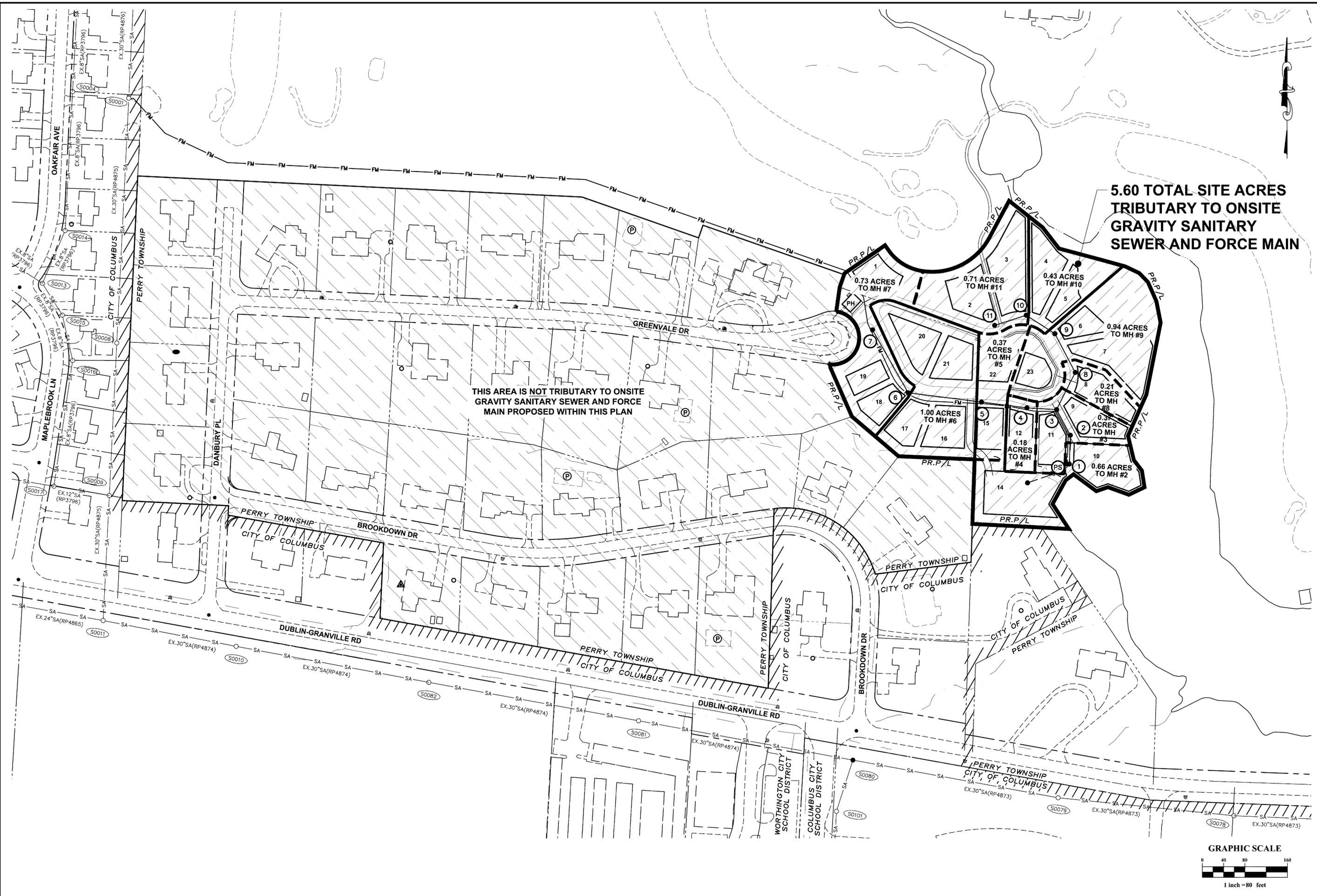


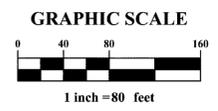


Z:\23-0013-642\DWG\PRODUCTION DRAWINGS\SANITARY\TRIBUTARY MAP.dwg Onsite Tributary Map Jun 11, 2024 - 8:28:55pm cec@bbrb



THIS AREA IS NOT TRIBUTARY TO ONSITE GRAVITY SANITARY SEWER AND FORCE MAIN PROPOSED WITHIN THIS PLAN

5.60 TOTAL SITE ACRES TRIBUTARY TO ONSITE GRAVITY SANITARY SEWER AND FORCE MAIN



PLAN PREPARED BY:  
**ADVANCED CIVIL DESIGN**  
 ENGINEERS SURVEYORS  
 761 Science Boulevard, Suite 100  
 Gahanna, Ohio 43230  
 ph 614.428.7750  
 fax 614.428.7755

PLAN PREPARED FOR:  
**BG & CC DEVELOPMENT COMPANY LLC**  
 7682 NORTH CENTRAL DRIVE  
 LEWIS CENTER, OHIO 43035  
 ATTN: BRANDON BELL  
 BRANDON.BELL@BOBWEBB.COM

PERRY TOWNSHIP, FRANKLIN COUNTY, OHIO  
**SANITARY SEWER IMPROVEMENT PLAN**  
**THE COTTAGES AT BROOKSIDE**  
**FOR**  
**BG & CC DEVELOPMENT COMPANY LLC**  
 SANITARY TRIBUTARY MAP

No.	Revision	Date	Approved

Date: 04/19/2024  
 Scale: 1" = 80'

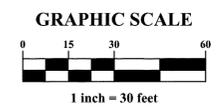
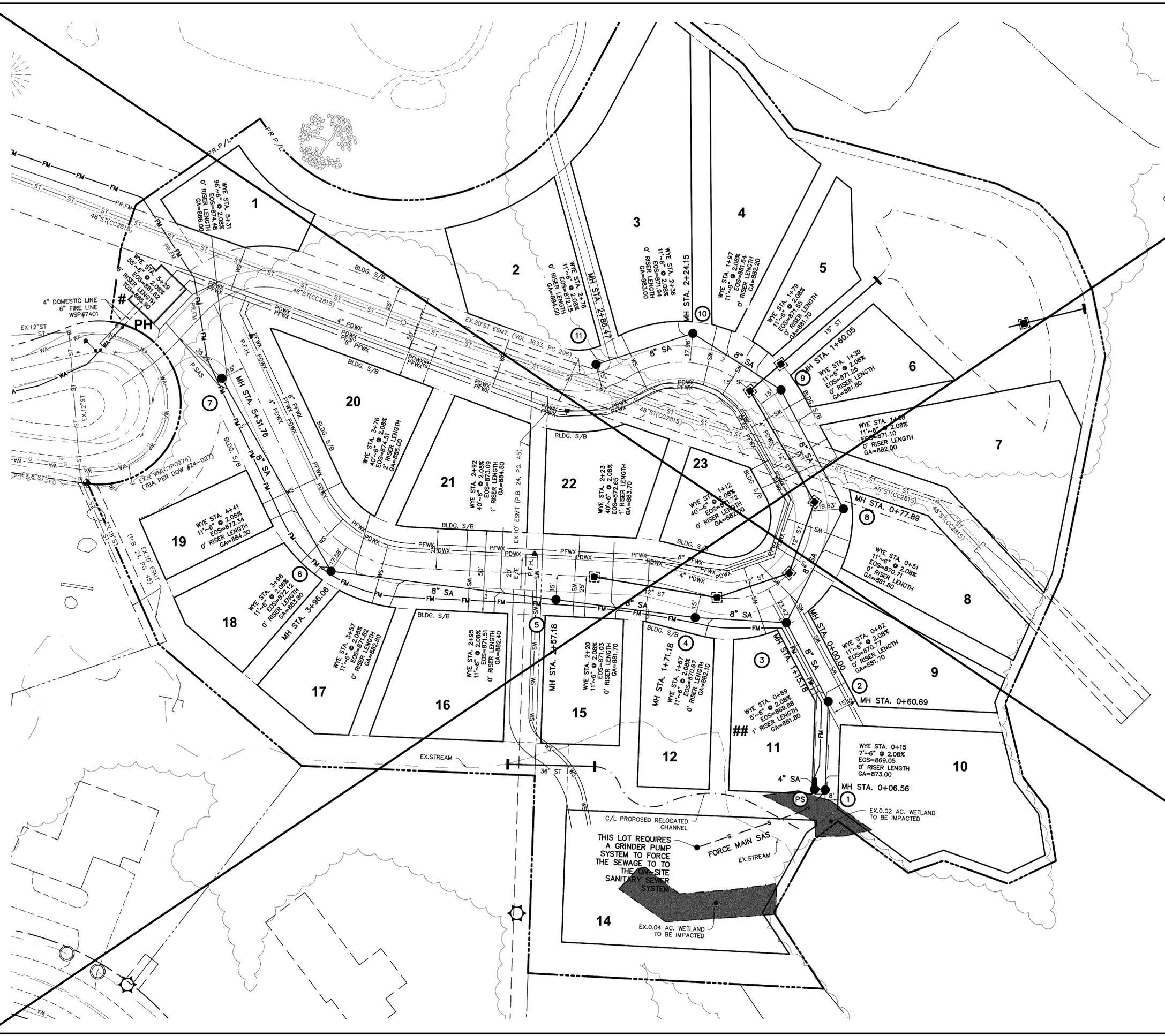
Drawn By: CLE  
 Checked By: TMW

Project Number:  
 23-0013-642

Drawing Number:  
**2 / 8**

CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES APPROVED TIFF IMAGE FOR REVISION

Z:\23-0013-642\DWG\PRODUCTION DRAWINGS\SANITARY\SANITARY SEWER PROFILES.dwg ONSITE SANITARY PLAN Jun 11, 2024 - 8:24:17pm cec@cityofcolumbus.com



**LEGEND**

- PROPOSED STORM
- EXISTING STORM
- PROPOSED SANITARY
- PROPOSED SANITARY SERVICE
- EXISTING SANITARY (TO BE REMOVED)
- EXISTING SANITARY SERVICE (TO BE REMOVED)
- SA EXISTING SANITARY
- SAS EXISTING SANITARY SERVICE
- WA EXISTING WATER MAIN
- PROPOSED WATER SERVICE TAP (WSP#7401)
- PROPOSED FIRE WATER SERVICE (WSP#7401)
- PROPOSED DOMESTIC WATER SERVICE (WSP#7401)
- EXISTING GAS MAIN
- TMH TEMPORARY MANHOLE
- (TBR) TO BE REMOVED
- (FV) FIELD VERIFIED

**OHIO811.org**  
Before You Dig  
800-362-2764 or 8-1-1

**NOTES:**

1. CONTRACTOR SHALL USE AT A MINIMUM COMPACTED BACKFILL AS PER OMSC ITEM 911 UNDER PAVED AREAS EXCEPT IN AREAS OF UTILITY CROSSINGS AS SHOWN ON THIS SHEET. ITEM 911 BACKFILL LIMITS TO BE 5 FEET FROM OUTSIDE EDGES OF PAVEMENT.
2. ALL SERVICE PIPING SHALL BE MINIMUM 6" DIAMETER AND INSTALLED WITH A MINIMUM 1/4" PER FT. SLOPE PER CITY OF COLUMBUS STANDARD CONSTRUCTION DRAWING AA-S160.
3. CONTRACTOR TO FIELD VERIFY ALL EXISTING INVERTS BEFORE COMMENCING CONSTRUCTION. REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.

