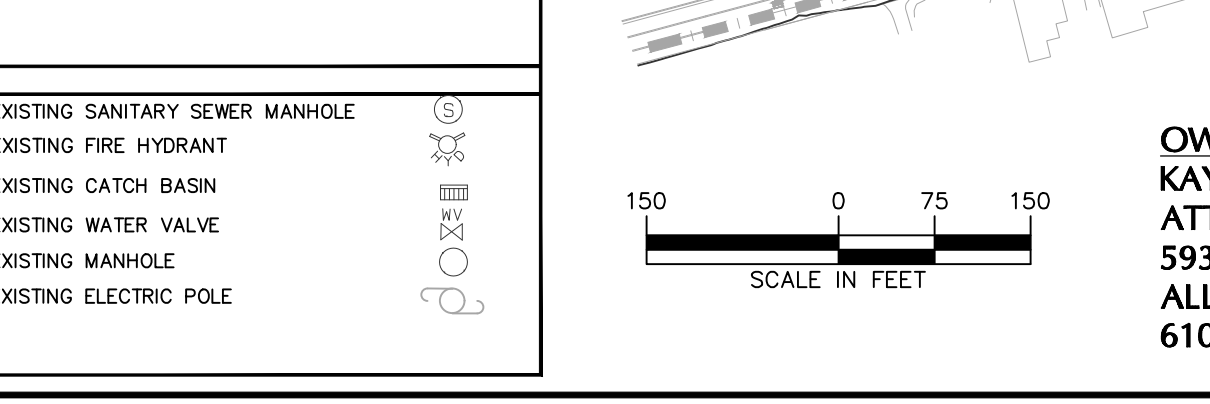
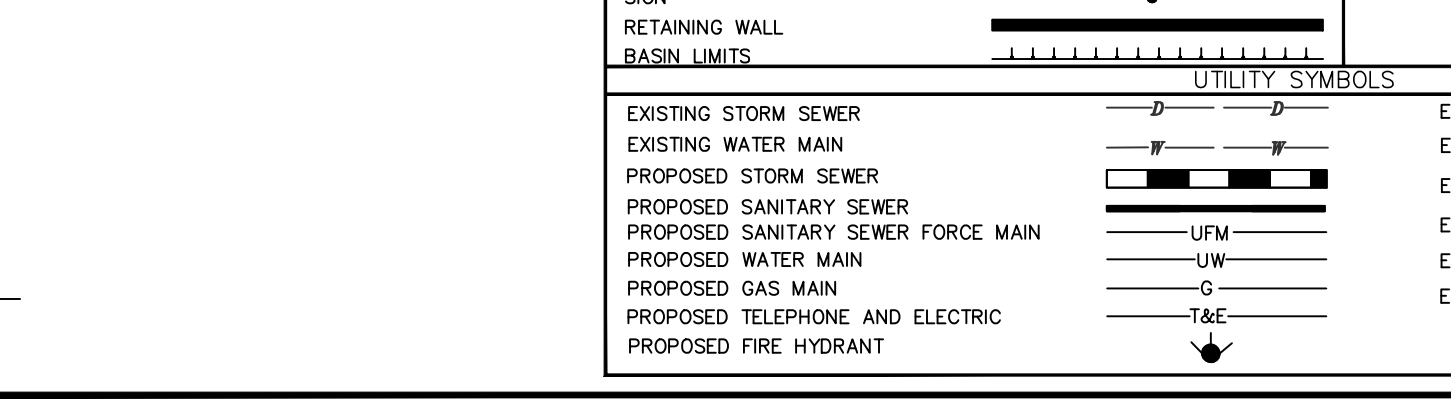
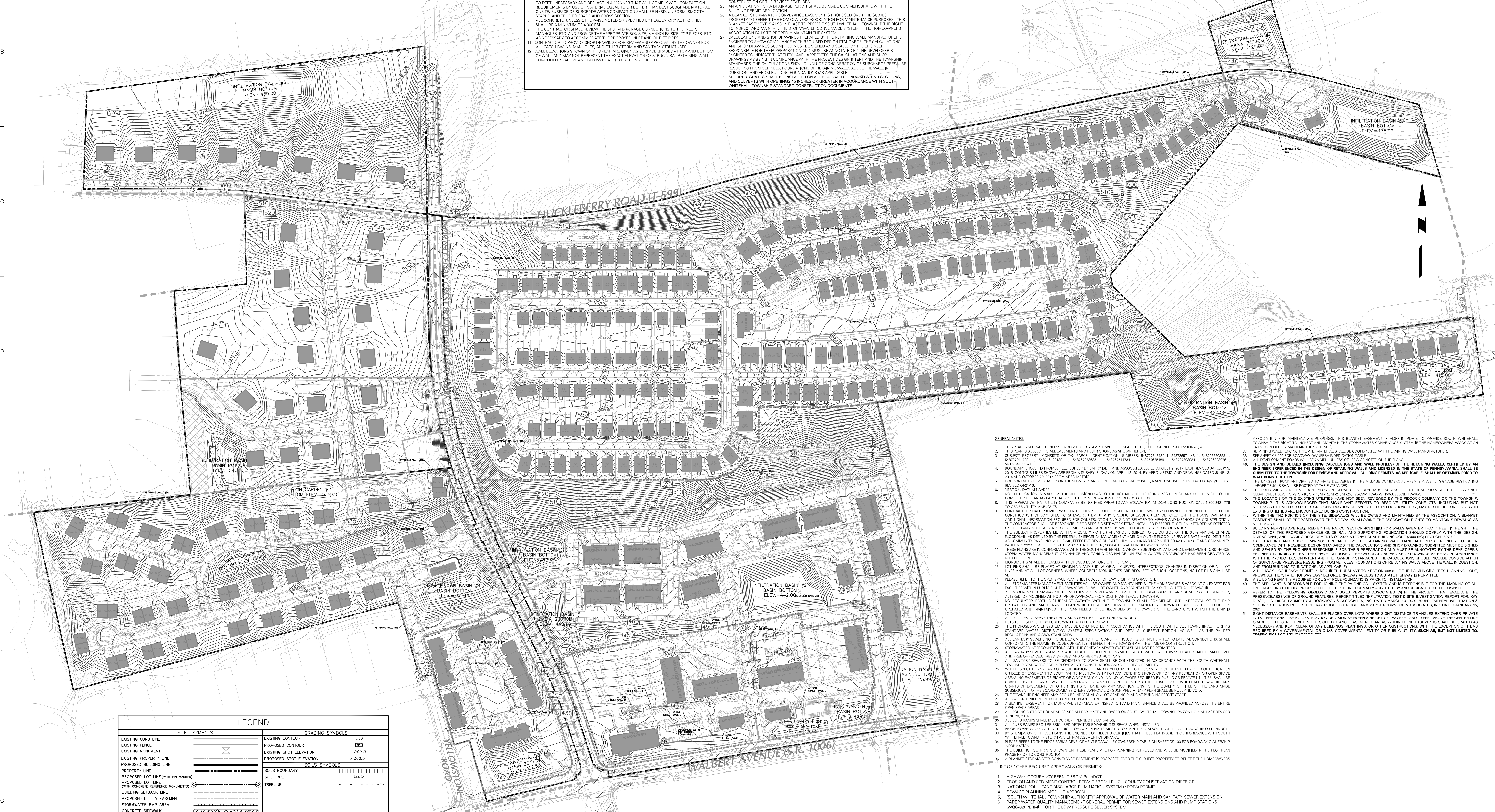


GRADING AND DRAINAGE PLAN NOTES
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.



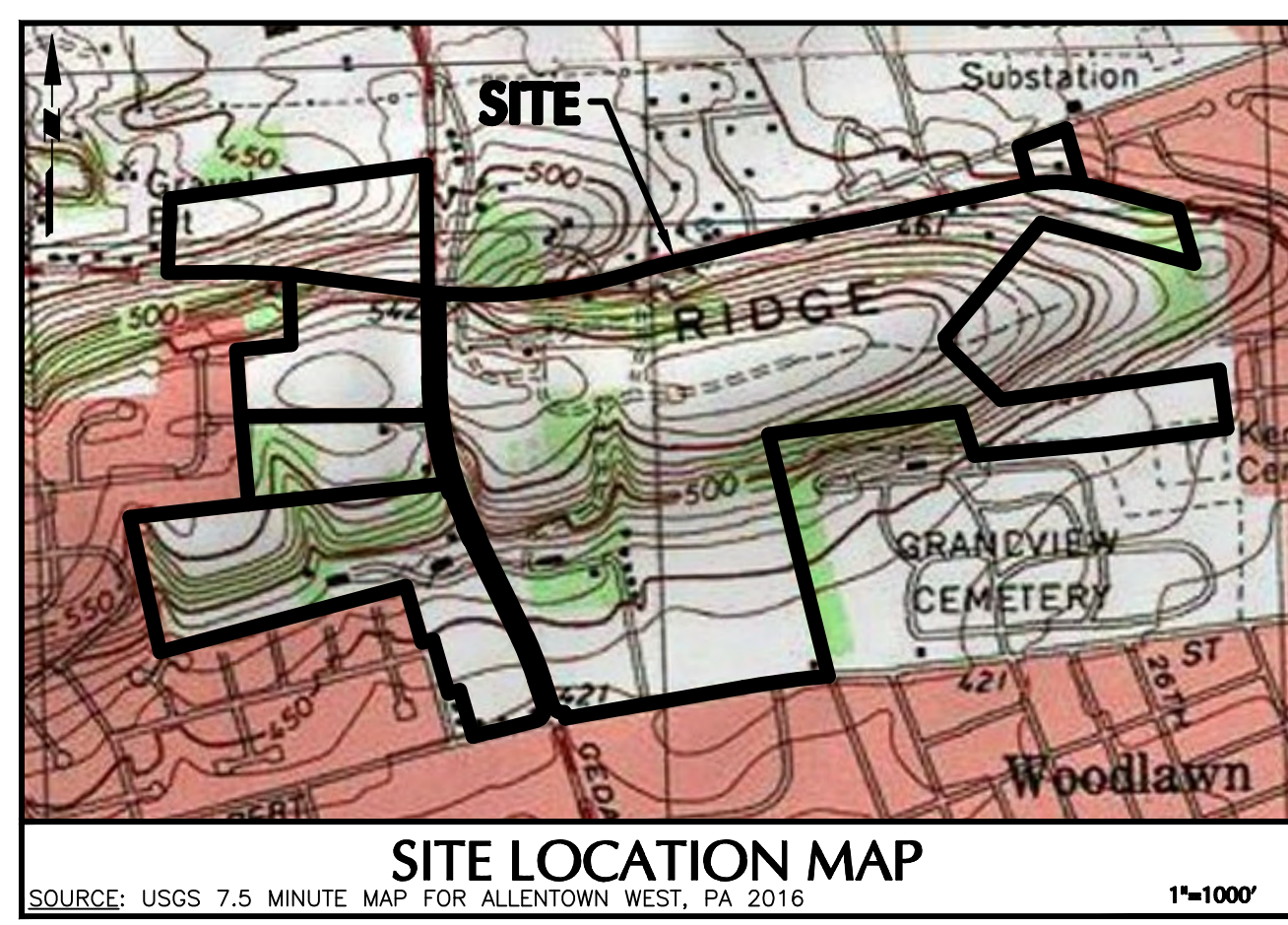
OWNER/APPLICANT
KAY WALBERT LLC.
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

Table of revisions with columns for Date, Description, and No. (1-4)

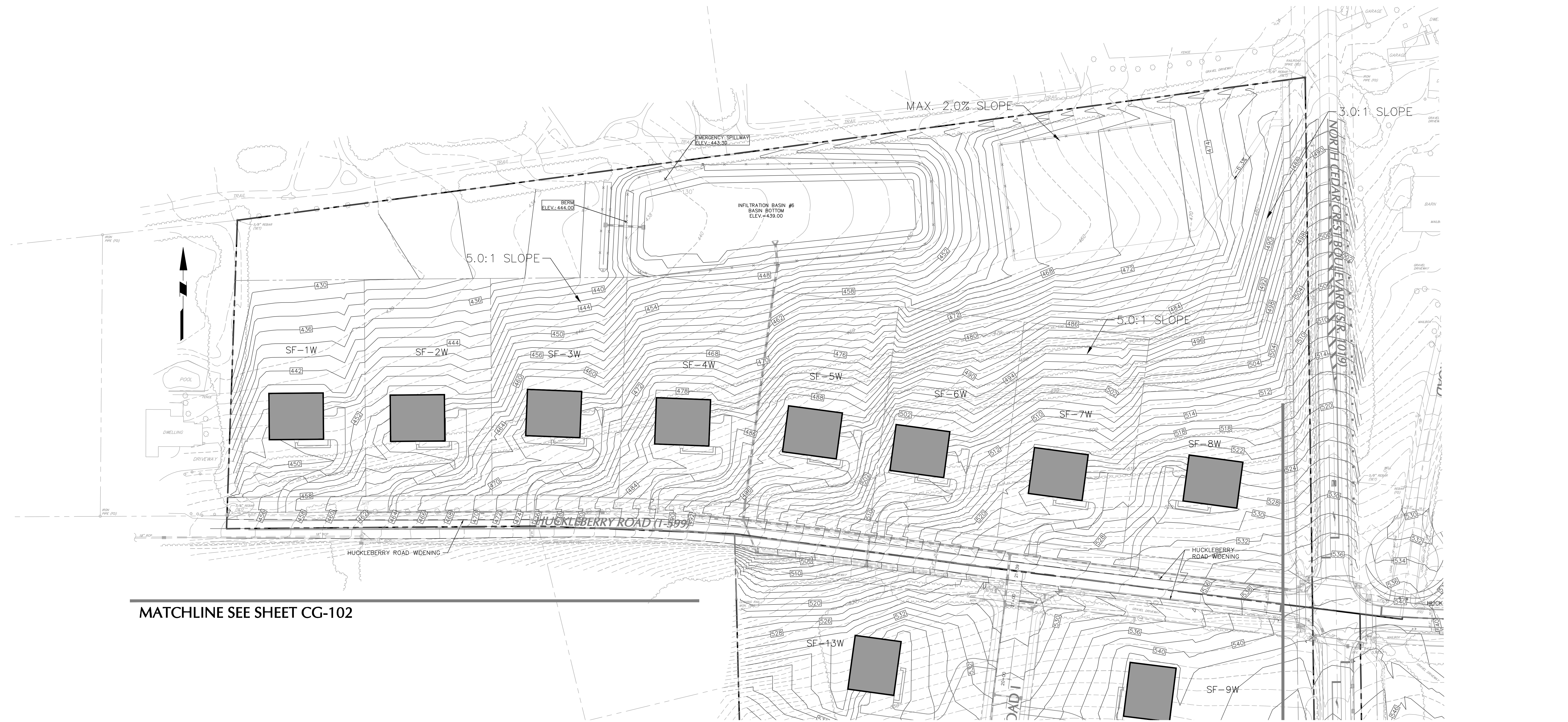
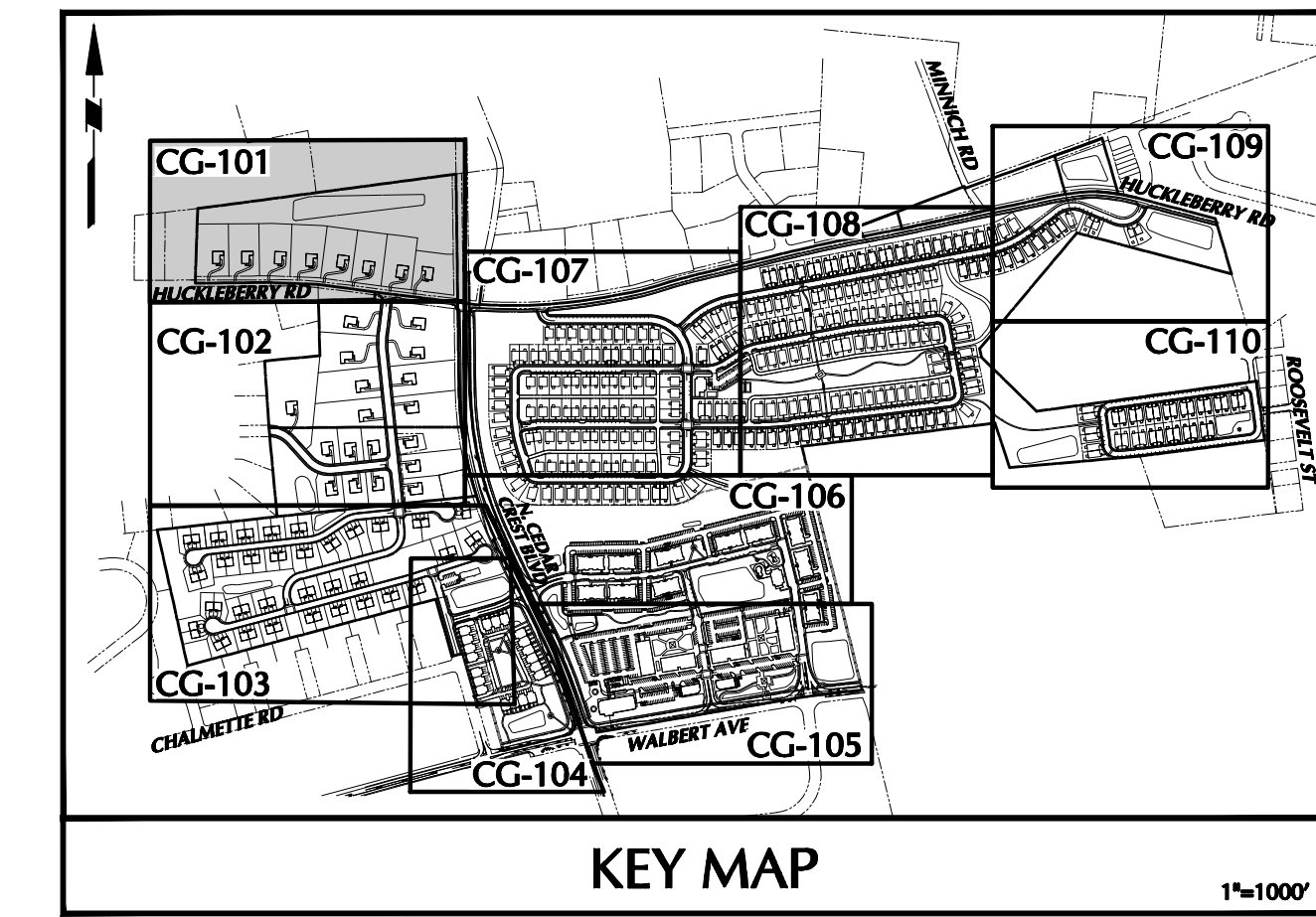
Professional Engineer signature block for J.C. Scherharhart, License No. PE-057145-E

LANGAN logo and contact information: One West Broad Street, Suite 200, Berwyn, PA 19019. Includes phone and fax numbers.

Project information block: Project name 'RIDGE FARMS MASTER GRADING PLAN', drawing title 'CG-100', project number '240043301', date '10/06/2020', scale '1" = 150'', and drawing number '60 of 151'.



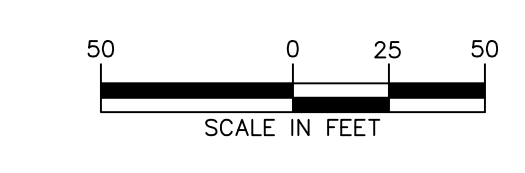
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SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS SYMBOLS
PROPERTY LINE	SOIL TYPE
PROPOSED LOT LINE (WITH PIN MARKER)	SOILS BOUNDARY
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	SOIL TYPE
BUILDING SETBACK LINE	TREELINE
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



MATCHLINE SEE SHEET CG-102

OWNER/APPLICANT
KAY WALBERT LLC
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: J. SCOTT ENELHARDT
DATE SIGNED: 10/06/2020
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

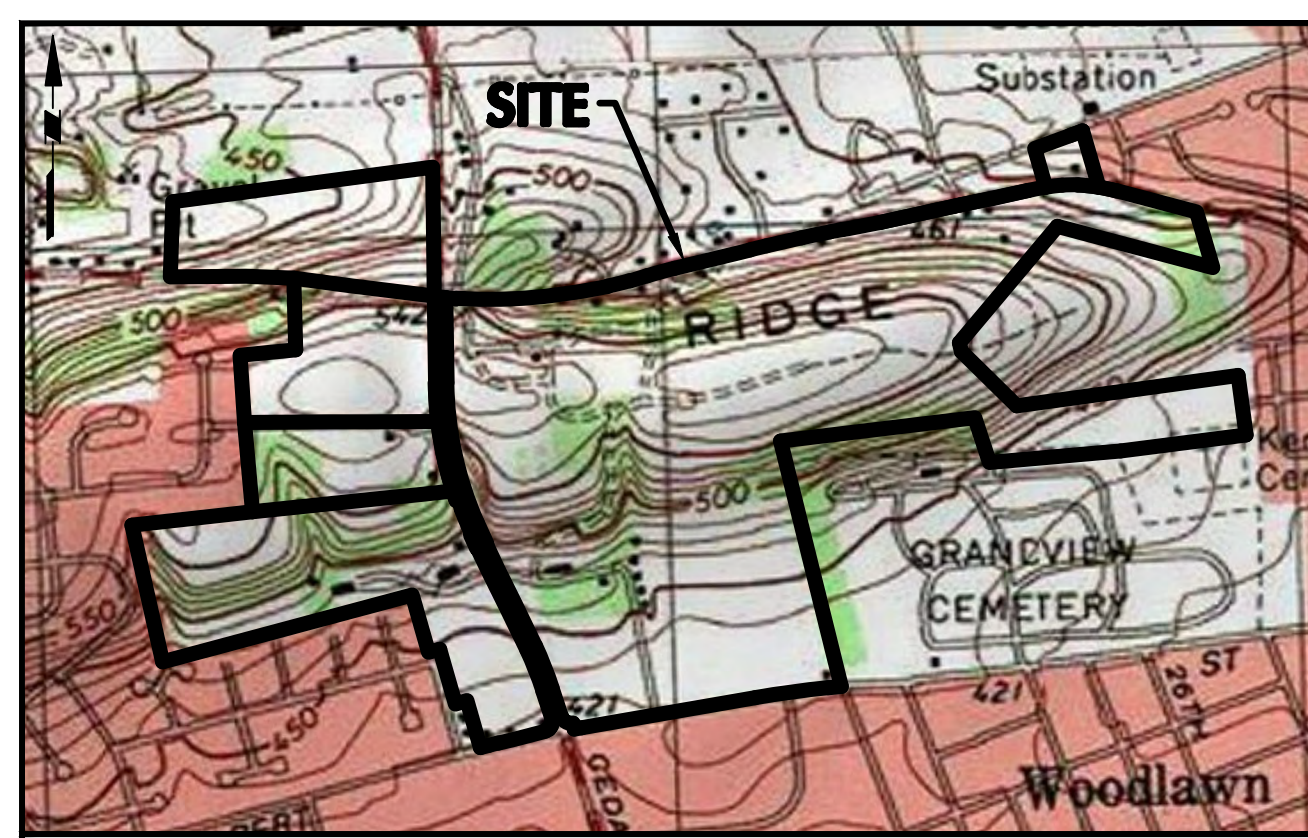
LANGAN
One West Broad Street, Suite 200, Bethlehem, PA 18018
T: 610.864.8900 F: 610.864.8501 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
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Project: **RIDGE FARMS**
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY PENNSYLVANIA

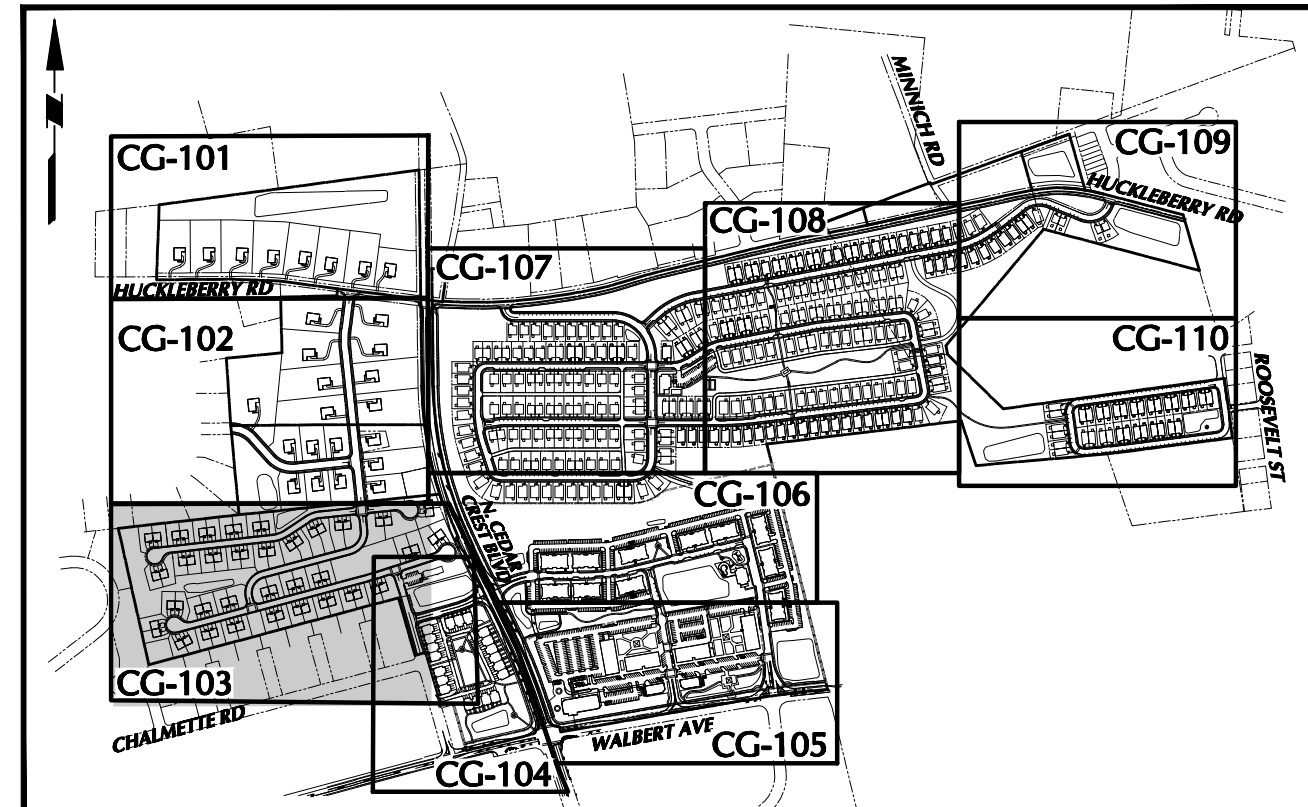
Drawing Title: **GRADING PLAN**

Project No. **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
Sheet **61** of 151

SUBMISSION DATE: SEPTEMBER 23, 2021
PROJECT NO. 240043301
LANGAN



SITE LOCATION MAP
SOURCE: USGS 7.5 MINUTE MAP FOR ALLENTOWN WEST, PA 2016 1"=1000'



KEY MAP 1"=1000'

LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION x 360.3
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION x 360.3
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOILS SYMBOL
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
RETAINING WALL	
BASELINE LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



MATCHLINE SEE SHEET CG-103

MATCHLINE
SEE SHEET CG-101

OWNER/APPLICANT
KAY WALBERT LLC.
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

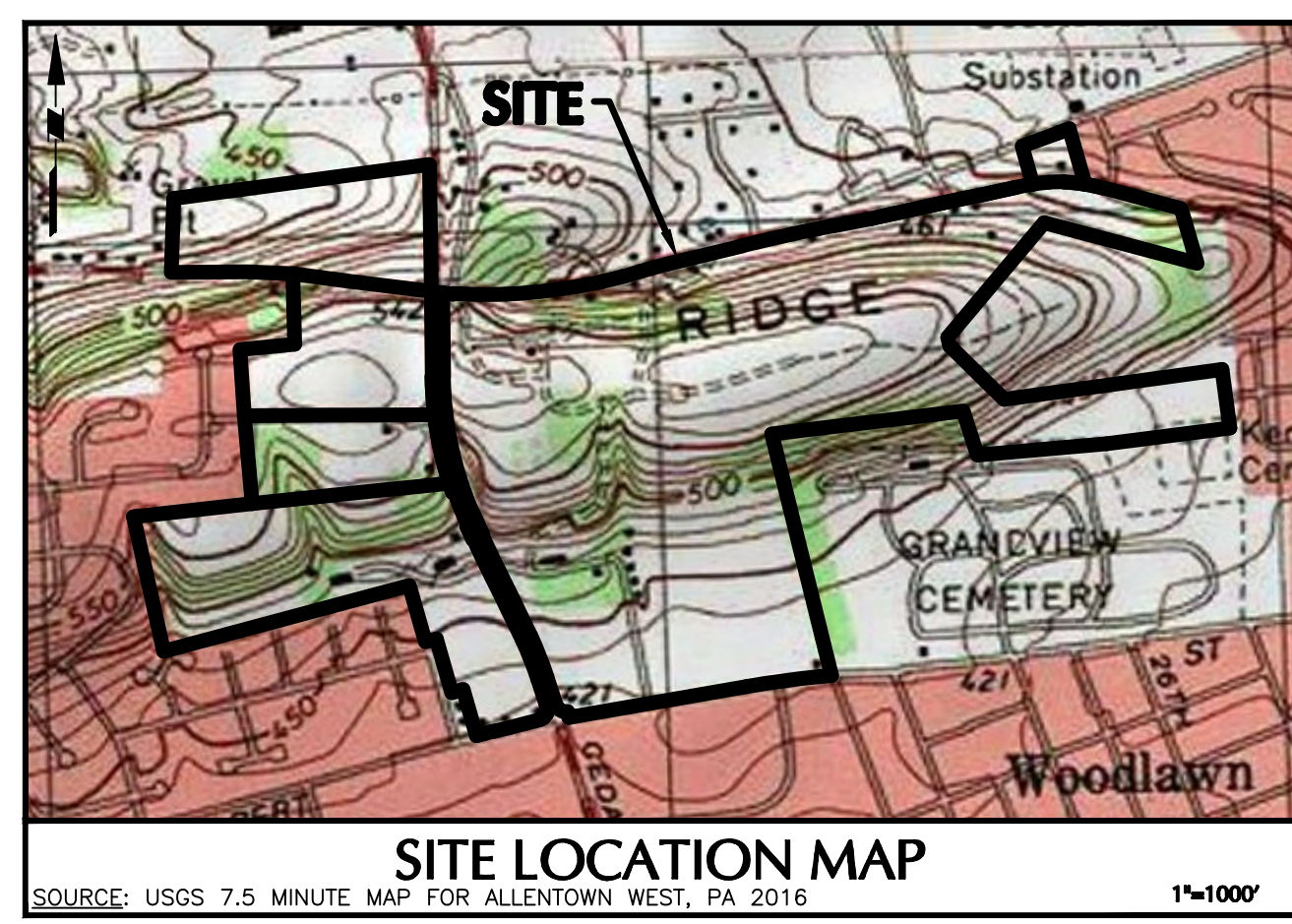
SIGNATURE: *Jeffrey E. Enghardt* DATE SIGNED: _____
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

LANGAN
One West Broad Street, Suite 200, Berwyn, PA 19018
T: 610.864.8900 F: 610.864.8501 www.langan.com
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Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan GI, Inc.
Langan International LLC
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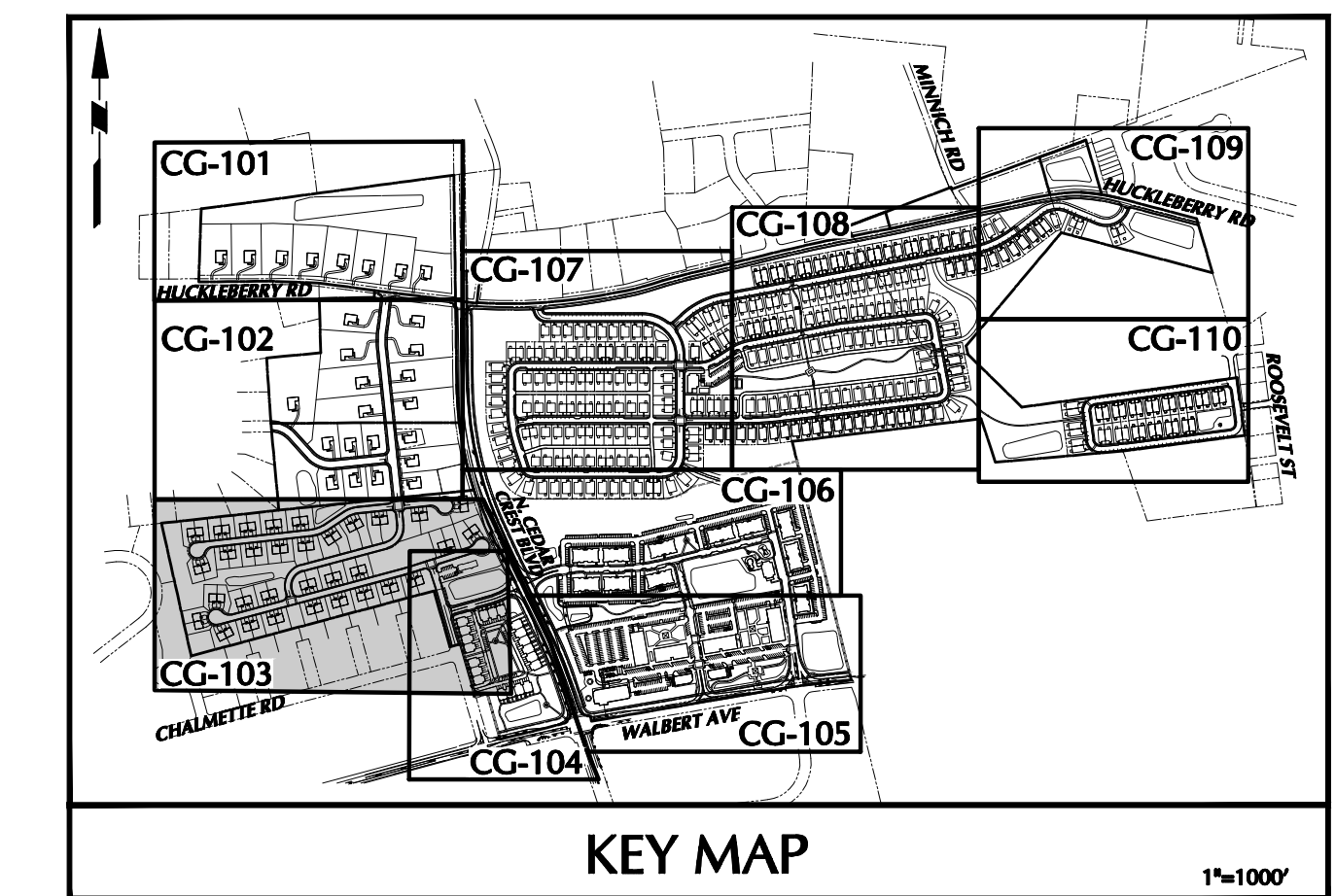
Project: **RIDGE FARMS**
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **GRADING PLAN**

Project No. **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
Drawing No. **CG-102**
Sheet 62 of 151

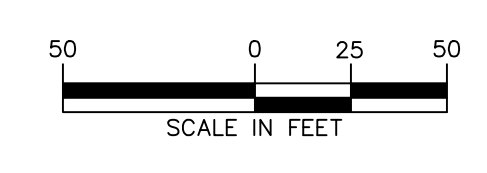


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOILS SYMBOLS
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
KAY WALBERT LLC
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *[Signature]* DATE SIGNED: _____
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

