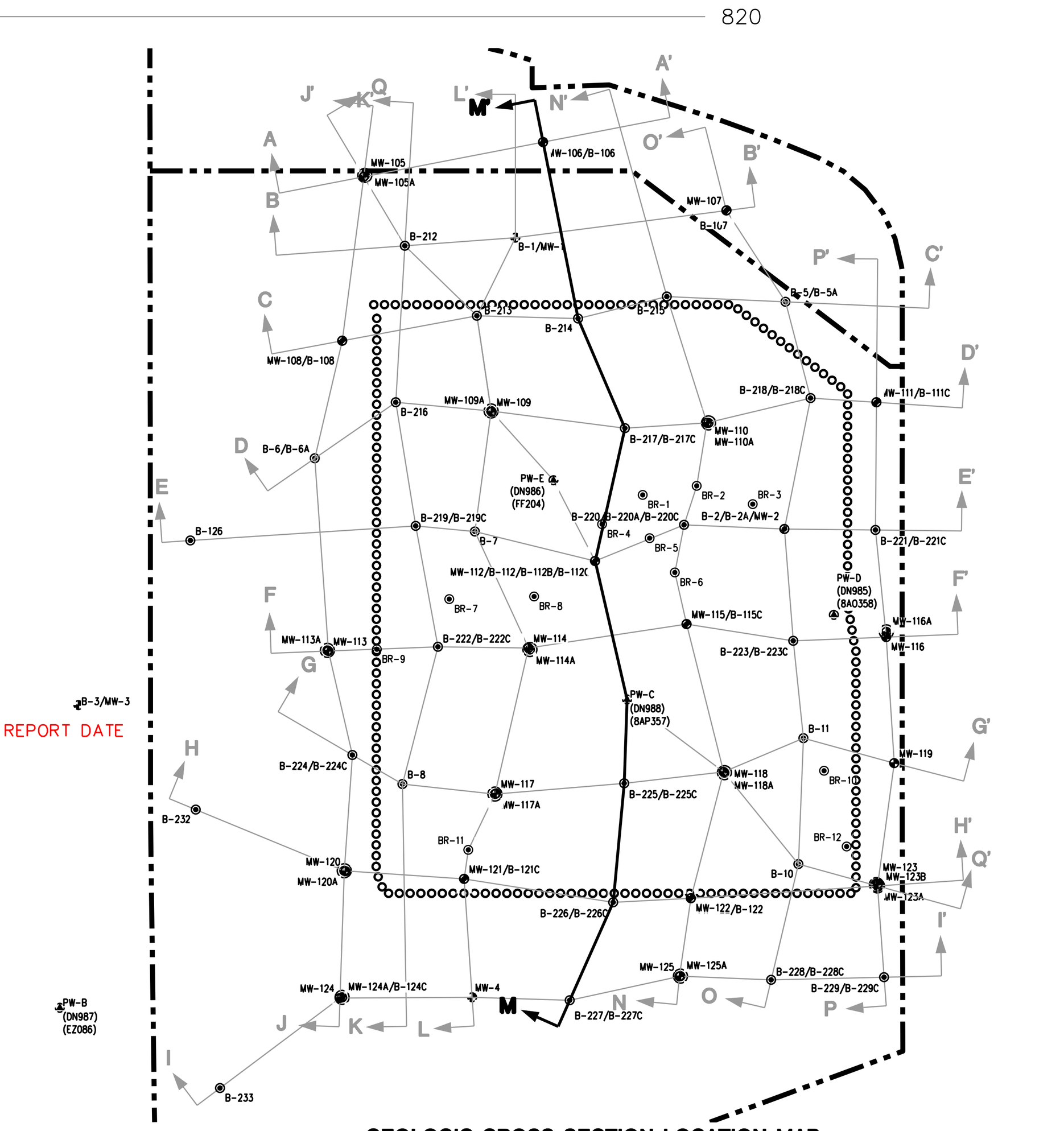
SUPPLY WELL DETAIL
NOT TO SCALE

0 100

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'
VERTICAL EXAGGERATION = 10X

NOTES

1. HORIZONTAL DISTANCES ARE MEASURED WITH RESPECT TO THE CENTER OF EACH BORING LOCATION.
2. FOR WELL NESTS, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE WATER TABLE WELL AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE NEST LOCATION.
3. FOR LOCATIONS WITH MORE THAN ONE BORING, THE GEOLOGIC LOG IS POSTED AT THE LOCATION OF THE SHALLOWEST BORING AND INCLUDES GEOLOGIC INFORMATION FROM ALL BORINGS AT THE DRILLING LOCATION.
4. REFER TO BORING LOGS IN APPENDIX F OF THE FEASIBILITY REPORT FOR DETAILED DESCRIPTIONS OF GEOLOGIC CONDITIONS AT INDIVIDUAL BORING LOCATIONS.
5. REFER TO APPENDIX F (OF 02/13/2024 FEASIBILITY REPORT) FOR MONITORING WELL CONSTRUCTION DETAILS. — 1 ADDED REPORT DATE
6. EXISTING GROUND SURFACE WAS TAKEN FROM SHEET NUMBER 2.
7. ELEVATIONS ARE REFERENCED TO USGS DATUM.
8. THE POSITION OF THE WATER TABLE BETWEEN WELLS IS BASED ON THE WATER TABLE CONTOUR MAP, SHEET NUMBER 3.
9. THE POSITION OF THE POTENTIOMETRIC SURFACE BETWEEN WELLS IS BASED ON THE POTENTIOMETRIC SURFACE CONTOUR MAP, SHEET NUMBER 5.
10. THE BEDROCK SURFACE SHOWN BETWEEN BORINGS ON THE CROSS-SECTION IS THE STRAIGHT-LINE CONNECTION OF THE UPPERMOST ROCK SURFACES OBSERVED AT THE DRILLING LOCATIONS OR IS BASED ON GEOLOGIC INTERPRETATION OF AN EROSIONAL SURFACE BETWEEN BORING LOCATIONS. THE BEDROCK SURFACE CONTOURS SHOWN BETWEEN BORINGS ON PLAN SHEET 6, BEDROCK SURFACE MAP, ARE BASED ON INTERPOLATION USING KRIGING WITH THE PROGRAM "SURFER".
11. BORINGS WITH DESIGNATION "BR" WERE DRILLED 02/12-13/2024 AND ADDED TO THE FEASIBILITY REPORT CROSS SECTION. SEE FEASIBILITY REPORT-ADDENDUM NO. 1 FOR BORING LOGS. — 1 ADDED NOTE



GEOLOGIC CROSS SECTION LOCATION MAP

REVISION	TITLE	DATE
1	FEASIBILITY REPORT ADDENDUM NO. 1	03/07/2025

PROJECT NO.	25222268.00	DRAWN BY:	KP
DRAWN:	04/11/2023	CHECKED BY:	MRH/BLP
REVISED:	08/21/2024	APPROVED BY:	BLP 03/07/2025

CLIENT: DANE COUNTY DEPARTMENT OF WASTE AND RENEWABLES
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

SITE: FEASIBILITY REPORT – ADDENDUM NO. 1
DANE COUNTY LANDFILL SITE NO. 3
4402 BRANDT ROAD
MADISON, WISCONSIN

GEOLOGIC CROSS SECTION M–M'

I:\25222268.00\Drawings\07-22_GEOLOGIC CROSS SECTIONS.dwg, 3/7/2025 10:24:17 AM