**#** CONTRACTOR TO INSTALL 5' RISER LENGTH AFTER FORCE MAIN CROSSING TO ENSURE VERTICAL SEPARATION IS MAINTAINED

**##** CONTRACTOR TO INSTALL 1' RISER LENGTH AFTER FORCE MAIN CROSSING TO ENSURE VERTICAL SEPARATION IS MAINTAINED

THIS LOT REQUIRES A GRINDER PUMP SYSTEM TO FORCE THE SEWAGE TO TO THE ON-SITE SANITARY SEWER SYSTEM

PLAN PREPARED BY:  
**ADVANCED CIVIL DESIGN**  
ENGINEERS SURVEYORS  
761 Science Boulevard, Suite 100  
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PLAN PREPARED FOR:  
**BG & CC DEVELOPMENT COMPANY LLC**  
7662 NORTH CENTRAL DRIVE  
LEWIS CENTER, OHIO 43035  
ATTN: BRANDON BELL  
BRANDON.BELL@BOBWEBB.COM

PERRY TOWNSHIP, FRANKLIN COUNTY, OHIO  
**SANITARY SEWER IMPROVEMENT PLAN**  
**THE COTTAGES AT BROOKSIDE**  
**FOR**  
**BG & CC DEVELOPMENT COMPANY LLC**  
**ONSITE SANITARY PLAN**

No.	Revision	Date	Approved
1	SHEET REPLACED BY 3A		

Date: 04/19/2024  
Scale: 1" = 30'

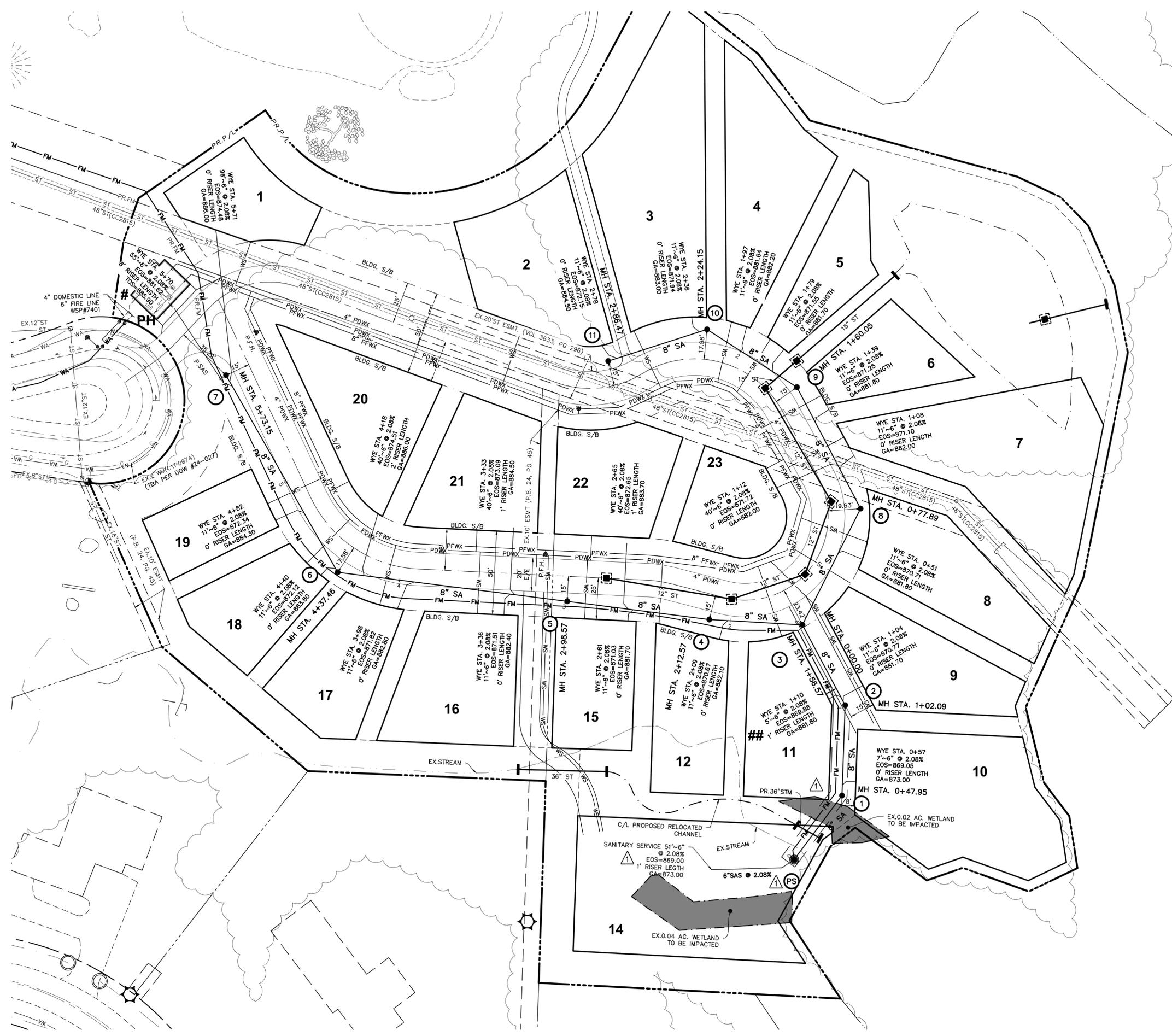
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Checked By: TMW

Project Number:  
23-0013-642

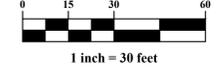
Drawing Number:  
**3 / 8**

CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES APPROVED TIFF IMAGE For REVISION

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GRAPHIC SCALE



LEGEND

- PROPOSED STORM
- EXISTING STORM
- PROPOSED SANITARY
- PROPOSED SANITARY SERVICE
- EXISTING SANITARY SERVICE (TO BE REMOVED)
- EXISTING SANITARY SERVICE (TO BE REMOVED)
- SA EXISTING SANITARY
- SAS — EXISTING SANITARY SERVICE
- WA — EXISTING WATER MAIN
- PROPOSED WATER SERVICE TAP (WSP#7401)
- PROPOSED FIRE WATER SERVICE (WSP#7401)
- PROPOSED DOMESTIC WATER SERVICE (WSP#7401)
- G — EXISTING GAS MAIN
- TMH TEMPORARY MANHOLE
- (TBR) TO BE REMOVED
- (FV) FIELD VERIFIED



800-362-2764 or 8-1-1

NOTES:

1. CONTRACTOR SHALL USE AT A MINIMUM COMPACTED BACKFILL AS PER MSC ITEM 911 UNDER PAVED AREAS EXCEPT IN AREAS OF UTILITY CROSSINGS AS SHOWN ON THIS SHEET. ITEM 911 BACKFILL LIMITS TO BE 5 FEET FROM OUTSIDE EDGES OF PAVEMENT.
2. ALL SERVICE PIPING SHALL BE MINIMUM 6" DIAMETER AND INSTALLED WITH A MINIMUM 1/4" PER FT. SLOPE PER CITY OF COLUMBUS STANDARD CONSTRUCTION DRAWING AA-S160.
3. CONTRACTOR TO FIELD VERIFY ALL EXISTING INVERTS BEFORE COMMENCING CONSTRUCTION. REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.

- # CONTRACTOR TO INSTALL 5' RISER LENGTH AFTER FORCE MAIN CROSSING TO ENSURE VERTICAL SEPARATION IS MAINTAINED
- ## CONTRACTOR TO INSTALL 1' RISER LENGTH AFTER FORCE MAIN CROSSING TO ENSURE VERTICAL SEPARATION IS MAINTAINED

PLAN PREPARED BY:  
**ADVANCED CIVIL DESIGN**  
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 761 Science Boulevard, Suite 100  
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---

PLAN PREPARED FOR:  
**BG & CC DEVELOPMENT COMPANY LLC**  
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 LEWIS CENTER, OHIO 43035  
 ATTN: BRANDON BELLI  
 BRANDON.BELLI@BOBWEBB.COM

---

**SANITARY SEWER IMPROVEMENT PLAN**  
**THE COTTAGES AT BROOKSIDE**  
**FOR**  
**BG & CC DEVELOPMENT COMPANY LLC**  
**ONSITE SANITARY PLAN**

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No.	Revision	Date	Approved

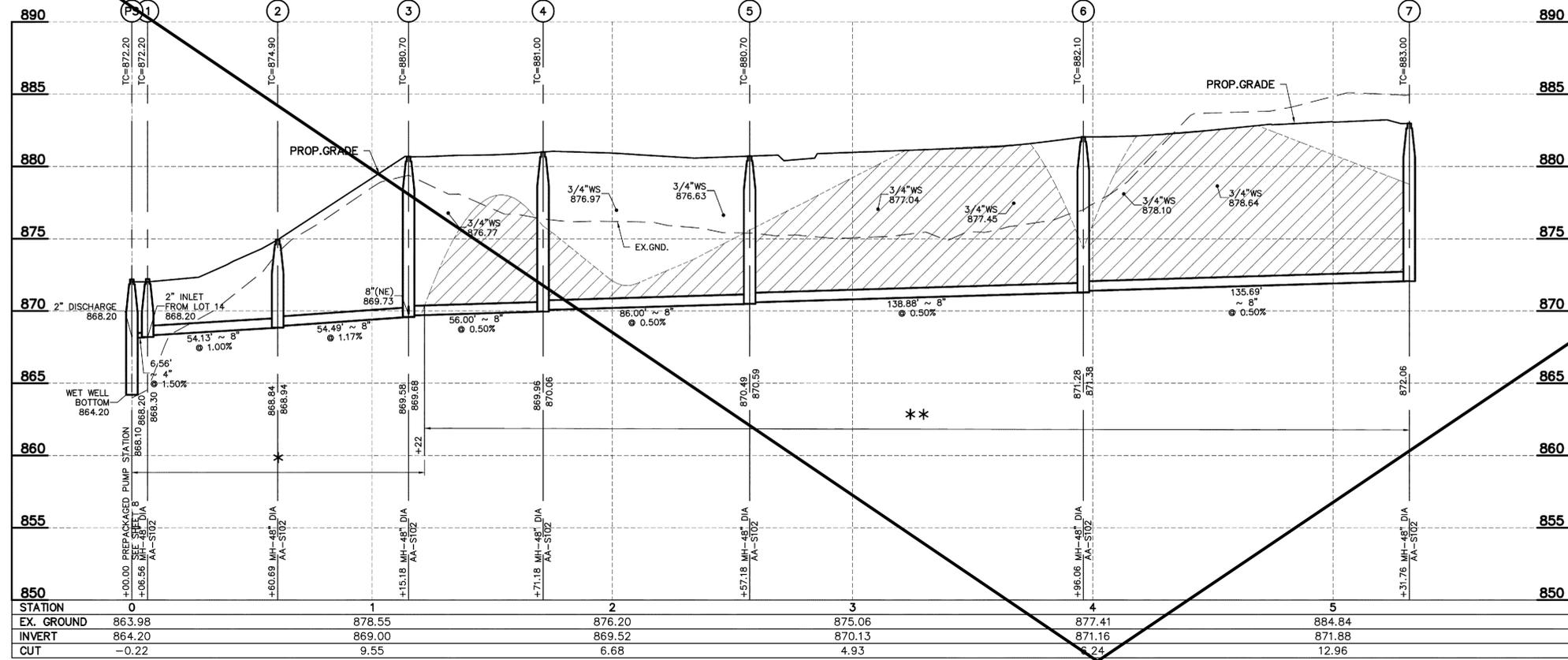
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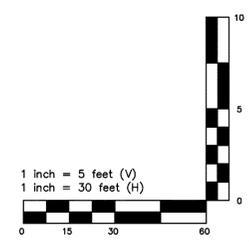
Drawn By: CLE      Checked By: TMW

Project Number:  
 23-0013-642

Drawing Number:  
**3A / 8**



STATION	0	1	2	3	4	5
EX. GROUND	863.98	878.55	876.20	875.06	877.41	884.84
INVERT	864.20	869.00	869.52	870.13	871.16	871.88
CUT	-0.22	9.55	6.68	4.93	5.24	12.96



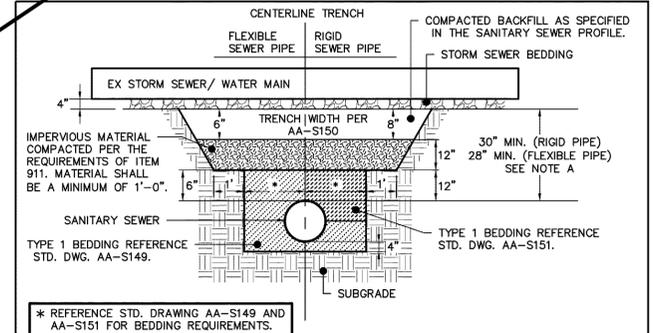
ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DRY WEIGHT AT OPTIMUM MOISTURE CONTENT (±2%) UNLESS NOTED AS:

- \* : COMPACTED BACKFILL, CMSC ITEM 911
- \*\* : COMPACTED GRANULAR BACKFILL, CMSC ITEM 912

⊕ : ANTI INFILTRATION AND INFLOW BARRIER  
SEE DETAIL, THIS SHEET

⊙ : SEE STM. DET. FOR 1/1 TREATMENT  
PROFILE VERTICAL DATUM = NAVD 88

MAINTAIN MINIMUM 18 INCHES OF VERTICAL SEPARATION FROM WATER.