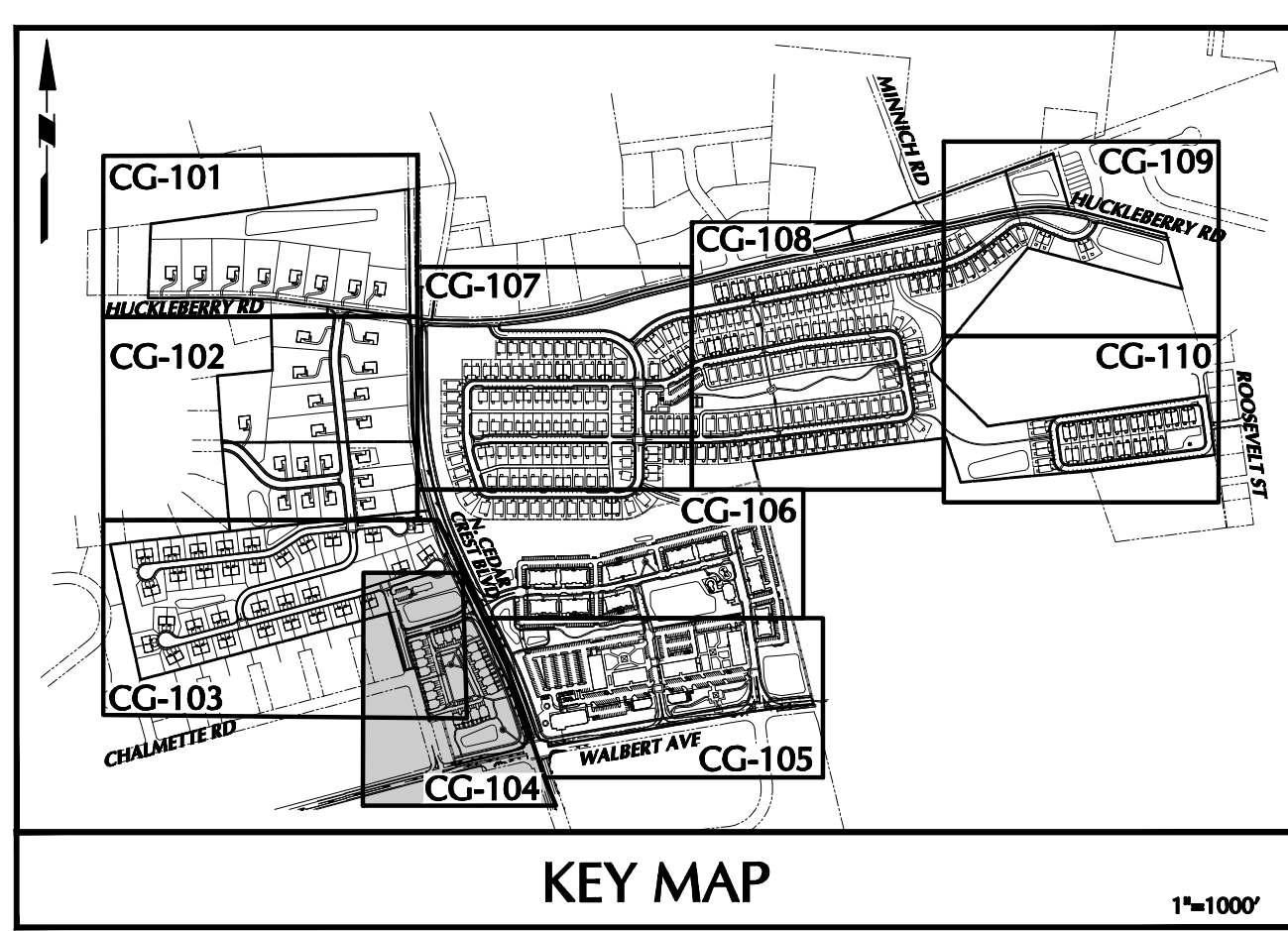
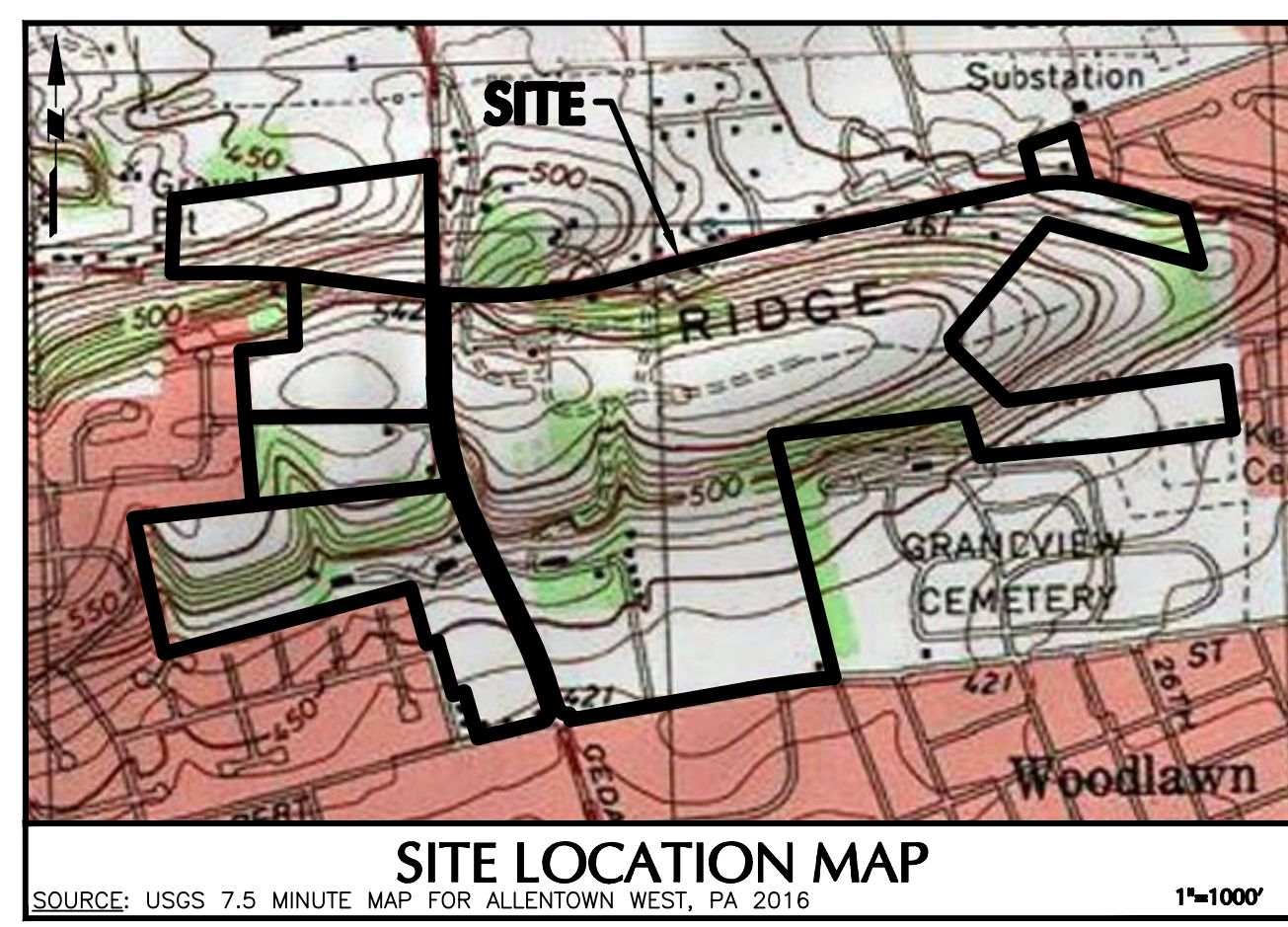


Project: **RIDGE FARMS**
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **GRADING PLAN**

Project No. **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawing No. **CG-103**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____ Sheet 63 of 151

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301

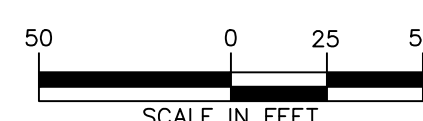


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS SYMBOLS
PROPERTY LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CHOKICE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER	EXISTING MANHOLE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING ELECTRIC POLE
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

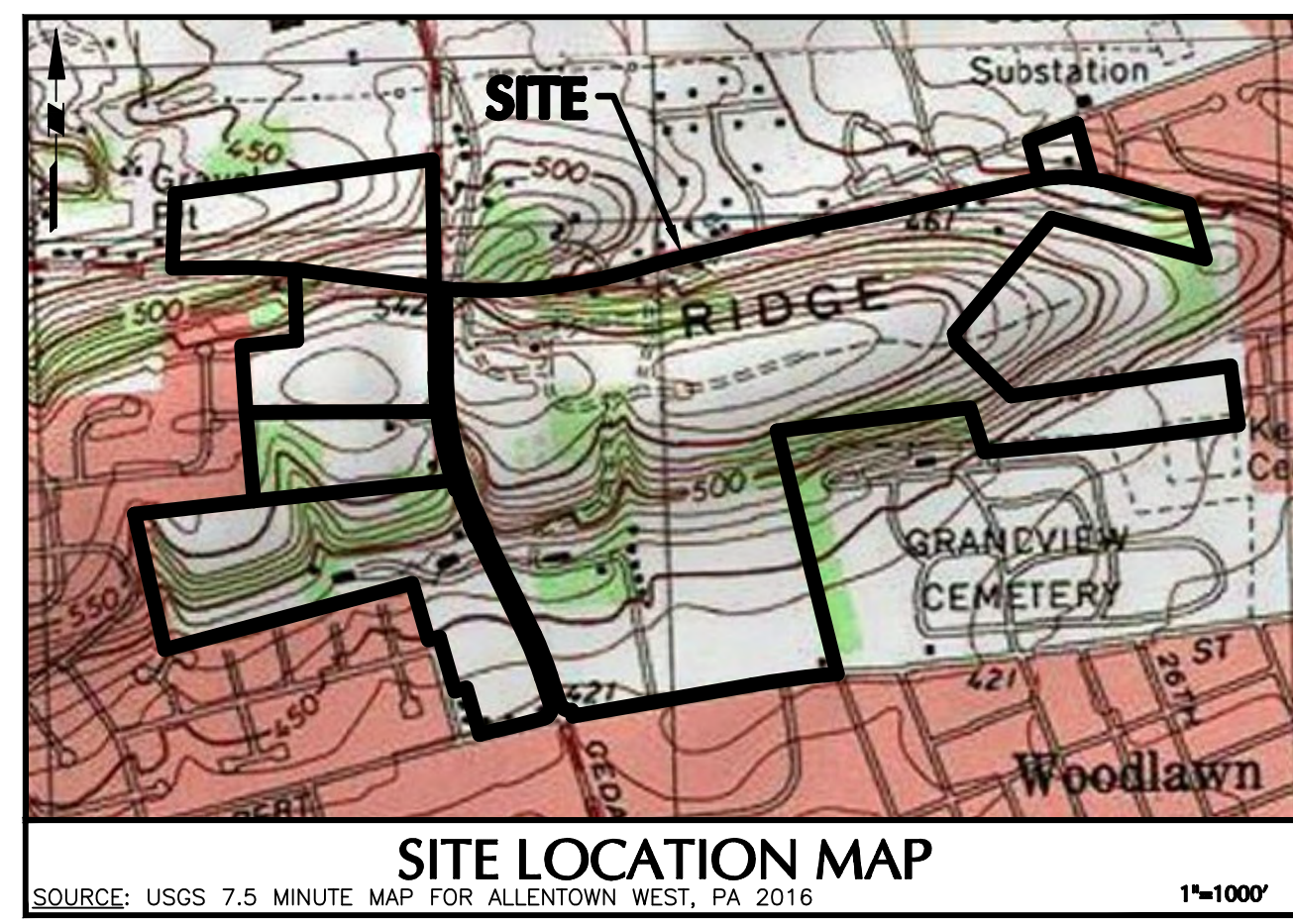
SIGNATURE: *JA SCOTT ENELHARDT* DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

LANGAN
 One West Broad Street, Suite 200, Berwyn, PA 19018
 T: 610.984.8900 F: 610.984.8501 www.langan.com
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 Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
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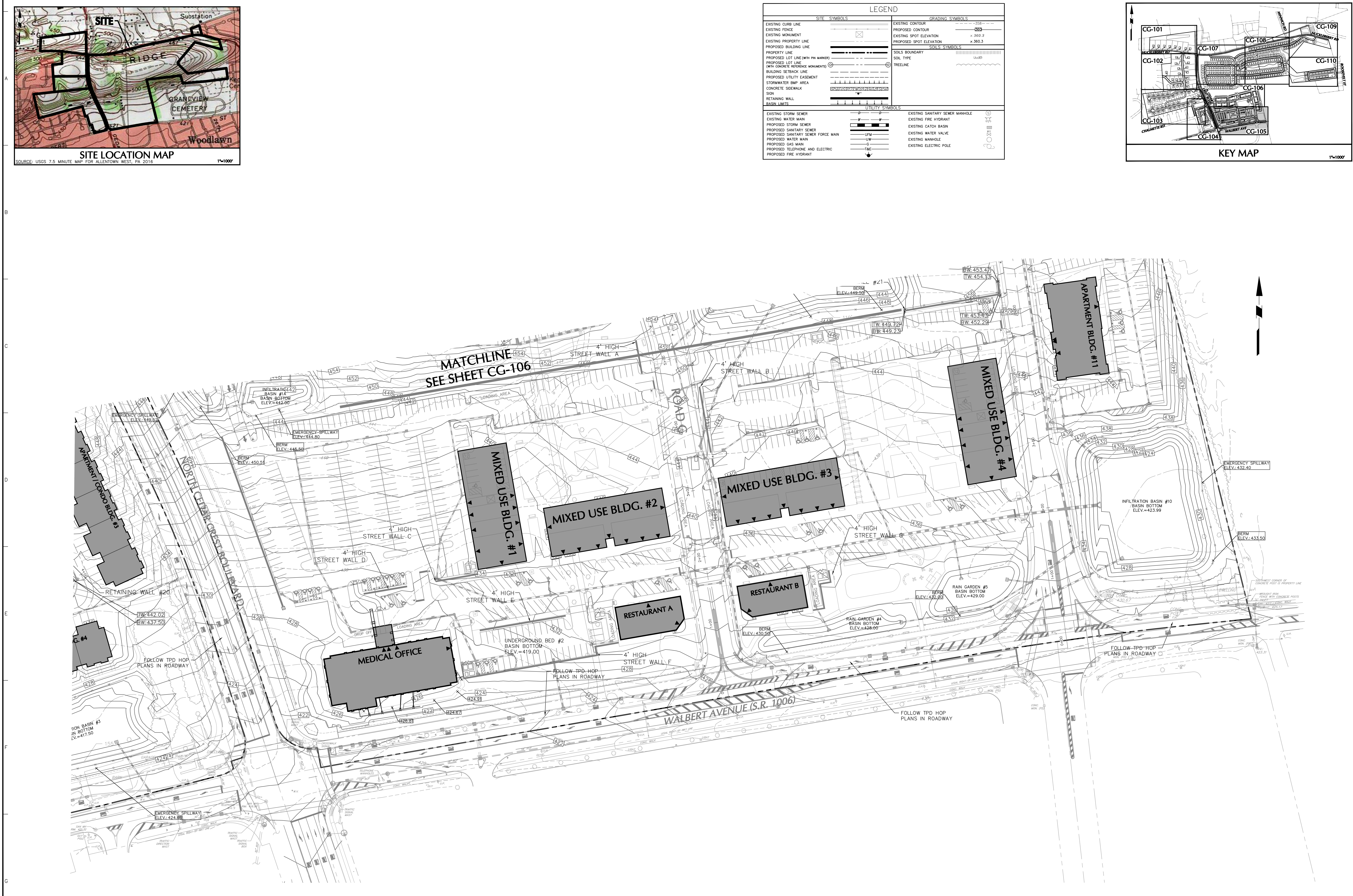
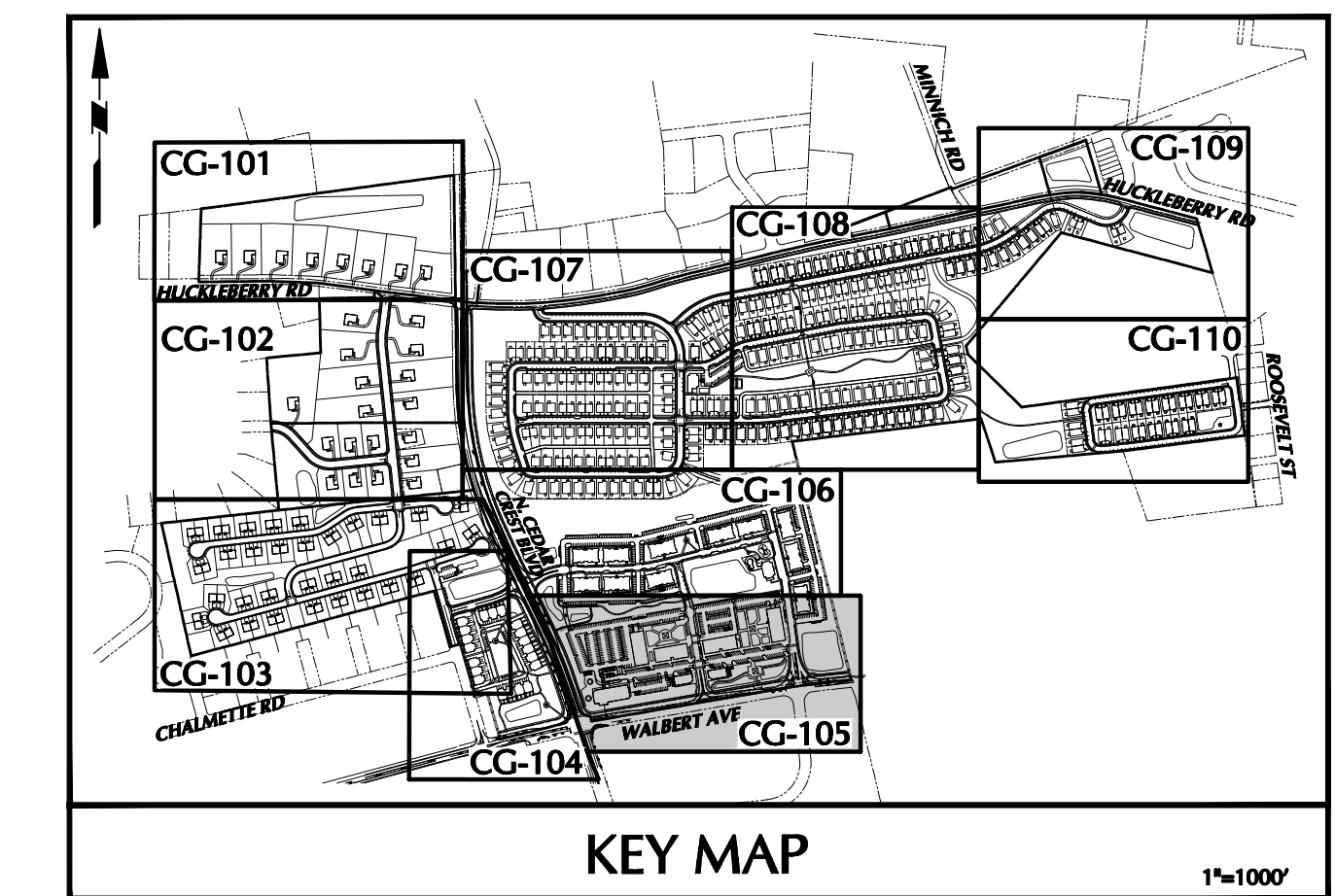
Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **GRADING PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CG-104**
 Sheet 64 of 151

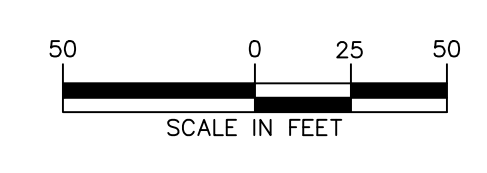


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS SYMBOLS
PROPERTY LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING MANHOLE
PROPOSED GAS MAIN	EXISTING ELECTRIC POLE
PROPOSED FIRE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
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 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *[Signature]* DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

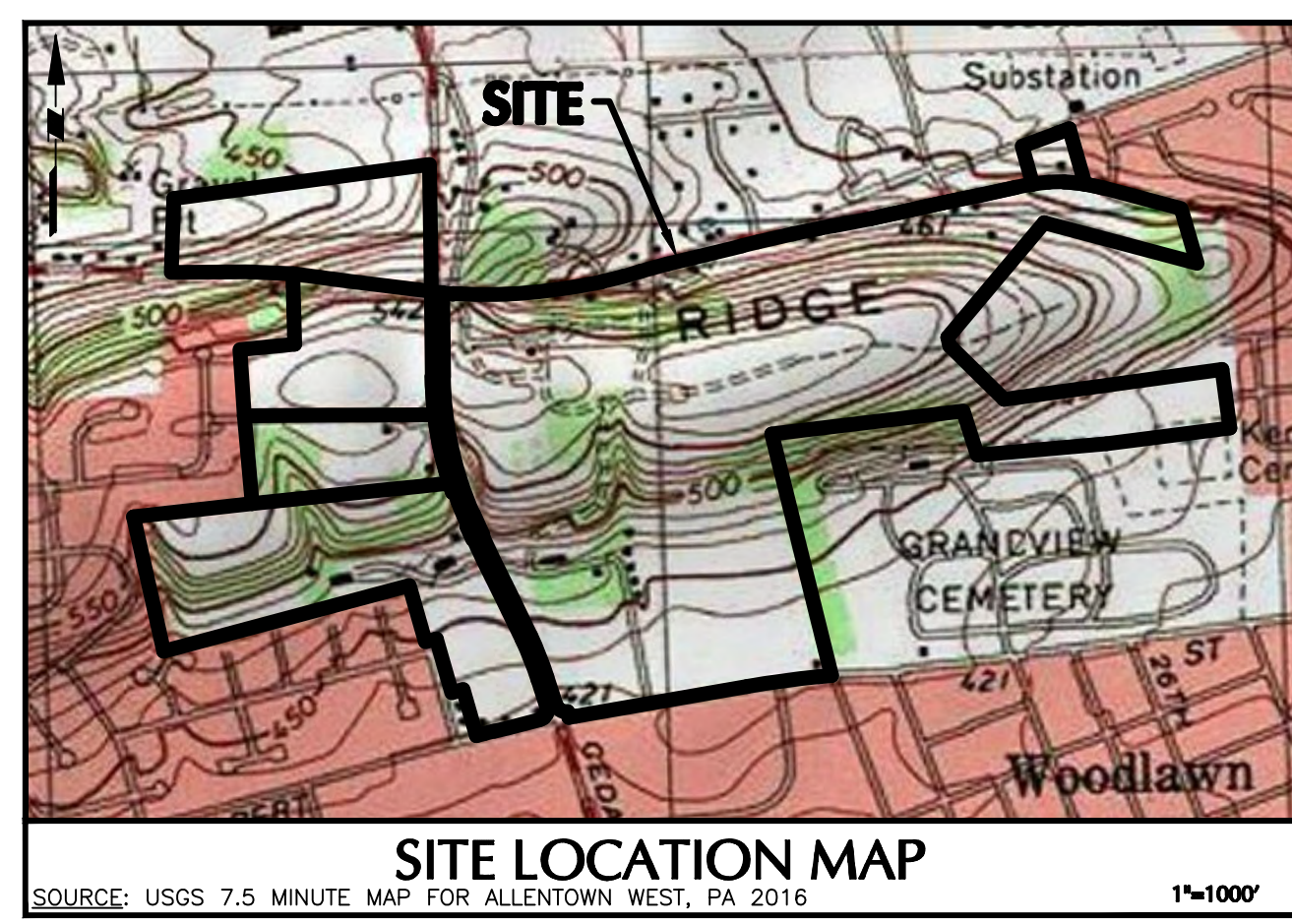
LANGAN
 One West Broad Street, Suite 200, Bethlehem, PA 18018
 T: 610.864.8900 F: 610.864.8501 www.langan.com
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Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

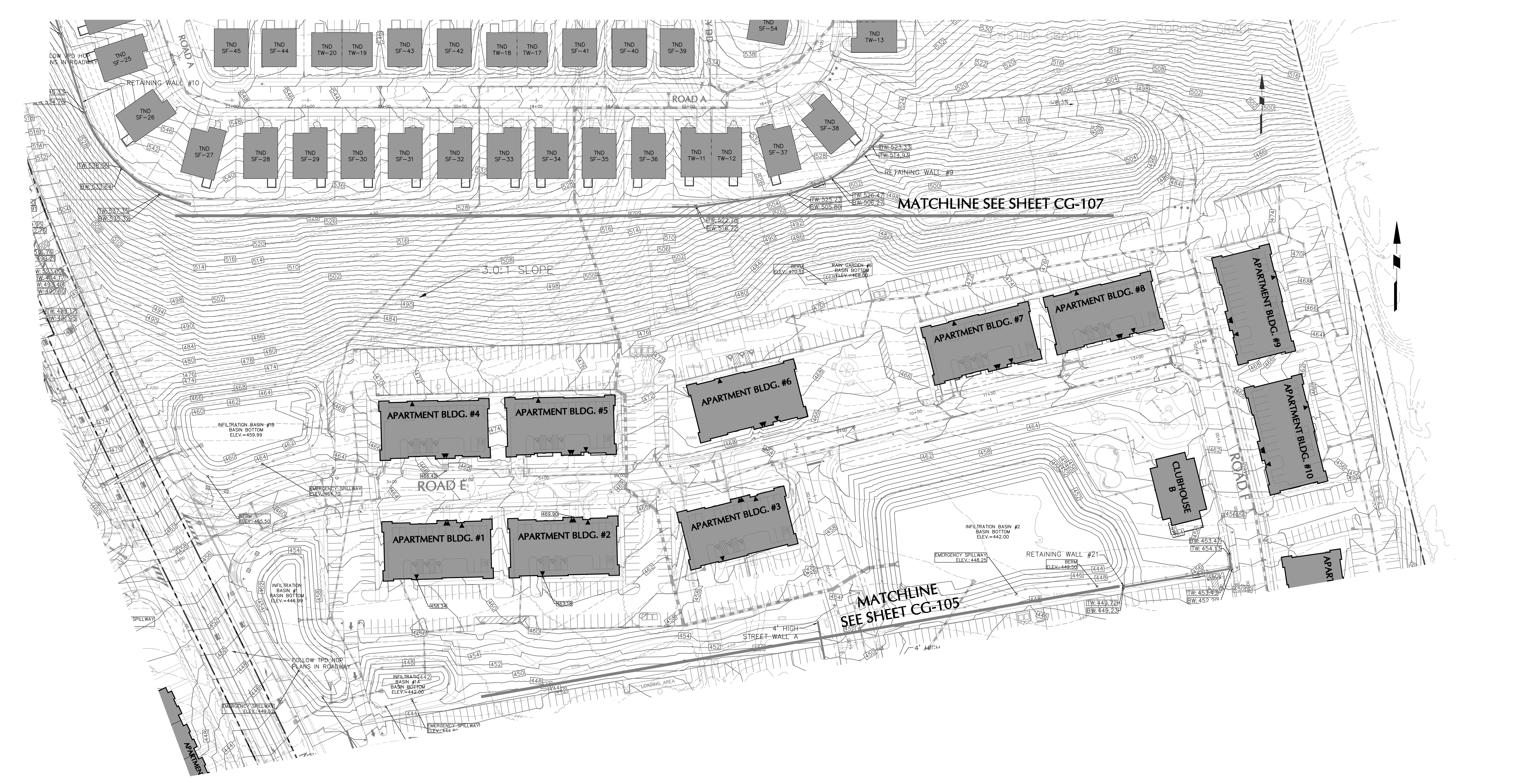
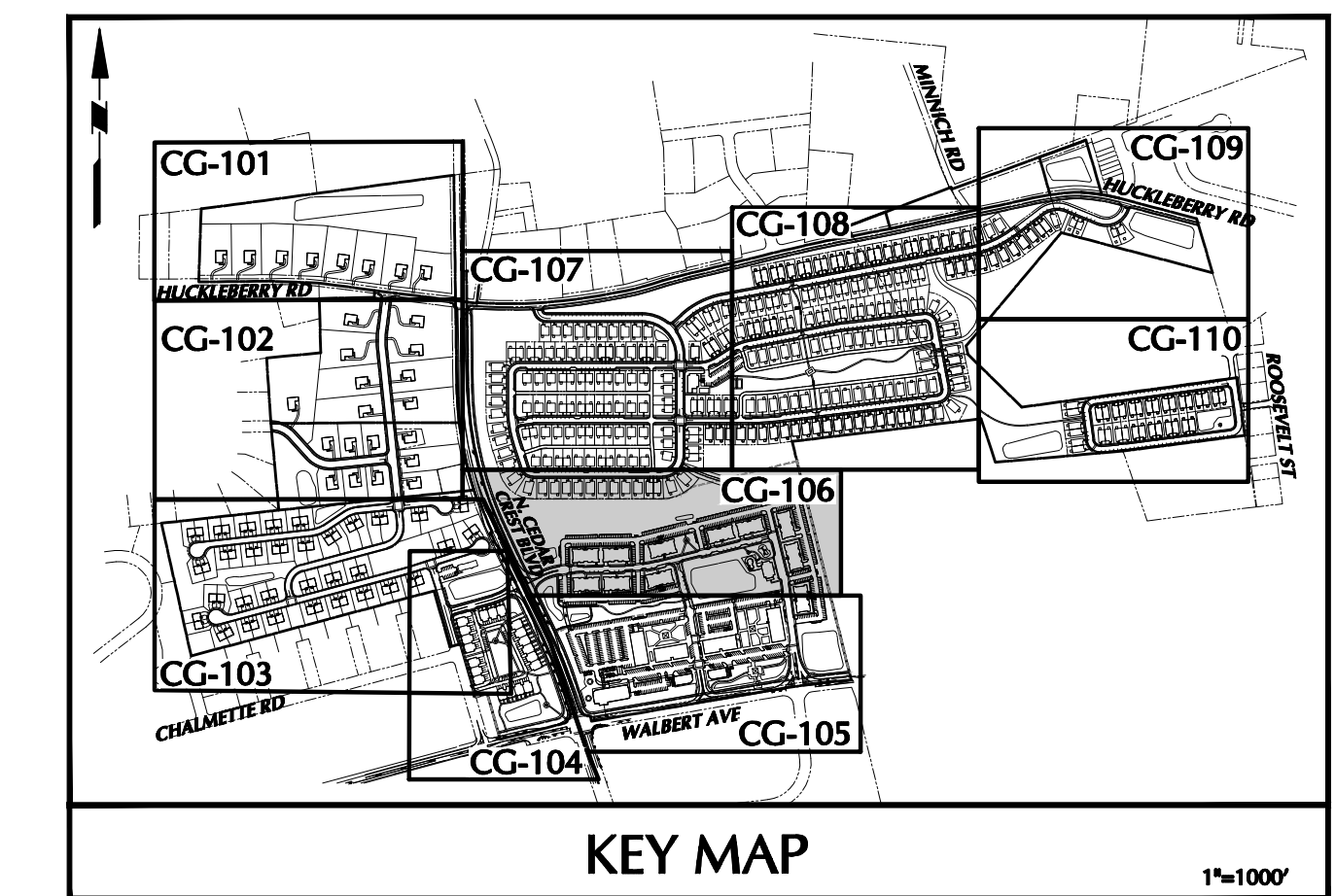
Drawing Title: **GRADING PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CG-105**
 Sheet **65** of 151

PROJECT NO. 240043301 SUBMISSION DATE: SEPTEMBER 23, 2021 LANGAN

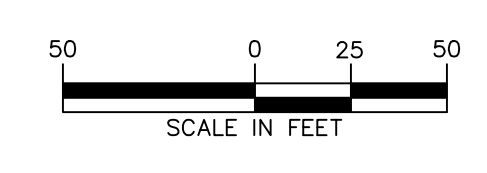


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOILS SYMBOLS
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	UTILITY SYMBOLS
PROPOSED UTILITY CASEMENT	EXISTING SANITARY SEWER MANHOLE
STORMWATER BMP AREA	EXISTING FIRE HYDRANT
CONCRETE SIDEWALK	EXISTING CATCH BASIN
SIGN	EXISTING WATER VALVE
RETAINING WALL	EXISTING MANHOLE
BASEIN LIMITS	EXISTING ELECTRIC POLE
EXISTING STORM SEWER	
EXISTING WATER MAIN	
PROPOSED STORM SEWER	
PROPOSED SANITARY SEWER	
PROPOSED SANITARY SEWER FORCE MAIN	
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
KAY WALBERT LLC.
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

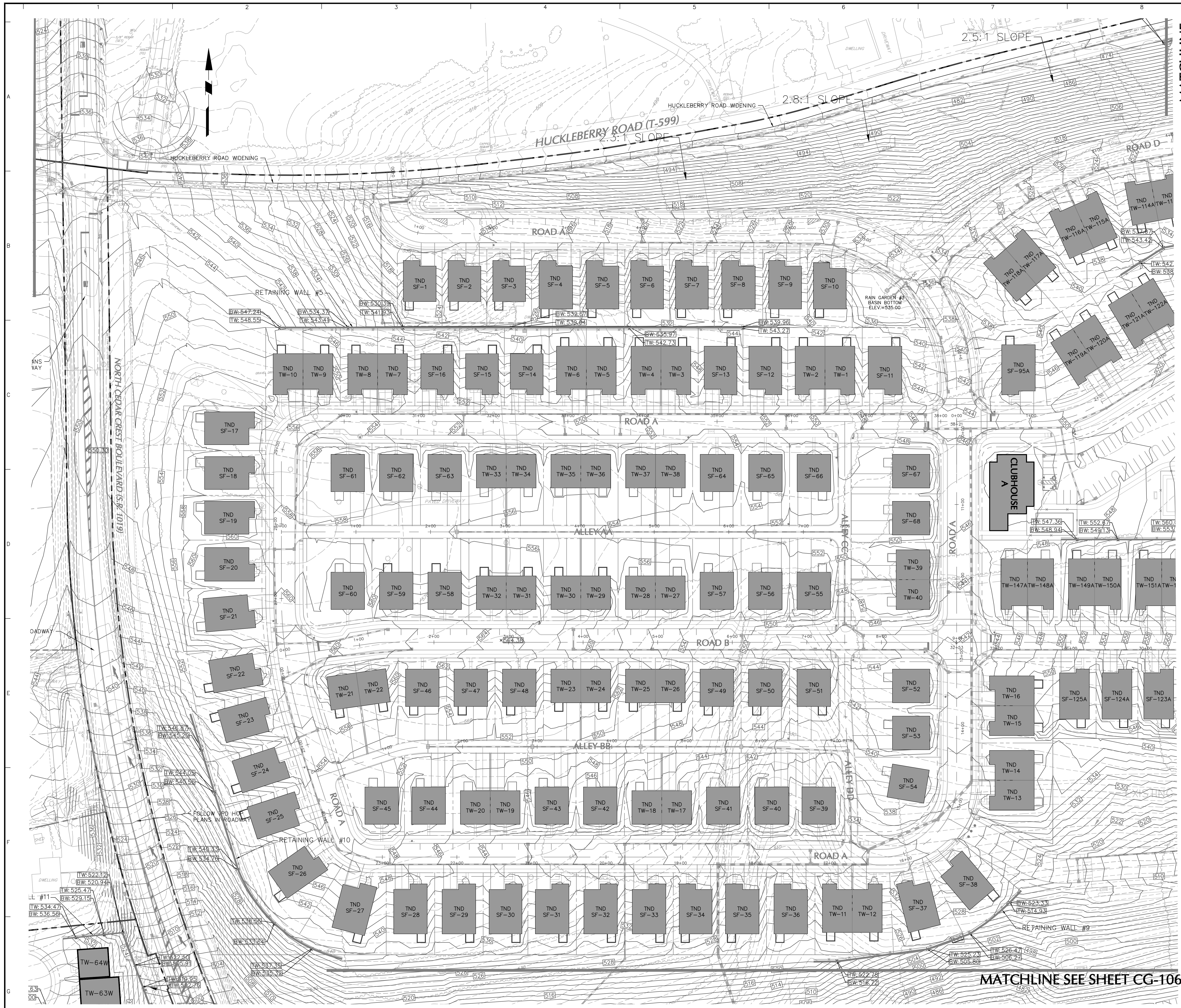
SIGNATURE: *J. C. ENELHARDT* DATE SIGNED: _____
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E