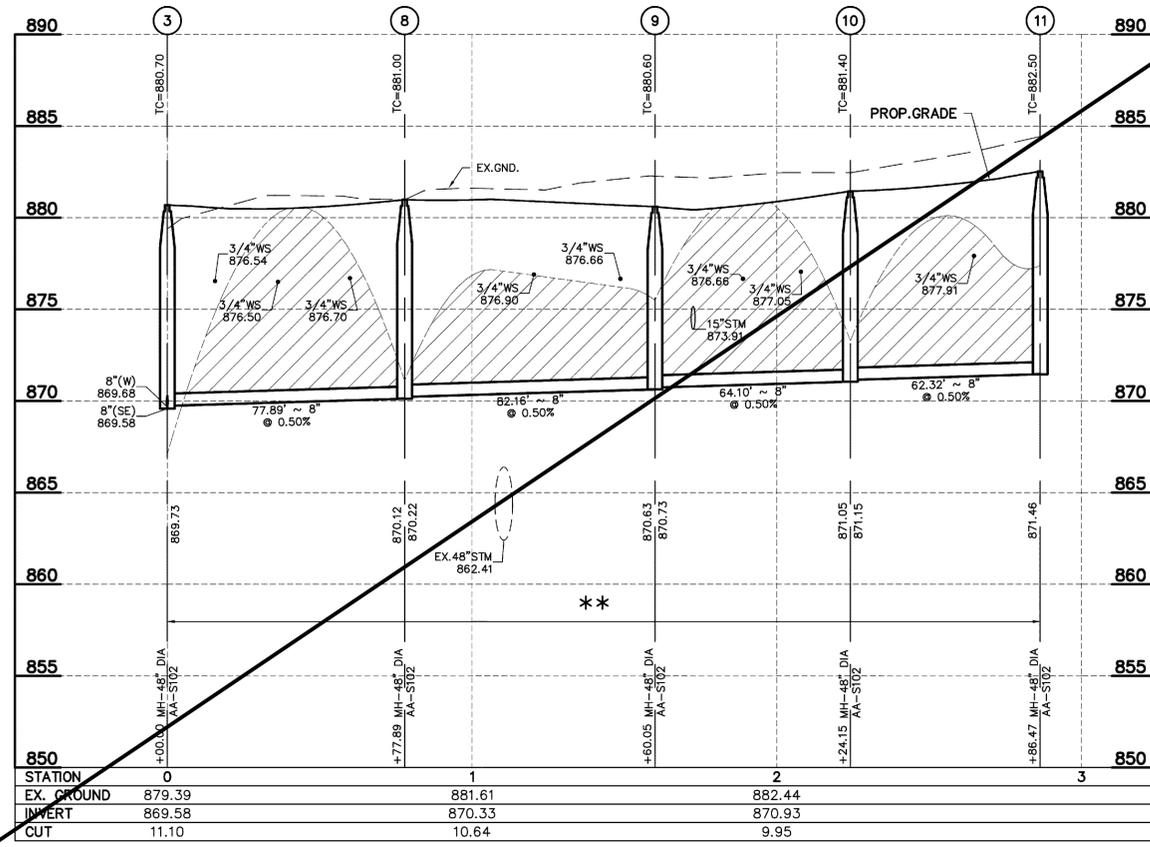


\* REFERENCE STD. DRAWING AA-S149 AND AA-S151 FOR BEDDING REQUIREMENTS.

NOTE A:  
IF THE NEEDED 28" (FLEX PIPE) OR 30" (RIGID PIPE) IS NOT OBTAINABLE, A BENTOFILKNER MAY BE SUBSTITUTED FOR THE CLAY (IMPERVIOUS) LAYER. HOWEVER, THE MINIMUM 18" VERTICAL CLEARANCE STILL APPLIES.

⊕ ANTI INFILTRATION AND INFLOW BARRIER  
NO SCALE

BARRIER SHALL BE PLACED AT ALL EX STORM AND WATER MAIN CROSSINGS FOR A LENGTH OF 20' FEET MEASURED ALONG THE SANITARY LINE AND CENTERED ON THE EX. STORM SEWER OR WATER MAIN CROSSING.



STATION	0	1	2	3
EX. GROUND	879.39	881.61	882.44	882.44
INVERT	869.58	870.33	870.93	870.93
CUT	11.10	10.64	9.95	9.95

STRUCTURE NO.	PLAN NORTHING	PLAN EASTING	AS-BUILT NORTHING	AS-BUILT EASTING
PS	782545.5046	1809820.4974		
1	782545.2790	1809827.0524		
2	782599.3788	1809828.9186		
3	782647.4595	1809803.2807		
4	782650.6412	1809747.3712		
5	782661.5655	1809662.0678		
6	782678.9602	1809524.2787		
7	782796.9403	1809457.2450		
8	782717.0847	1809838.1993		
9	782789.8054	1809799.9660		
10	782824.3848	1809745.9914		
11	782805.3864	1809866.6429		

FROM	TO	SIZE	PLAN BEARING	PLAN DISTANCE	AS-BUILT BEARING	AS-BUILT DISTANCE
PS	1	4"	S88°01'41"E	6.56'		
1	2	8"	N01°58'33"E	54.13'		
2	3	8"	N28°04'04"W	54.49'		
3	4	8"	N86°44'35"W	56.00'		
4	5	8"	N82°42'08"W	86.00'		
5	6	8"	N82°48'18"W	138.88'		
6	7	8"	N29°36'16"W	135.69'		
7	8	8"	N26°38'05"E	77.89'		
8	9	8"	N27°14'00"W	82.16'		
9	10	8"	N57°21'14"W	64.10'		
10	11	8"	S72°14'58"W	62.32'		

PLAN PREPARED BY: ADVANCED CIVIL DESIGN

761 Science Boulevard, Suite 100  
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fax 614.428.7755

ENGINEERS SURVEYORS

PLAN PREPARED FOR: BG & CC DEVELOPMENT COMPANY LLC  
7662 NORTH CENTRAL DRIVE  
LEWIS CENTER, OHIO 43035  
ATTN: BRANDON BELL  
BRANDON.BELL@BOBWEBB.COM

PERRY TOWNSHIP, FRANKLIN COUNTY, OHIO

**SANITARY SEWER IMPROVEMENT PLAN  
THE COTTAGES AT BROOKSIDE**

BG & CC DEVELOPMENT COMPANY LLC

SANITARY SEWER PROFILES

No.	Revision	Date	Approved
1	SHEET REPLACED BY 1A		

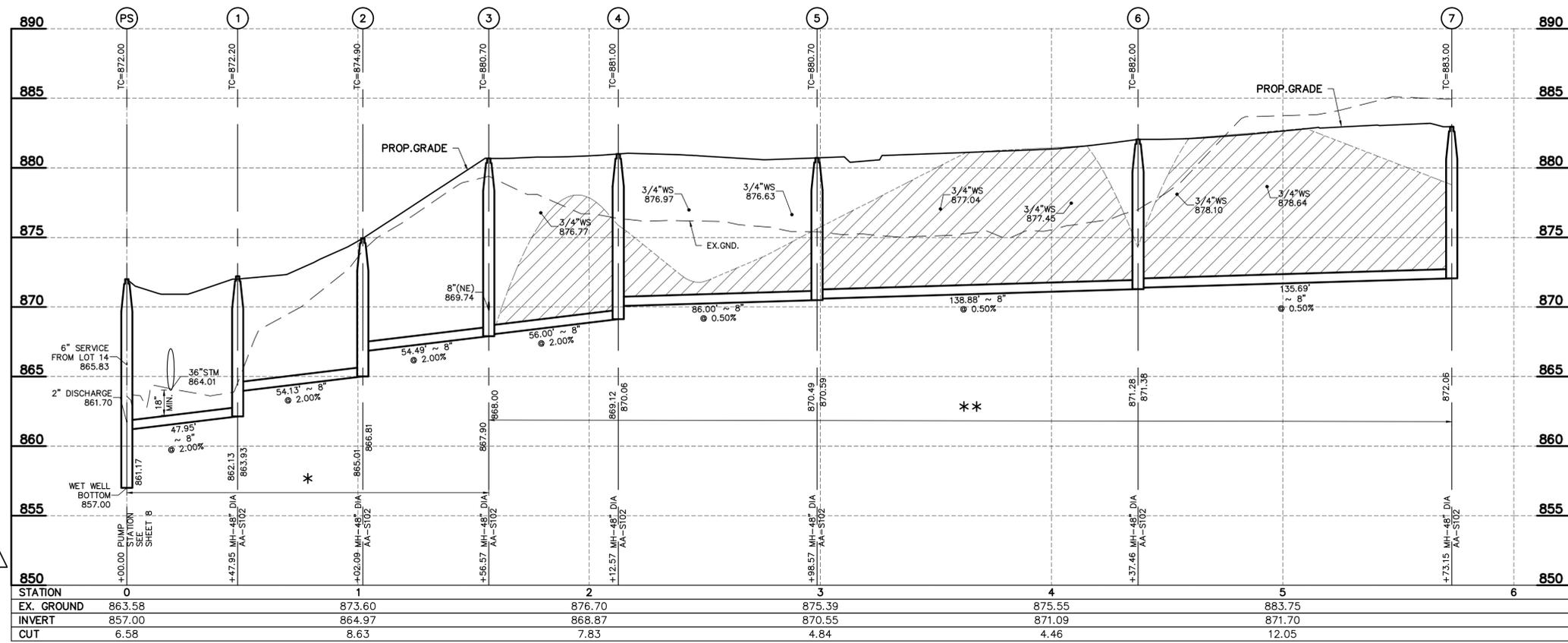
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Drawn By: CLE  
Checked By: TMW

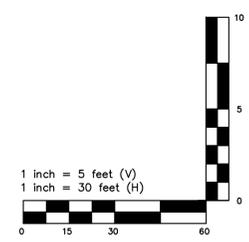
Project Number:  
23-0013-642

Drawing Number:  
**4 / 8**

CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES APPROVED TIFF IMAGE For REVISION



STATION	0	1	2	3	4	5	6
EX. GROUND	863.58	873.60	876.70	875.39	875.55	883.75	
INVERT	857.00	864.97	868.87	870.55	871.09	871.70	
CUT	6.58	8.63	7.83	4.84	4.46	12.05	



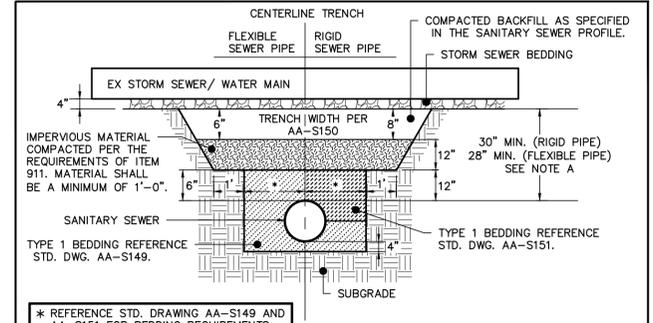
ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DRY WEIGHT AT OPTIMUM MOISTURE CONTENT (±2%) UNLESS NOTED AS:

- \* : COMPACTED BACKFILL, CMSC ITEM 911
- \*\* : COMPACTED GRANULAR BACKFILL, CMSC ITEM 912

⊕ : ANTI INFILTRATION AND INFLOW BARRIER  
SEE DETAIL, THIS SHEET

⊙ : SEE STM CC-STORM FOR 1/1 TREATMENT  
PROFILE VERTICAL DATUM = NAVD 88

MAINTAIN MINIMUM 18 INCHES OF VERTICAL SEPARATION FROM WATER.

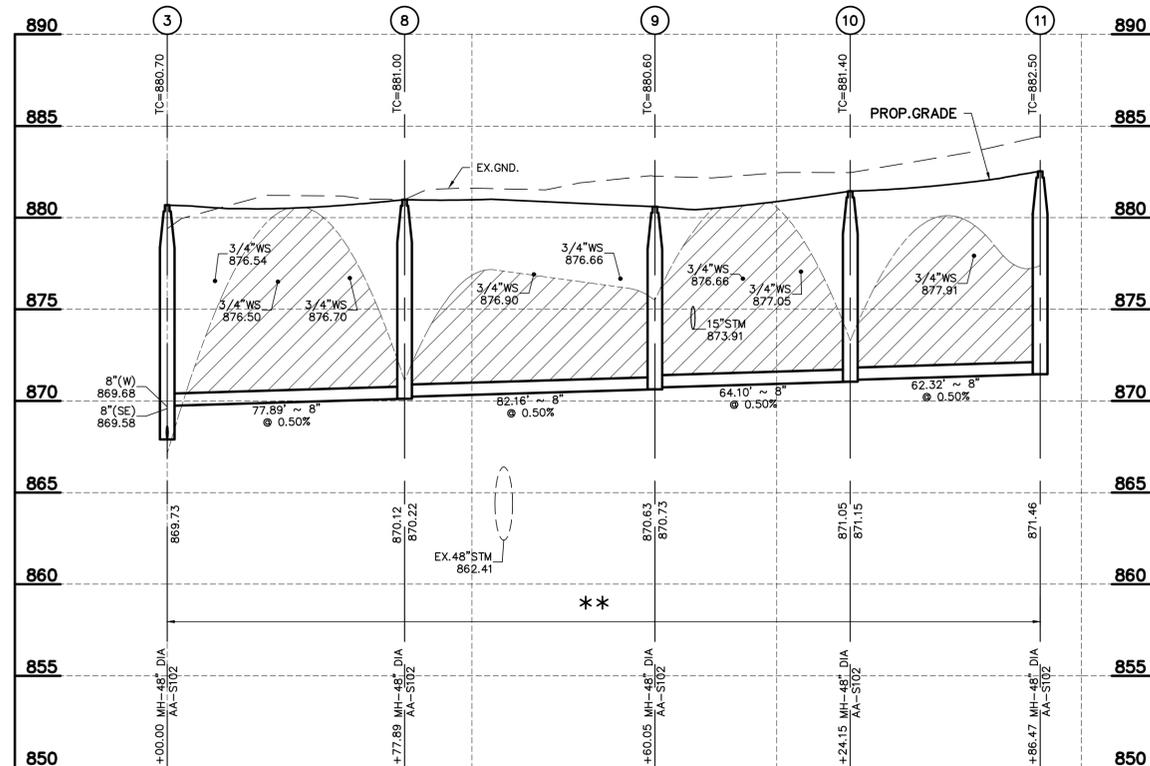


\* REFERENCE STD. DRAWING AA-S149 AND AA-S151 FOR BEDDING REQUIREMENTS.

NOTE A:  
IF THE NEEDED 28" (FLEX PIPE) OR 30" (RIGID PIPE) IS NOT OBTAINABLE, A BENTOFILINER MAY BE SUBSTITUTED FOR THE CLAY (IMPERVIOUS) LAYER. HOWEVER, THE MINIMUM 18" VERTICAL CLEARANCE STILL APPLIES.

**⊕ ANTI INFILTRATION AND INFLOW BARRIER DETAIL**

BARRIER SHALL BE PLACED AT ALL EX STORM AND WATER MAIN CROSSINGS FOR A LENGTH OF 20' FEET MEASURED ALONG THE SANITARY LINE AND CENTERED ON THE EX. STORM SEWER OR WATER MAIN CROSSING.



STATION	0	1	2	3
EX. GROUND	879.39	881.61	882.44	
INVERT	869.58	870.33	870.93	
CUT	11.10	10.64	9.95	

STRUCTURE NO.	PLAN NORTHING	PLAN EASTING	AS-BUILT NORTHING	AS-BUILT EASTING
PS	762506.8984	1809798.3036		
1	762545.2790	1809827.0524		
2	762599.3788	1809828.9186		
3	762647.4595	1809803.2807		
4	762650.6412	1809747.3712		
5	762661.5655	1809662.0678		
6	762678.9602	1809524.2787		
7	762796.9403	1809457.2450		
8	762717.0847	1809838.1993		
9	762789.8054	1809799.9660		
10	762824.3848	1809745.9914		
11	762805.3864	1809866.6429		

FROM	TO	SIZE	PLAN BEARING	PLAN DISTANCE	AS-BUILT BEARING	AS-BUILT DISTANCE
PS	1	8"	N36°50'05"E	47.95'		
1	2	8"	N01°58'33"E	54.13'		
2	3	8"	N28°04'04"W	54.49'		
3	4	8"	N86°44'35"W	56.00'		
4	5	8"	N82°42'08"W	86.00'		
5	6	8"	N82°48'18"W	138.88'		
6	7	8"	N29°36'16"W	135.69'		
3	8	8"	N26°38'05"E	77.89'		
8	9	8"	N27°44'00"W	82.16'		
9	10	8"	N57°21'14"W	64.10'		
10	11	8"	S72°14'58"W	62.32'		

PLAN PREPARED BY: **ADVANCED CIVIL DESIGN ENGINEERS SURVEYORS**  
761 Science Boulevard, Suite 100  
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fax 614.428.7755

PLAN PREPARED FOR: **BG & CC DEVELOPMENT COMPANY LLC**  
7682 NORTH CENTRAL DRIVE  
LEWIS CENTER, OHIO 43085  
ATTN: BRANDON BELLI  
BRANDON.BELLI@BOBWEBB.COM

PERRY TOWNSHIP, FRANKLIN COUNTY, OHIO

**SANITARY SEWER IMPROVEMENT PLAN  
THE COTTAGES AT BROOKSIDE**

**BG & CC DEVELOPMENT COMPANY LLC**  
SANITARY SEWER PROFILES

No.	Revision	Date	Approved
1	MOVED PUMP STATION, MODIFIED PROFILE DESIGN FOR STRUC. PS-4		

Date: 03/29/2025  
Scale: H: 1"=30', V: 1"=5'

Drawn By: CLE  
Checked By: TMW

Project Number:  
23-0013-642

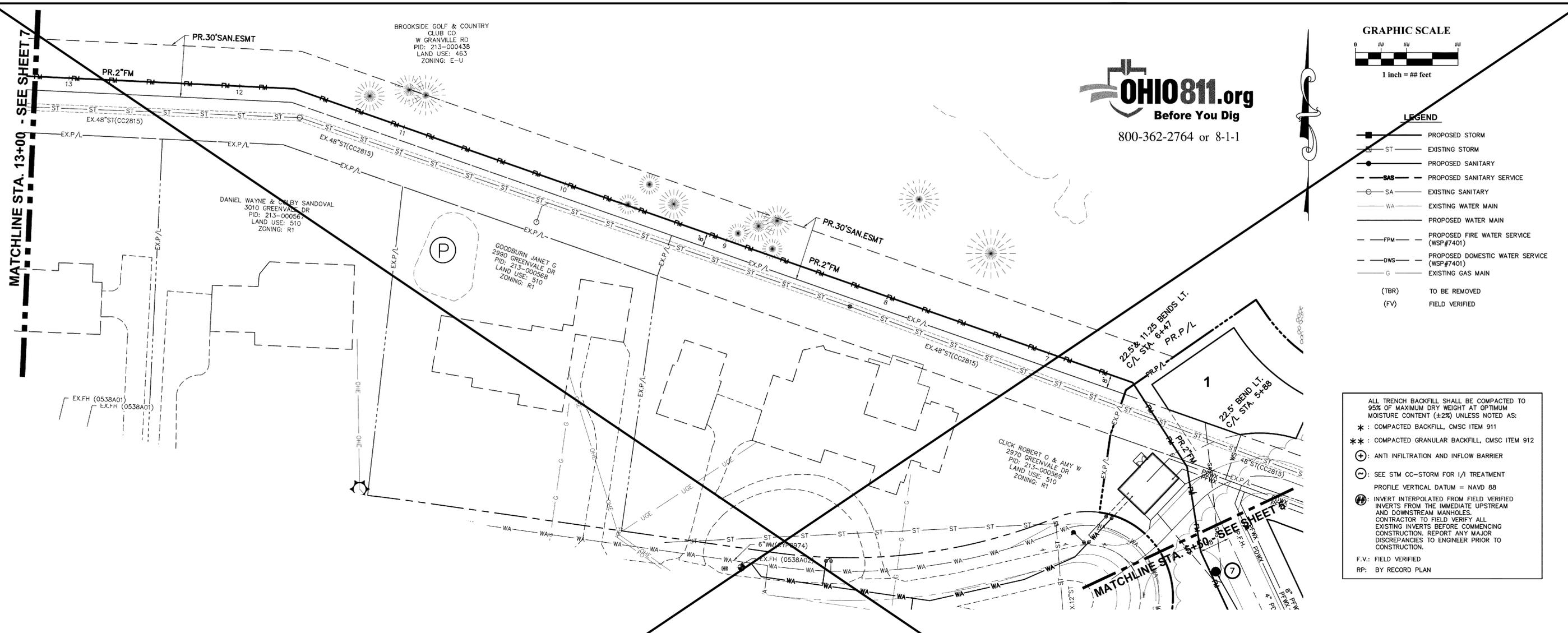
Drawing Number:  
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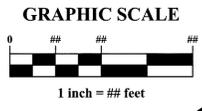




Z:\23-0013-642\DWG\PRODUCTION DRAWINGS\SANITARY\FORCE MAIN PLAN & PROFILE.dwg FORCE MAIN P&P 2 Jun 11, 2024 - 8:24:43pm cachelberry



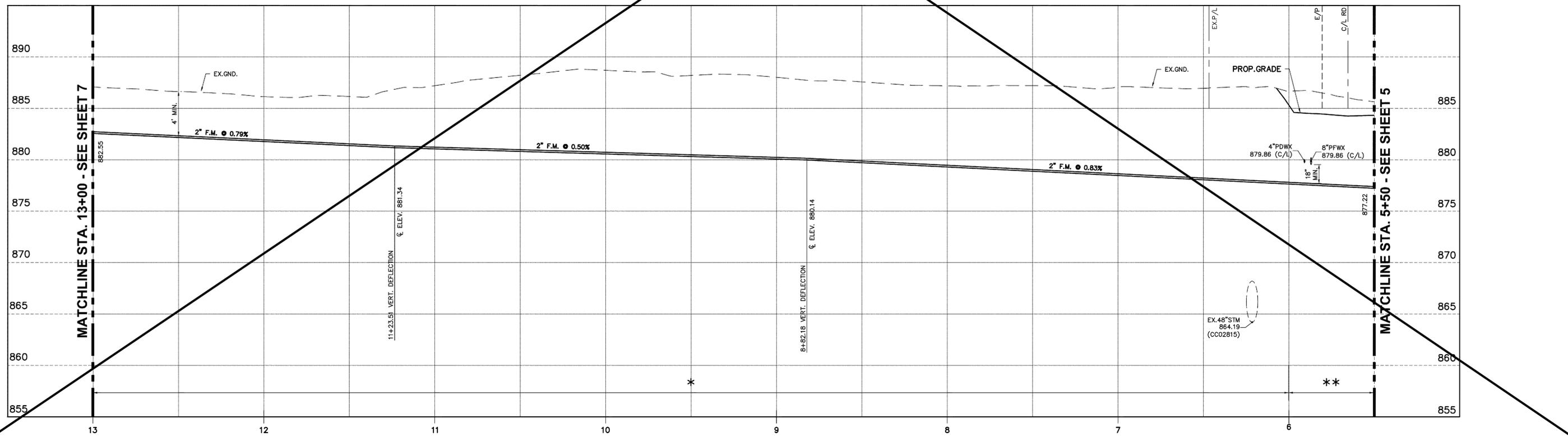
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 800-362-2764 or 8-1-1



- LEGEND**
- PROPOSED STORM
  - ST — EXISTING STORM
  - PROPOSED SANITARY
  - SA — PROPOSED SANITARY SERVICE
  - SA — EXISTING SANITARY
  - WA — EXISTING WATER MAIN
  - PROPOSED WATER MAIN
  - FPM — PROPOSED FIRE WATER SERVICE (WSP#7401)
  - DWS — PROPOSED DOMESTIC WATER SERVICE (WSP#7401)
  - G — EXISTING GAS MAIN
  - (TBR) TO BE REMOVED
  - (FV) FIELD VERIFIED

ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DRY WEIGHT AT OPTIMUM MOISTURE CONTENT (±2%) UNLESS NOTED AS:

- \* : COMPACTED BACKFILL, CMSC ITEM 911
- \* \* : COMPACTED GRANULAR BACKFILL, CMSC ITEM 912
- ⊕ : ANTI INFILTRATION AND INFLOW BARRIER
- ⊖ : SEE STM CC-STORM FOR I/A TREATMENT
- ⊙ : PROFILE VERTICAL DATUM = NAVD 88
- ⊕ : INVERT INTERPOLATED FROM FIELD VERIFIED INVERTS FROM THE IMMEDIATE UPSTREAM AND DOWNSTREAM MANHOLES. CONTRACTOR TO FIELD VERIFY ALL EXISTING INVERTS BEFORE COMMENCING CONSTRUCTION. REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.
- F.V.: FIELD VERIFIED
- RP: BY RECORD PLAN