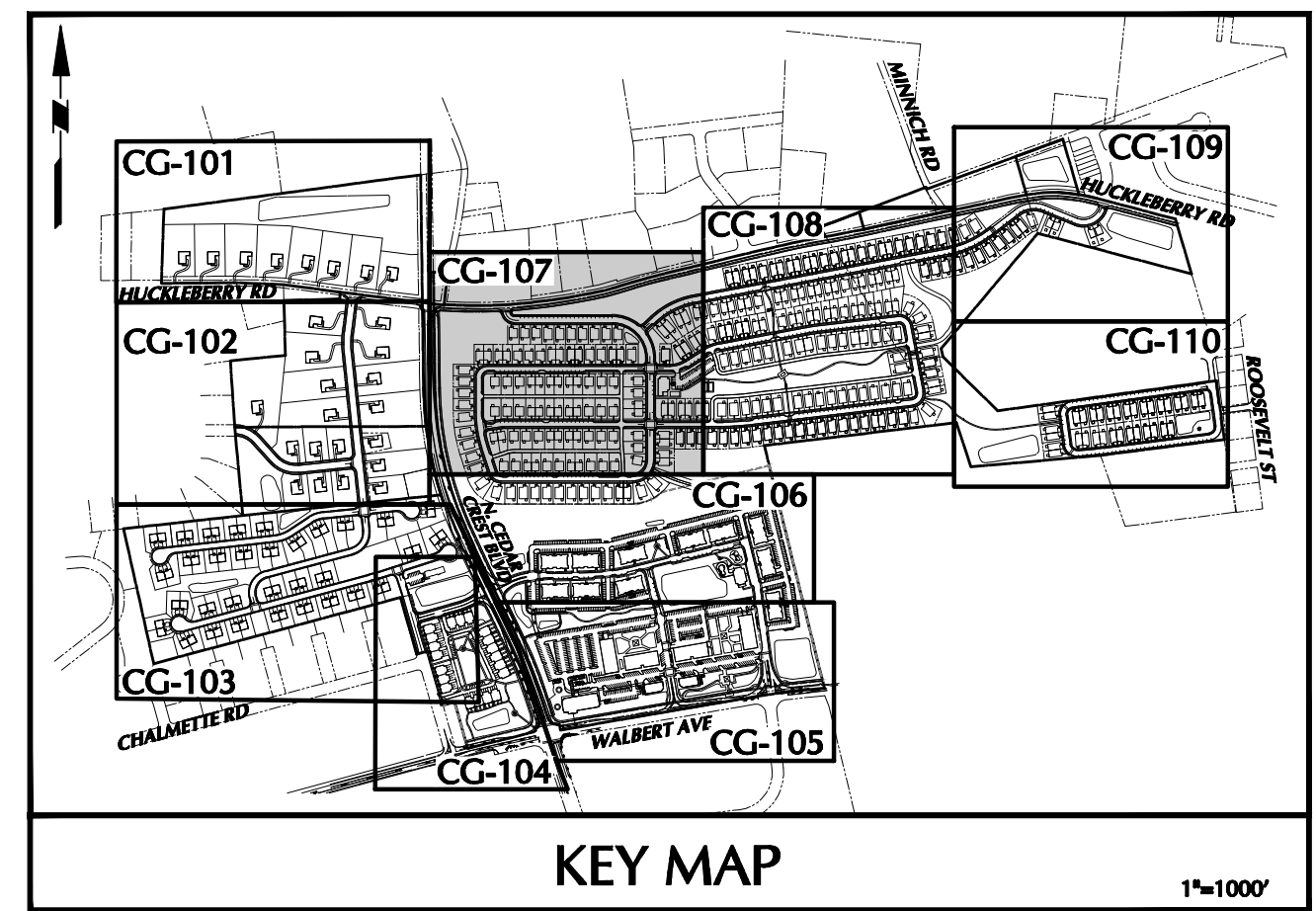
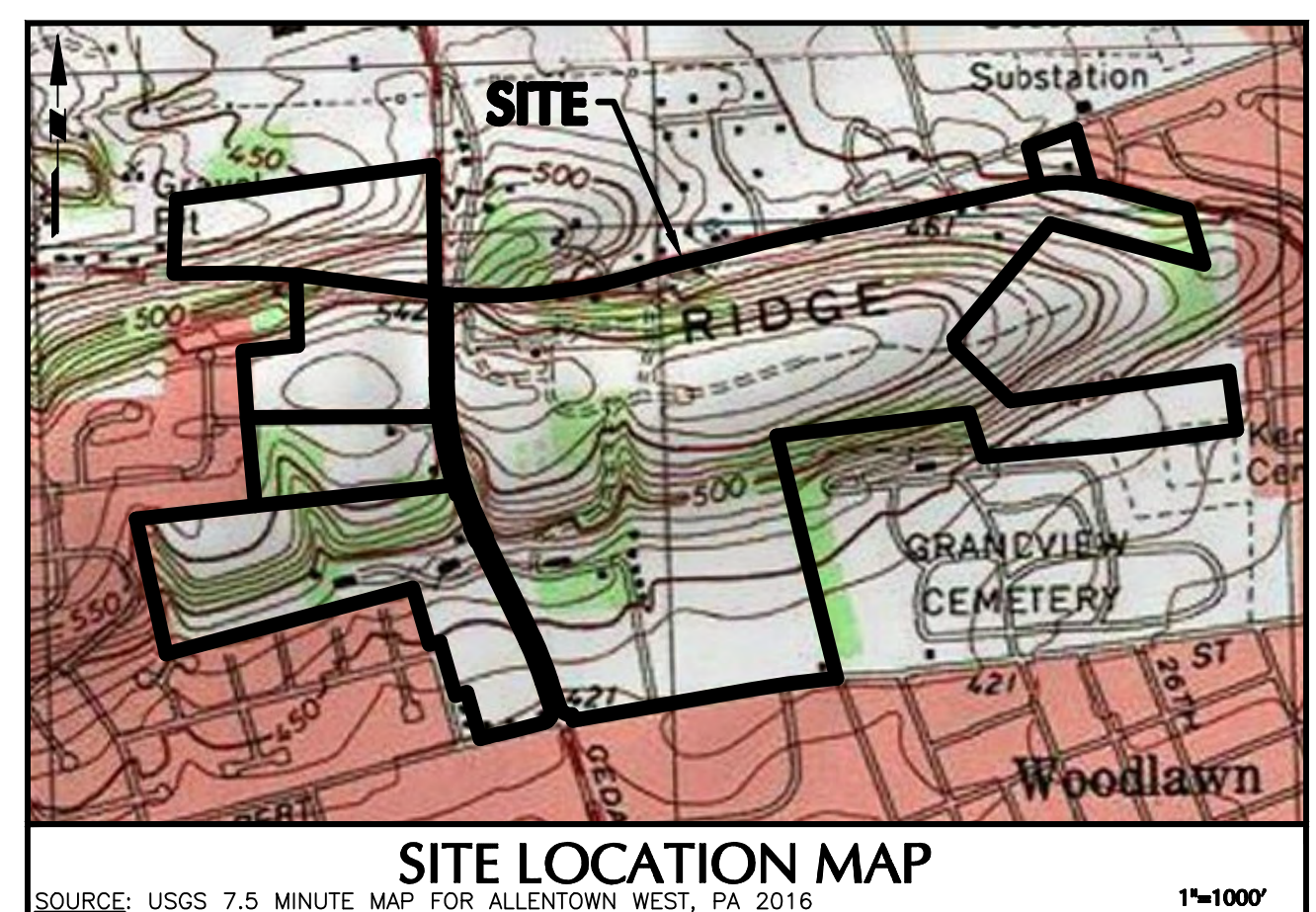
Project: **RIDGE FARMS**
Drawing Title: **GRADING PLAN**
Project No.: **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____

Drawing No.: **CG-106**
Sheet 66 of 151

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301



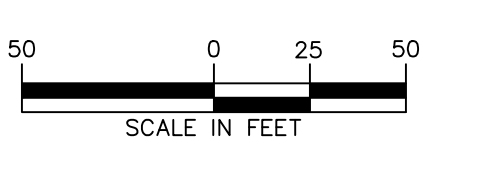
MATCHLINE
EE SHEET CS-108



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOILS SYMBOLS
PROPOSED LOT LINE (WITH CONCRETE RESIDENCE MONUMENTS)	SOIL TYPE
BUILDING SETBACK LINE	TREELINE
PROPOSED UTILITY EASEMENT	UTILITY SYMBOLS
STORMWATER BMP AREA	EXISTING SANITARY SEWER MANHOLE
CONCRETE SIDEWALK	EXISTING FIRE HYDRANT
SIGN	EXISTING CATCH BASIN
RETAINING WALL	EXISTING WATER VALVE
BASELINE	EXISTING MANHOLE
EXISTING STORM SEWER	EXISTING ELECTRIC POLE
EXISTING WATER MAIN	
PROPOSED STORM SEWER	
PROPOSED SANITARY SEWER	
PROPOSED SANITARY SEWER FORCE MAIN	
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	

OWNER/APPLICANT
KAY WALBERT LLC.
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *J. C. ENELHARDT* DATE SIGNED: _____
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

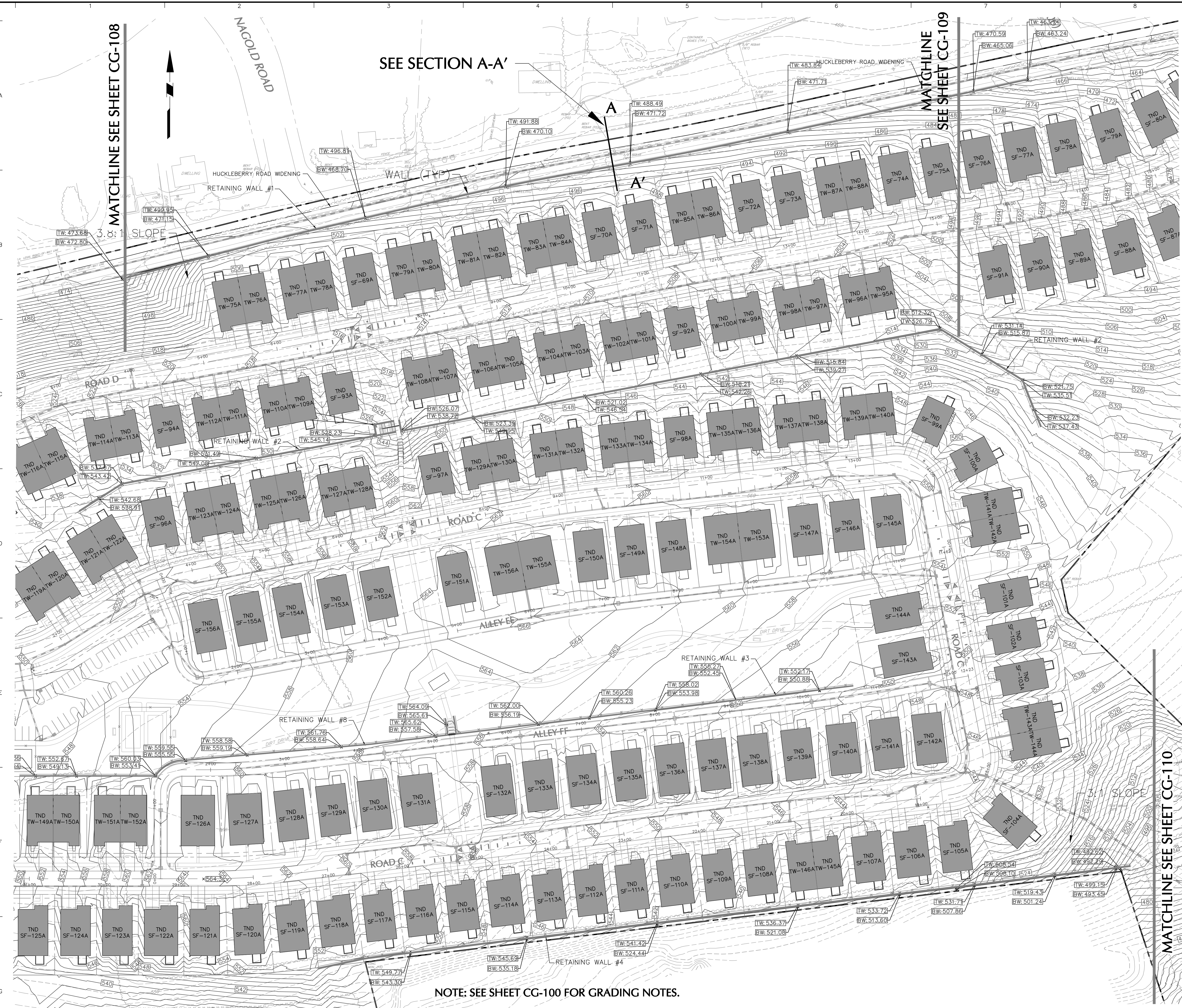
LANGAN
One West Broad Street, Suite 200, Bethlehem, PA 18018
T: 610.861.8900 F: 610.861.8501 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan International LLC
Collectively known as Langan

Project: **RIDGE FARMS**
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **GRADING PLAN**

Project No. **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
Drawing No. **CG-107**
Sheet 67 of 151

LANGAN SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301

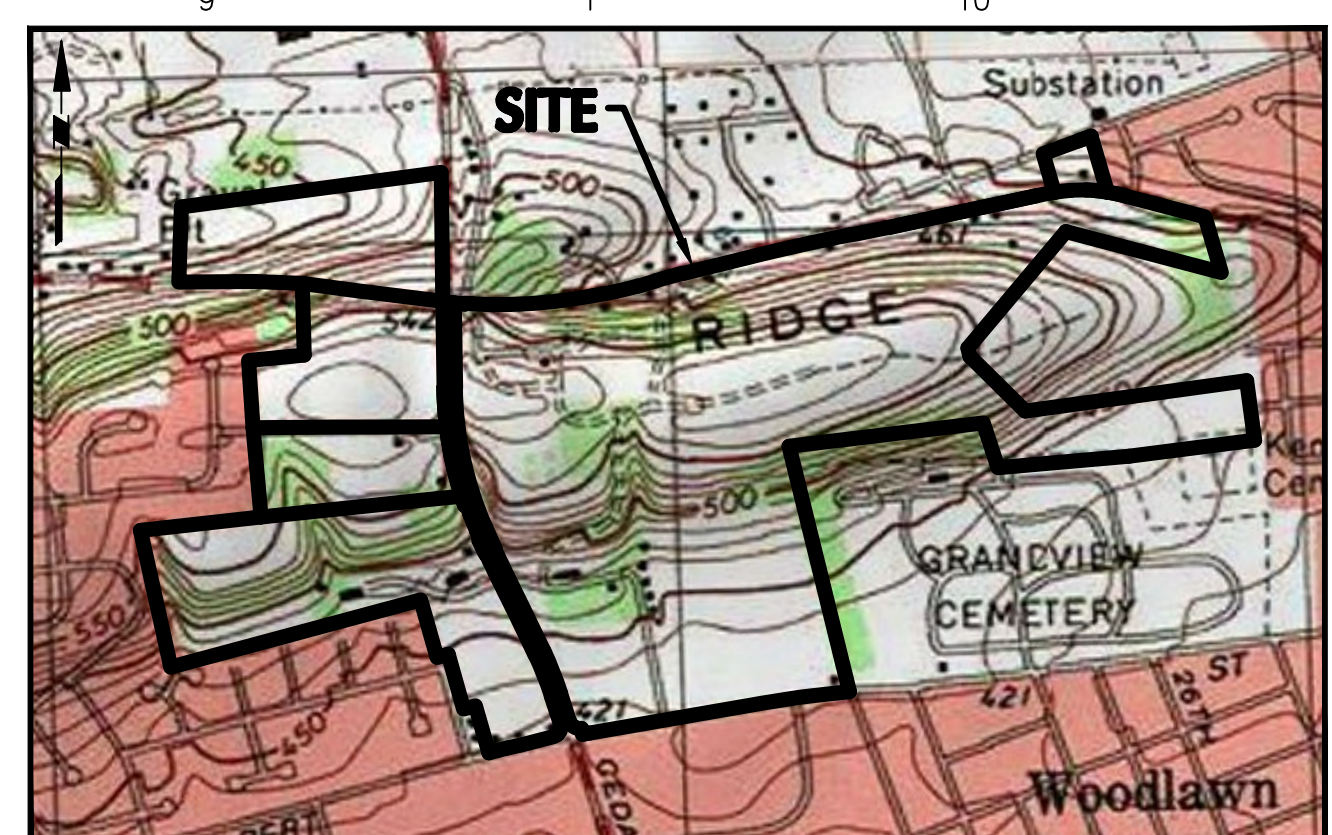


SEE SECTION A-A'

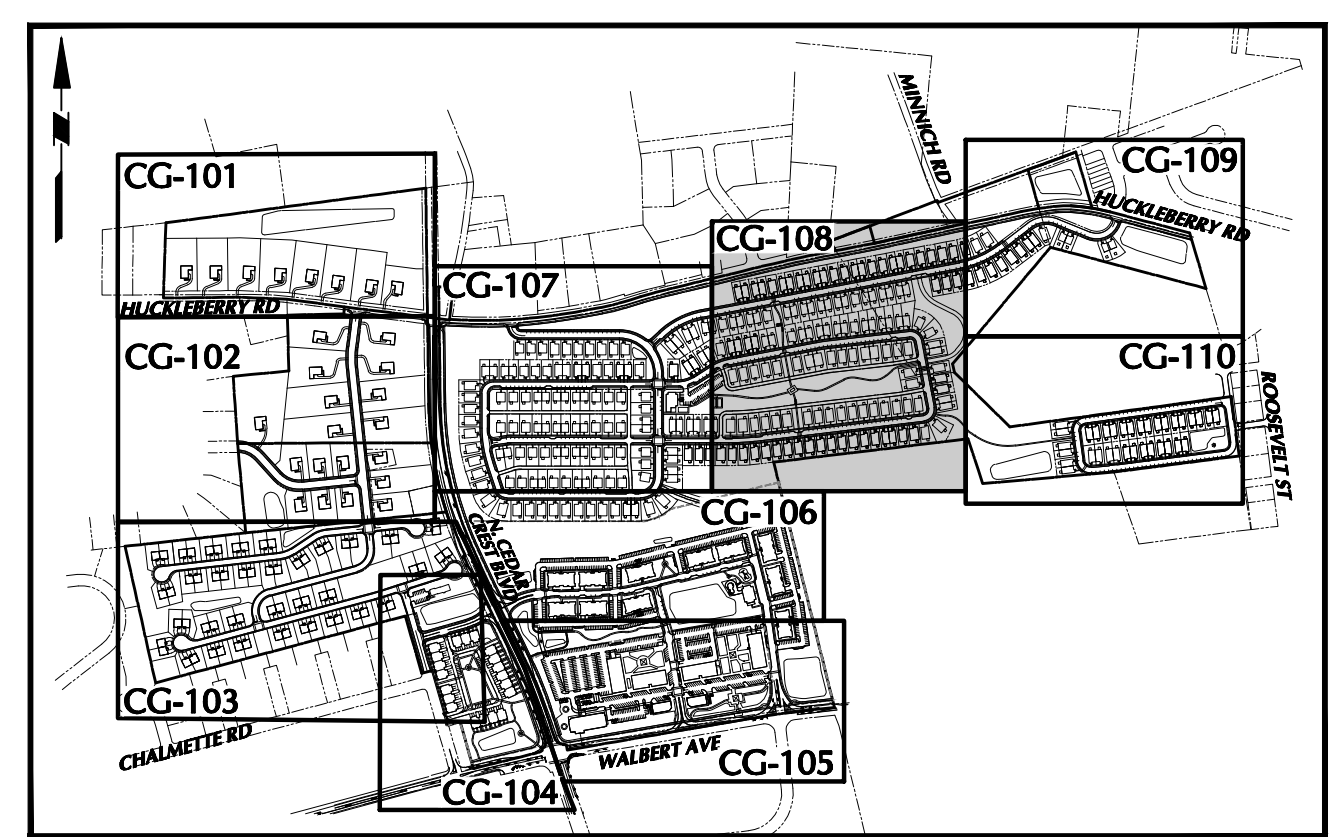
MATCHLINE SEE SHEET CG-109

MATCHLINE SEE SHEET CG-108

MATCHLINE SEE SHEET CG-110

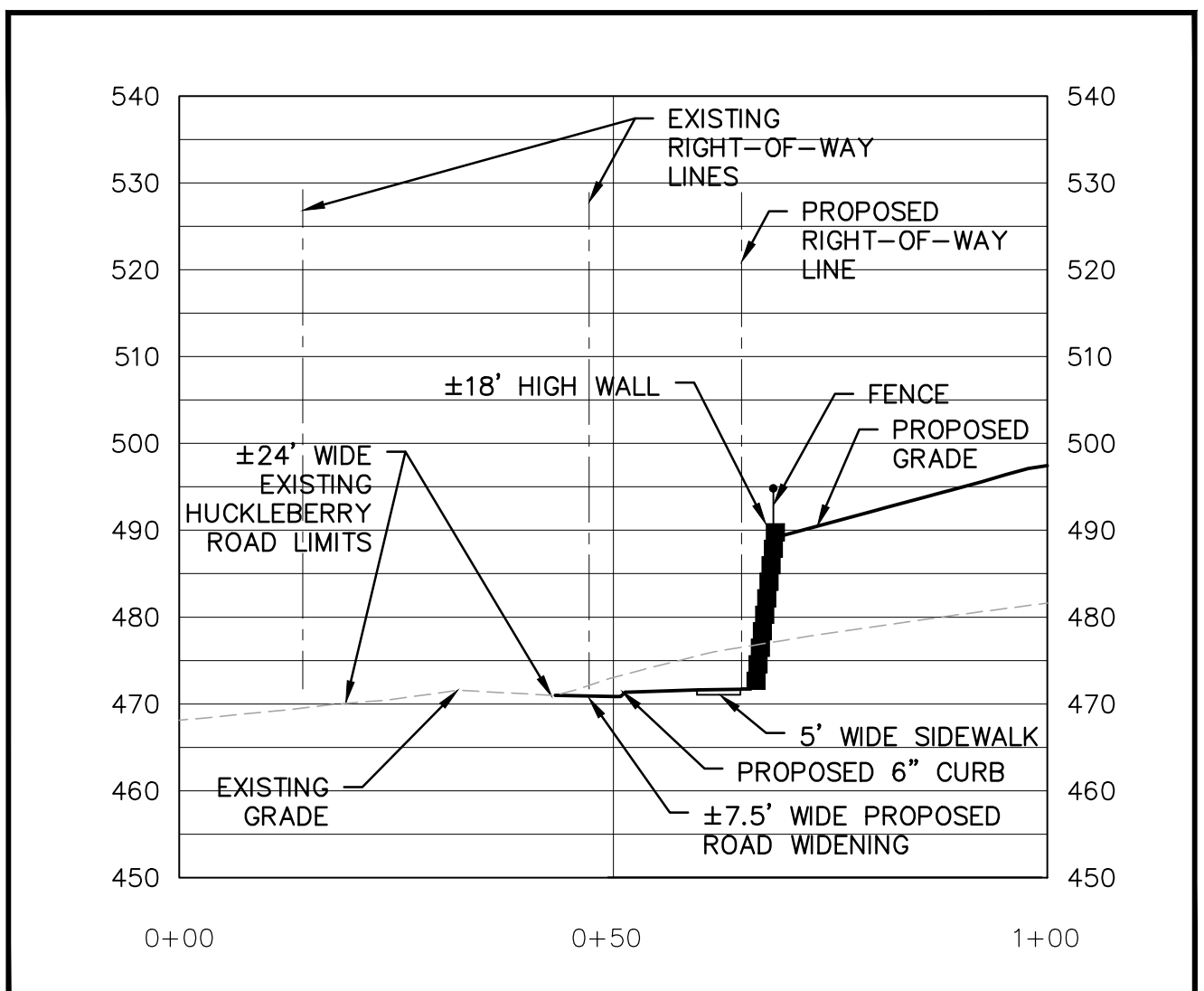


SITE LOCATION MAP
SOURCE: USGS 7.5 MINUTE MAP FOR ALLENTOWN WEST, PA 2016
1"=1000'

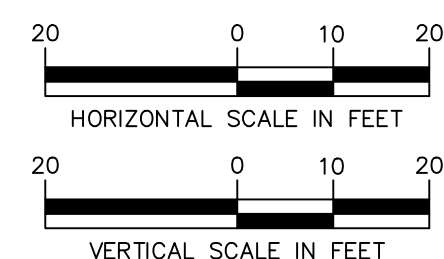


KEY MAP
1"=1000'

LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOILS SYMBOLS
PROPOSED LOT LINE (WITH FM MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING MANHOLE
PROPOSED GAS MAIN	EXISTING TELEPHONE AND ELECTRIC
PROPOSED TELEPHONE AND ELECTRIC	PROPOSED FIRE HYDRANT

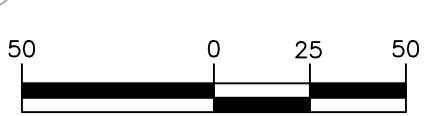


SECTION A-A'



NOTE: SEE SHEET CG-100 FOR GRADING NOTES.

OWNER/APPLICANT
KAY WALBERT LLC.
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

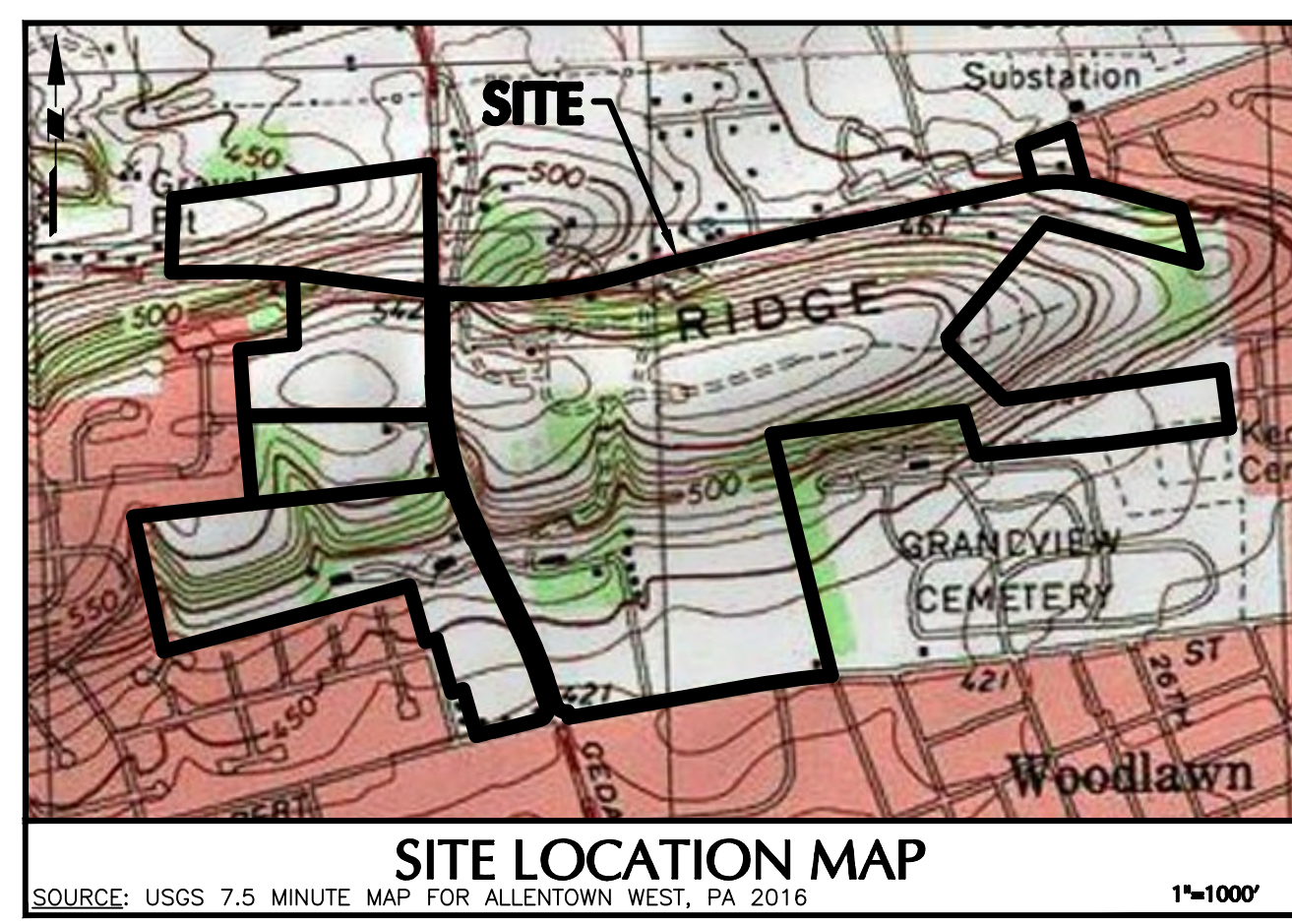
SIGNATURE: JEFFREY HART
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

LANGAN
One West Broad Street, Suite 200, Bethlehem, PA 18018
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Langan Engineering and Environmental Services, Inc.
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Collectively known as Langan

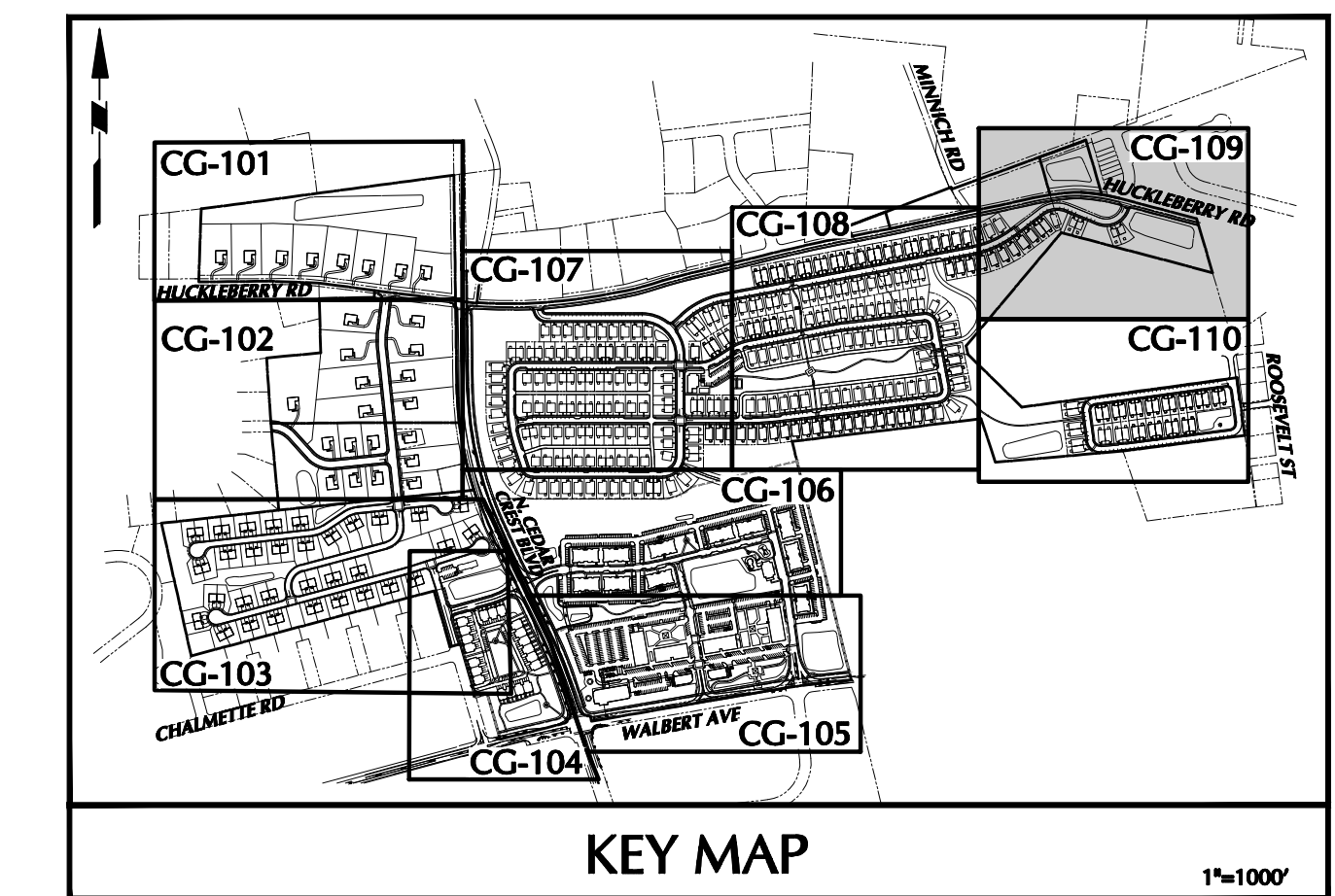
Project: **RIDGE FARMS**
South Whitehall Township
Lehigh County Pennsylvania

Drawing Title: **GRADING PLAN**

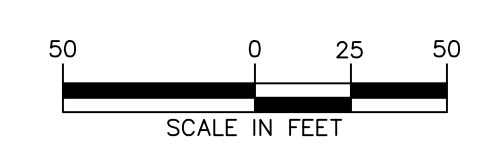
Project No. **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
Sheet **68** of 151



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOILS SYMBOLS
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CORNER REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY CASING	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SOIL	
RETAINING WALL	
BASIN LIMITS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



MATCHLINE
SEE SHEET CG-108



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *J. Scott Enghardt* DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

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Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

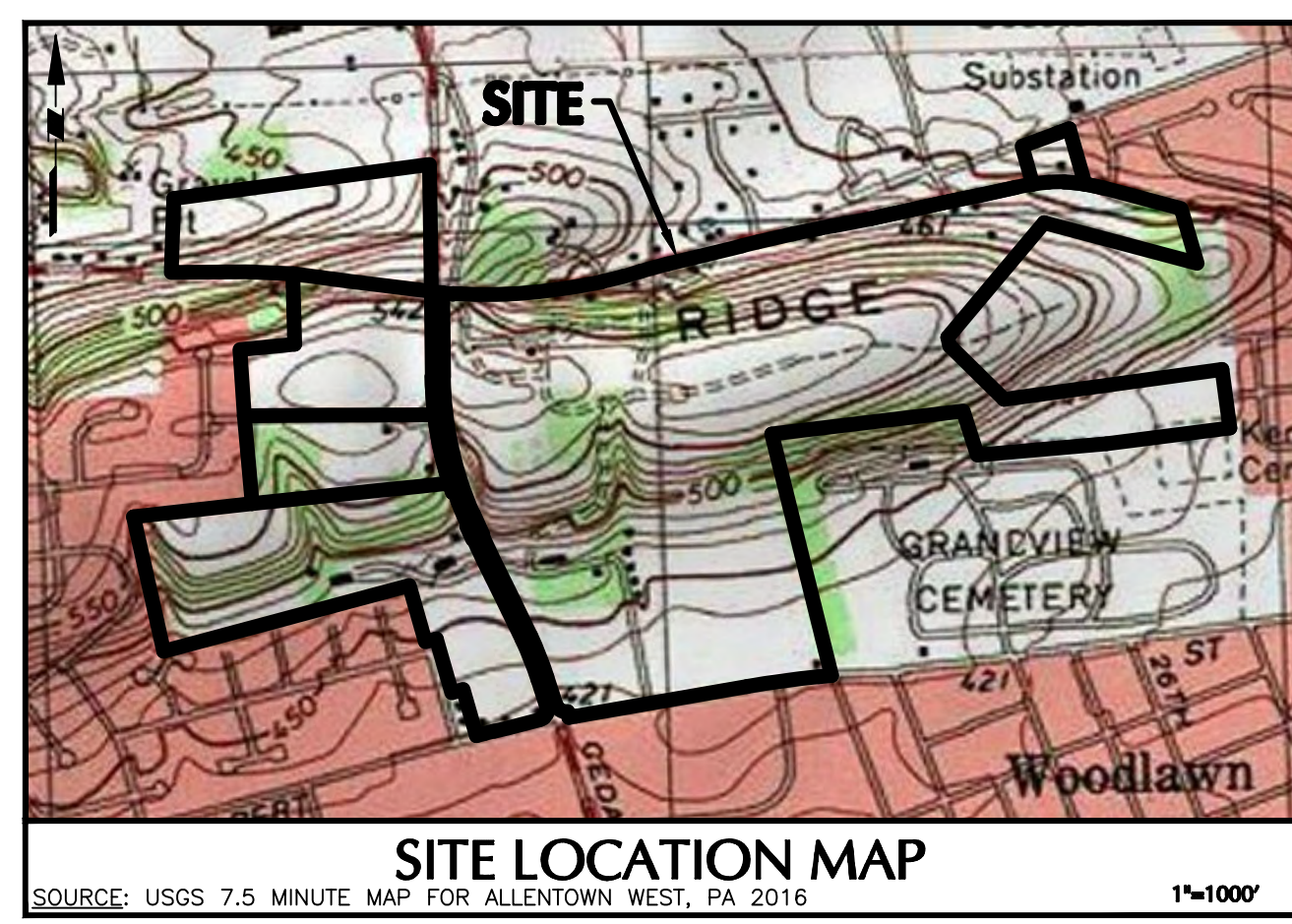
Drawing Title: **GRADING PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CG-109**
 Sheet 69 of 151

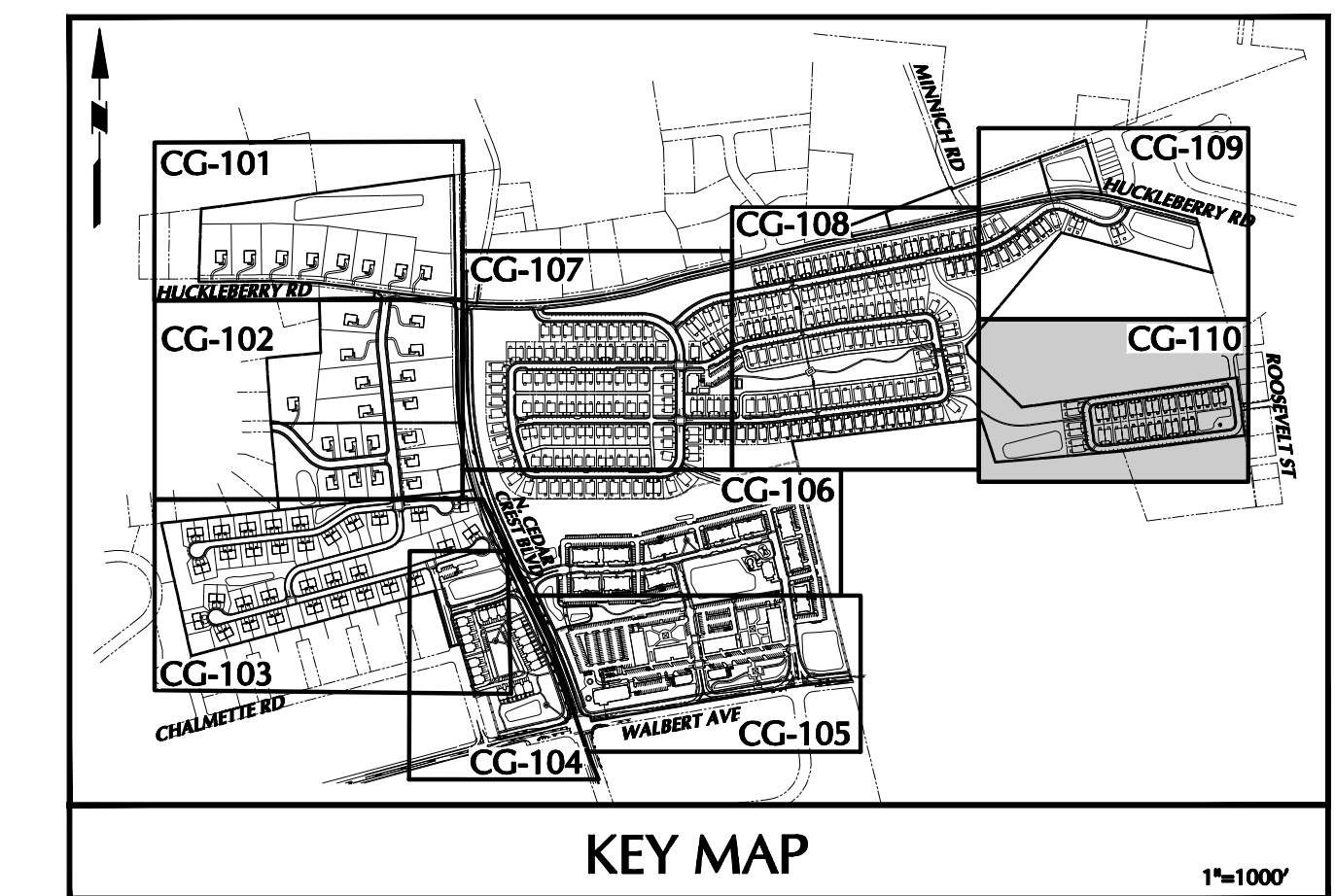
OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301 LANSAN



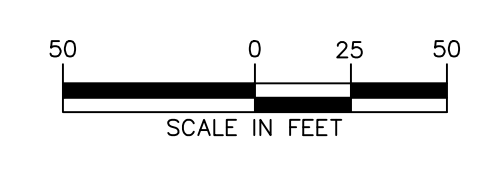
LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS SYMBOLS
PROPERTY LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY CASING	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SOIL	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



MATCHLINE SEE SHEET CG-108

OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-100 FOR GRADING NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *J. Scott Enghardt*
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E
 DATE SIGNED: _____

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Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **GRADING PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CG-110**
 Sheet 70 of 151

SUBMISSION DATE: SEPTEMBER 23, 2021
 PROJECT NO. 240043301
 LANGAN

RIDGE FARMS DEVELOPMENT - CG-107 BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Garage Floor Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Max Rear Walkout Tie-in Elevation, Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots SF-1 through SF-151A.