PLAN PREPARED BY:  
**ADVANCED CIVIL DESIGN**  
 761 Science Boulevard, Suite 100  
 Gahanna, Ohio 43230  
 PH: 614.428.7750  
 FAX: 614.428.7755  
 ENGINEERS SURVEYORS

PLAN PREPARED FOR:  
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 ATTN: BRANDON BELL  
 BRANDON.BELL@BOBWEBB.COM

PERRY TOWNSHIP, FRANKLIN COUNTY, OHIO  
**SANITARY SEWER IMPROVEMENT PLAN**  
**THE COTTAGES AT BROOKSIDE**  
**FOR**  
**BG & CC DEVELOPMENT COMPANY LLC**  
**FORCE MAIN PLAN & PROFILE**

No.	Revision	Date	Approved
1	SHEET REPLACED BY RA		

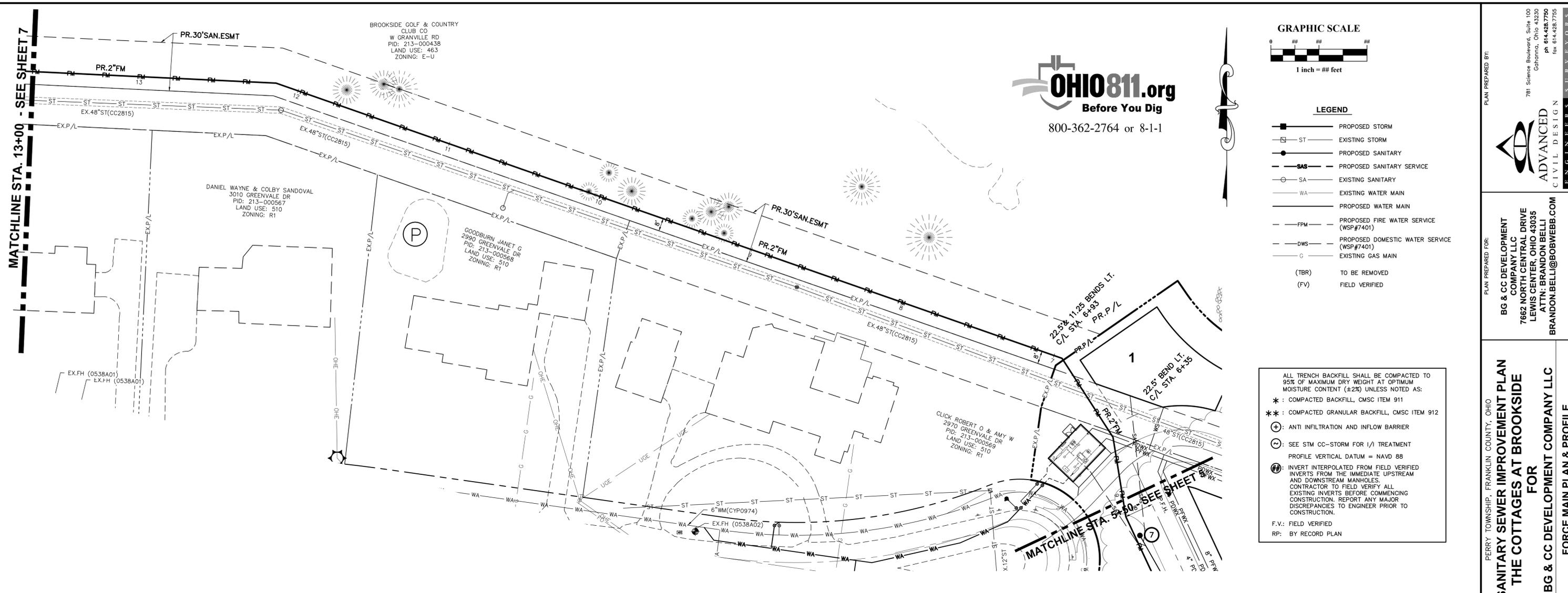
Date: 04/19/2024  
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Drawn By: CLE  
 Checked By: TMW

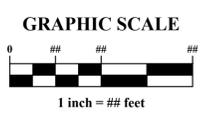
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 23-0013-642

Drawing Number:  
**6 / 8**

CITY OF COLUMBIA DEPARTMENT OF PUBLIC UTILITIES APPROVED TIFF IMAGE For REVISION



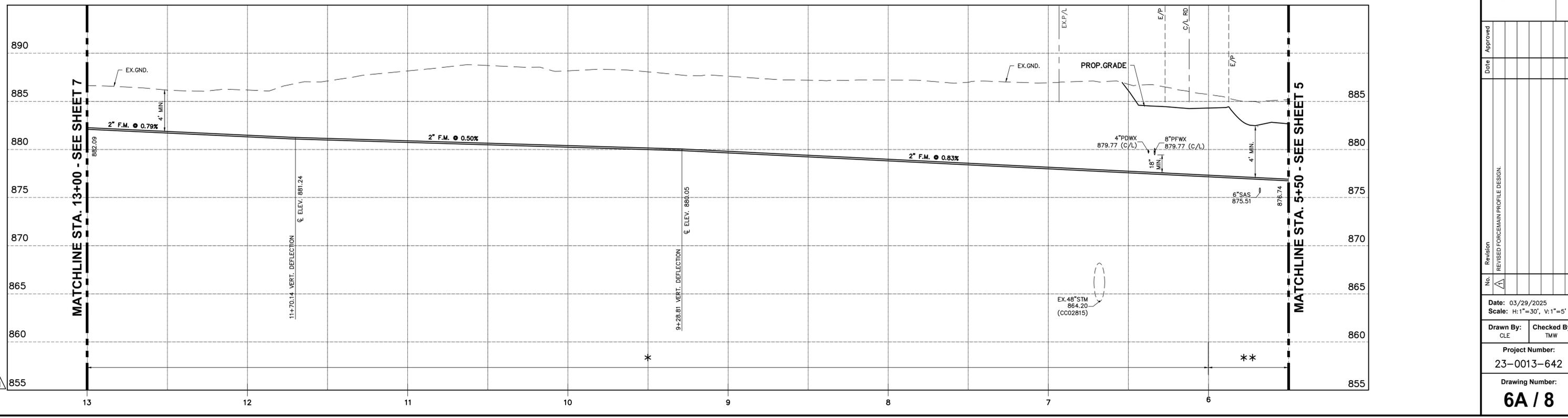
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- LEGEND**
- PROPOSED STORM
  - EXISTING STORM
  - PROPOSED SANITARY
  - PROPOSED SANITARY SERVICE
  - EXISTING SANITARY
  - EXISTING WATER MAIN
  - PROPOSED WATER MAIN
  - PROPOSED FIRE WATER SERVICE (WSP#7401)
  - PROPOSED DOMESTIC WATER SERVICE (WSP#7401)
  - EXISTING GAS MAIN
  - (TBR) TO BE REMOVED
  - (FV) FIELD VERIFIED

ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DRY WEIGHT AT OPTIMUM MOISTURE CONTENT (±2%) UNLESS NOTED AS:

- \* : COMPACTED BACKFILL, CMS ITEM 911
- \* \* : COMPACTED GRANULAR BACKFILL, CMS ITEM 912
- ⊕ : ANTI INFILTRATION AND INFLOW BARRIER
- ⊖ : SEE STM CC-STORM FOR I/A TREATMENT
- ⊙ : PROFILE VERTICAL DATUM = NAVD 88
- ⊕ : INVERT INTERPOLATED FROM FIELD VERIFIED INVERTS FROM THE IMMEDIATE UPSTREAM AND DOWNSTREAM MANHOLES. CONTRACTOR TO FIELD VERIFY ALL EXISTING INVERTS BEFORE COMMENCING CONSTRUCTION. REPORT ANY MAJOR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.
- F.V.: FIELD VERIFIED
- RP: BY RECORD PLAN



PLAN PREPARED BY:  
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PLAN PREPARED FOR:  
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 ATTN: BRANDON BELL  
 BRANDON.BELL@BOBWEBB.COM

**SANITARY SEWER IMPROVEMENT PLAN**  
**THE COTTAGES AT BROOKSIDE**  
**FOR**  
**BG & CC DEVELOPMENT COMPANY LLC**  
**FORCE MAIN PLAN & PROFILE**

No.	Revision	Date	Approved
1	REVISED FORCEMAIN PROFILE DESIGN		

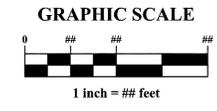
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Drawn By: CLE  
 Checked By: TMW

Project Number:  
 23-0013-642

Drawing Number:  
**6A / 8**

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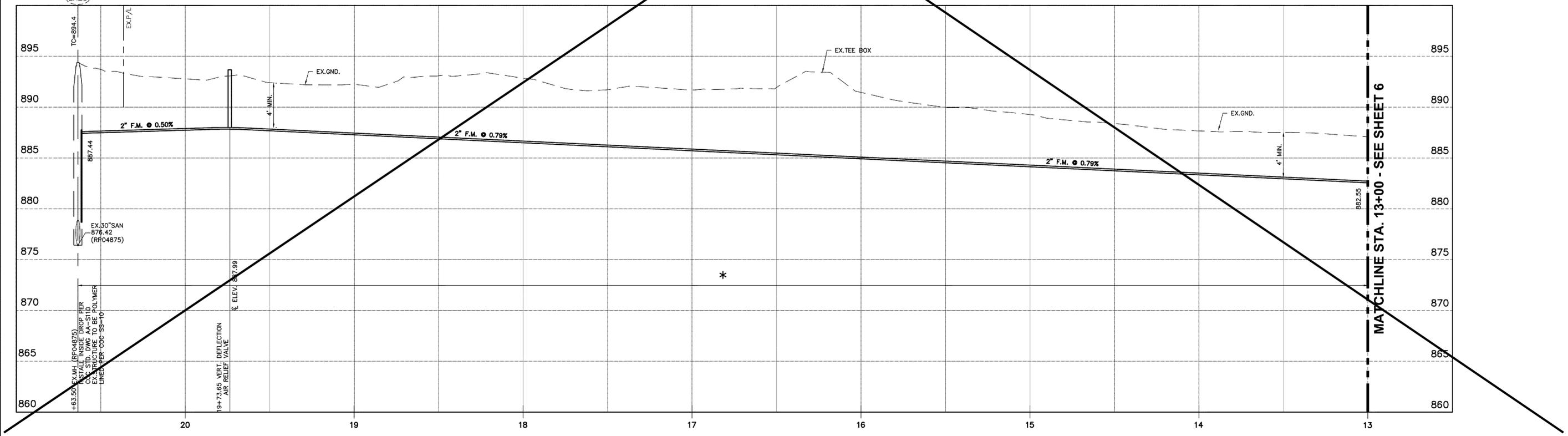
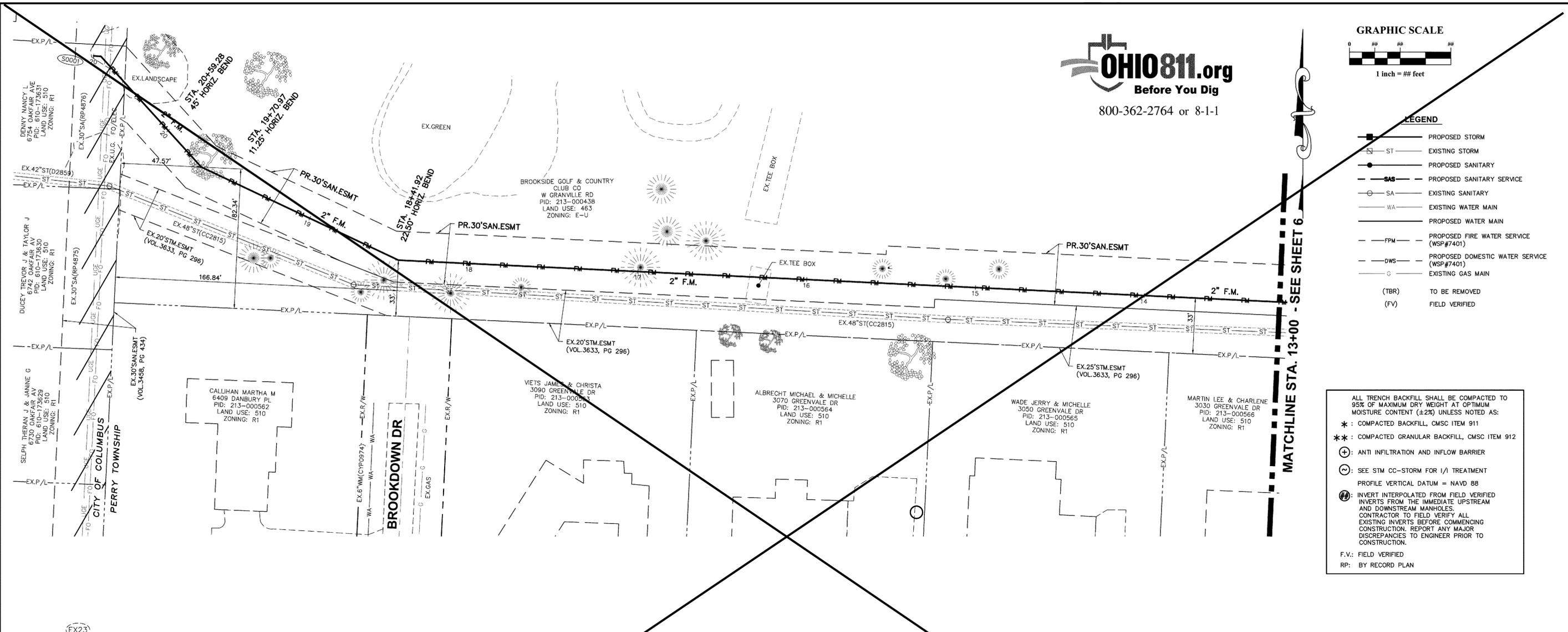
**LEGEND**

	PROPOSED STORM
	EXISTING STORM
	PROPOSED SANITARY
	PROPOSED SANITARY SERVICE
	EXISTING SANITARY
	EXISTING WATER MAIN
	PROPOSED WATER MAIN
	PROPOSED FIRE WATER SERVICE (WSP#7401)
	PROPOSED DOMESTIC WATER SERVICE (WSP#7401)
	EXISTING GAS MAIN
(TBR)	TO BE REMOVED
(FV)	FIELD VERIFIED

ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DRY WEIGHT AT OPTIMUM MOISTURE CONTENT (±2%) UNLESS NOTED AS:

- \* COMPACTED BACKFILL, CMSC ITEM 911
- \*\* COMPACTED GRANULAR BACKFILL, CMSC ITEM 912
- ⊕ ANTI INFILTRATION AND INFLOW BARRIER
- ⊖ SEE STM CC-STORM FOR 1/1 TREATMENT
- ⊙ PROFILE VERTICAL DATUM = NAVD 88
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F.V.: FIELD VERIFIED  
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PERRY TOWNSHIP, FRANKLIN COUNTY, OHIO  
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**THE COTTAGES AT BROOKSIDE**  
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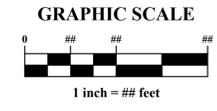
No.	Revision	Date	Approved
1	SHEET REPLACED BY 7A		

Date: 04/19/2024  
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Project Number:  
23-0013-642

Drawing Number:  
**7 / 8**



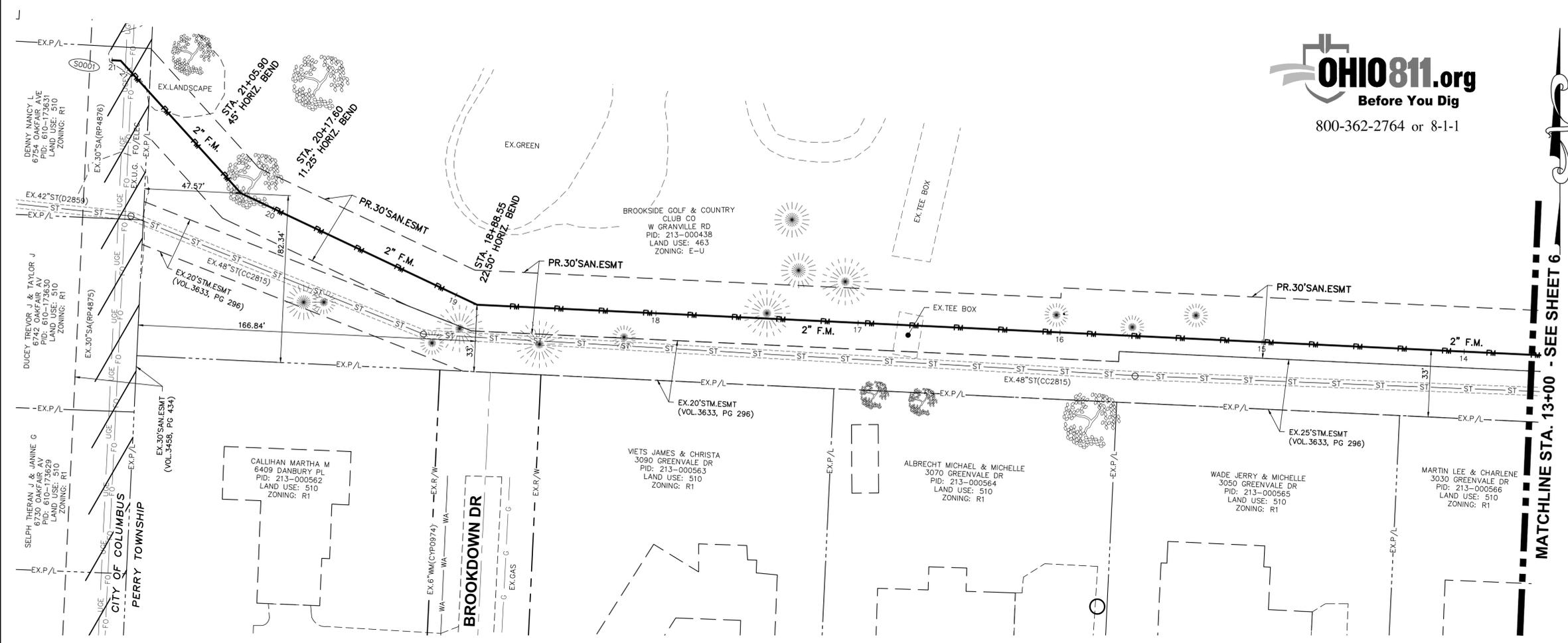
**LEGEND**

	PROPOSED STORM
	EXISTING STORM
	PROPOSED SANITARY
	PROPOSED SANITARY SERVICE
	EXISTING SANITARY
	EXISTING WATER MAIN
	PROPOSED WATER MAIN
	PROPOSED FIRE WATER SERVICE (WSP#7401)
	PROPOSED DOMESTIC WATER SERVICE (WSP#7401)
	EXISTING GAS MAIN
(TBR)	TO BE REMOVED
(FV)	FIELD VERIFIED

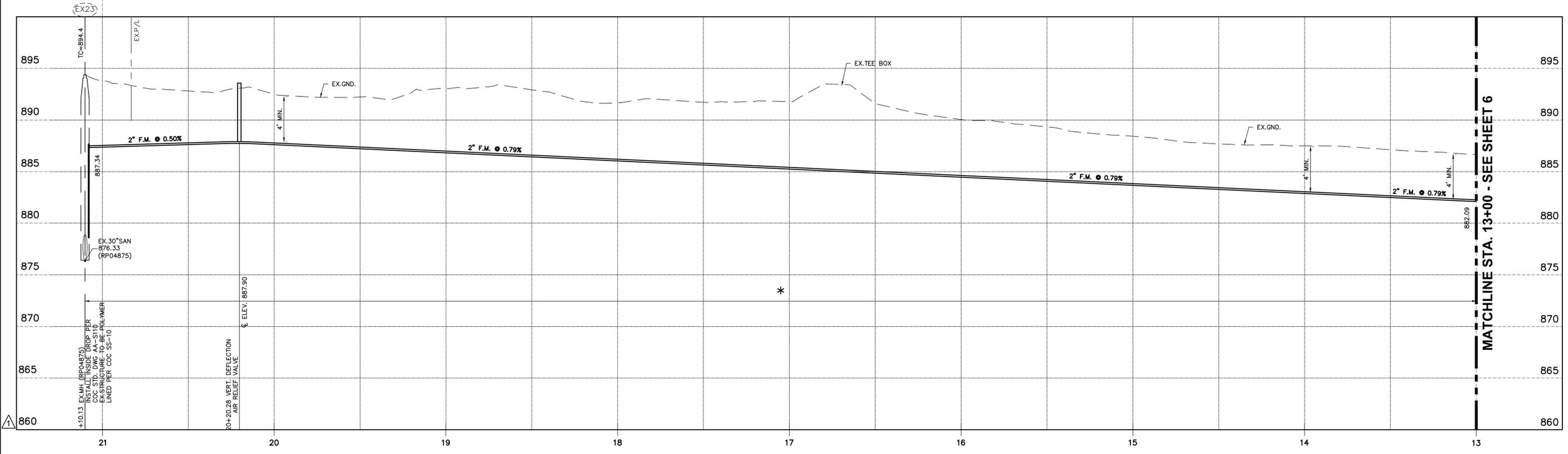
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MATCHLINE STA. 13+00 - SEE SHEET 6



**SANITARY SEWER IMPROVEMENT PLAN**  
**THE COTTAGES AT BROOKSIDE**  
**FOR**  
**BG & CC DEVELOPMENT COMPANY LLC**  
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No.	Revision	Date	Approved
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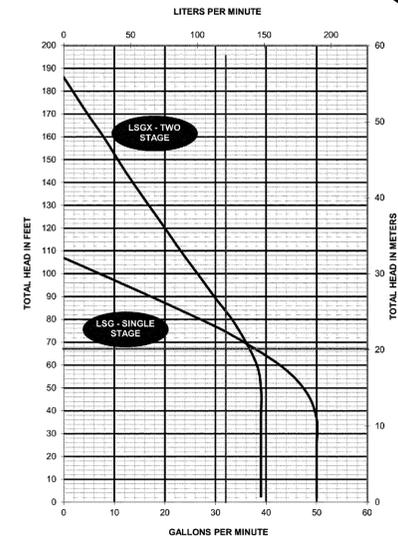
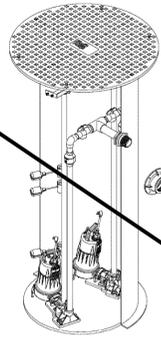
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A Family and Employee Owned Company

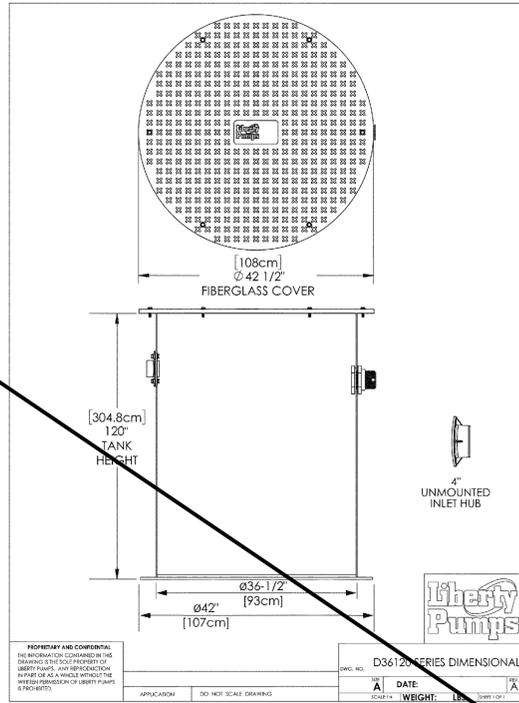
### Pump Specification

## D36120LSG, D36120LSGX Omnivore® 2HP Duplex Grinder Packages



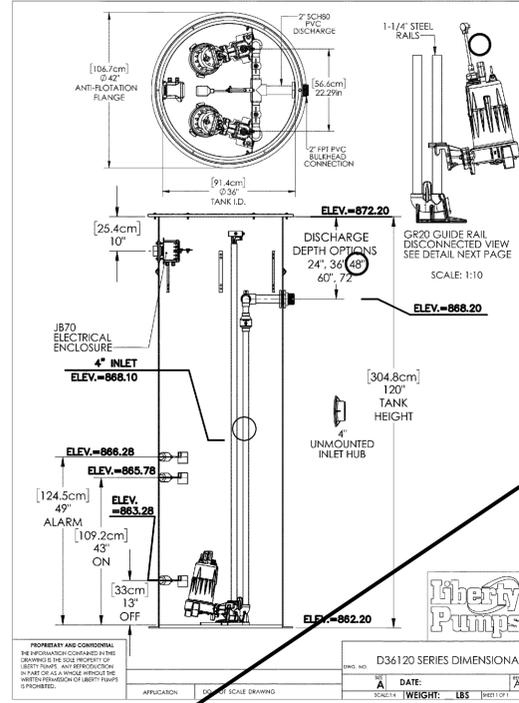
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### D36120LSG/LSGX-Series Dimensional Data