RIDGE FARMS DEVELOPMENT - CG-108 BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Garage Floor Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Max Rear Walkout Tie-in Elevation, Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots SF-92A through SF-156A.

RIDGE FARMS DEVELOPMENT - CG-109 SINGLE BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Garage Floor Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Max Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots SF-1W through SF-6W.

RIDGE FARMS DEVELOPMENT - CG-109 BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Garage Floor Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Max Rear Walkout Tie-in Elevation, Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots SF-76A through SF-94A.

RIDGE FARMS DEVELOPMENT - CG-110 BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots TW-60 through TW-74.

RIDGE FARMS DEVELOPMENT - CG-109 SINGLE BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Garage Floor Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Max Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots TW-1W through TW-25W.

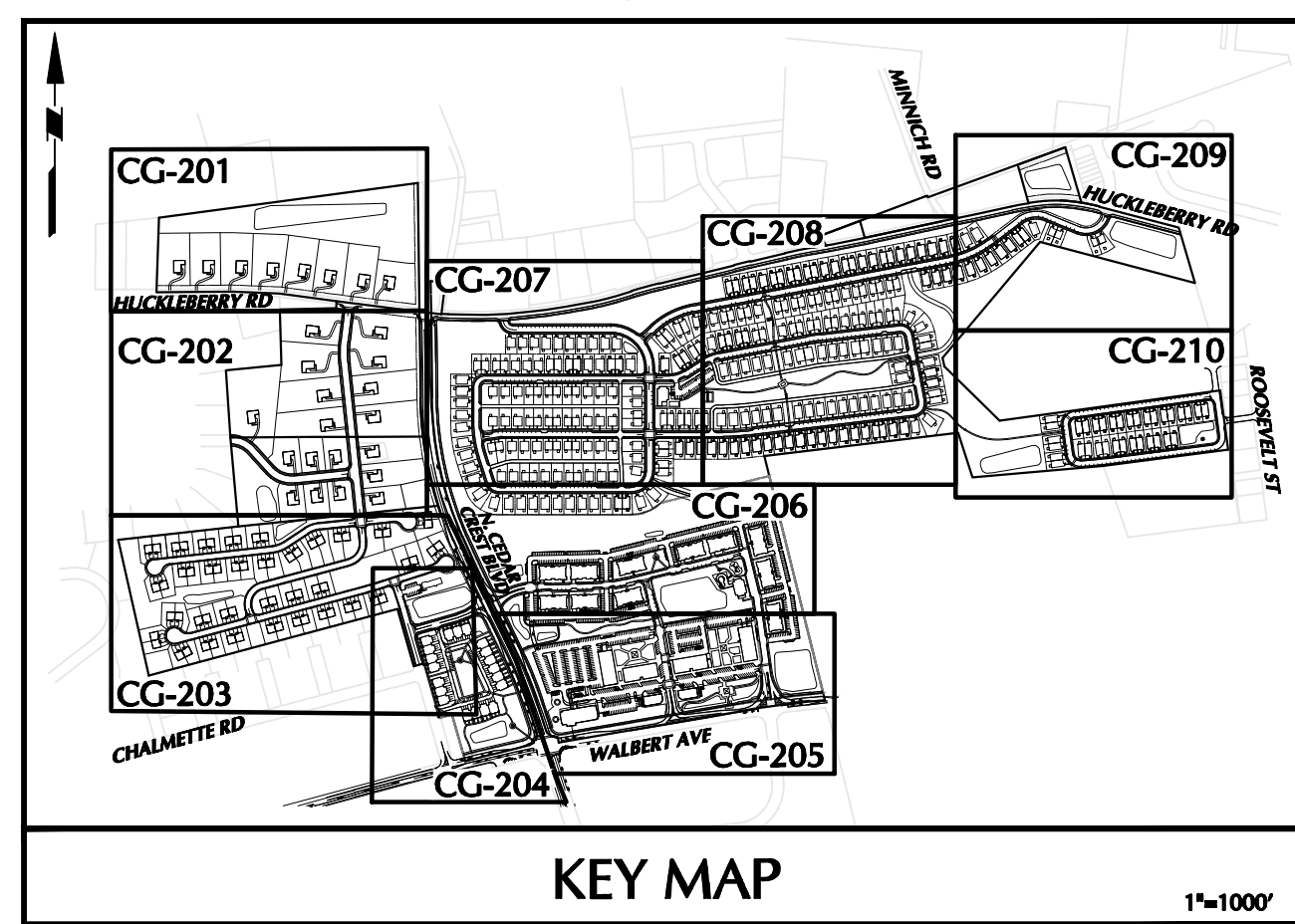
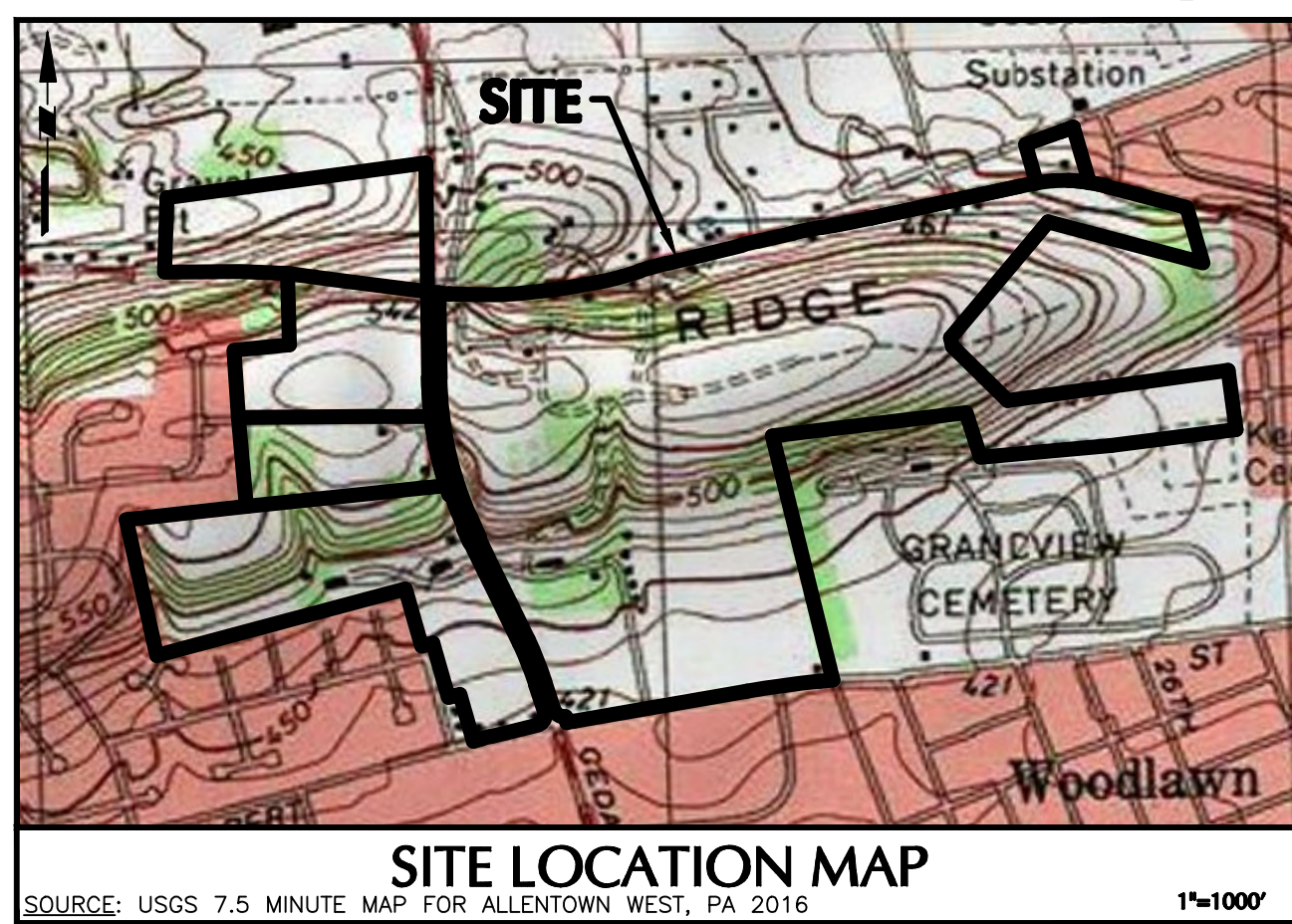
RIDGE FARMS DEVELOPMENT - CG-109 SINGLE BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Garage Floor Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Max Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots TW-26W through TW-94A.

RIDGE FARMS DEVELOPMENT - CG-110 SINGLE BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots TW-95 through TW-151A.

RIDGE FARMS DEVELOPMENT - CG-109 SINGLE BUILDING ELEVATIONS. Table with columns: Lot Number, Driveway Elevation, Garage Floor Elevation, Top of Foundation Elevation, First Floor Elevation, Basement Floor Elevation, Max Tie-in Elevation, Max Rear Walkout Tie-in Elevation, Basement Type, Driveway Slope. Rows include lots TW-152 through TW-151A.

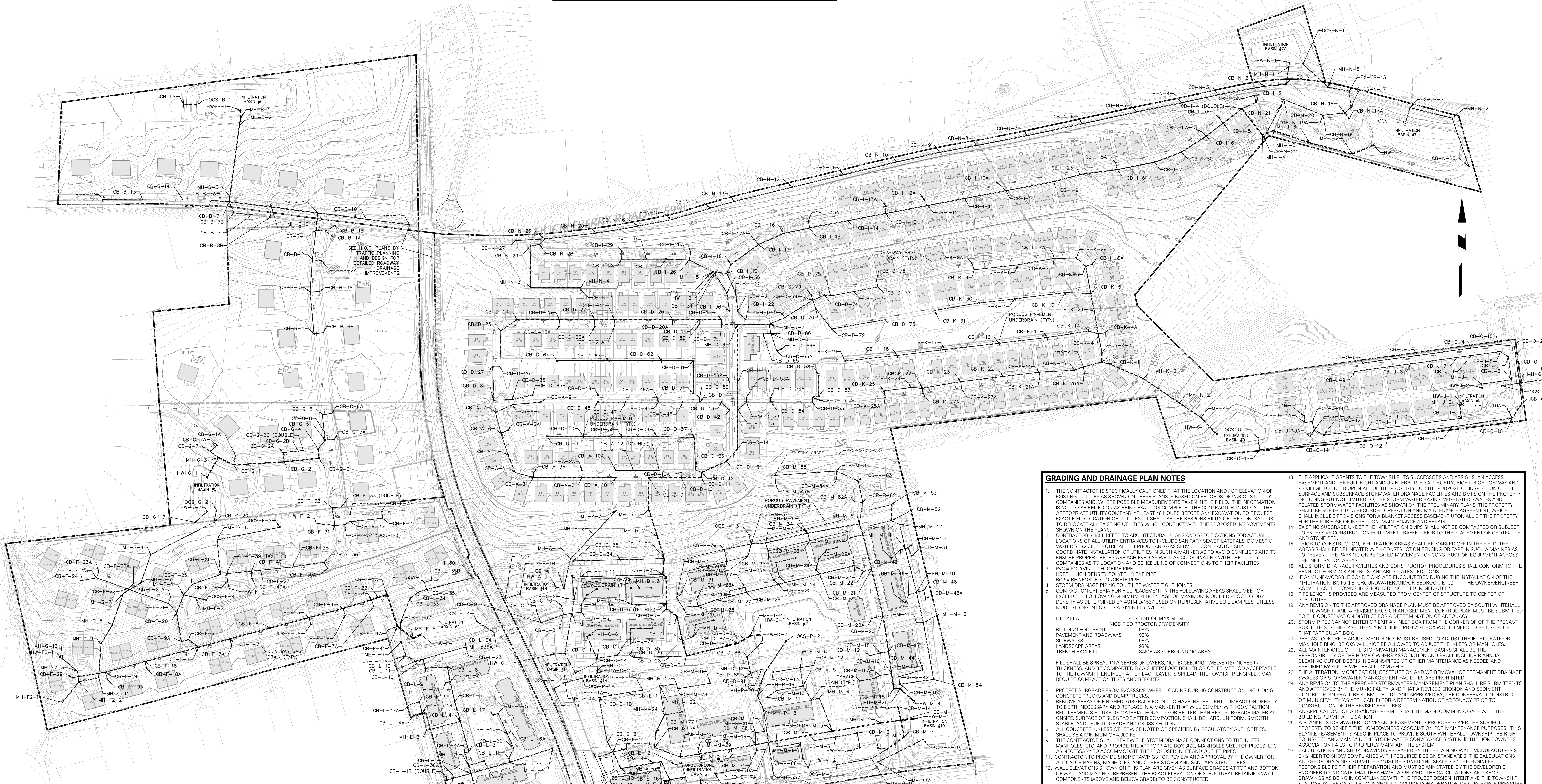
REVISIONS table with columns: Description, No., Date. Includes entries for revised per township comments and waiver approvals. Includes Langan Engineering logo and signature of J. Scott Eshelhar.

Project information block including Project Name (RIDGE FARMS BUILDING ELEVATION TABLES), Drawing No. (CG-111), Date (10/06/2020), Scale (N.T.S.), and Owner/Applicant (KAY WALKER LLC, ATTN: RICK KOZE).



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS SYMBOLS
PROPERTY LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SOIL	
RETAINING WALL	
BASEIN LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER	EXISTING MANHOLE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING ELECTRIC POLE
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	

REFER TO CG-201 THROUGH CG-210 FOR DETAILED DRAINAGE INFORMATION

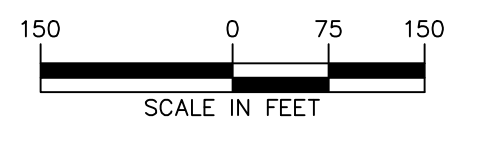


GRADING AND DRAINAGE PLAN NOTES

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC WATER SERVICE, ELECTRICAL, TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ENSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE UTILITY COMPANIES AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
- PVC POLYURETHANE POLYETHYLENE PIPE
- RCP = REINFORCED CONCRETE PIPE
- STORM DRAINAGE PIPING TO UTILIZE WATER TIGHT JOINTS
- COMPACTION CRITERIA FOR FILL PLACEMENT IN THE FOLLOWING AREAS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM PERCENTAGE OF MAXIMUM MODIFIED PROCTOR DRY DENSITY AS DETERMINED BY ASTM D-1557 USING REPRESENTATIVE SOIL SAMPLES, UNLESS MORE STRINGENT CRITERIA GIVEN ELSEWHERE:

FILL AREA	PERCENT OF MAXIMUM MODIFIED PROCTOR DRY DENSITY
BUILDING FOOTPRINT	95%
PAVEMENT AND ROADWAYS	95%
SIDEWALKS	95%
LANDSCAPE AREAS	90%
TRENCH BACKFILL	SAME AS SURROUNDING AREA
- FILL SHALL BE SPREAD IN A SERIES OF LAYERS, NOT EXCEEDING TWELVE (12) INCHES IN THICKNESS, AND BE COMPACTED BY A SHEEPSFOOT ROLLER OR OTHER METHOD ACCEPTABLE TO THE TOWNSHIP ENGINEER AFTER EACH LAYER IS SPREAD. THE TOWNSHIP ENGINEER MAY REQUIRE COMPACTION TESTS AND REPORTS.
- PROTECT SUBGRADE FROM EXCESSIVE WHEEL LOADING DURING CONSTRUCTION, INCLUDING CONCRETE TRUCKS AND DUMP TRUCKS.
- REMOVE AREAS OF FINISHED SUBGRADE FOUND TO HAVE INSUFFICIENT COMPACTION DENSITY TO DEPTH NECESSARY AND REPLACE IN A MANNER THAT WILL COMPLY WITH COMPACTION REQUIREMENTS BY USE OF MATERIAL EQUAL TO OR BETTER THAN BEST SUBGRADE MATERIAL ON SITE. SURFACE OF SUBGRADE AFTER CORRECTION SHALL BE HARD, UNIFORM, SMOOTH, STABLE AND TRUE TO GRADE AND CROSS SECTION.
- ALL CONCRETE, UNLESS OTHERWISE NOTED OR SPECIFIED BY REGULATORY AUTHORITIES, SHALL BE A MINIMUM OF 4000 PSI.
- THE CONTRACTOR SHALL REVIEW THE STORM DRAINAGE CONNECTIONS TO THE INLETS, MANHOLES, ETC. AND PROVIDE THE APPROPRIATE BOX SIZE, MANHOLE SIZE, TOP PIECES, ETC. AS NECESSARY TO ACCOMMODATE THE PROPOSED INLET AND OUTLET PIPES.
- CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE OWNER FOR ALL CATCH BASINS, MANHOLES, AND OTHER STORY AND SANITARY STRUCTURES.
- WALL ELEVATIONS SHOWN ON THIS PLAN ARE GIVEN AS SURFACE GRADES AT TOP AND BOTTOM OF WALL AND MAY NOT REPRESENT THE EXACT ELEVATION OF STRUCTURAL RETAINING WALL COMPONENTS ABOVE AND BELOW GRADE TO BE CONSTRUCTED.
- THE APPLICANT GRANTS TO THE TOWNSHIP, ITS SUCCESSORS AND ASSIGNS, AN ACCESS EASEMENT AND THE FULL RIGHT AND UNINTERRUPTED AUTHORITY, RIGHT, RIGHT-OF-WAY AND PRIVILEGE TO ENTER UPON ALL OF THE PROPERTY FOR THE PURPOSE OF INSPECTION OF THE SURFACE AND SUBSURFACE STORMWATER DRAINAGE FACILITIES AND BMPs ON THE PROPERTY, INCLUDING BUT NOT LIMITED TO, THE STORM WATER BASINS, VEGETATED SWALES AND RELATED STORMWATER FACILITIES AS SHOWN ON THE PRELIMINARY PLANS. THE PROPERTY SHALL BE SUBJECT TO A RECORDED OPERATION AND MAINTENANCE AGREEMENT, WHICH SHALL INCLUDE PROVISIONS FOR A BLANKET ACCESS EASEMENT UPON ALL OF THE PROPERTY FOR THE PURPOSE OF INSPECTION, MAINTENANCE AND REPAIR.
- EXISTING SUBGRADE UNDER THE INFILTRATION BMPs SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO THE PLACEMENT OF GEOTEXTILE AND STONE BED.
- PRIOR TO CONSTRUCTION, INFILTRATION AREAS SHALL BE MARKED OFF IN THE FIELD. THE AREAS SHALL BE DELINEATED WITH CONSTRUCTION FENCING OR TAPE IN SUCH A MANNER AS TO PREVENT THE PARKING OR REPEATED MOVEMENT OF CONSTRUCTION EQUIPMENT ACROSS THE INFILTRATION AREAS.
- ALL STORM DRAINAGE FACILITIES AND CONSTRUCTION PROCEDURES SHALL CONFORM TO THE PENNDOT FORM 408 AND RC STANDARDS, LATEST EDITIONS.
- IF ANY UNFAVORABLE CONDITIONS ARE ENCOUNTERED DURING THE INSTALLATION OF THE INFILTRATION BMPs (E.G. GROUNDWATER AND/OR BEDROCK, ETC.), THE OWNER/ENGINEER AS WELL AS THE TOWNSHIP SHOULD BE NOTIFIED IMMEDIATELY.
- PIPE LENGTHS PROVIDED ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- ANY REVISION TO THE APPROVED DRAINAGE PLAN MUST BE APPROVED BY SOUTH WHITEHALL TOWNSHIP, AND A REVISED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO THE CONSERVATION DISTRICT FOR A DETERMINATION OF ADEQUACY.
- STORM PIPES CANNOT ENTER OR EXIT AN INLET BOX FROM THE CORNER OR OF THE PRECAST BOX. IF THIS IS THE CASE, THEN A MODIFIED PRECAST BOX WOULD NEED TO BE USED FOR THAT PARTICULAR BOX.
- PRECAST CONCRETE ADJUSTMENT RINGS MUST BE USED TO ADJUST THE INLET GRATE OR MANHOLE RING BRICKS WILL NOT BE ALLOWED TO ADJUST THE INLETS OR MANHOLES.
- ALL MAINTENANCE OF THE STORMWATER MANAGEMENT BASINS SHALL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION AND SHALL INCLUDE BIENNIAL CLEANING OUT OF DEBRIS IN BASINS/PIPES OR OTHER MAINTENANCE AS NECESSARY AND SPECIFIED BY SOUTH WHITEHALL TOWNSHIP.
- THE ALTERATION, MODIFICATION, OBSTRUCTION AND/OR REMOVAL OF PERMANENT DRAINAGE SWALES OR STORMWATER MANAGEMENT FACILITIES ARE PROHIBITED.
- ANY REVISION TO THE STORMWATER MANAGEMENT PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE MUNICIPALITY, AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO, AND APPROVED BY, THE CONSERVATION DISTRICT OR MUNICIPALITY AS APPLICABLE FOR A DETERMINATION OF ADEQUACY PRIOR TO CONSTRUCTION OF THE REVISED FEATURES.
- AN APPLICATION FOR A DRAINAGE PERMIT SHALL BE MADE CONCURRENT WITH THE BUILDING PERMIT APPLICATION.
- A BLANKET STORMWATER CONVEYANCE EASEMENT IS PROPOSED OVER THE SUBJECT PROPERTY TO BENEFIT THE HOMEOWNERS ASSOCIATION FOR MAINTENANCE PURPOSES. THIS BLANKET EASEMENT IS ALSO IN PLACE TO PROVIDE SOUTH WHITEHALL TOWNSHIP THE RIGHT TO INSPECT AND MAINTAIN THE STORMWATER CONVEYANCE SYSTEM IF THE HOMEOWNERS ASSOCIATION FAILS TO PROPERLY MAINTAIN THE SYSTEM.
- CALCULATIONS AND SHOP DRAWINGS PREPARED BY THE RETAINING WALL MANUFACTURER'S ENGINEER TO SHOW COMPLIANCE WITH REQUIRED DESIGN STANDARDS, THE CALCULATIONS AND SHOP DRAWINGS SUBMITTED MUST BE SIGNED AND SEALED BY THE ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND MUST BE ANNOTATED BY THE DEVELOPER OF WALL AND FOUNDATIONS THAT THEY HAVE APPROVED THE CALCULATIONS AND SHOP DRAWINGS AS BEING IN COMPLIANCE WITH THE PROJECT DESIGN INTENT AND THE TOWNSHIP STANDARDS. THE CALCULATIONS SHOULD INCLUDE CONSIDERATION OF SURFACE PRESSURE RESULTING FROM VEHICLES, FOUNDATIONS OR RETAINING WALLS ABOVE THE WALL IN QUESTION, AND FROM BUILDING FOUNDATIONS AS APPLICABLE.
- SECURITY GRATES SHALL BE INSTALLED ON ALL HEADWALLS, ENDWALLS, END SECTIONS, AND CULVERTS WITH OPENINGS 18 INCHES OR GREATER IN ACCORDANCE WITH SOUTH WHITEHALL TOWNSHIP STANDARD CONSTRUCTION DOCUMENTS.

ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 AS AMENDED AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS UNLESS OTHERWISE NOTED PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-242-1776
 SERIAL NO. RIDGE FARMS: 303034



OWNER/APPLICANT
KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

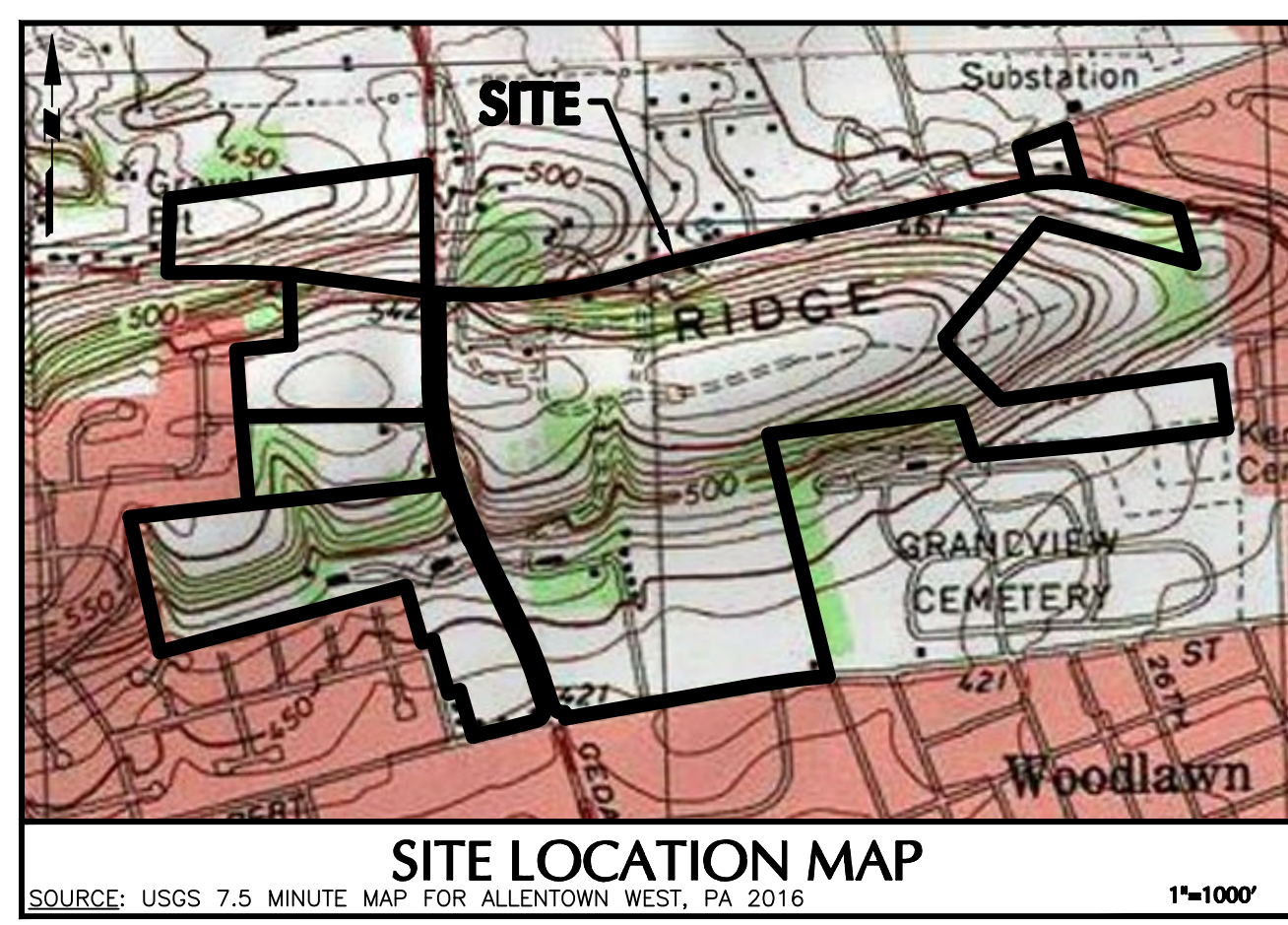
SIGNATURE: DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

LANGAN
 One West Broad Street, Suite 200, Bethlehem, PA 18018
 T: 610.864.8500 F: 610.864.8501 www.langan.com
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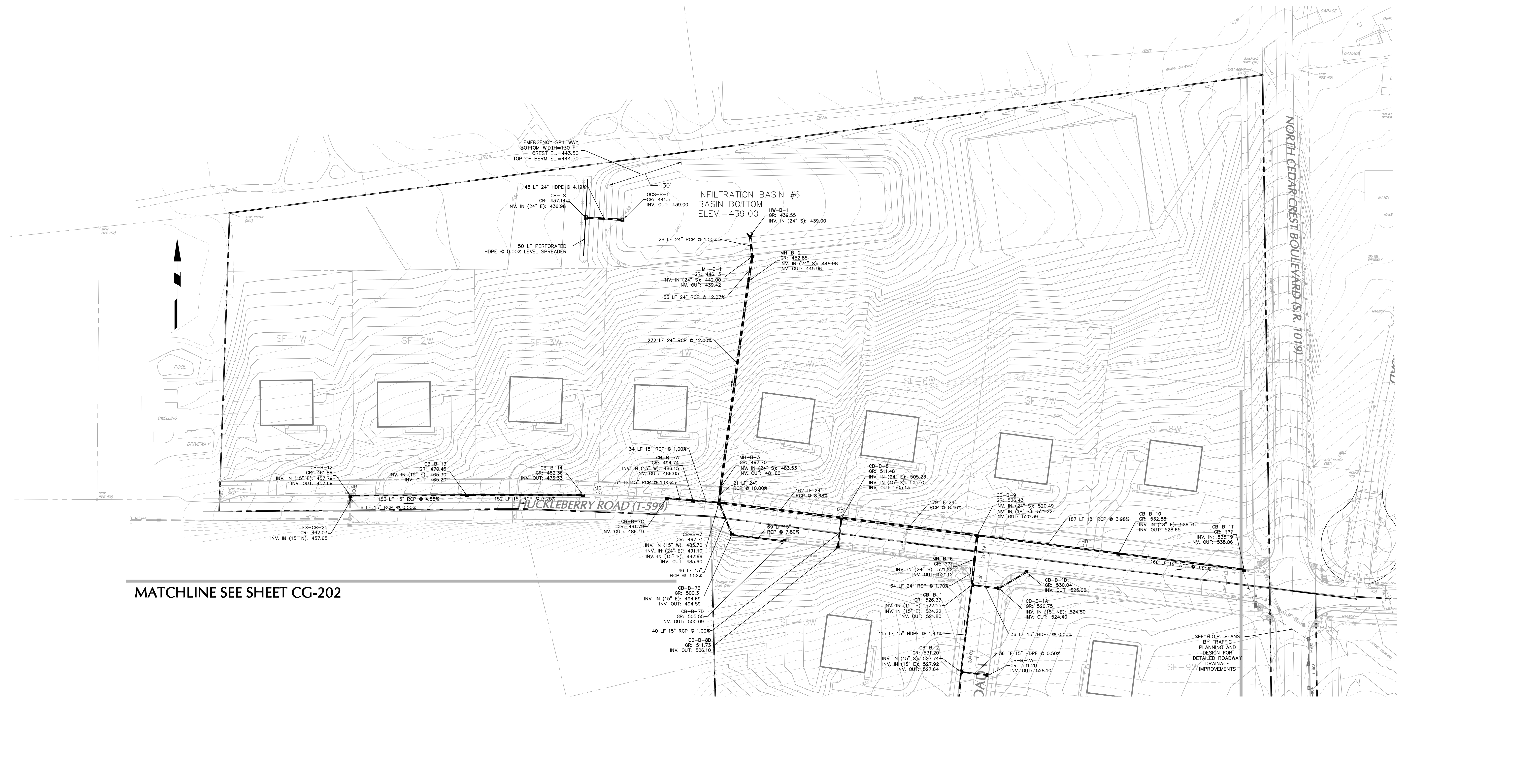
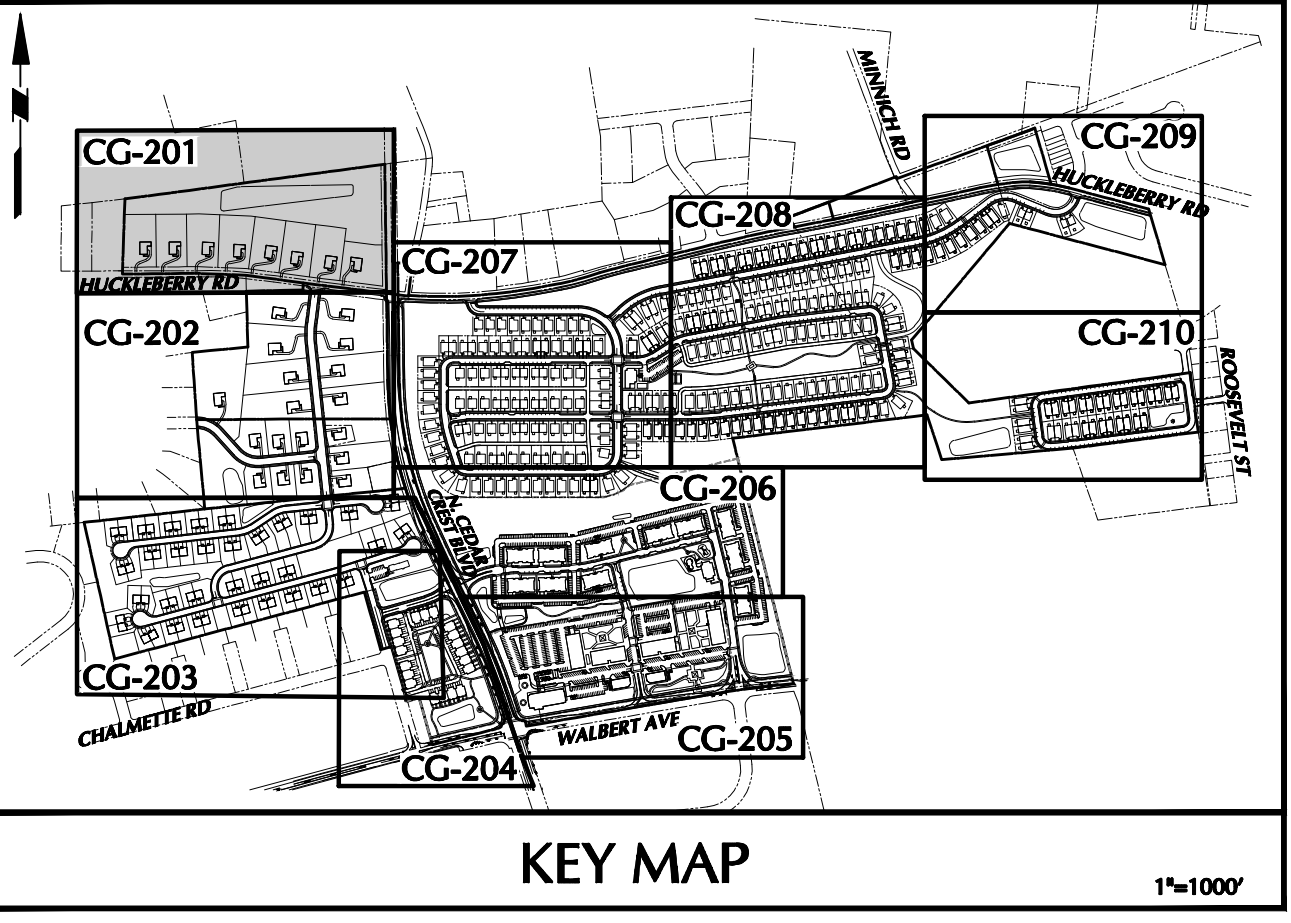
Project: **RIDGE FARMS**
 Location: **SOUTH WHITEHALL TOWNSHIP, LEHIGH COUNTY, PENNSYLVANIA**