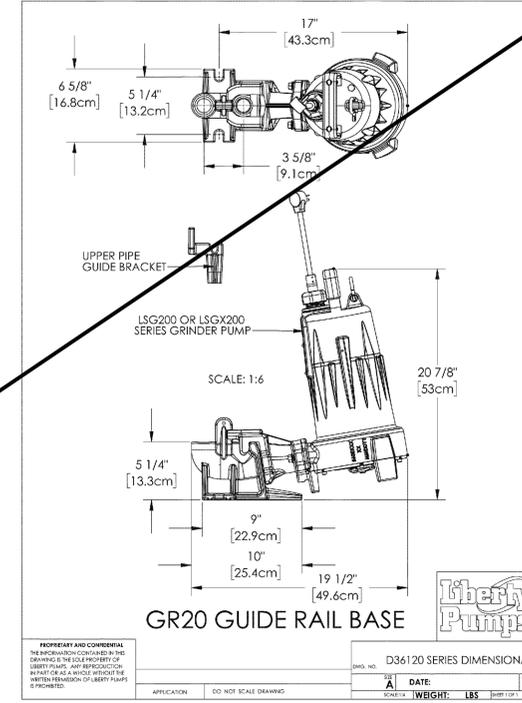
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### D36120LSG/LSGX-Series Dimensional Data



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### D36120LSG/LSGX-Series Dimensional Data



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### D36120LSG/LSGX-Series Electrical Data

MODEL <sup>1</sup>	HP	VOLTAGE	PHASE	SF	FULL LOAD AMPS <sup>2</sup>	LOCKED ROTOR AMPS <sup>2</sup>	THERMAL OVERLOAD TEMP	STATOR WINDING CLASS	CORD LENGTH	PUMP DISCHARGE	STANDARD CONTROL PANEL <sup>3</sup>
D36120LSG202	2	208/230	1	1.0	15	53	105°C	B	25'	1-1/4" NPT	AE24H=3
D36120LSG202-C	2	208/230	1	1.0	15	53	135°C	B	35'	1-1/4" NPT	AE24HC=3-3
D36120LSG203	2	208/230	3	1.0	10.6	61	N/A	B	25'	1-1/4" NPT	AE34=3-511
D36120LSG204	2	440-480	3	1.0	5.3	31	N/A	B	25'	1-1/4" NPT	AE34=3-171
D36120LSG205	2	575	3	1.0	4.9	31	N/A	B	25'	1-1/4" NPT	AE54=3-161
D36120LSGX202	2	208-230	1	1.0	15	53	135°C	B	25'	1-1/4" NPT	AE24H=3
D36120LSGX202-C	2	208-230	1	1.0	15	53	135°C	B	35'	1-1/4" NPT	AE24HC=3-3
D36120LSGX203	2	208/230	3	1.0	10.6	61	N/A	B	25'	1-1/4" NPT	AE34=3-511
D36120LSGX204	2	440-480	3	1.0	5.3	31	N/A	B	25'	1-1/4" NPT	AE34=3-171
D36120LSGX205	2	575	3	1.0	4.9	31	N/A	B	25'	1-1/4" NPT	AE54=3-161

1 Add -IP to the model number for IP-Series™ panel upgrade.  
2 Amperage values are for each pump.  
3 Electrical service shall be sized to support all pumps running simultaneously.

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### D36120LSG/LSGX-Series Technical Data

TANK	WOUND FIBERGLASS WITH ANTI-FLOTATION FLANGE STANDARD - FIBERGLASS COVER OPTIONAL - STEEL COVER
CAPACITY	TOTAL BASIN VOLUME - 529 GALLONS / 2002 LITERS PUMP CYCLE - 132 GALLONS / 500 LITERS
GUIDE RAIL	STANDARD - SCHEDULE 40 GALVANIZED OPTIONAL - SCHEDULE 40 STAINLESS STEEL
GUIDE RAIL BASE / DISCONNECT (GR20)	CAST IRON
INLET HUB	4" WITH FLANGE GASKET AND PIPE SEAL
DISCHARGE PIPING	2" SCHEDULE 80 PVC
CONTROL PANEL	NEMA 4X DUPLEX OUTDOOR ALTERNATING PANEL WITH AUDIBLE (8 DBI) AND VISUAL HIGH WATER ALARM
IMPELLER	300 SERIES STAINLESS STEEL
PAINT	POWDER COATING
MAX LIQUID TEMP	60°C / 140°F
MAX STATOR TEMP (1-PHASE)	LSG202 - 105°C / 221°F LSG202-C AND LSGX MODELS - 135°C / 275°F
THERMAL OVERLOAD (1-PHASE)	LSG202 - 105°C / 221°F LSG202-C AND LSGX MODELS - 135°C / 275°F
POWER CORD TYPE	S/OOW (1-PHASE) S/OOW (3-PHASE) S/OOW (EXTERNAL CAPACITOR)
MOTOR HOUSING	CLASS 25 CAST IRON
VOLUTE	CLASS 25 CAST IRON
SHAFT	300 SERIES STAINLESS STEEL
HARDWARE	STAINLESS
O-RINGS	BUNA-N
MECHANICAL SEAL	UNITIZED SILICON CARBIDE
MIN BEARING LIFE	50,000 HRS
WEIGHT	644 LBS/292 KG

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### D36120LSG/LSGX-Series Specifications

#### 1.01 GENERAL

The contractor shall provide labor, material, equipment, and incidentals required to provide 2 (QTY) centrifugal grinder pumps as specified herein. The pump models covered in this specification are LSG/LSGX Series single/three phase grinder pumps. The pump furnished for this application shall be model LSG202 as manufactured by Liberty Pumps.

#### 2.01 OPERATING CONDITIONS

Each submersible pump shall be rated at 2 hp, 208 volts, 1 phase, 60 Hz, 3450 RPM. The unit shall produce 29 GPM at 59 feet of total dynamic head.

The submersible pump shall be capable of handling residential and commercial sewage and grinding it to a fine slurry enabling it to be pumped over long distances in pipelines as small as 1.25" in diameter. The LSG-Series single stage submersible pump shall have a shut-off head of 110 feet and a maximum flow of 50 GPM @ 10 feet of total dynamic head. The LSG-Series two stage submersible pump shall have a shut-off head of 185 feet and a maximum flow of 38 GPM @ 10 feet of total dynamic head.

#### 3.01 CONSTRUCTION

Each centrifugal grinder pump shall be equal to the certified LSG/LSGX-Series Grinder pumps as manufactured by Liberty Pumps, Bergen NY. The castings shall be constructed of class 25 cast iron. The motor housing shall be oil filled to dissipate heat. All metal parts shall not be considered equal since they do not properly dissipate heat from the motor. All mating parts shall be machined and sealed with a Buna-N O-ring. All fasteners exposed to the liquid shall be stainless steel. The motor shall be protected on the top side with a cord entry plate with molded pins to conduct electricity eliminating the ability of water to enter internally through the cord. The motor shall be protected on the lower side with a dual seal arrangement. The first seal is a double lip seal molded in fluorocopolymer or Buna-N. The second/main seal shall be a unitized hard face silicon carbide seal with stainless steel housings and spring.

The upper and lower bearing shall be capable of handling all radial thrust loads. The lower bearing shall have the additional ability to handle the downward axial thrust produced by the impeller and cutters by design of angular contact roller races. The pump housing shall be of the concentric design thereby equalizing the pressure forces inside the housing which will extend the service life of the seals and bearings. Additionally there shall be no cutwater in the housing volute in order to discourage the entrapment of flowing debris. The pump shall be furnished with a stainless steel handle having a nitrile grip.

#### 4.01 ELECTRICAL POWER CORD

The submersible pumps shall be supplied with 25 feet of multi-conductor power cord (35 feet for external capacitor models). It shall be cord type S/OOW (1-phase), S/OOW (3-phase), or S/OOW (EXTERNAL CAPACITOR), capable of continued exposure to the pumped liquid. The power cord shall be sized for the rated full load amps of the pump in accordance with the National Electric Code. The power cable shall not enter the motor housing directly but will conduct electricity to the motor by means of a water tight compression fitting cord plate assembly, with molded pins to conduct electricity. This will eliminate the ability of water to enter internally through the cord, by means of a damaged or wicking cord.

#### 5.01 MOTORS

All motors shall be oil filled and class B insulated NEMA B design, rated for continuous duty. Since air filled motors are not capable of dissipating heat as effectively, they shall not be considered equal. At maximum load, the winding temperature shall not exceed 105°C for model LSG202 and 135°C for LSG202-C and LSGX models (unsubmerged). Single-phase motors shall be capacitor start/capacitor run and have an integral thermal overload switch in the windings for protecting the motor.

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PUMP RATE = 29 GPM @ 59 FEET TOTAL DYNAMIC HEAD  
SINGLE PHASE ELECTRIC AVAILABLE AT SITE.

#### FORCE MAIN PIPING

- FORCE MAIN: PVC PIPE ASTM D2241 (SDR-21) WITH JOINT SPECIFICATIONS AS PER ASTM D3139, HDPE PIPE C906 WITH JOINT SPECIFICATIONS AS PER ASTM F2620 & F1290, OR DUCTILE IRON PIPE C151 WITH JOINT SPECIFICATIONS C111.

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PLAN PREPARED BY:



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ATTN: BRANDON BELL  
BRANDON.BELL@BOBWEBB.COM

PLAN PREPARED FOR:

PERRY TOWNSHIP, FRANKLIN COUNTY, OHIO  
**SANITARY SEWER IMPROVEMENT PLAN**  
**THE COTTAGES AT BROOKSIDE**  
**FOR**  
**BG & CC DEVELOPMENT COMPANY LLC**  
**PRIVATE PUMP STATION NOTES & DETAILS**

No.	Revision	Date	Approved
1	SHEET REPLACED BY 8A		

Date: 04/19/2024  
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Checked By: TMW

Project Number:  
23-0013-642

Drawing Number:  
8 / 8

**P\_MODEL** - PUMP SHALL BE OF THE CENTRIFUGAL TYPE MYERS MODEL WGX20-21 OR EQUAL WITH AN INTEGRALLY BUILT-IN GRINDER UNIT AND SUBMERSIBLE TYPE MOTOR AS PROVIDED BY BUCKEYE PUMPS, INC. JOHN MILLER 614-561-1770.

**OPERATING CONDITIONS** - PUMP SHALL HAVE A CAPACITY OF 32 GPM AT A TOTAL HEAD OF 67 FEET AND SHALL USE A 2 HP MOTOR OPERATING AT 3450 RPM.

**MOTOR** - PUMP MOTOR SHALL BE OF THE TOTALLY ENCLOSED, SUBMERSIBLE, SQUIRREL CAGE INDUCTION TYPE RATED 2 HORSEPOWER AT 3450 RPM, 60 HZ.

MOTOR SHALL BE FOR SINGLE PHASE 230 VOLTS. SINGLE PHASE MOTORS SHALL BE OF CAPACITOR START, CAPACITOR RUN, NEMA L TYPE.

STATOR WINDING SHALL BE OF THE OPEN TYPE WITH CLASS F INSULATION GOOD FOR 155°C (311°F) MAXIMUM OPERATING TEMPERATURE. WINDING HOUSING SHALL BE FILLED WITH A CLEAN HIGH DIELECTRIC OIL THAT LUBRICATES BEARINGS AND SEALS AND TRANSFERS HEAT FROM WINDINGS AND ROTOR TO OUTER SHELL. AIR-FILLED MOTORS, WHICH DO NOT HAVE THE SUPERIOR HEAT DISSIPATING CAPABILITIES OF OIL-FILLED MOTORS, SHALL NOT BE CONSIDERED EQUAL.

MOTOR SHALL HAVE TWO HEAVY DUTY BALL BEARINGS TO SUPPORT PUMP SHAFT AND TAKE RADIAL AND THRUST LOADS AND A SLEEVE GUIDE BUSHING DIRECTLY ABOVE THE LOWER SEAL TO TAKE RADIAL LOAD. BALL BEARINGS SHALL BE DESIGNED FOR 50,000 HOURS B-10 LIFE. STATOR SHALL BE HEAT SHRUNK INTO MOTOR HOUSING.

A HEAT SENSOR THERMOSTAT SHALL BE ATTACHED TO TOP END OF MOTOR WINDING AND SHALL BE CONNECTED IN SERIES WITH THE MAGNETIC CONTACTOR COIL IN CONTROL BOX TO STOP MOTOR IF MOTOR WINDING TEMPERATURE REACHES 221°F. THERMOSTAT TO RESET AUTOMATICALLY WHEN MOTOR COOLS. THREE HEAT SENSORS SHALL BE USED ON THREE-PHASE MOTORS.

THE COMMON MOTOR PUMP AND GRINDER SHAFT SHALL BE OF #416 STAINLESS STEEL THREADED TO TAKE PUMP IMPELLER AND GRINDER IMPELLER.

**SEALS** - MOTOR SHALL BE PROTECTED BY TWO MECHANICAL SEALS MOUNTED IN TANDEM WITH A SEAL CHAMBER BETWEEN THE SEALS. SEAL CHAMBER SHALL BE OIL FILLED TO LUBRICATE SEAL FACE AND TO TRANSMIT HEAT FROM SHAFT TO OUTER SHELL.

SEAL FACE SHALL BE CARBON AND CERAMIC AND LAPPED TO A FLATNESS OF ONE LIGHT BAND.

A DOUBLE ELECTRODE SHALL BE MOUNTED IN THE SEAL CHAMBER TO DETECT ANY WATER ENTERING THE CHAMBER THROUGH THE LOWER SEAL. WATER IN THE CHAMBER SHALL CAUSE A RED LIGHT TO TURN ON AT THE CONTROL BOX. THIS SIGNAL SHALL NOT STOP MOTOR BUT SHALL ACT AS A WARNING ONLY, INDICATING SERVICE IS REQUIRED.

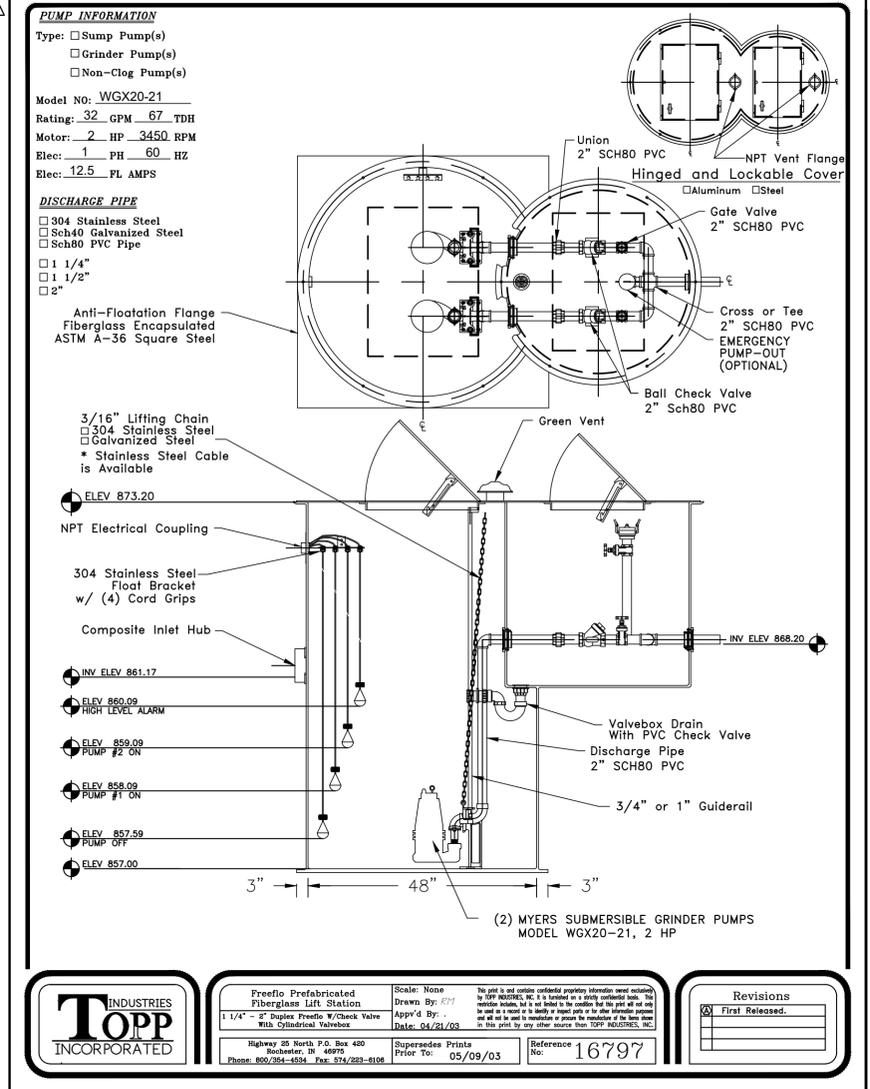
**PUMP IMPELLER** - THE PUMP IMPELLER SHALL BE OF THE SEMI-OPEN TYPE. IMPELLER SHALL BE OF 316 SST AND SHALL BE THREADED ONTO STAINLESS STEEL SHAFT.

**GRINDER MECHANISM** - THE STATIONARY CUTTER SHALL BE CIRCULAR IN DESIGN AND CONTAIN EVENLY SPACED CUTTING SLOTS THAT EXTEND OUTWARDS FROM THE INLET OF THE PUMP. THE SLOTS ARE TAPERED INWARD TOWARD THE INLET TO HELP DIRECT SLURRY THROUGH THE CUTTING SLOTS INTO THE PUMP. THE SLOTS ARE TO BE ANGLED, OR UNDERCUT, TO HELP MAINTAIN A SHARP AXIAL CUTTING EDGE, EVEN AS THE AXIAL FACE WEARS DURING USE. THE STATIONARY CUTTER SHALL BE PRESSED INTO THE SUCTION OPENING OF THE VOLUTE AND HELD IN PLACE BY FOUR 300 SERIES STAINLESS STEEL SCREWS. THE STATIONARY CUTTER SHALL BE PROVIDED WITH TAPPED BACK-OFF HOLES SO THAT SCREWS CAN BE USED TO REMOVE THE CUTTER FROM THE VOLUTE. THE ROTATING CUTTER SHALL CONTAIN THREE AXIAL CUTTING ARMS EXTENDING FROM THE HUB, PERPENDICULAR TO THE PUMP SHAFT, THAT ARE SHAPED TO AID IN THE REJECTION OF SUSPENDED DEBRIS THAT HAS NOT BEEN SUFFICIENTLY REDUCED IN SIZE BY THE AXIAL CUTTING ACTION. THE CURVED, LEADING EDGE OF THE CUTTING ARMS SHALL CREATE A SCISSOR ACTION WITH THE CUTTING SLOTS OF THE STATIONARY CUTTER PLATE TO MINIMIZE THE REQUIRED TORQUE. THIS WILL ALLOW THE CUTTER TO MACERATE TOUGH OBJECTS AND PROLONG CUTTER LIFE. SERRATIONS ON THE HUB OF THE CUTTER ADD ADDITIONAL CUTS THAT PREVENT DEBRIS FROM BECOMING ENTANGLED WITHIN THE ROTATING CUTTER. THE ROTATING CUTTER SHALL THREAD ONTO THE END OF THE PUMP SHAFT AND BE SECURED BY A 300 SERIES STAINLESS STEEL WASHER IN CONJUNCTION WITH A 300 SERIES STAINLESS STEEL FLAT HEAD CAP SCREW THREADED INTO THE END OF THE SHAFT. BOTH STATIONARY AND ROTATING CUTTERS SHALL BE MADE OF 440C STAINLESS STEEL, HARDENED TO ROCKWELL 57-60C AND GROUND CLOSE TO TOLERANCE. THE GRINDER SHALL BE CAPABLE OF GRINDING NORMAL DOMESTIC SEWAGE INTO A FINE SLURRY.

**CORROSION PROTECTION** - THE PUMP SHALL BE PAINTED WITH WATERBORNE HYBRID ACRYLIC/ALKYD PAINT. THIS CUSTOM ENGINEERED, QUICK DRY PAINT SHALL PROVIDE SUPERIOR LEVELS OF CORROSION AND CHEMICAL PROTECTION. ALL FASTENERS TO BE 300 SERIES STAINLESS STEEL.

**BEARING END CAP** - UPPER MOTOR BEARING CAP SHALL BE A SEPARATE CASTING FOR EASY MOUNTING AND REPLACEMENT.

**POWER CABLES** - POWER CORD AND CONTROL CORD SHALL BE DOUBLE SEALED. THE POWER AND CONTROL CONDUCTOR SHALL BE SINGLE STRAND SEALED WITH EPOXY POTTING COMPOUND AND THEN CLAMPED IN PLACE WITH RUBBER SEAL BUSHING TO SEAL OUTER JACKET AGAINST LEAKAGE AND TO PROVIDE FOR STRAIN PULL. CORDS SHALL WITHSTAND A PULL STRAIN. INSULATION OF POWER AND CONTROL CORDS SHALL BE TYPE SOOW OR W. BOTH CONTROL AND POWER CORDS SHALL HAVE A GREEN CARRIER GROUND CONDUCTOR THAT ATTACHES TO MOTOR FRAME.



**PUMP INFORMATION**  
 Type:  Sump Pump(s)  
 Grinder Pump(s)  
 Non-Clog Pump(s)  
 Model No: WGX20-21  
 Rating: 32 GPM 67 TDH  
 Motor: 2 HP 3450 RPM  
 Elec: 1 PH 60 HZ  
 Elec: 12.5 FL AMPS

**DISCHARGE PIPE**  
 304 Stainless Steel  
 Sch80 Galvanized Steel  
 Sch80 PVC Pipe  
 1 1/4"  
 1 1/2"  
 2"

3/16" Lifting Chain  
 304 Stainless Steel  
 Galvanized Steel  
 \* Stainless Steel Cable is Available

ELEV 873.20  
 NPT Electrical Coupling

304 Stainless Steel  
 w/ (4) Cord Grips  
 Composite Inlet Hub

INV ELEV 861.17  
 ELEV 860.09 HIGH LEVEL ALARM  
 ELEV 859.09 PUMP #2 ON  
 ELEV 858.09 PUMP #1 ON  
 ELEV 857.59 PUMP OFF  
 ELEV 857.00

Valvebox Drain With PVC Check Valve  
 Discharge Pipe 2" SCH80 PVC  
 3/4" or 1" Guiderail

(2) MYERS SUBMERSIBLE GRINDER PUMPS  
 MODEL WGX20-21, 2 HP

	Freeflo Prefabricated Fiberglass Lift Station 1 1/4" x 2" Square Presto K/Check Valve With Cylindrical Valvebox Highway 88 North P.O. Box 480 Bloomer, IN 46716 Phone: 800/354-4554 Fax: 574/222-8108	Scale: None Drawn By: JTF App'd By: Date: 04/21/03 Supersedes Prints Prior To: 05/09/03 Reference No: 16797	No print is not contain confidential proprietary information... Revisions <table border="1"> <tr> <th>No.</th> <th>Date</th> <th>Description</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	No.	Date	Description						
	No.	Date	Description									

**PUMP RATE = 32 GPM @ 67 FEET TOTAL DYNAMIC HEAD**  
**SINGLE PHASE ELECTRIC AVAILABLE AT SITE.**

**FORCE MAIN PIPING**  
 - FORCE MAIN: PVC PIPE ASTM D2241 (SDR-21) WITH JOINT SPECIFICATIONS AS PER ASTM D3139, HDPE PIPE C906 WITH JOINT SPECIFICATIONS AS PER ASTM F2620 & F1290, OR DUCTILE IRON PIPE C151 WITH JOINT SPECIFICATIONS C111.

Z:\23-0013-642\DWG\PRODUCTION DRAWINGS\SANITARY\PRIVATE PUMP STATION NOTES & DETAILS.dwg PRIVATE PUMP STATION NOTES & DETAILS - 5:17:15pm cec@bell.net

PLAN PREPARED BY:  
  
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 ENGINEERS SURVEYORS

PLAN PREPARED FOR:  
 BG & CC DEVELOPMENT COMPANY LLC  
 7662 NORTH CENTRAL DRIVE  
 LEWIS CENTER, OHIO 43085  
 ATTN: BRANDON BELL  
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**SANITARY SEWER IMPROVEMENT PLAN**  
**THE COTTAGES AT BROOKSIDE**  
**FOR**  
**BG & CC DEVELOPMENT COMPANY LLC**  
**PRIVATE PUMP STATION NOTES & DETAILS**

Revision	Date	Approved

Date: 03/29/2025  
 Scale: NONE  
 Drawn By: CLE  
 Checked By: TMW  
 Project Number: 23-0013-642  
 Drawing Number: 8A / 8