Drawing Title: **MASTER DRAINAGE PLAN**
 Project No.: **240043301**
 Date: **10/06/2020**
 Scale: **1" = 150'**
 Drawing No.: **CG-200**
 Drawn By: **WLS** Checked By: _____
 Submission Date: _____ Sheet 72 of 151

PROJECT NO. 240043301 SUBMISSION DATE: SEPTEMBER 23, 2021

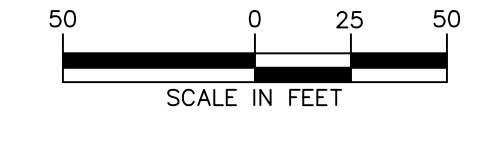


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOILS SYMBOLS
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BLASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *J. D. ENELHARDT* DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

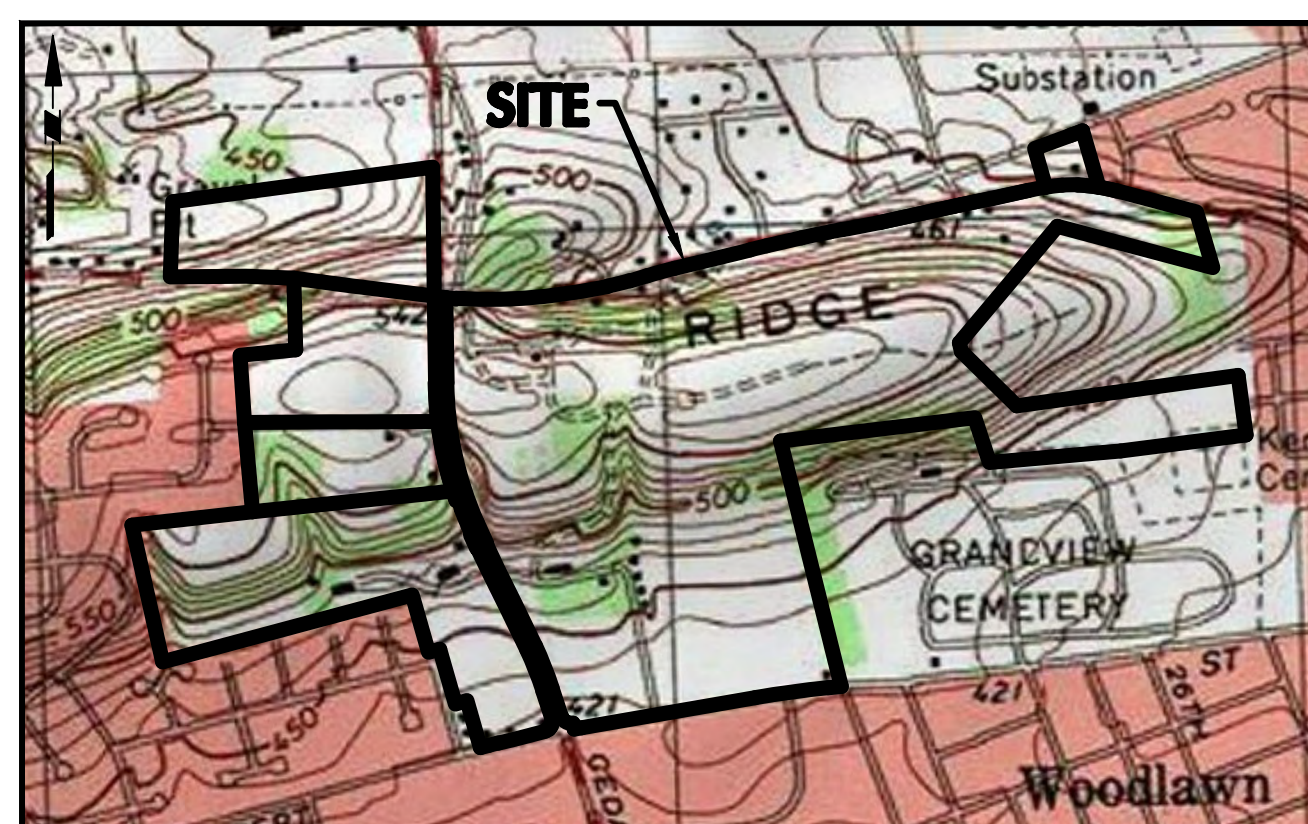
LANGAN
 One West Broad Street, Suite 200, Bethlehem, PA 18018
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Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

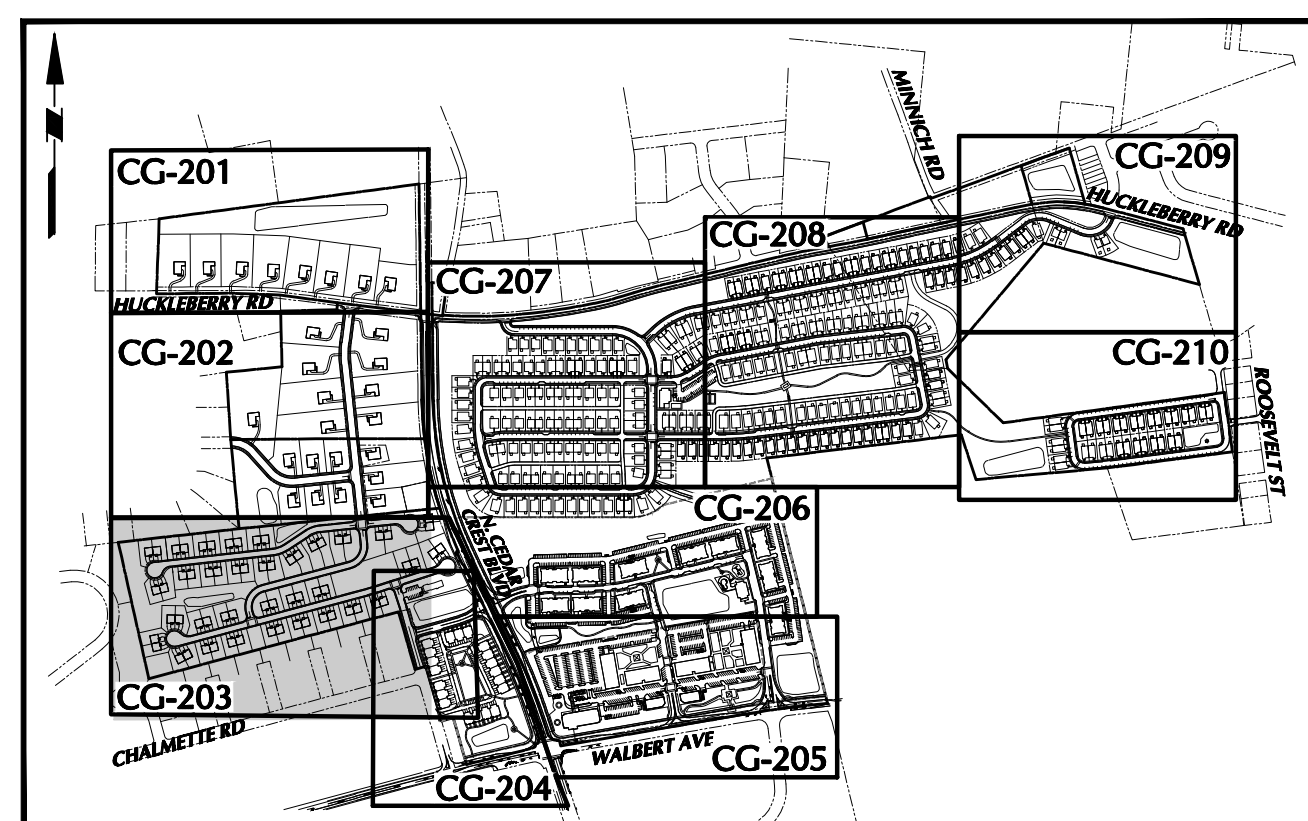
Drawing Title: **DRAINAGE PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **ISE**
 Submission Date: _____
 Drawing No. **CG-201**
 Sheet 73 of 151

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301 LANSBAN



SITE LOCATION MAP
1"=1000'



KEY MAP
1"=1000'

LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS SYMBOLS
PROPERTY LINE	SOIL TYPE
PROPOSED LOT LINE (WITH PIN MARKER)	TREELINE
PROPOSED LOT LINE (WITH GRANITE REFERENCE MONUMENTS)	
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
RETAINING WALL	
BASELINE LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



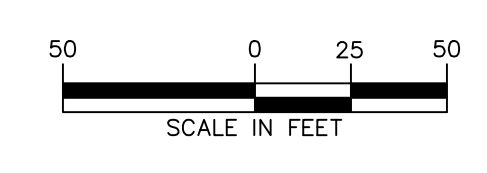
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MATCHLINE SEE SHEET CG-201

MATCHLINE SEE SHEET CG-207
SUBMISSION DATE: SEPTEMBER 23, 2021
PROJECT NO. 240043301

OWNER/APPLICANT
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ALLENTOWN, PA 18106
610-395-6857

NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

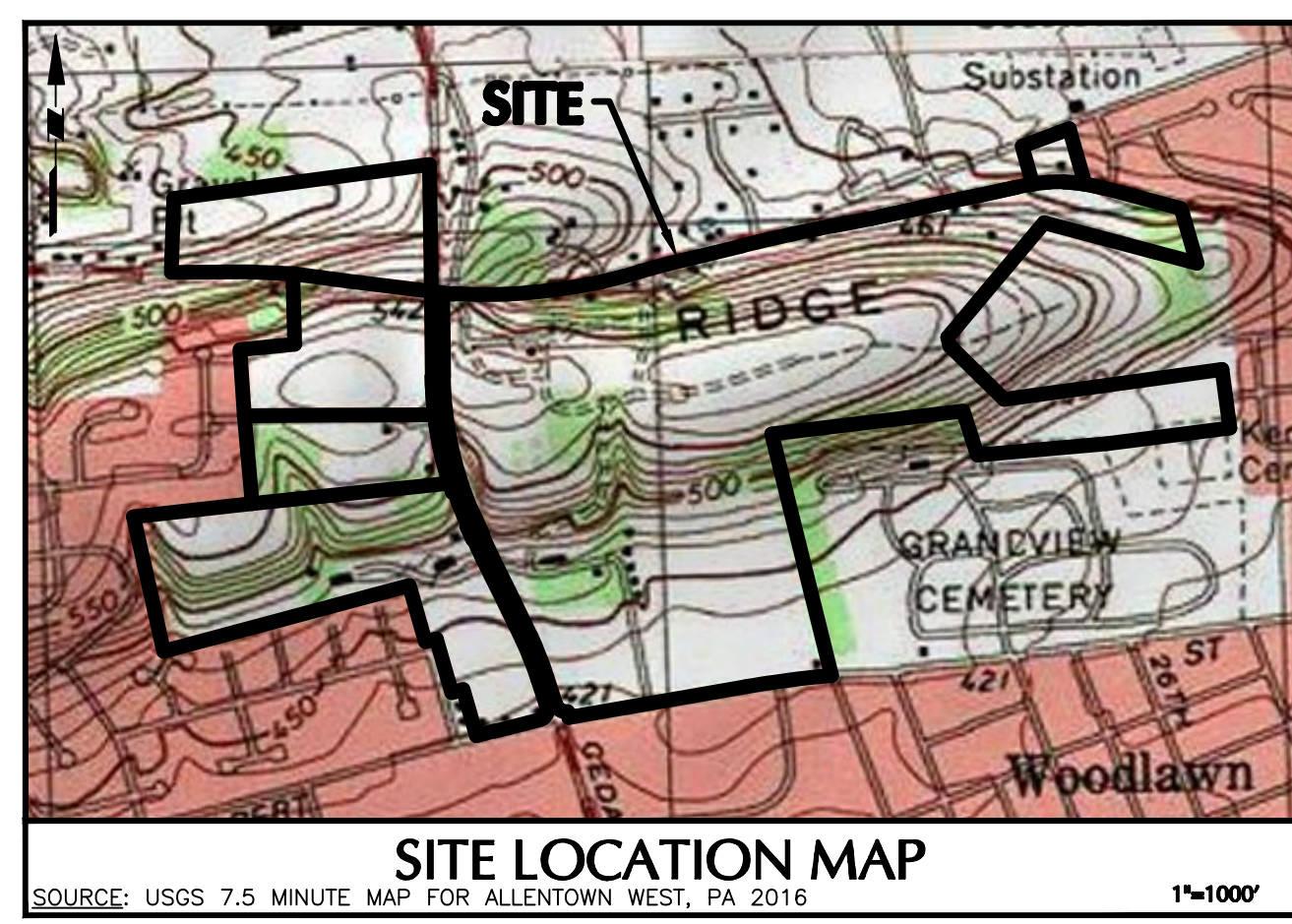
SIGNATURE: *J. SCOTT ENELHART* DATE SIGNED: _____
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

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One West Broad Street, Suite 200, Berwyn, PA 19019
T: 610.864.8900 F: 610.864.8501 www.langan.com
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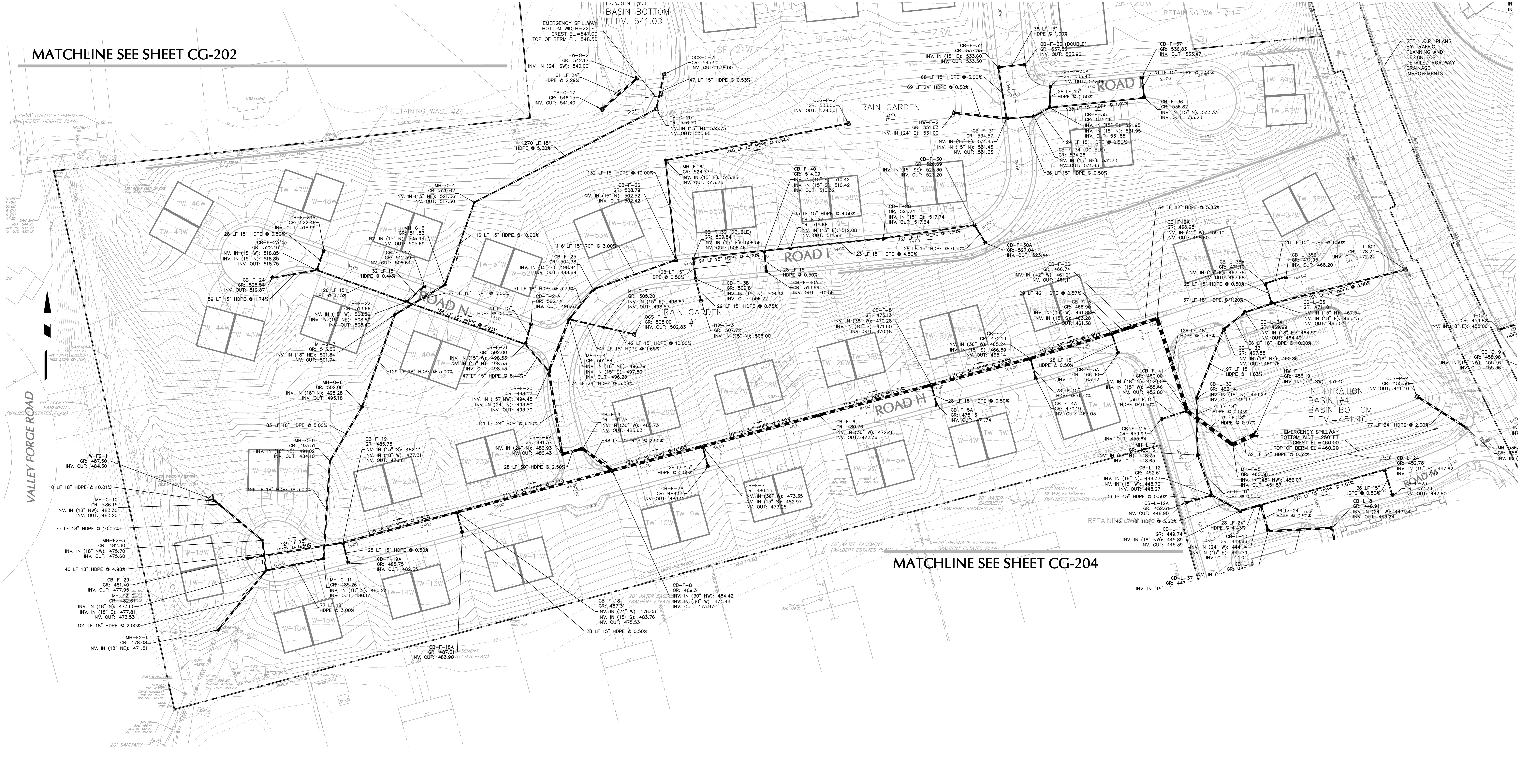
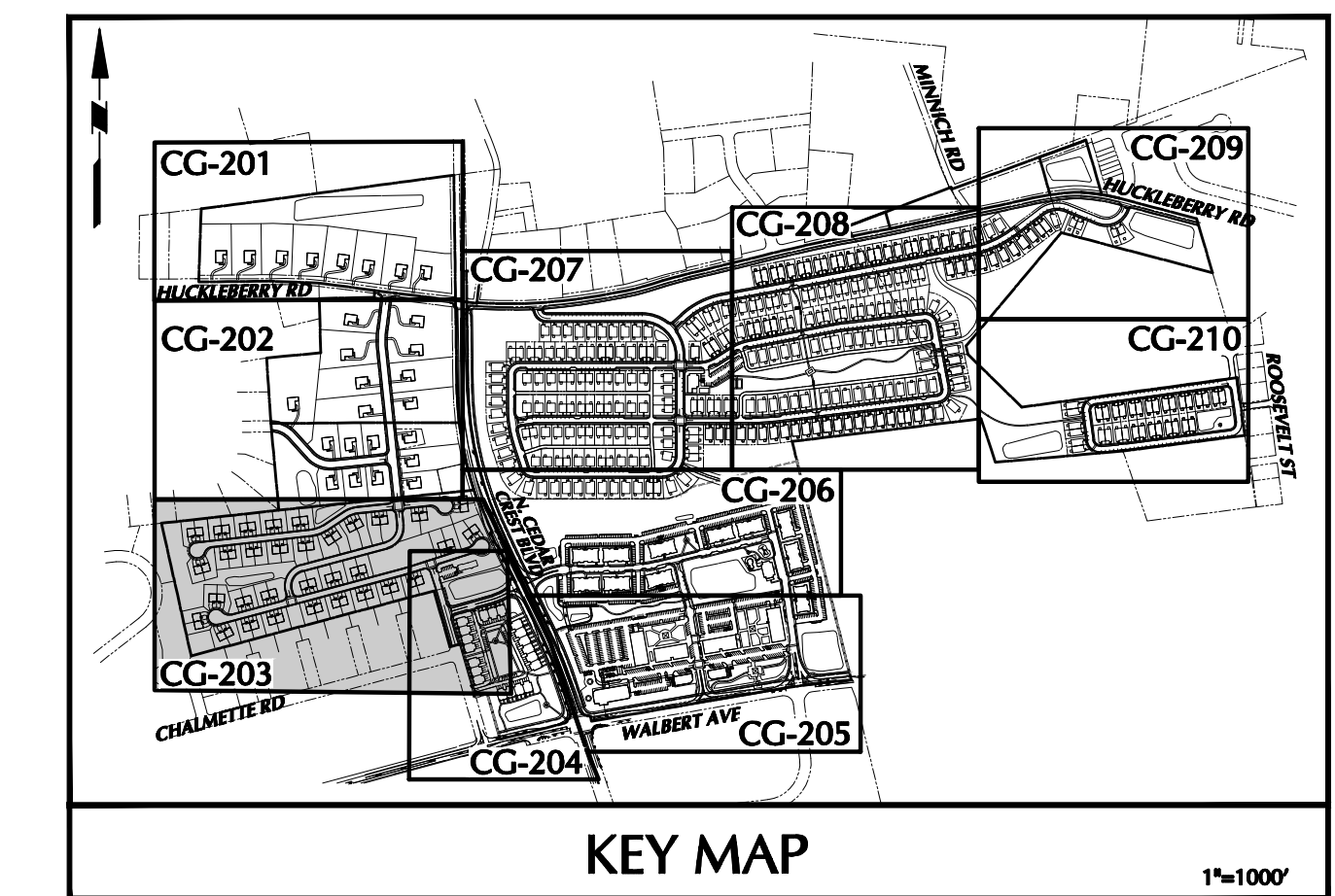
Project: **RIDGE FARMS**
Drawing Title: **DRAINAGE PLAN**
Project No.: **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY PENNSYLVANIA

Drawing No.: **CG-202**
Sheet 74 of 151

Filename: C:\mangan-pw\01m4242404\3301-CG201-0101.DWG Date: 9/23/2021 Time: 18:20 User: dmoyer Style Table: Langan-lyt Layout: CG-202



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOIL TYPE
PROPOSED LOT LINE (WITH PIN MARKER)	TREELINE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER	EXISTING MANHOLE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING ELECTRIC POLE
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED FIRE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC.
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 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.

Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SCALE IN FEET
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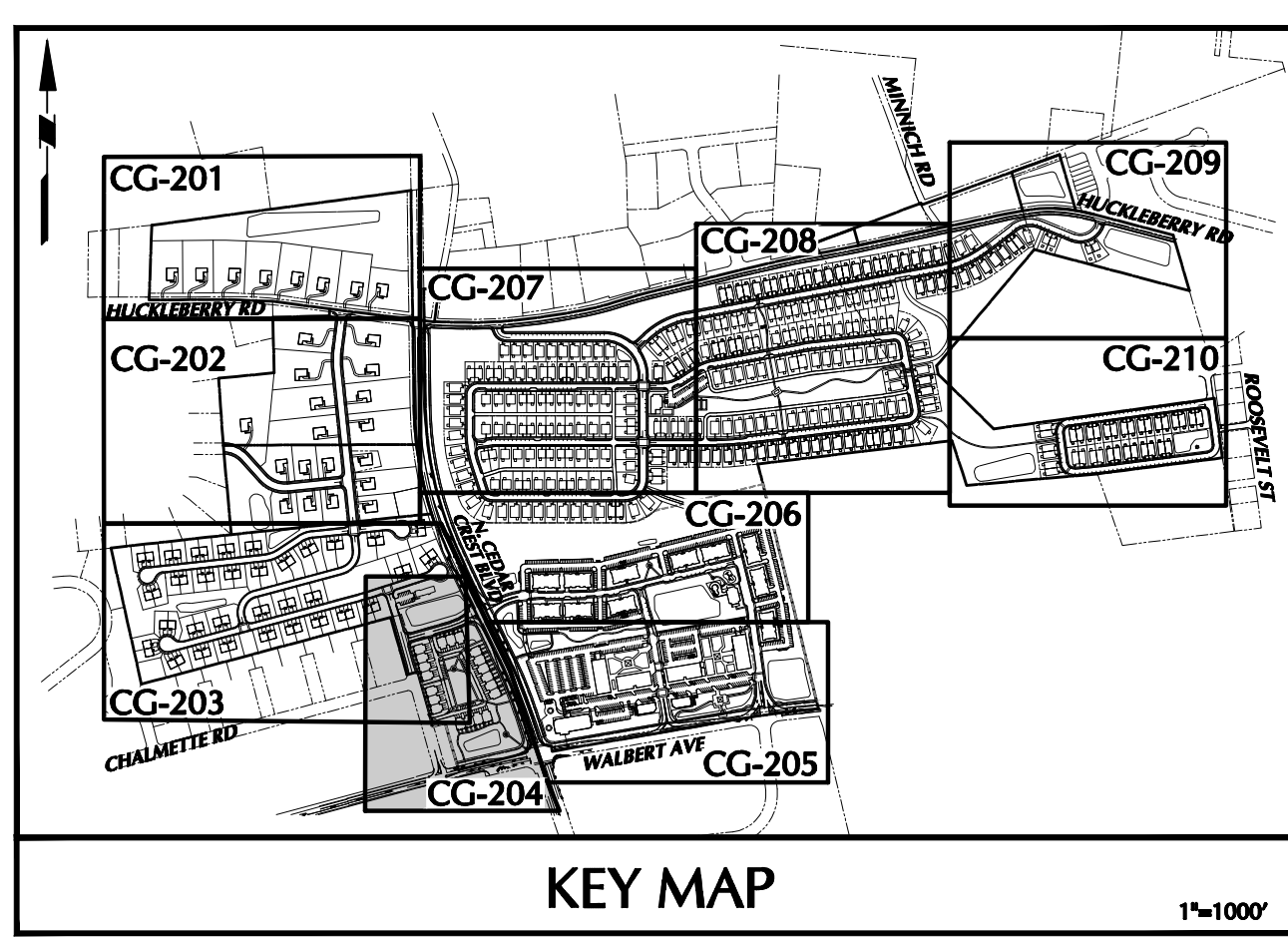
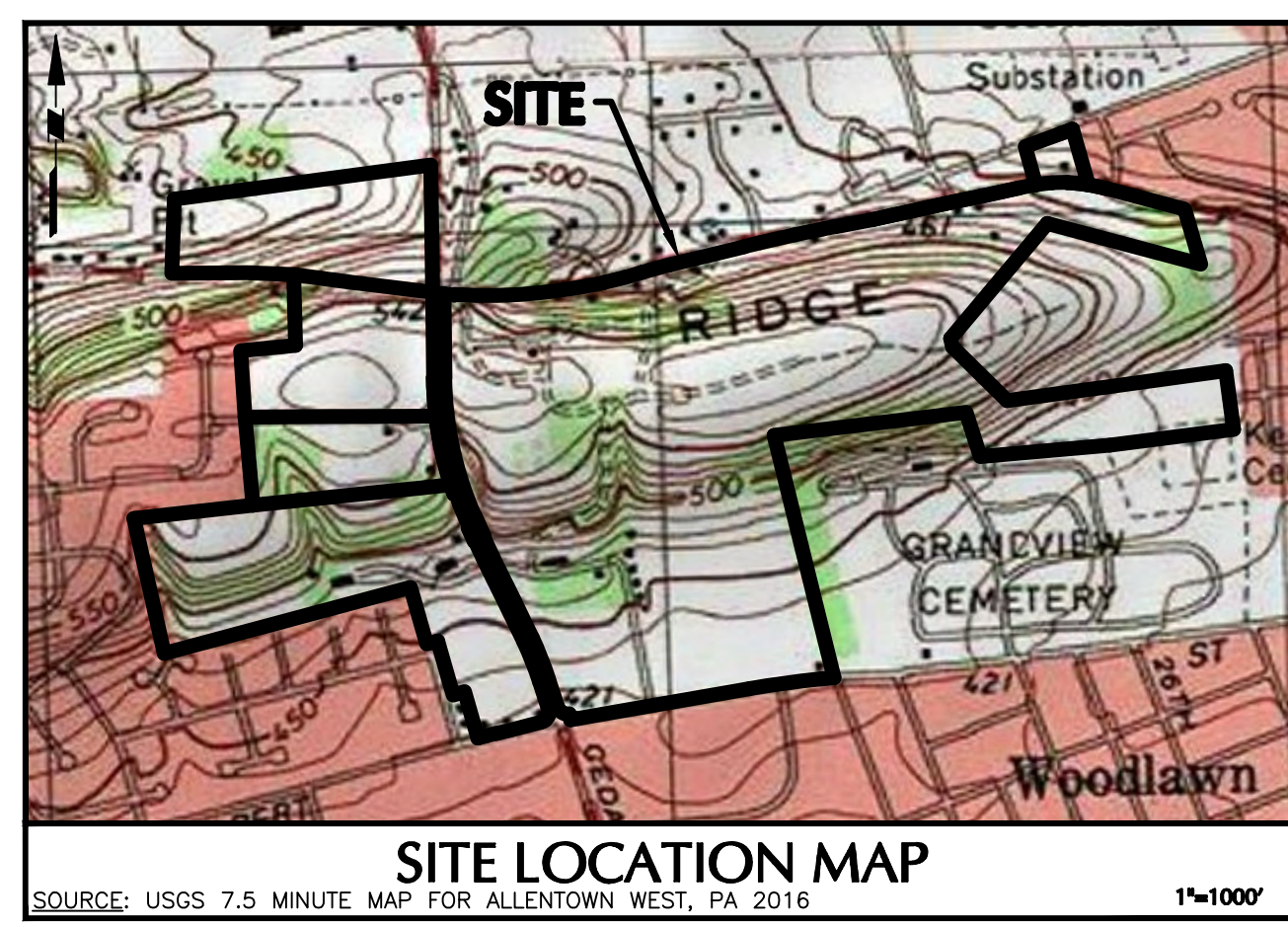
SIGNATURE: J. SCOTT ENGBARTH
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E



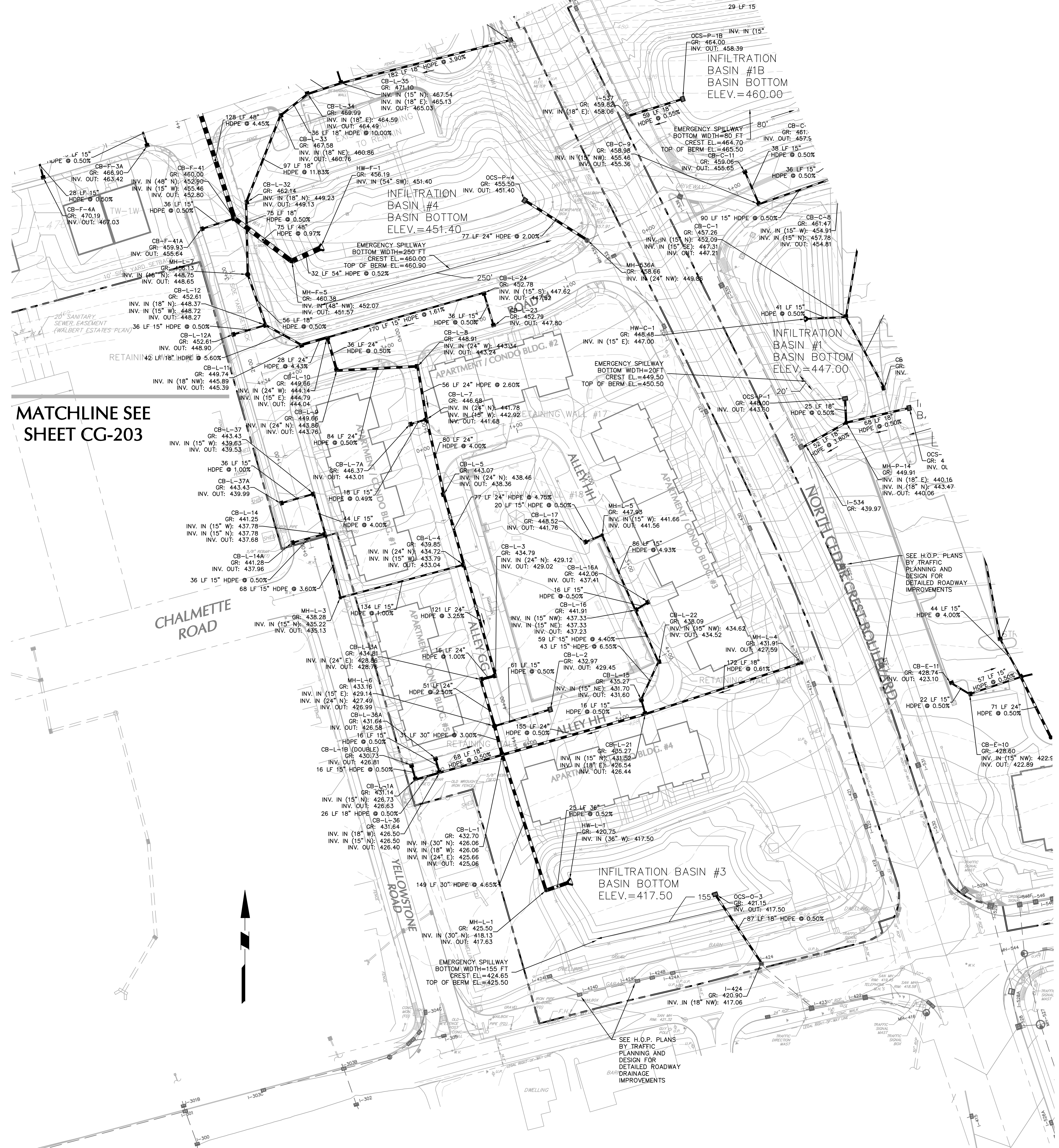
Project: RIDGE FARMS
 Drawing Title: DRAINAGE PLAN
 Project No.: 240043301
 Date: 10/06/2020
 Scale: 1" = 50'
 Drawn By: JDM
 Checked By: JSE
 Submission Date: [blank]
 SHEET 75 OF 151

Project No.: 240043301
 Date: 10/06/2020
 Scale: 1" = 50'
 Drawn By: JDM
 Checked By: JSE
 Submission Date: [blank]
 SHEET 75 OF 151

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301

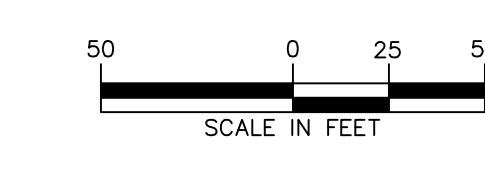


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOIL TYPE
PROPOSED LOT LINE (WITH PIN MARKER)	TREELINE
PROPOSED LOT LINE (WITH GRADE MONUMENTS)	
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER	EXISTING MANHOLE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING ELECTRIC POLE
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

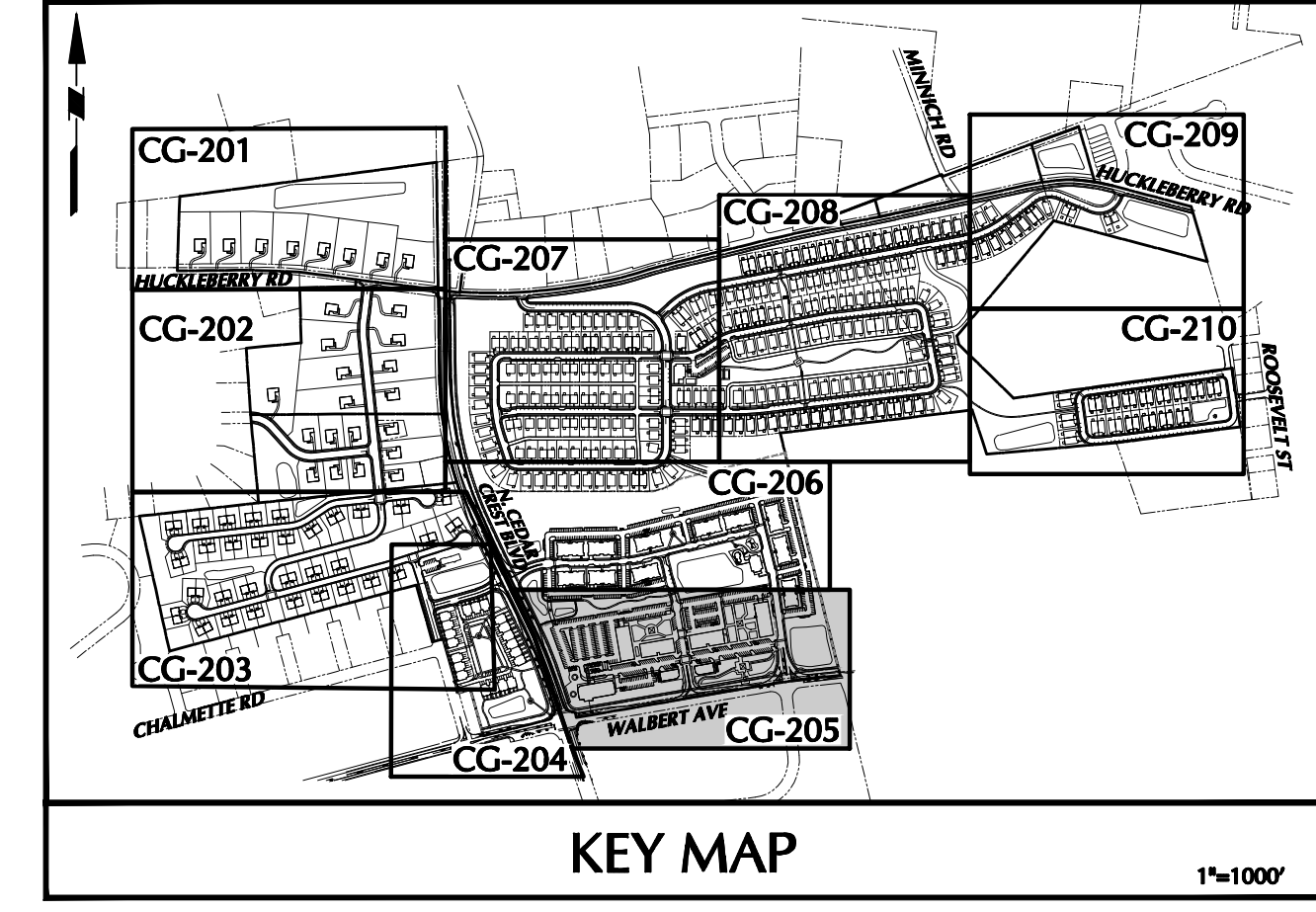
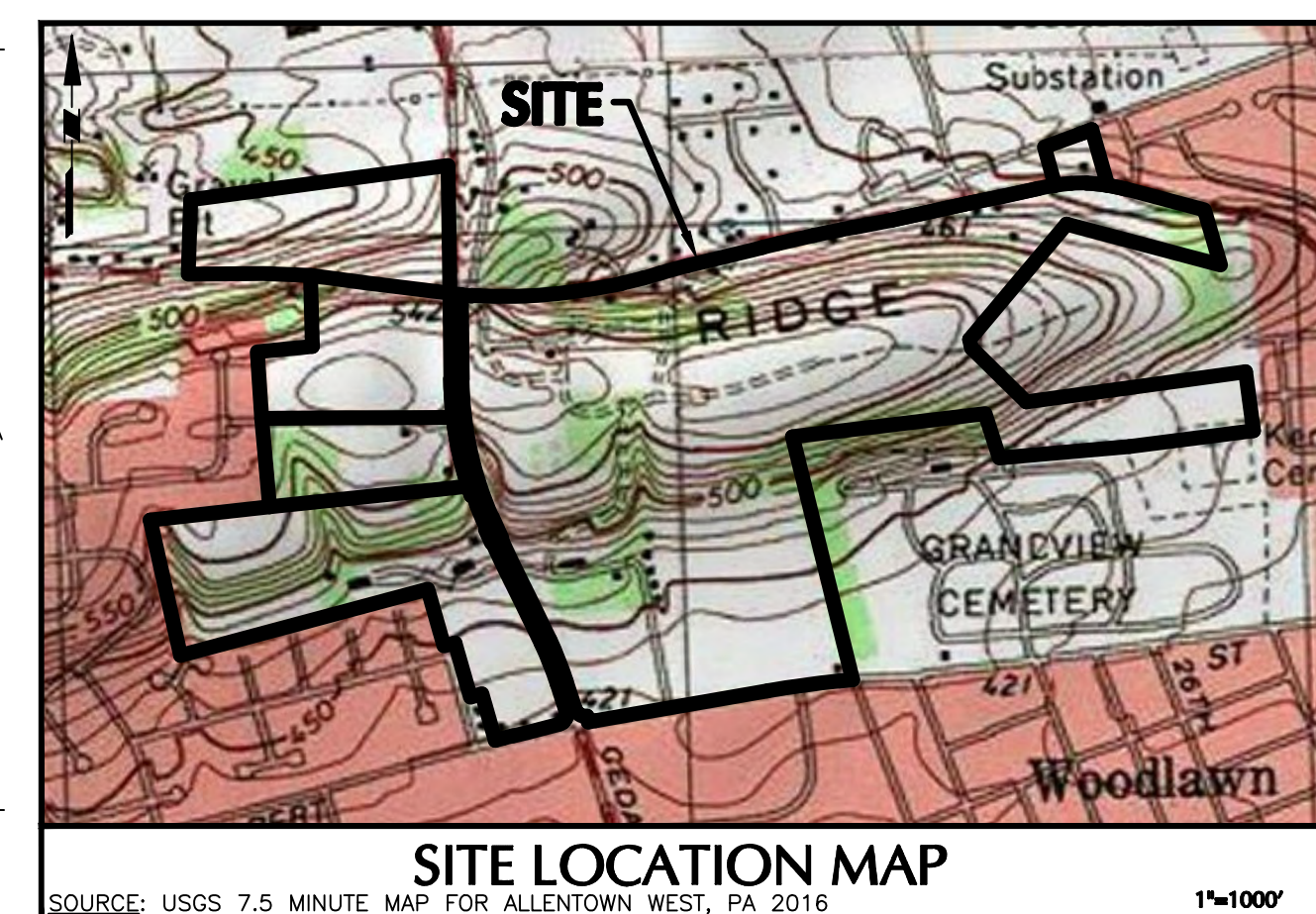
SIGNATURE: *J. C. ENELHARDT* DATE SIGNED: _____
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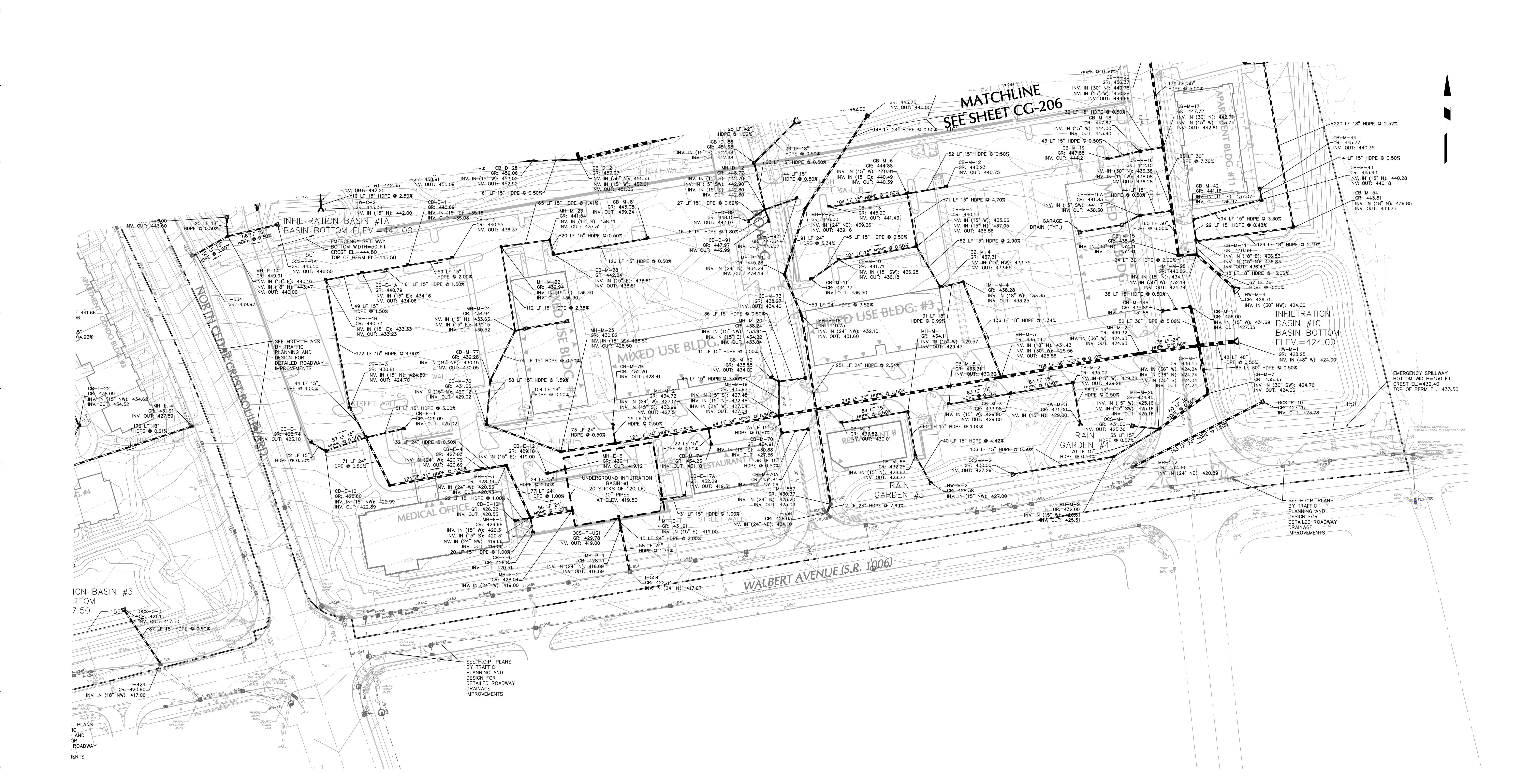
Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY
 PENNSYLVANIA

Drawing Title: **DRAINAGE PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CG-204**
 Sheet 76 of 151

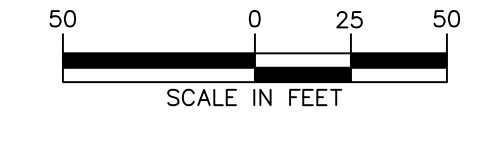


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOIL TYPE
PROPOSED LOT LINE (WITH PIN MARKER)	TREELINE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	
BUILDING SETBACK LINE	
PROPOSED UTILITY EXEMPT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
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 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.

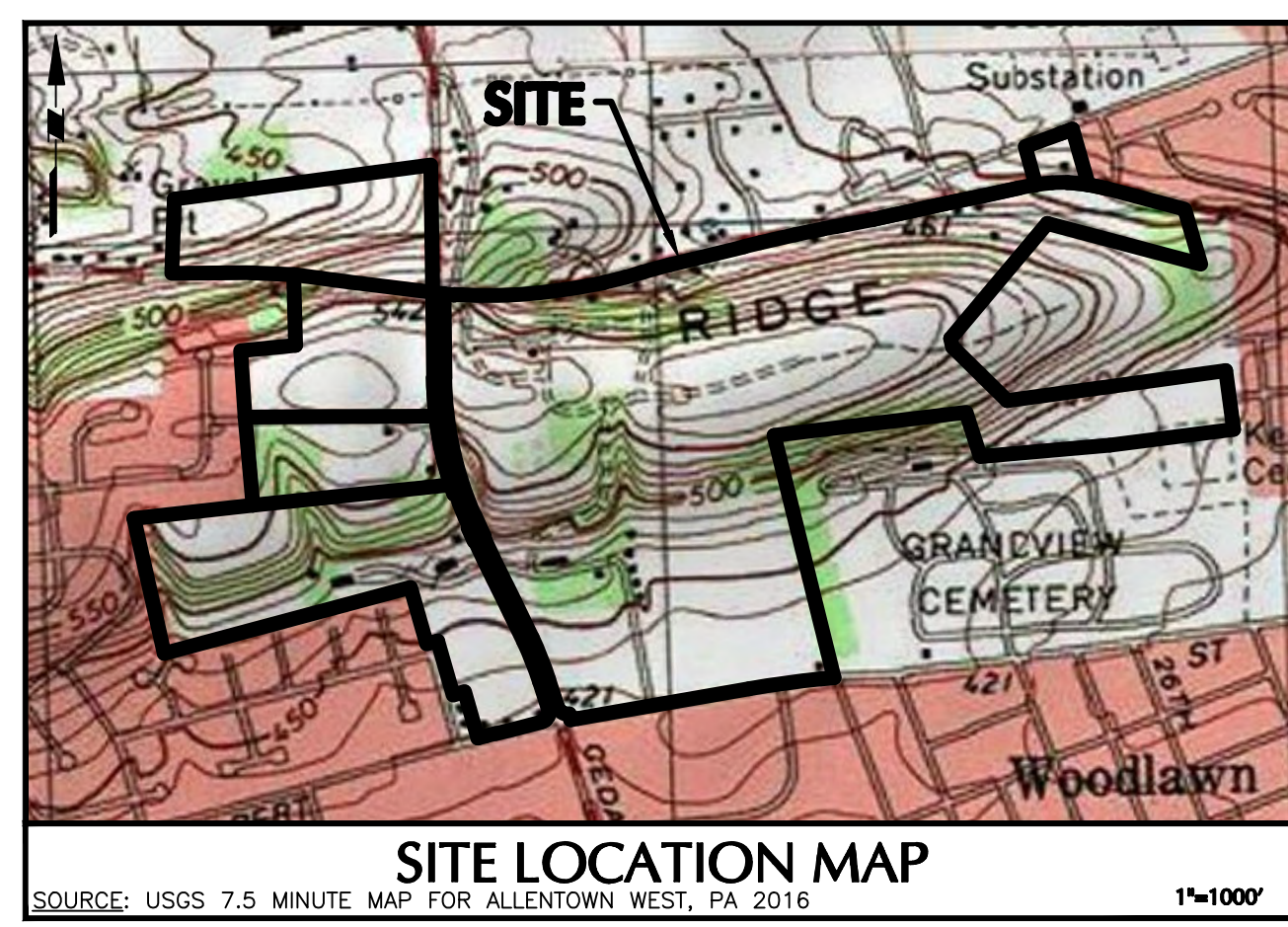


Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
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01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

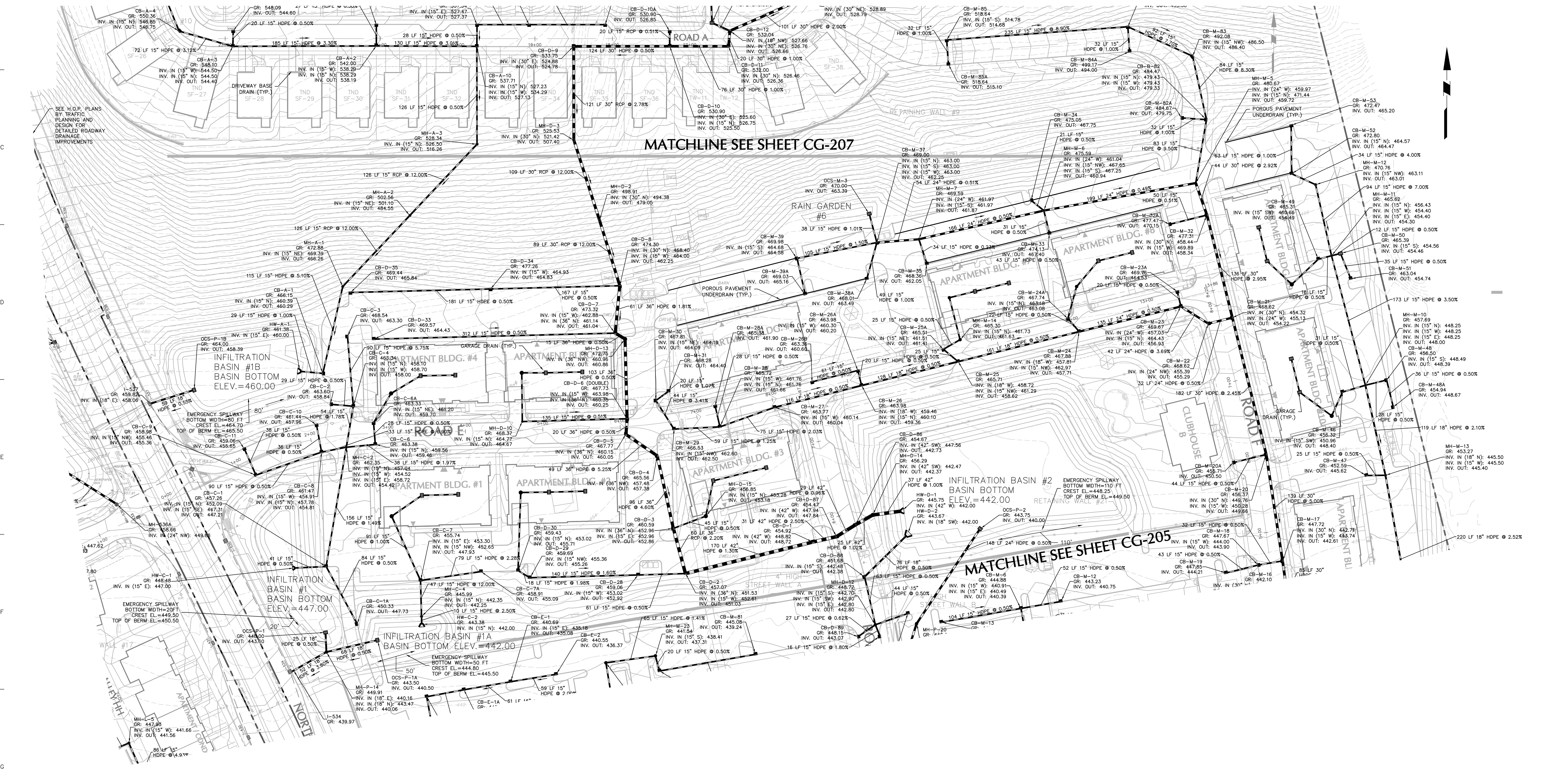
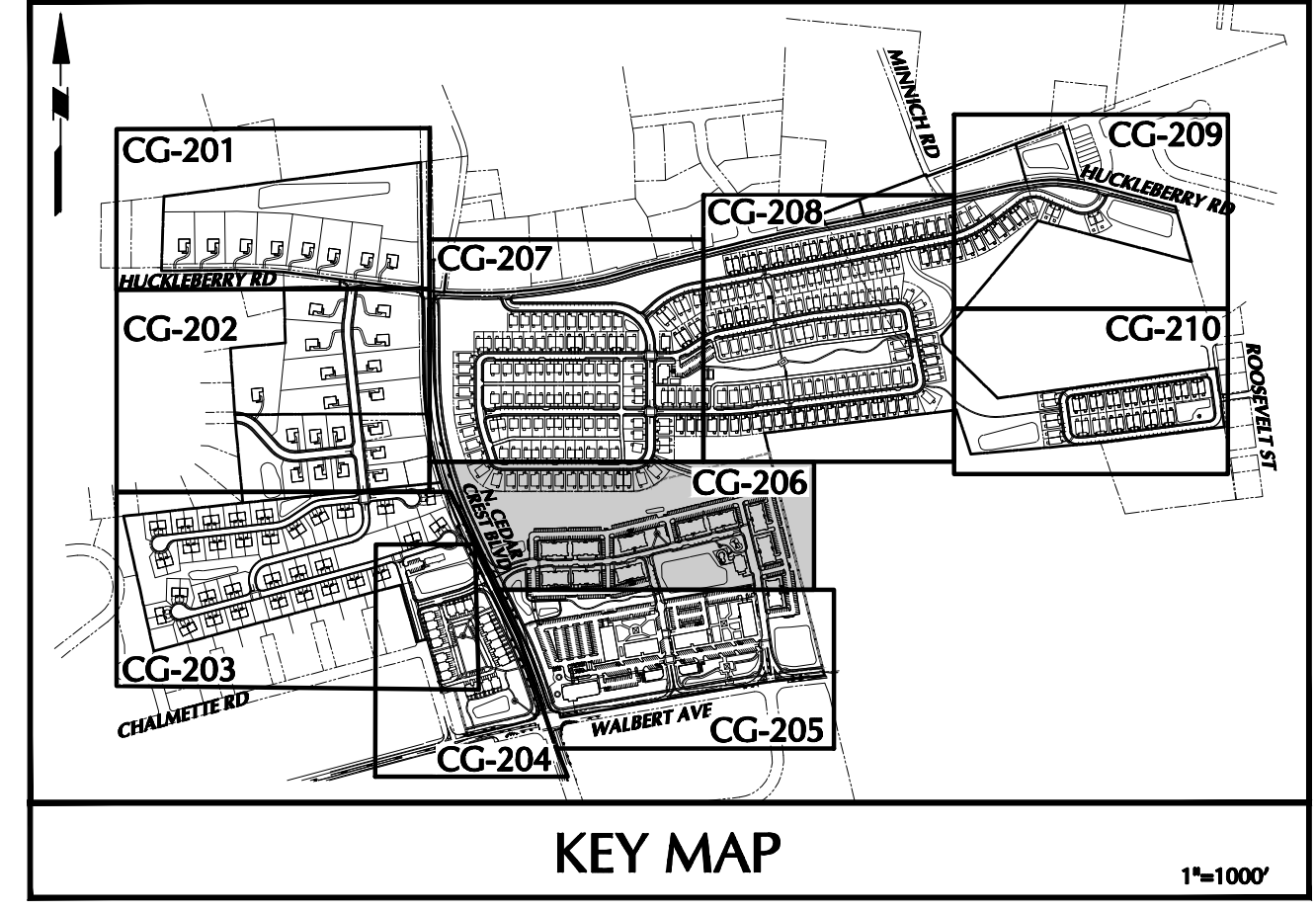
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 PROFESSIONAL ENGINEER P.A. Lic. No. PE-057145-E

Project: RIDGE FARMS
 Drawing Title: DRAINAGE PLAN
 Project No.: 240043301
 Date: 10/06/2020
 Scale: 1" = 50'
 Drawn By: JDM
 Checked By: JSE
 Submission Date:

Project No. 240043301	Drawing No. CG-205
Date: 10/06/2020	Scale: 1" = 50'
Drawn By: JDM	Checked By: JSE
Submission Date:	Sheet 77 of 151



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
EXISTING BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOIL TYPE
PROPOSED LOT LINE (WITH PIN MARKER)	TREELINE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	
BUILDING SETBACK LINE	
PROPOSED UTILITY EXHIBITMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER	EXISTING MANHOLE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING ELECTRIC POLE
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.



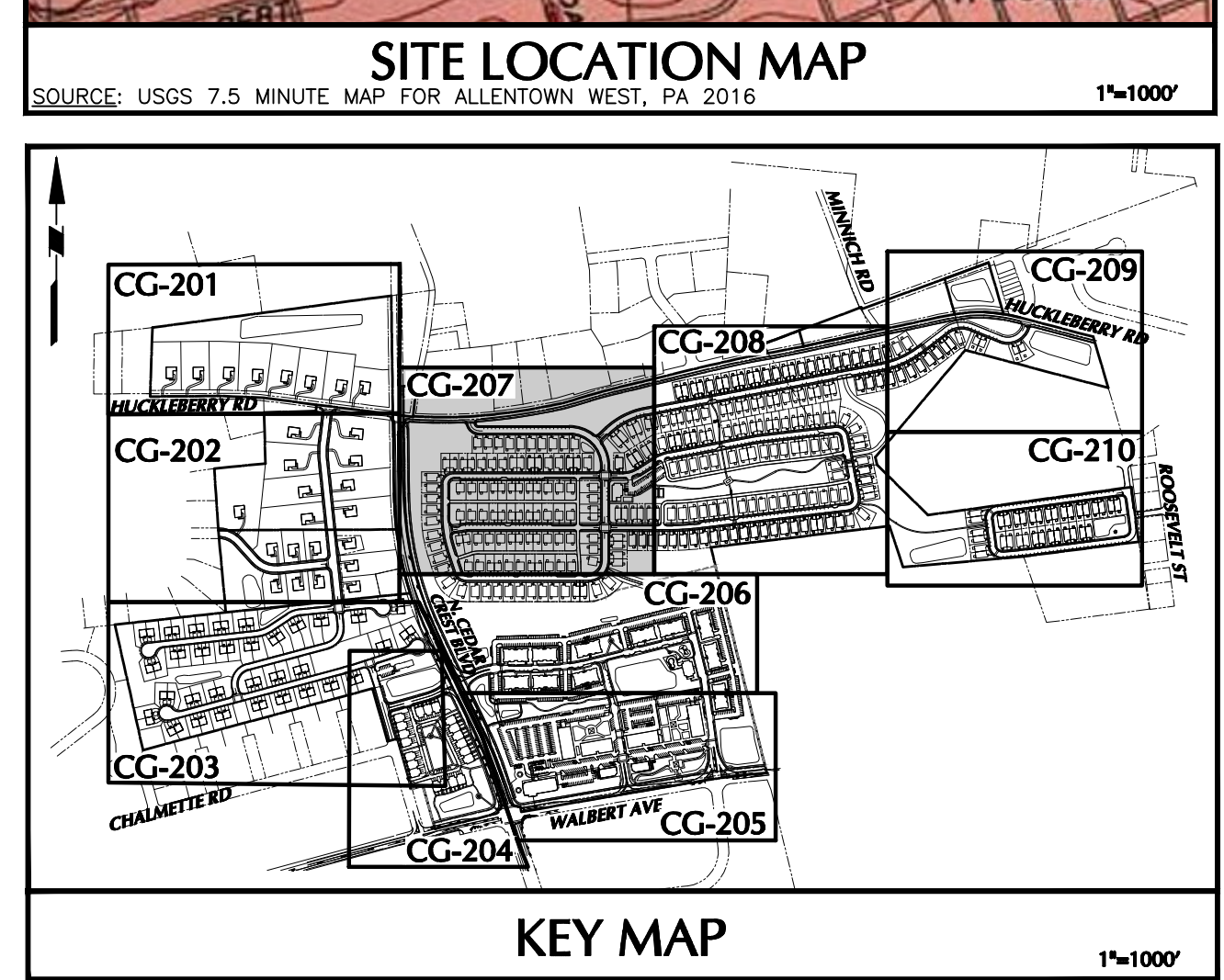
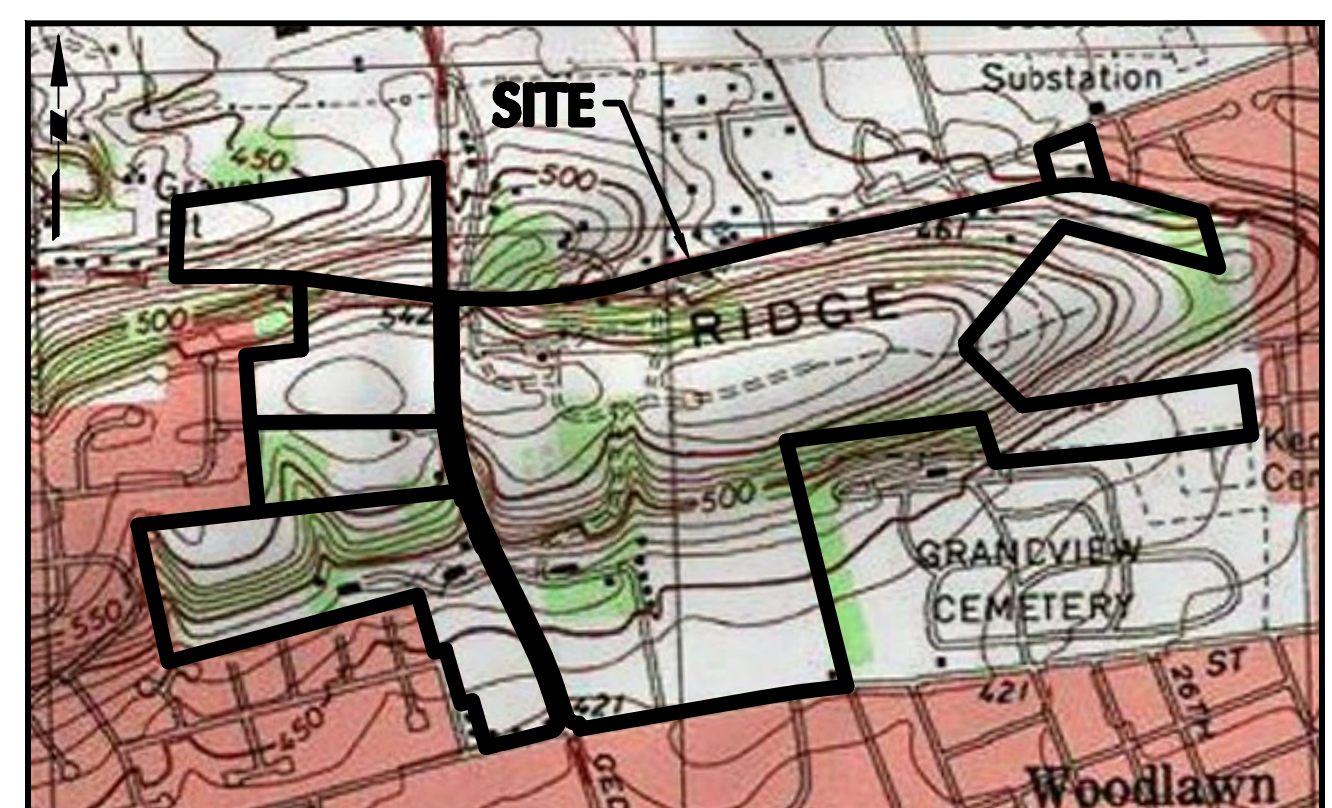
Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: J. SCOTT ENGBART
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E
 DATE SIGNED: 10/06/2020

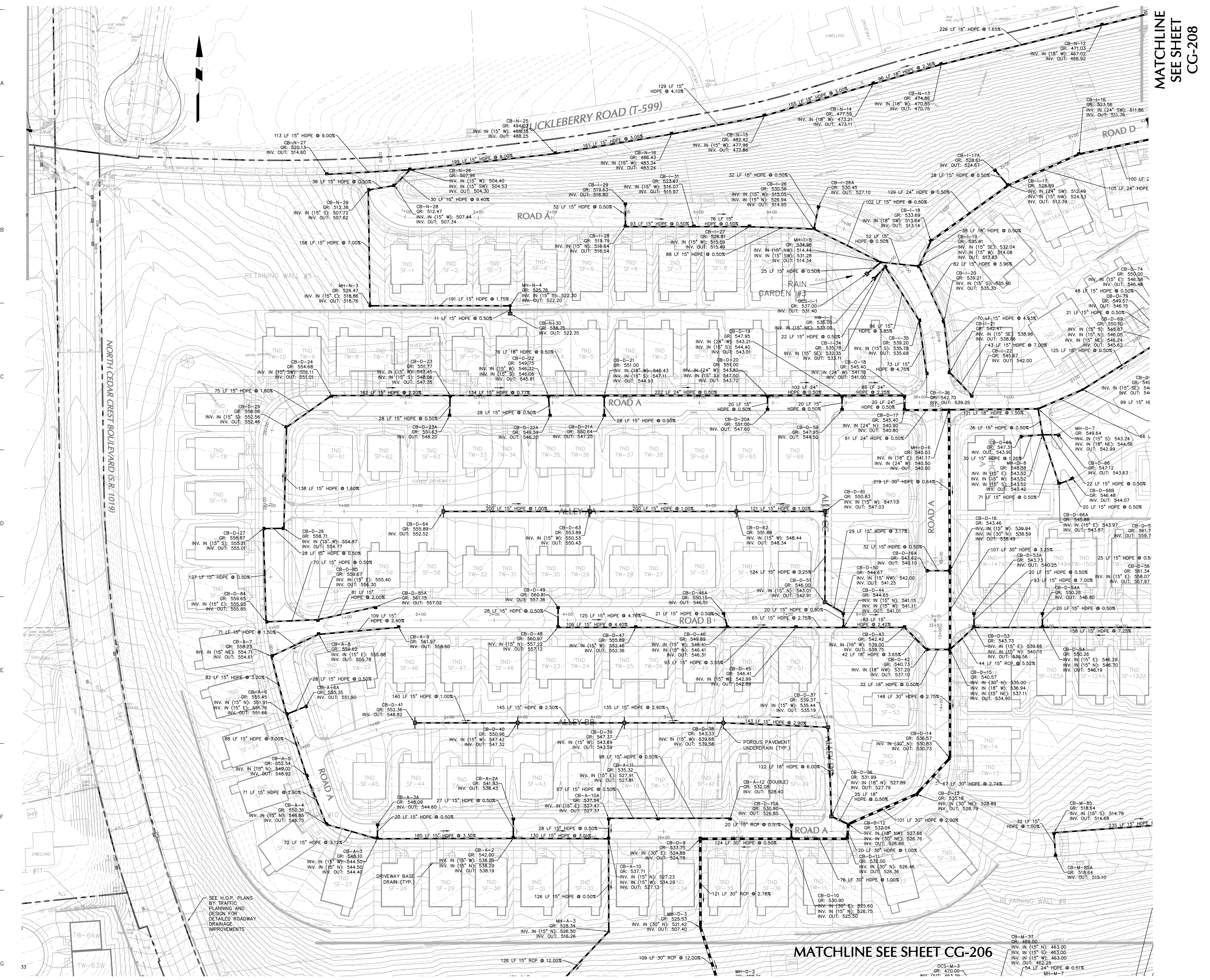
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Project	RIDGE FARMS	Drawing Title	DRAINAGE PLAN	Project No.	240043301	Drawing No.	CG-206
Date	10/06/2020	Scale	1" = 50'	Drawn By	JDM	Checked By	JSE
Submission Date		Sheet	78	of 151			

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	PROPOSED SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH FIN MARKER)	SOILS SYMBOLS
PROPOSED LOT LINE (WITH CONCRETE RESIDUE MONUMENTS)	SOIL TYPE
BUILDING SETBACK LINE	TREELINE
PROPOSED UTILITY EASEMENT	UTILITY SYMBOLS
STORMWATER BMP AREA	EXISTING SANITARY SEWER MANHOLE
CONCRETE SIDEWALK	EXISTING FIRE HYDRANT
SIEN	PROPOSED STORM SEWER
RETAINING WALL	PROPOSED SANITARY SEWER FORCE MAIN
BASELINE	PROPOSED WATER MAIN
	PROPOSED SANITARY SEWER
	PROPOSED GAS MAIN
	PROPOSED TELEPHONE AND ELECTRIC
	PROPOSED FIRE HYDRANT
	EXISTING CATCH BASIN
	EXISTING WATER VALVE
	EXISTING MANHOLE
	EXISTING ELECTRIC POLE



MATCHLINE SEE SHEET CG-208

MATCHLINE SEE SHEET CG-206

NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.

OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

SEE H.O.P. PLANS BY TRAFFIC PLANNING AND DESIGN FOR DETAILED ROADWAY IMPROVEMENTS



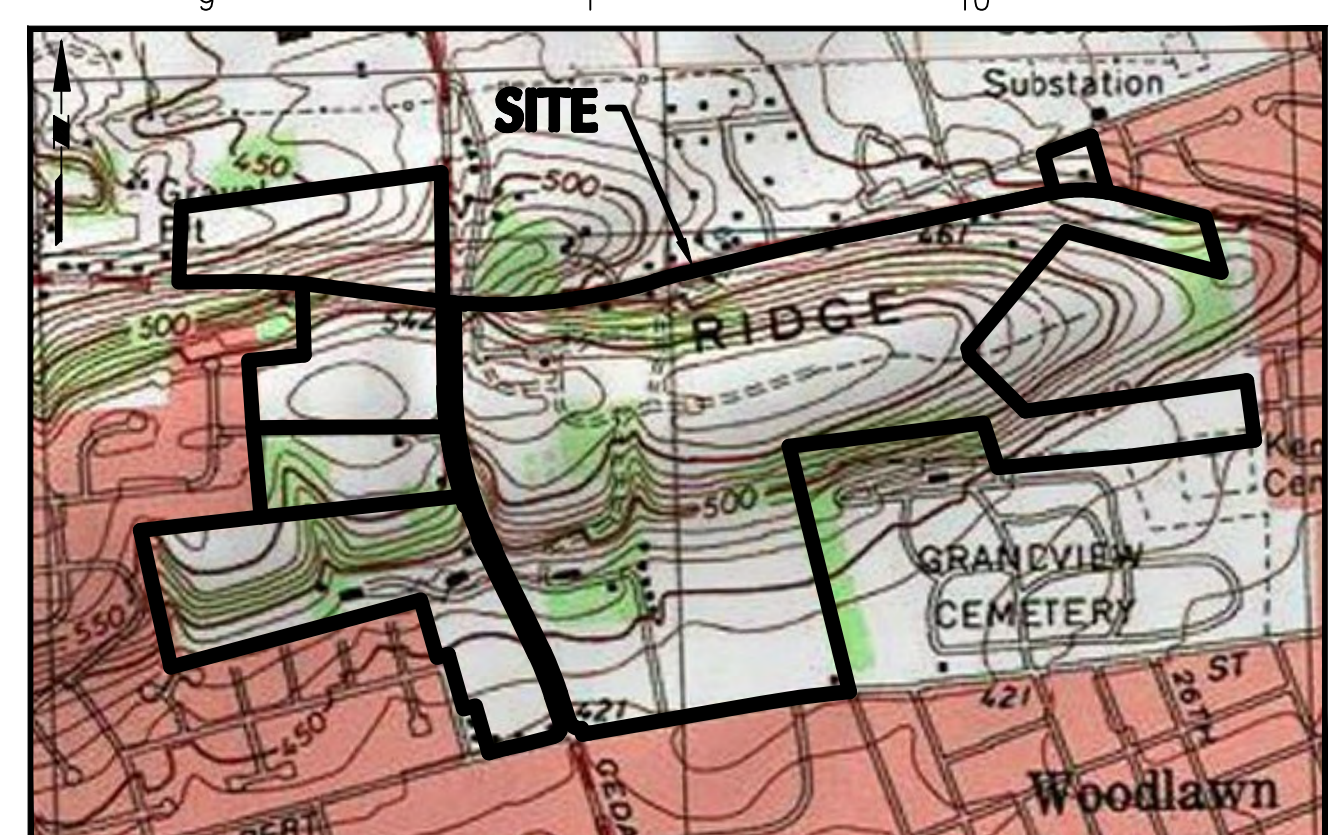
Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: J. SCOTT ENGBART
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E
 DATE SIGNED: 10/06/2020

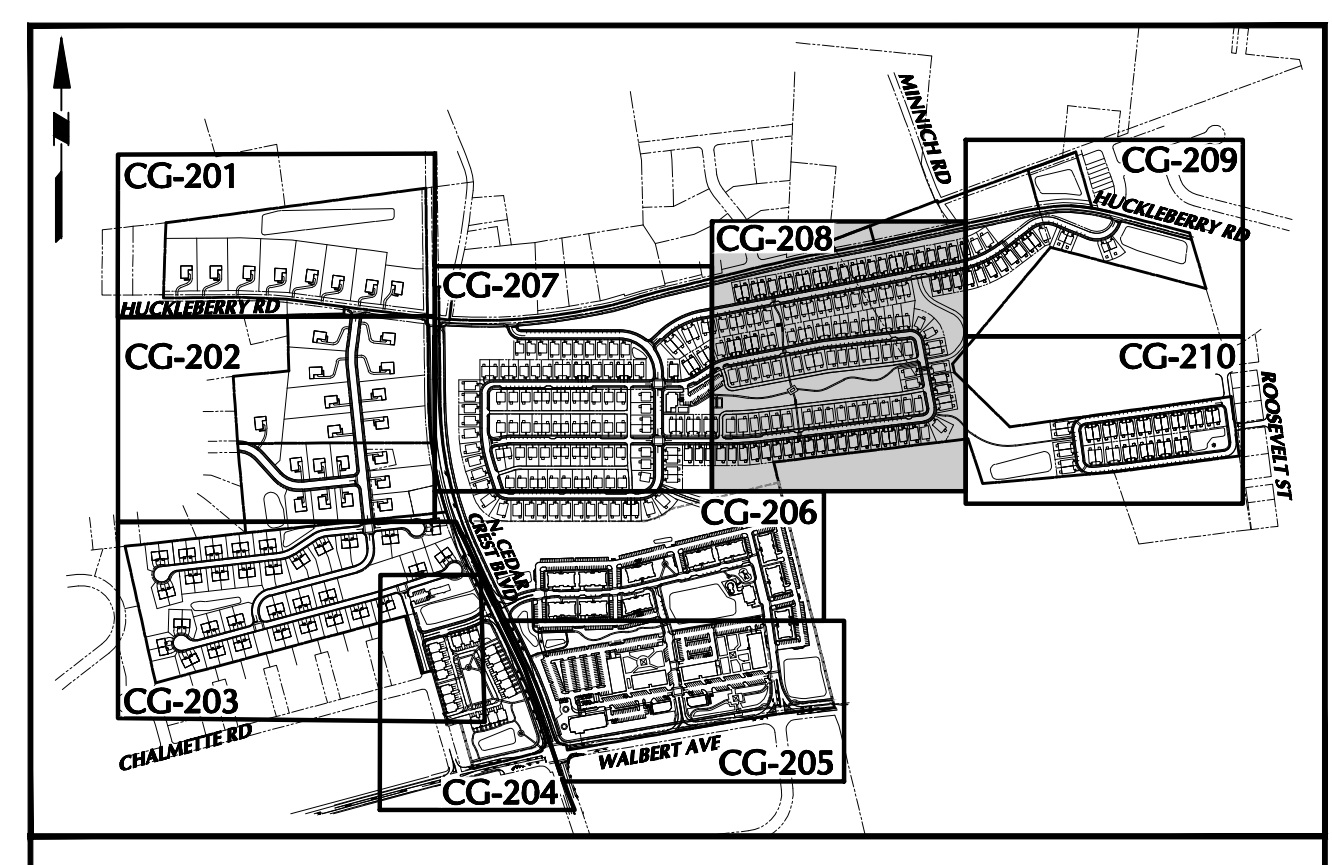
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 Langan Engineering and Environmental Services, Inc.
 Langan International LLC
 Collectively known as Langan

Project: **RIDGE FARMS DRAINAGE PLAN**
 Drawing Title: **CG-207**
 Project No.: 240043301
 Date: 10/06/2020
 Scale: 1" = 50'
 Drawn By: JDM
 Checked By: JSE
 Submission Date: 10/06/2020
 Sheet 79 of 151

Project No.: 240043301
 Date: 10/06/2020
 Scale: 1" = 50'
 Drawn By: JDM
 Checked By: JSE
 Submission Date: 10/06/2020
 Sheet 79 of 151

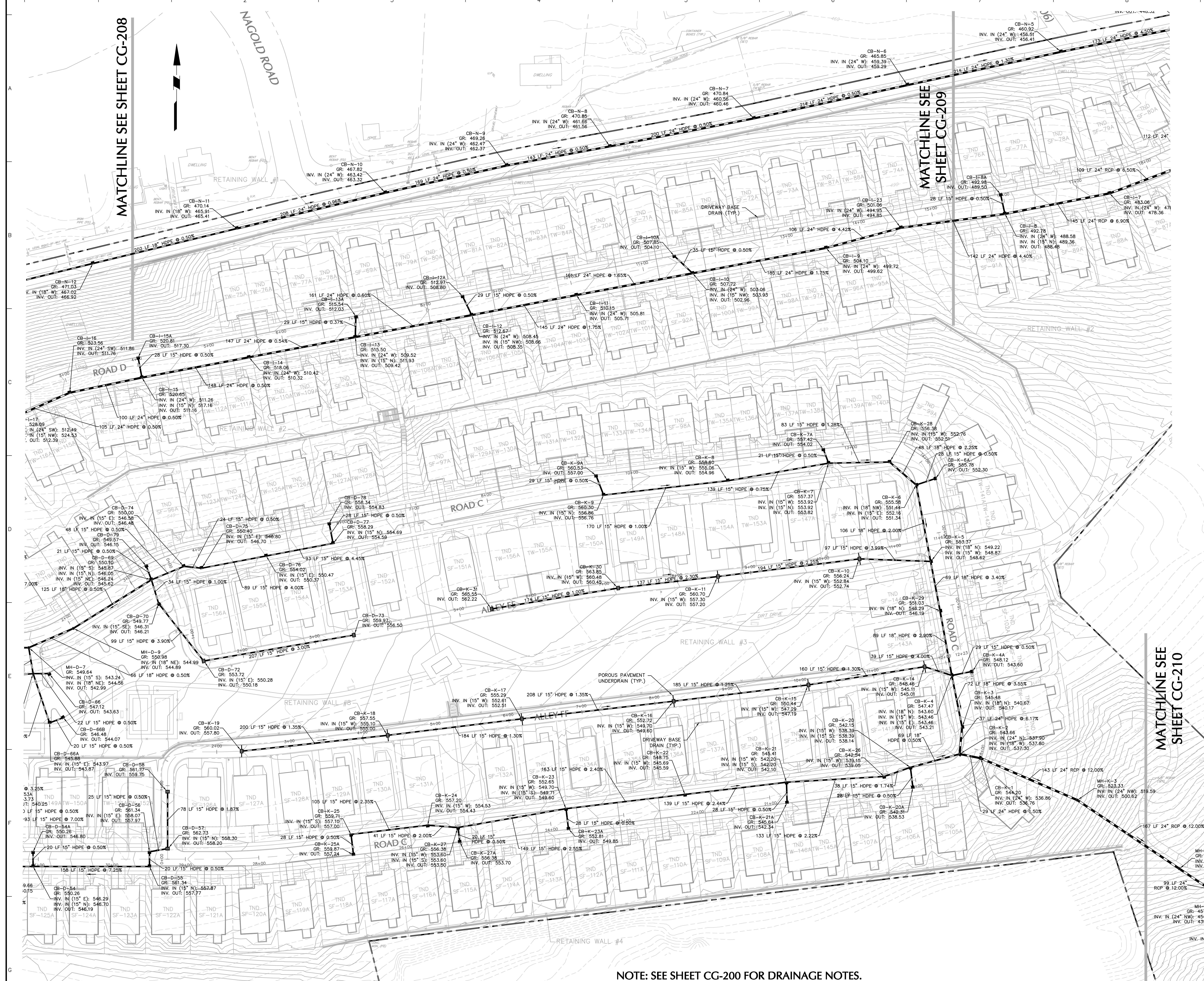


SITE LOCATION MAP
SOURCE: USGS 7.5 MINUTE MAP FOR ALLENTOWN WEST, PA 2016
1"=1000'



KEY MAP
1"=1000'

LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	PROPOSED SETBACK ELEVATION
PROPOSED LOT LINE (WITH FIN MARKER)	SOILS SYMBOLS
PROPOSED LOT LINE	SOIL TYPE
BUILDING SETBACK LINE	SOIL TYPE
PROPOSED UTILITY EASEMENT	TREELINE
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIEN	
RETAINING WALL	
BASELINE LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING TELEPHONE AND ELECTRIC
PROPOSED GAS MAIN	PROPOSED FIRE HYDRANT
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.

OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
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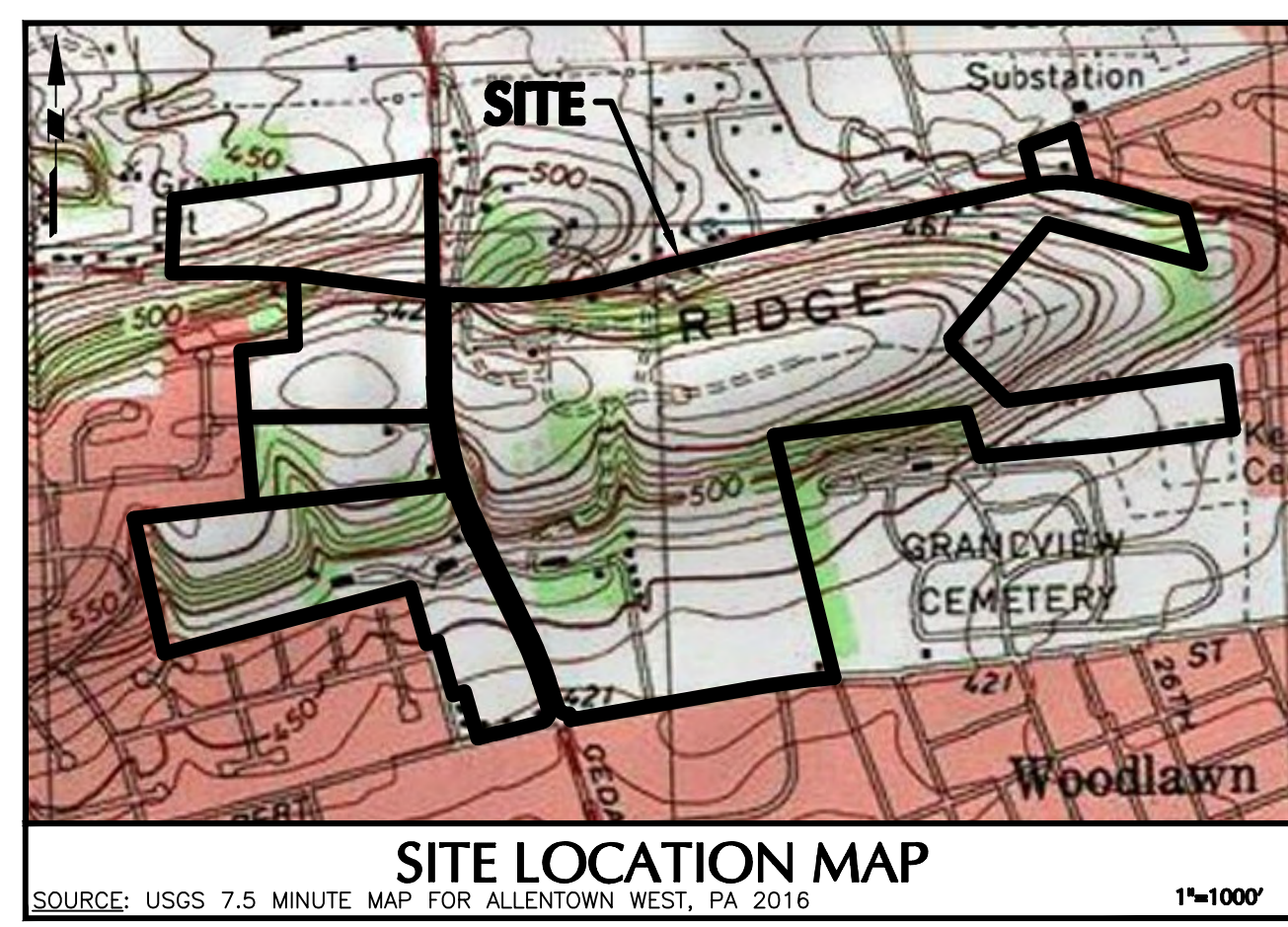
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07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

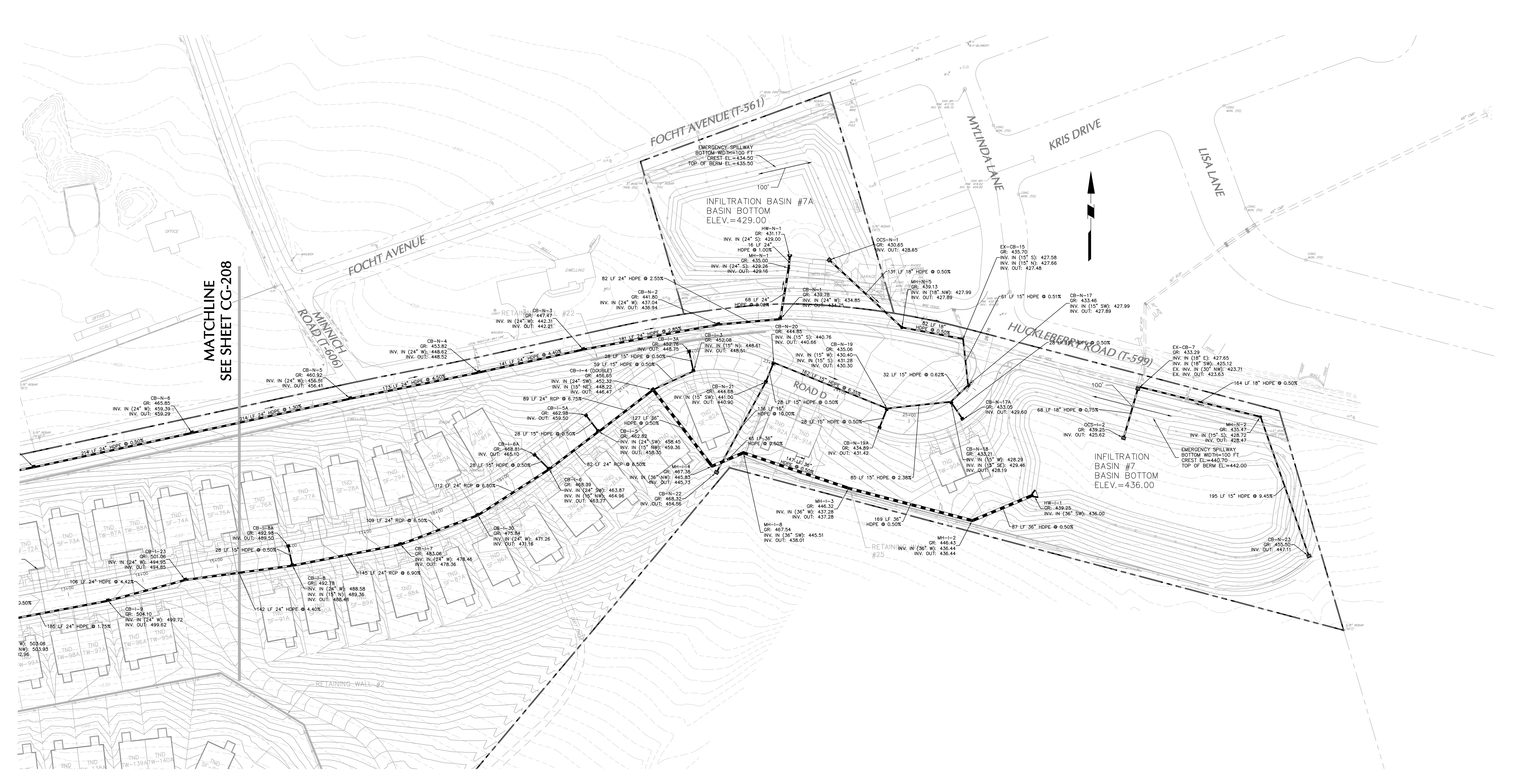
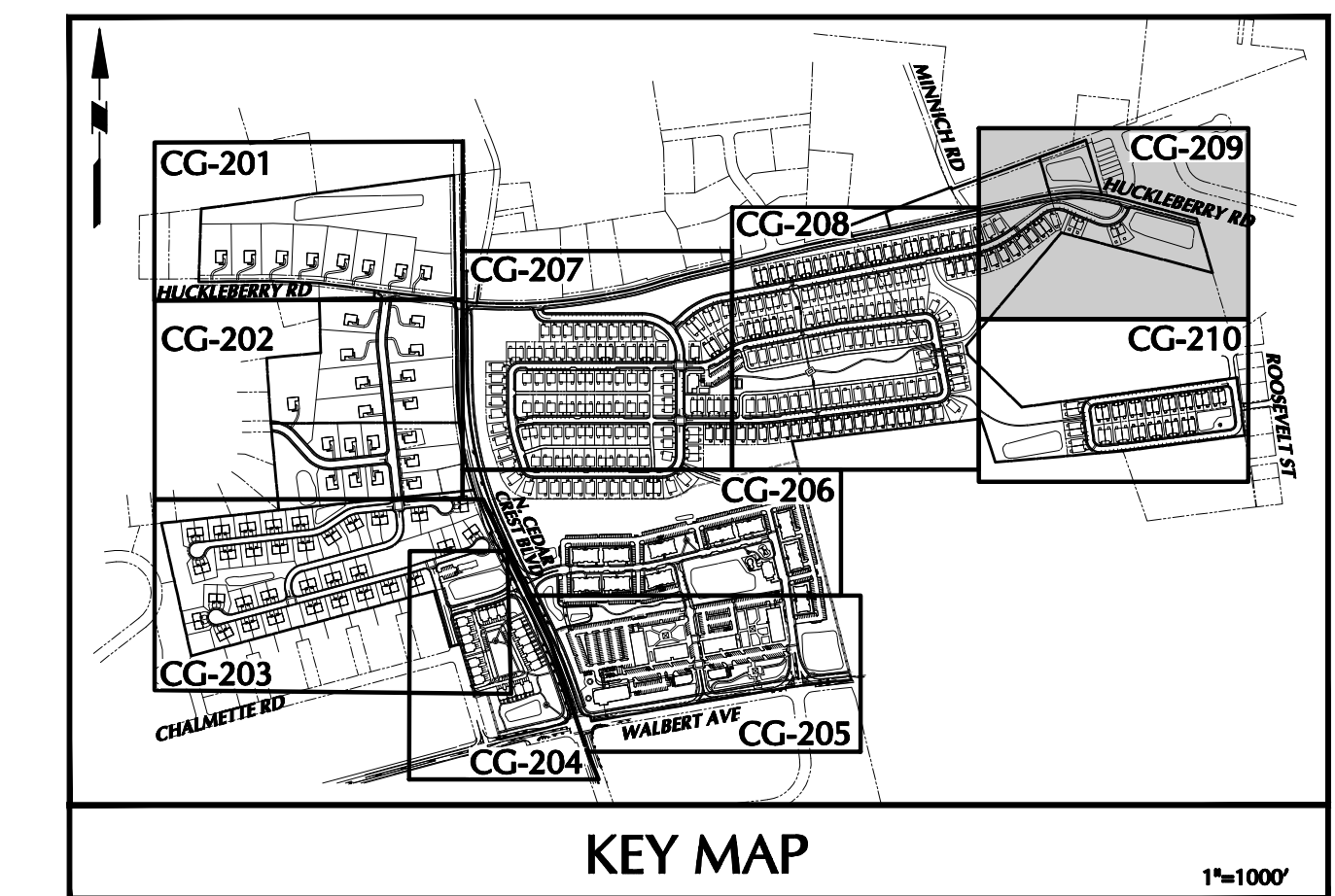
LANGAN
 One West Broad Street, Suite 200, Berwyn, PA 19018
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 Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
 Langan Engineering and Environmental Services, Inc.
 Langan Group, Inc.
 Collectively known as Langan

Project: **RIDGE FARMS**
 Drawing Title: **DRAINAGE PLAN**
 Project No.: **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 LEHIGH COUNTY PENNSYLVANIA

Drawing No.: **CG-208**
 Sheet 80 of 151



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOLS SYMBOLS
PROPERTY LINE	SOLS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOLS TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SOIL	
RETAINING WALL	
BASEIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.

Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SCALE IN FEET
 0 25 50

SIGNATURE: J. SCOTT ENELHARDT
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

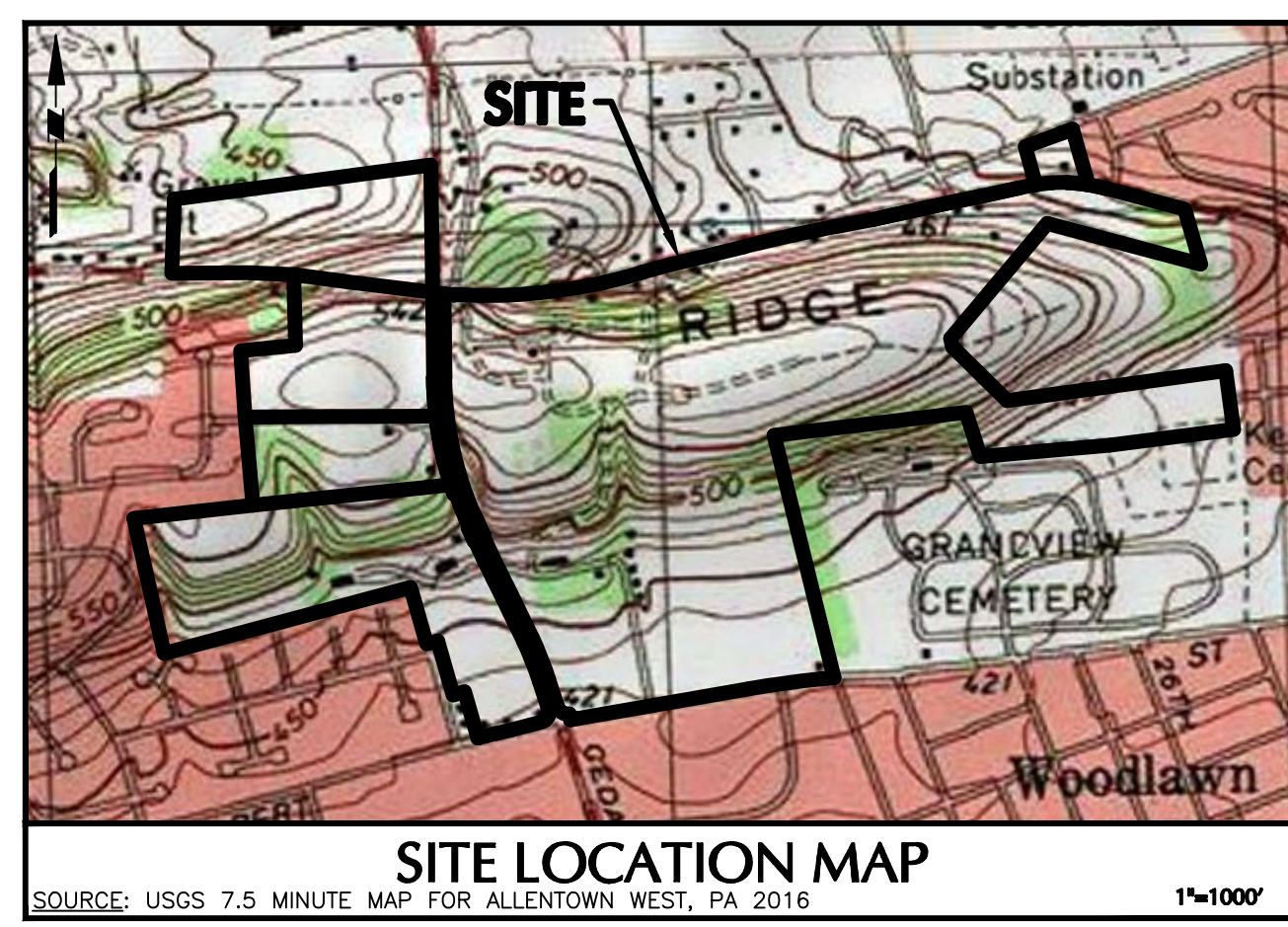
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Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

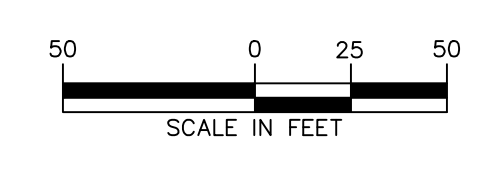
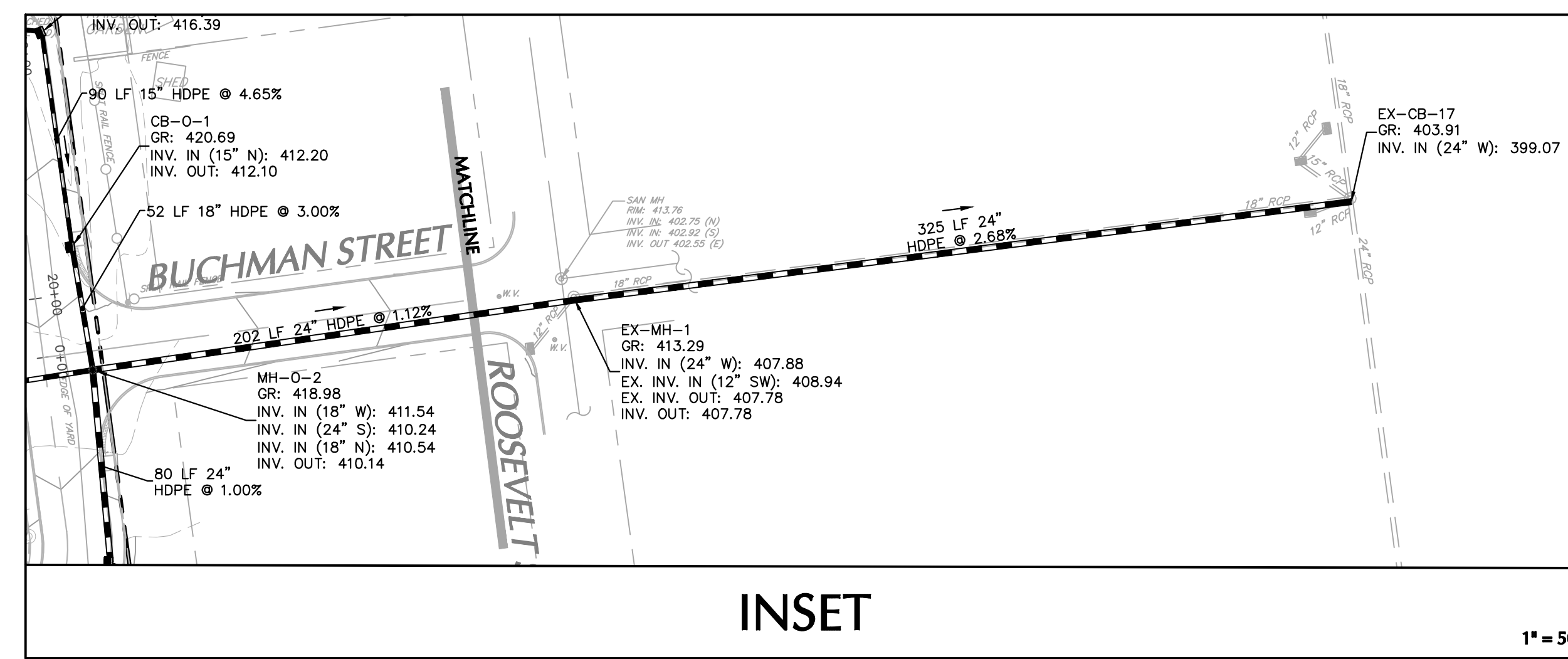
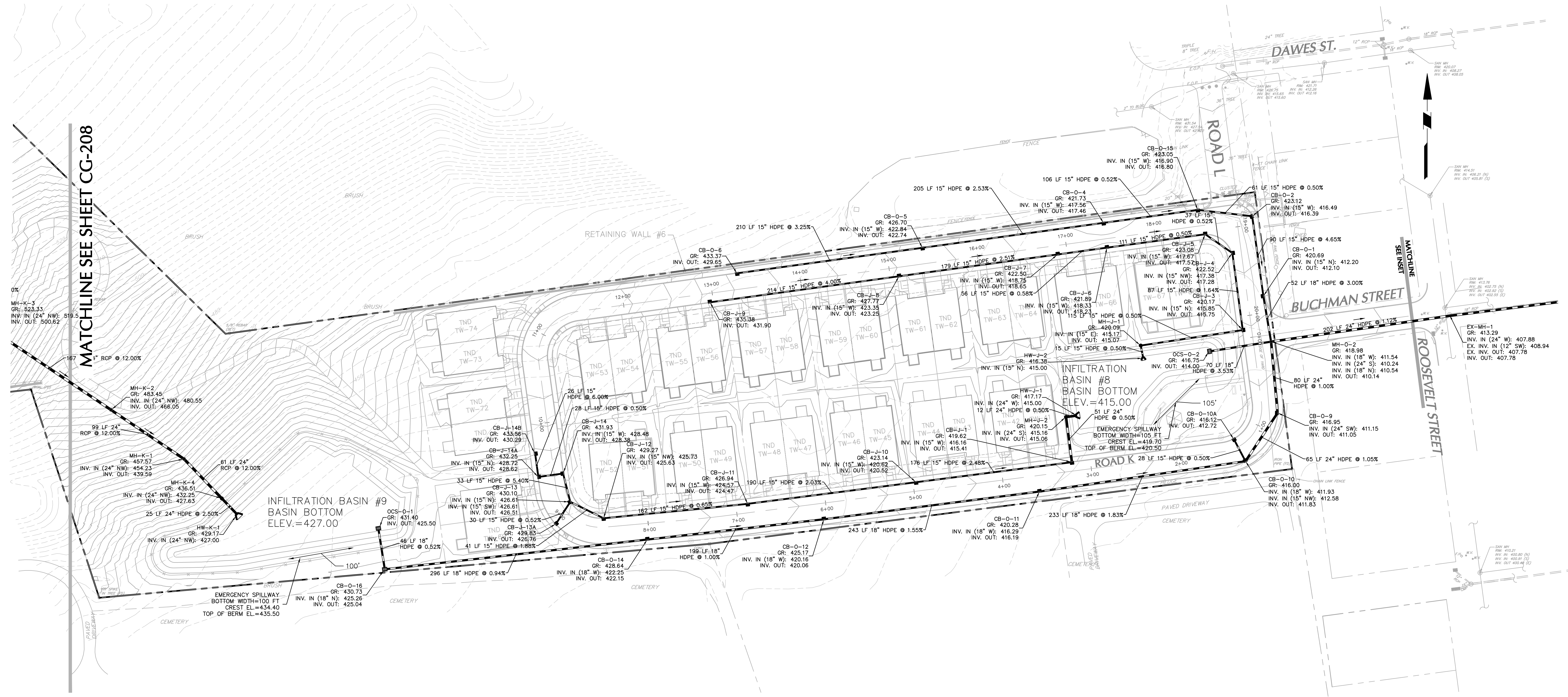
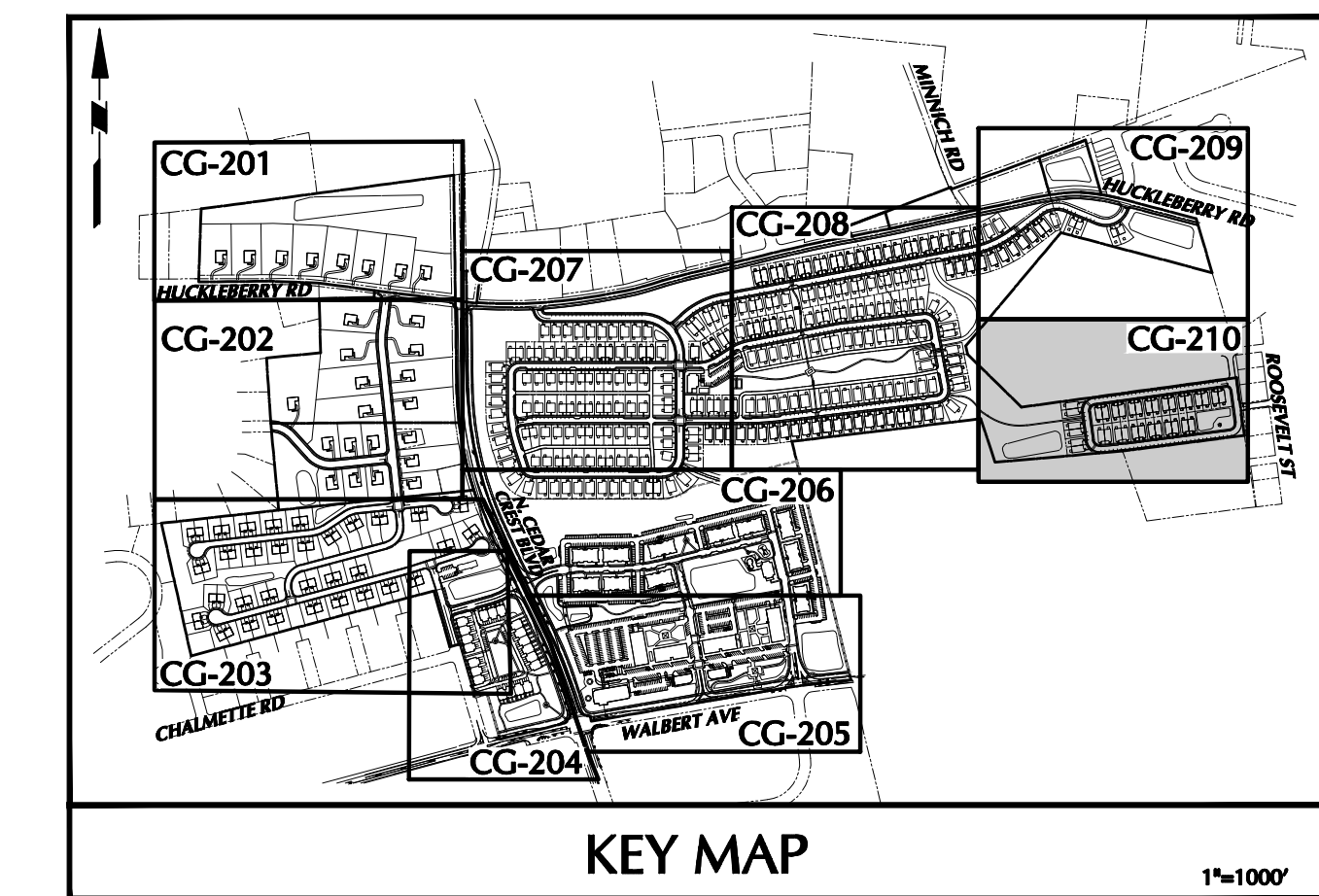
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Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CG-209**
 Sheet 81 of 151

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301 LANSBAN



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	EXISTING SPOT ELEVATION
PROPOSED BUILDING LINE	PROPOSED SPOT ELEVATION
PROPERTY LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY CASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SON	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



NOTE: SEE SHEET CG-200 FOR DRAINAGE NOTES.

OWNER/APPLICANT
KAY WALBERT LLC.
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5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

Date	Description	No.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

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PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

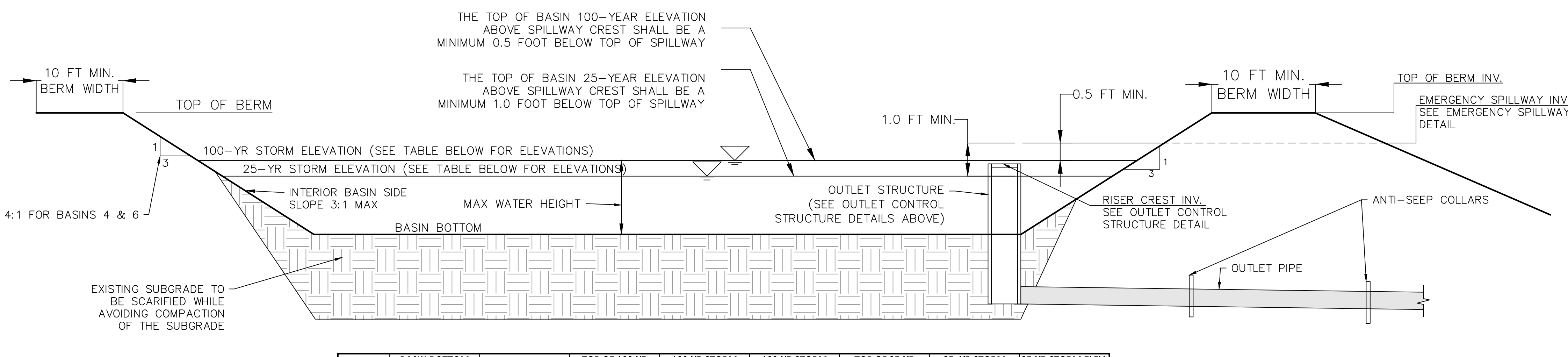
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Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
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Project
RIDGE FARMS
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY PENNSYLVANIA

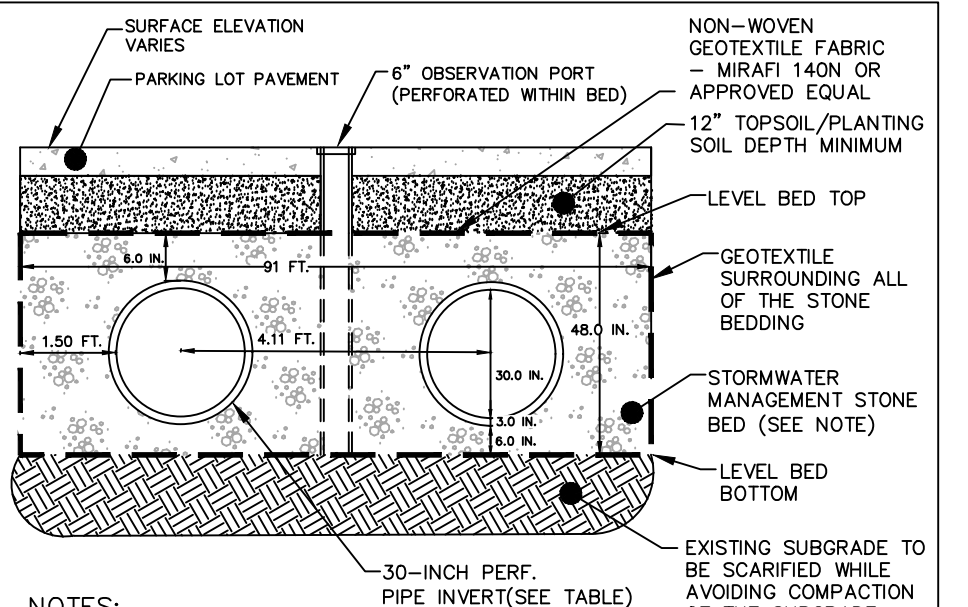
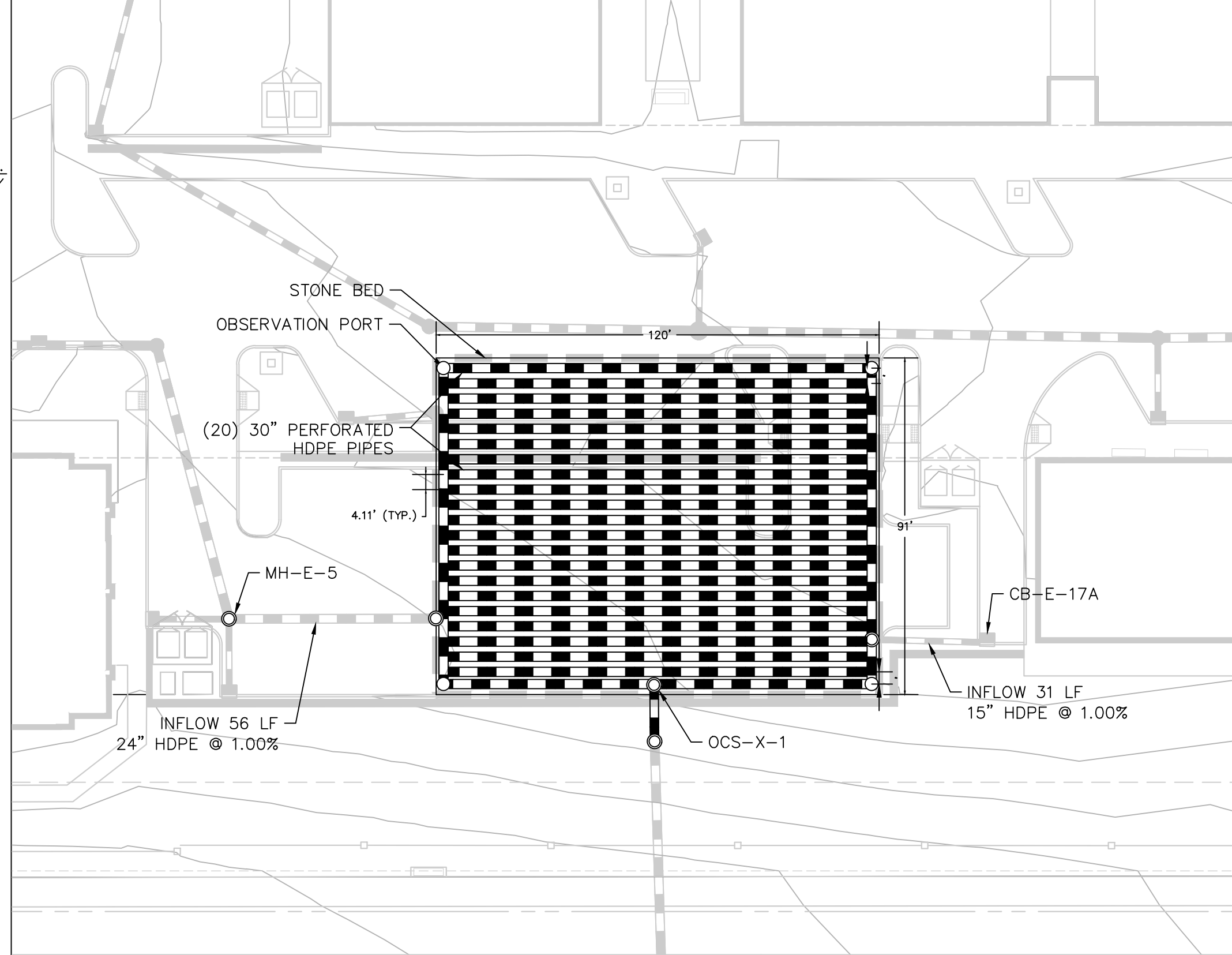
Drawing Title
DRAINAGE PLAN

Project No. 240043301
Date 10/06/2020
Scale 1"=50'
Drawn By JDM
Checked By JSE
Submission Date
Drawing No. CG-210
Sheet 82 of 151

Filename: c:\bml\langan-pw\01dm\42624\004\3301-CG201-0101.DWG Date: 9/23/2021 Time: 18:22 User: droyer Style: State Layout Layout: CG-210



BASIN	BASIN BOTTOM ELEV.	TOP OF BERM	TOP OF 100-YR STORM ELEV.	100-YR STORM PONDING DEPTH	100-YR STORM ELEV. FREEBOARD	TOP OF 25-YR STORM ELEV.	25-YR STORM PONDING DEPTH	25-YR STORM ELEV. FREEBOARD
1	447.00	450.50	448.53	1.53	0.97	448.39	1.39	1.11
1A	442.00	445.50	443.82	1.82	0.98	443.75	1.75	1.05
1B	460.00	465.50	464.11	4.11	0.59	462.90	2.90	1.80
2	442.00	449.50	447.67	5.67	0.58	445.81	3.81	2.44
3	417.50	425.50	423.85	6.35	0.80	422.01	4.51	2.64
4	451.40	460.90	459.32	7.92	0.68	457.12	5.72	2.88
5	541.00	548.50	546.26	5.26	0.74	545.52	4.52	1.48
6	439.00	444.50	442.95	3.95	0.55	441.77	2.77	1.73
7	436.00	442.00	440.18	4.18	0.52	439.41	3.41	1.29
7A	429.00	435.50	433.94	4.94	0.56	432.12	3.12	2.38
8	415.00	420.50	419.16	4.16	0.54	418.09	3.09	1.61
9	427.00	435.50	433.08	6.08	1.32	431.66	4.66	2.74
10	424.00	433.50	431.84	7.84	0.56	429.46	5.46	2.94



NOTES:

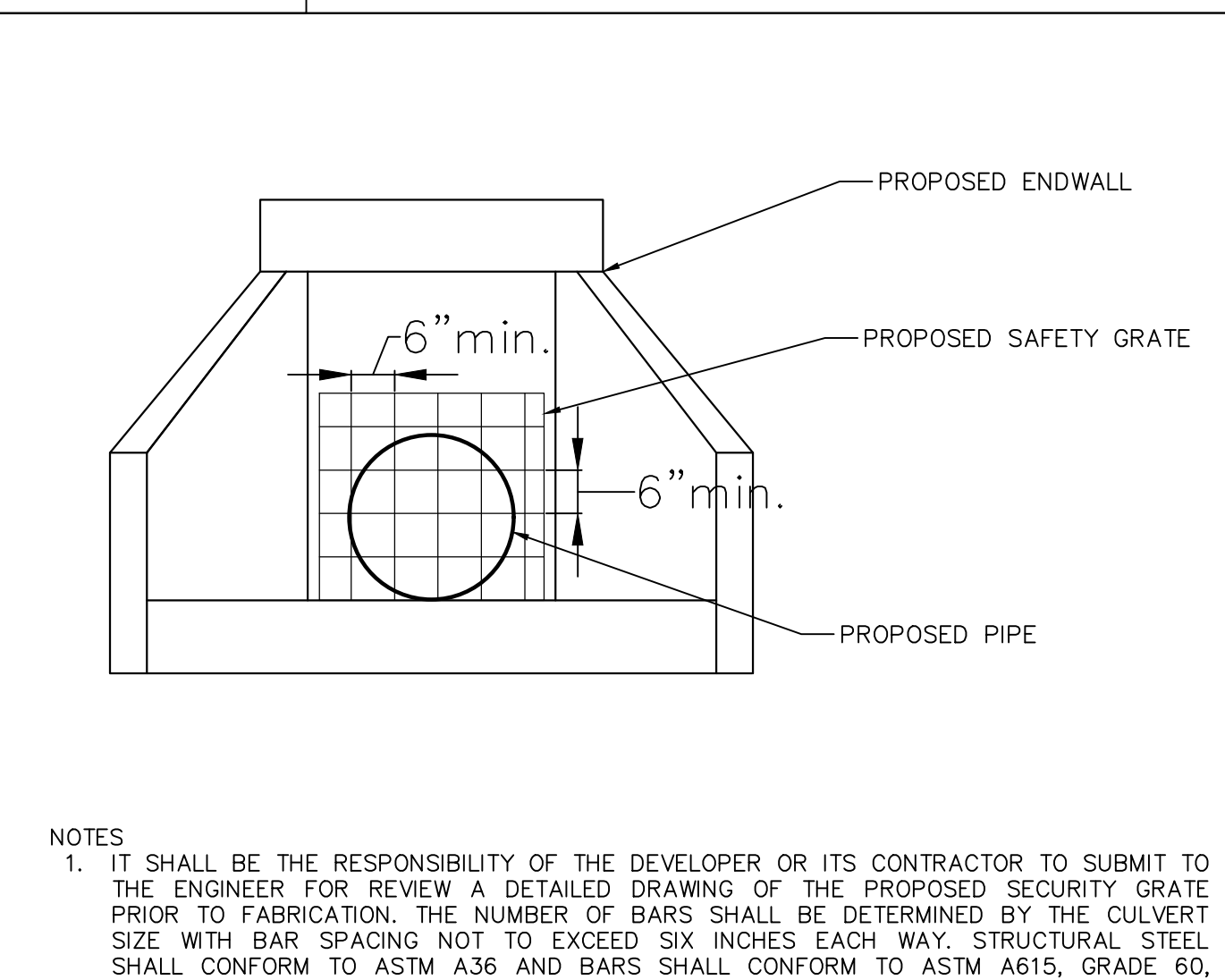
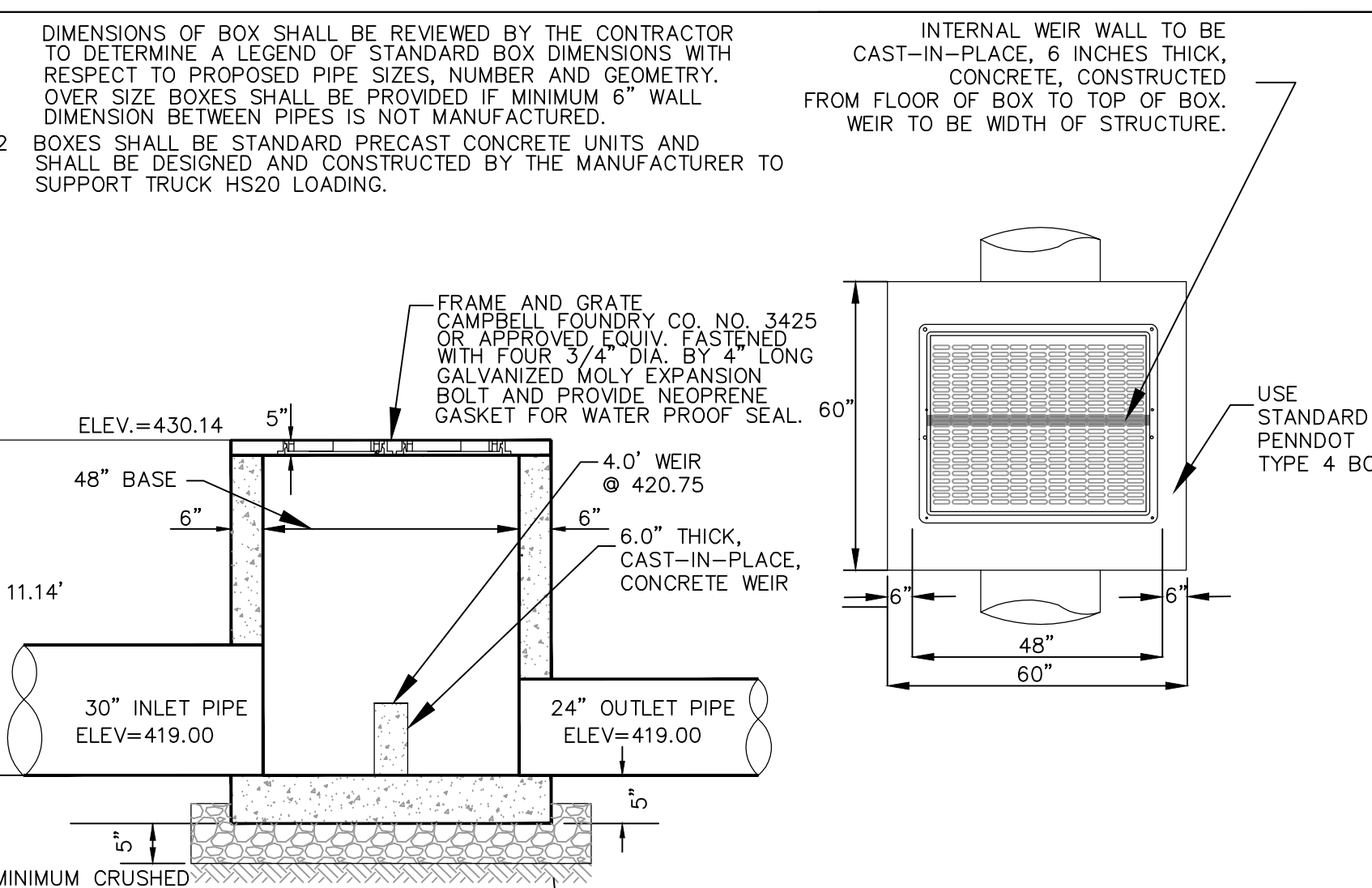
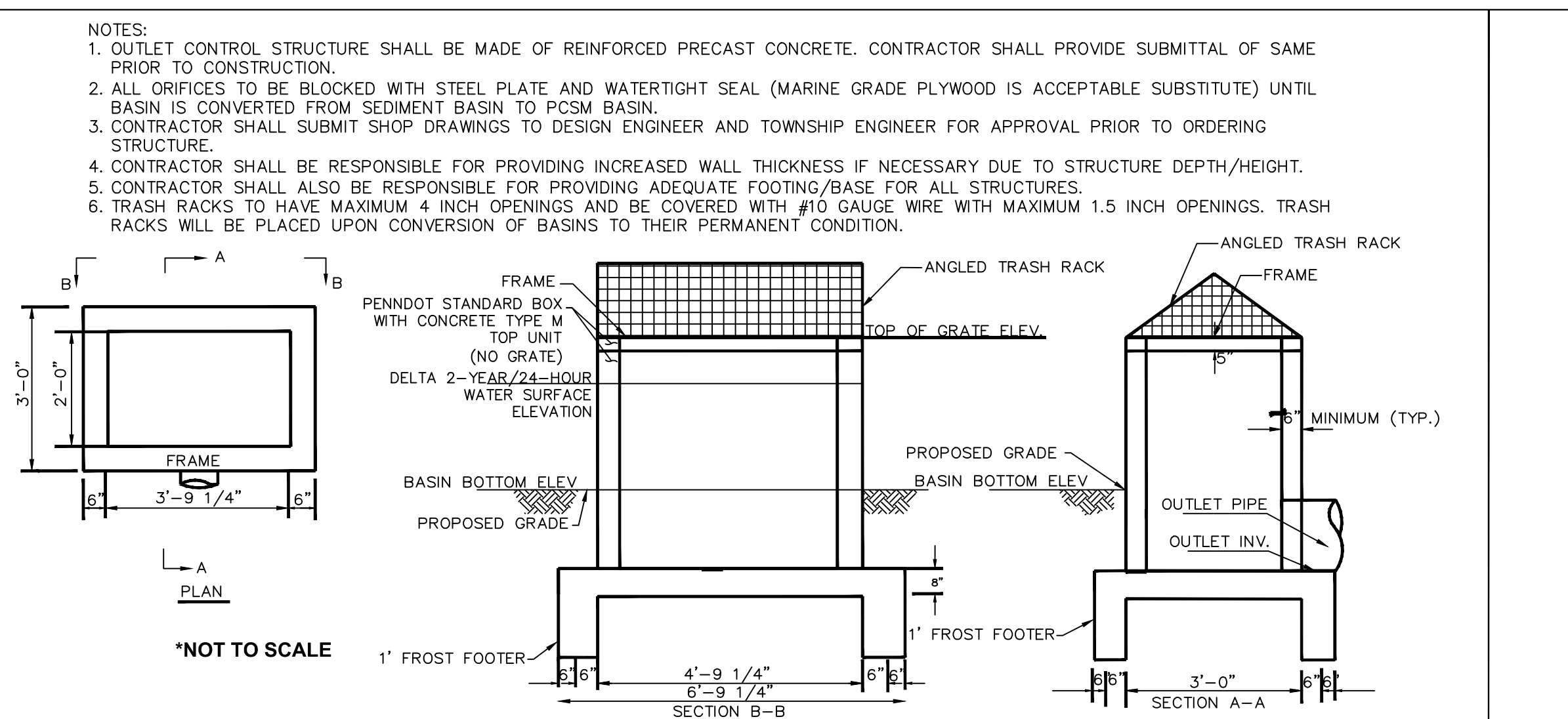
- STORMWATER MANAGEMENT STONE BED SHALL BE 2-INCH TO 1-INCH UNIFORMITY GRADED COARSE AGGREGATE, WITH A WASH LOSS OF NO MORE THAN 0.5% AASHTO SIZE NUMBER 3 PER AASHTO SPECIFICATIONS, PART I, 19TH ED., 1998, OR LATER AND SHALL HAVE VOIDS 40% AS MEASURED BY ASTM-C29.
- THE CONTRACTOR SHALL CONFIRM ALONG WITH THEIR SUBMITTALS THAT THE PIPE MANUFACTURER OF THE PROPOSED PERFORATED PIPING HAS REVIEWED THE SPECIFICATIONS CONTAINED IN THE DETAIL AND CONFIRMED THAT THE PIPE SPACING, FOUNDATION, AND COVER DIMENSIONS ALONG WITH THE STONE TYPE ARE APPROPRIATE FOR USE WITH THIS PRODUCT.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE STORMWATER SYSTEM TO THE DESIGN ENGINEER FOR REVIEW PRIOR TO ORDERING/CONSTRUCTION. THIS SUBMITTAL MUST INCLUDE THE WITHDRAWAL STRUCTURES AND CONNECTION TO THE UNDERGROUND STORMWATER SYSTEM.

SUBSURFACE INFILTRATION BED 1	PIPE INVERT	NUMBER OF PIPE ROWS	LENGTH OF PIPE ROWS	TOP OF STONE BED INVERT
	INV=419.00	20	115 LF	INV=423.00

INFILTRATION BASIN CROSS SECTION DETAIL

SUBSURFACE INFILTRATION BED 1 PLAN VIEW (UG-1)

SUBSURFACE INFILTRATION BED DETAIL



NOTES:

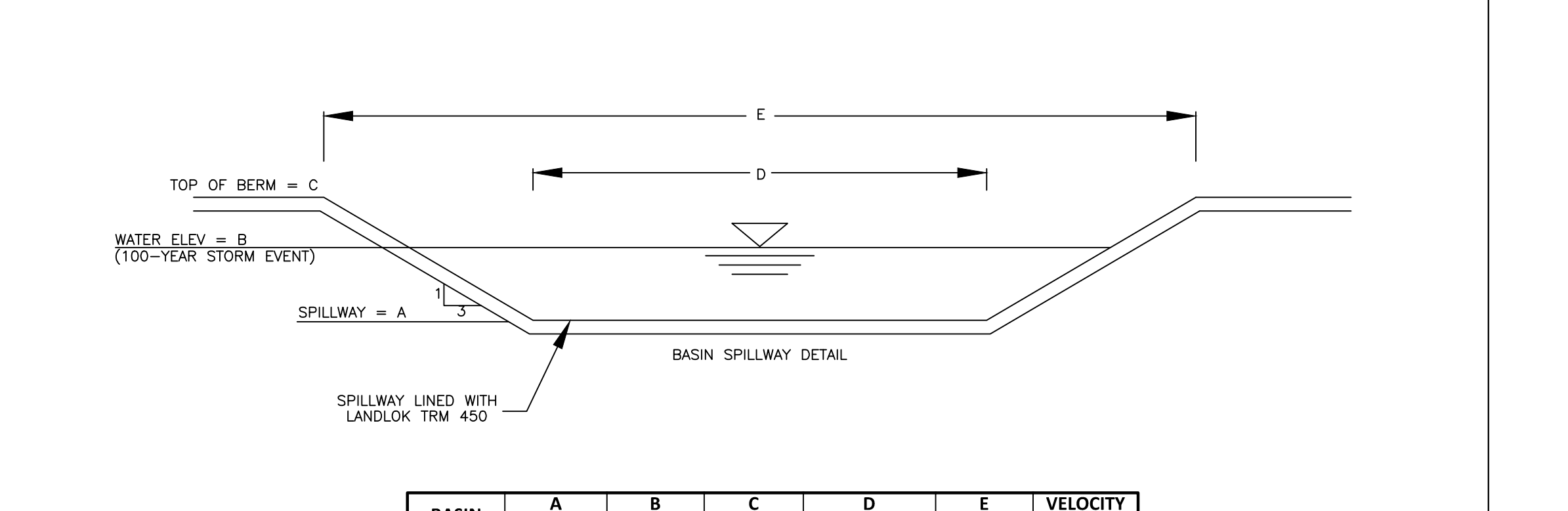
- IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER OR ITS CONTRACTOR TO SUBMIT TO THE ENGINEER FOR REVIEW A DETAILED DRAWING OF THE PROPOSED SAFETY GRATE PRIOR TO FABRICATION. THE NUMBER OF BARS SHALL BE DETERMINED BY THE CULVERT SIZE WITH BAR SPACING NOT TO EXCEED SIX INCHES EACH WAY. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 AND BARS SHALL CONFORM TO ASTM A615, GRADE 60, EPOXY COATED OR HOT-DIPPED GALVANIZED AFTER FABRICATION. GRATES SHALL BE ATTACHED TO THE STRUCTURES IN A MANNER PERMITTING READY REMOVAL FOR FUTURE CLEANING OF DEBRIS.
- ATTACH SAFETY GRATE TO HEADWALL IN A MANNER PERMITTING READY REMOVAL FOR FUTURE CLEANING OF DEBRIS.
- SAFETY GRATES SHALL BE INSTALLED ON ALL HEADWALLS, ENDWALLS, END SECTIONS, AND CULVERTS WITH OPENINGS 18 INCHES OR GREATER IN ACCORDANCE WITH SOUTH WHITEHALL TOWNSHIP STANDARD CONSTRUCTION DOCUMENTS.

BASIN	BASIN 1	BASIN 1A	BASIN 1B	BASIN 2	BASIN 3	BASIN 4	BASIN 5	BASIN 6	BASIN 7	BASIN 7A	BASIN 8	BASIN 9	BASIN 10
TOP OF GRATE ELEV.	448.00	443.50	464.00	443.75	421.15	455.50	545.50	441.50	439.25	430.65	416.75	431.40	427.25
OUTLET PIPE SIZE	18"	18"	24"	18"	24"	18"	24"	18"	18"	18"	24"	24"	24"
OUTLET PIPE INVERT	443.60	440.50	458.39	440.00	417.50	451.40	536.00	439.00	425.63	428.65	414.00	425.50	423.78
OUTLET PIPE SLOPE	0.50%	0.50%	0.55%	0.50%	0.50%	2.00%	0.53%	4.19%	0.75%	0.50%	3.53%	0.52%	1.50%

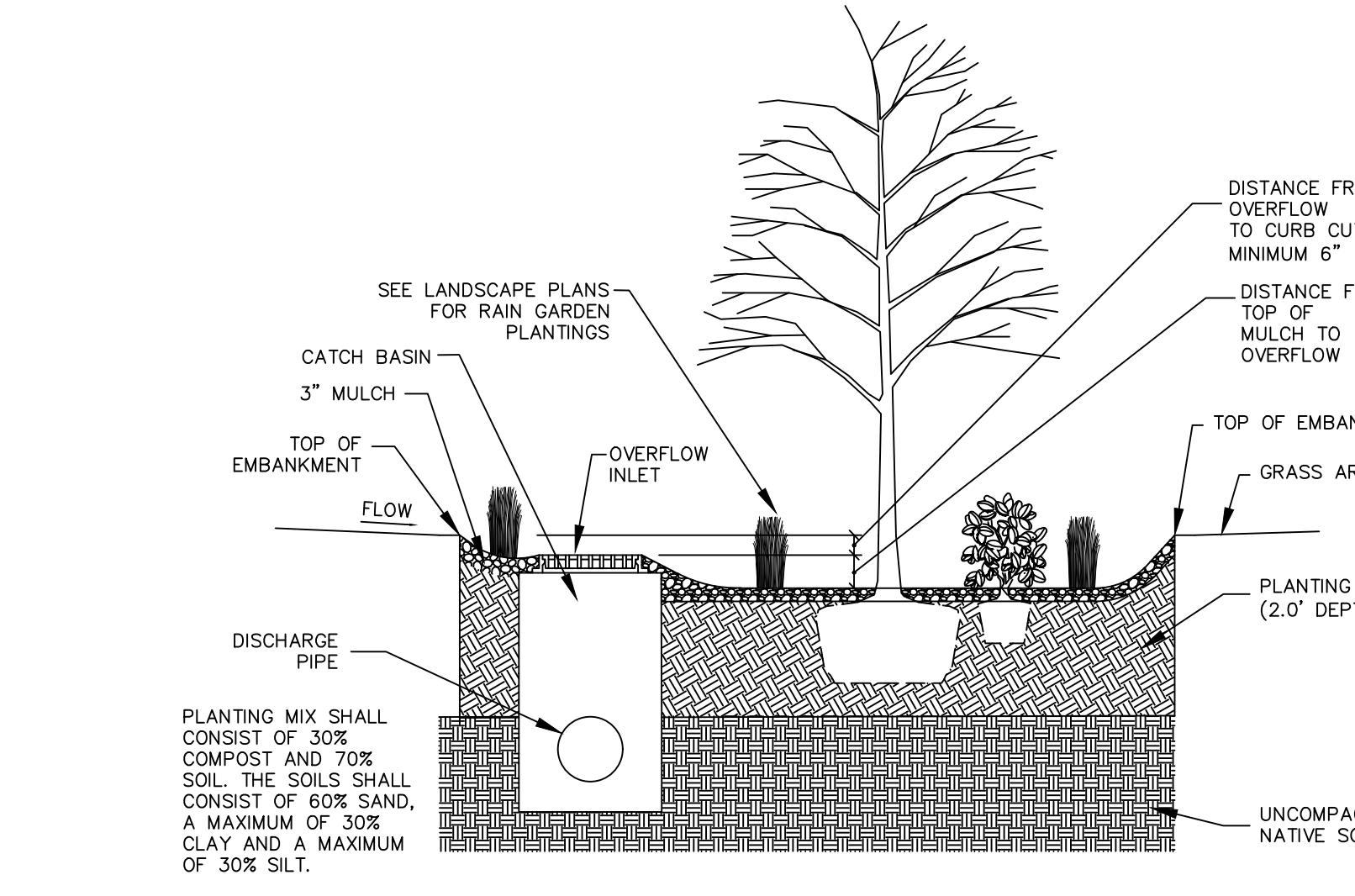
OUTLET CONTROL STRUCTURE FOR INFILTRATION BASINS

SUBSURFACE BASIN #1 - OUTLET CONTROL STRUCTURE DETAIL

HEADWALL SAFETY GRATE



BASIN	A (FT)	B (FT)	C (FT)	D (FT)	E (FT)	VELOCITY (FPS)
1	449.50	449.92	450.50	20.00	26.0	1.83
1A	444.00	444.93	435.50	100.00	54.2	1.09
1B	464.70	464.99	465.50	80.00	84.8	1.61
2	448.25	448.98	449.50	110.00	117.5	2.52
3	424.65	425.00	425.50	155.00	160.1	1.77
4	460.00	460.36	460.250	24"	255.4	1.80
5	547.00	547.96	548.50	22.00	31.0	2.60
6	443.50	444.00	444.50	130.00	136.0	2.10
7	440.70	441.33	442.00	100.00	107.8	2.34
7A	434.50	435.00	435.50	100.00	106.0	2.10
8	419.70	420.00	420.50	105.00	109.8	1.63
9	434.40	434.94	435.50	100.00	106.6	2.18
10	432.40	433.00	433.50	150.00	156.6	2.30

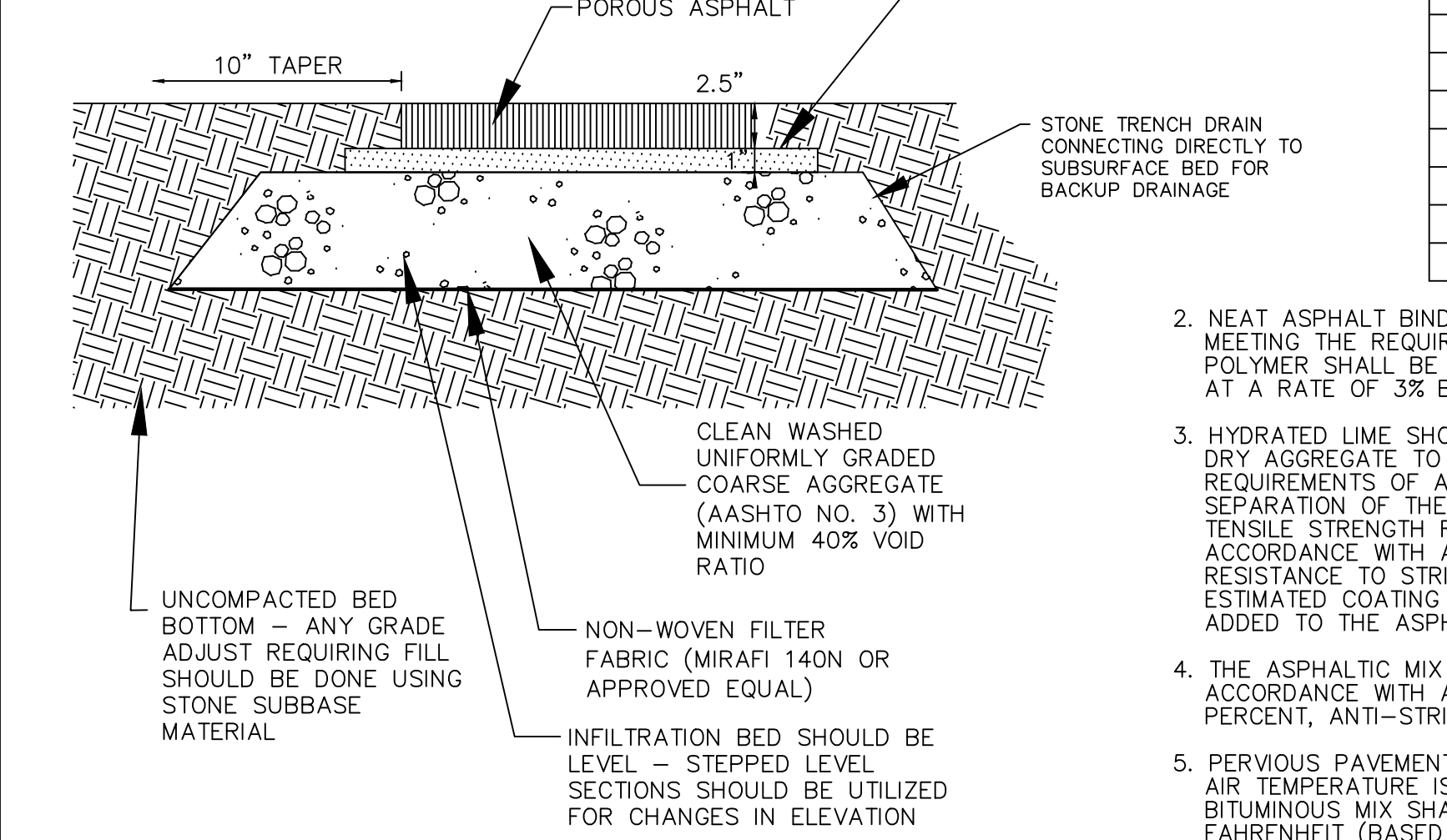


RAIN GARDEN #	BOTTOM ELEVATION	INFILTRATION ELEVATION	2 YR WATER SURFACE/OVERFLOW INLET ELEVATION	TOP OF BANK ELEVATION	SIDE SLOPES (K:1)	DISCHARGE PIPE SIZE (IN.)	PIPE INVERT
RAIN GARDEN #1	506.00	504.00	508.00	510.00	4	15	502.83
RAIN GARDEN #2	531.00	529.00	533.00	534.00	4	15	529.00
RAIN GARDEN #3	535.00	533.00	536.00	536.50	4	15	531.40
RAIN GARDEN #4	478.00	426.00	430.00	430.50	4	15	427.29
RAIN GARDEN #5	429.00	427.00	431.00	432.00	4	15	425.36
RAIN GARDEN #6	468.00	466.00	470.00	470.50	4	15	463.39

NOTES

- BITUMINOUS SURFACE SHALL BE LAID WITH A BITUMINOUS MIX OF 5.75% TO 6% BY WEIGHT DRY AGGREGATE. IN ACCORDANCE WITH ASTM D6390, DRAIN DOWN OF THE BINDER SHALL BE NO GREATER THAN 0.3%. AGGREGATE GRAIN IN THE ASPHALT SHALL BE A MINIMUM 90% CRUSHED MATERIAL AND HAVE THE FOLLOWING GRADATION:

POROUS ASPHALT GRADATION			
U.S. STANDARD	PARTICLE SIZE (IN)	PASSING	PERCENT (%)
1/2 INCH	0.5"	100	
3/8 INCH	0.375"	92-98	
NO. 4	0.187"	34-40	
NO. 8	0.0935"	14-20	
NO. 16	0.0469"	7-13	
NO. 30	0.0059"	0-4	
NO. 200	0.0029"	0-2	
- NEAT ASPHALT BINDER MODIFIED WITH AN ELASTOMERIC POLYMER TO PRODUCE A BINDER MEETING THE REQUIREMENTS OF 6% 76-22 AS SPECIFIED IN AASHTO MP-1. THE ELASTOMERIC POLYMER SHALL BE STYRENE-BUTADIENE-STYRENE (SBS), OR APPROVED EQUAL, APPLIED AT A RATE OF 3% BY WEIGHT OF THE TOTAL BINDER.
- HYDRATED LIME SHOULD BE ADDED AT A DOSAGE RATE OF 1% BY WEIGHT OF THE TOTAL DRY AGGREGATE. HYDRATED LIME SHALL MEET THE REQUIREMENTS OF AASTM C 977. THE ADDITIVE MUST BE ABLE TO PREVENT THE SEPARATION OF THE ASPHALT BINDER FROM THE AGGREGATE AND ACHIEVE A REQUIRED TENSILE STRENGTH RATIO (TSR) OF AT LEAST 80% IN THE ASPHALT MIX WHEN TESTED IN ACCORDANCE WITH AASHTO T 283. THE ASPHALTIC MIX SHALL BE TESTED FOR ITS RESISTANCE TO STRIPPING BY WATER IN ACCORDANCE WITH ASTM D-1664. IF THE ESTIMATED COATING AREA IS NOT ABOVE 95 PERCENT, ANTI-STRIPPING AGENTS SHALL BE ADDED TO THE ASPHALT.
- THE ASPHALTIC MIX SHALL BE TESTED FOR ITS RESISTANCE TO STRIPPING BY WATER IN ACCORDANCE WITH ASTM D-3625. IF THE ESTIMATED COATING AREA IS NOT ABOVE 95 PERCENT, ANTI-STRIPPING AGENTS SHALL BE COATED TO THE ASPHALT.
- PERVIOUS PAVEMENT SHALL NOT BE INSTALLED ON WET SURFACES OR WHEN THE AMBIENT AIR TEMPERATURE IS 50 DEGREES FAHRENHEIT OR LOWER. THE TEMPERATURE OF THE BITUMINOUS MIX SHALL BE BETWEEN 300 DEGREES FAHRENHEIT AND 350 DEGREES FAHRENHEIT (BASED ON THE RECOMMENDATIONS OF THE ASPHALT SUPPLIER).



EMERGENCY SPILLWAY - PCSM CONDITION

RAIN GARDEN DETAIL

POROUS PAVEMENT DETAIL

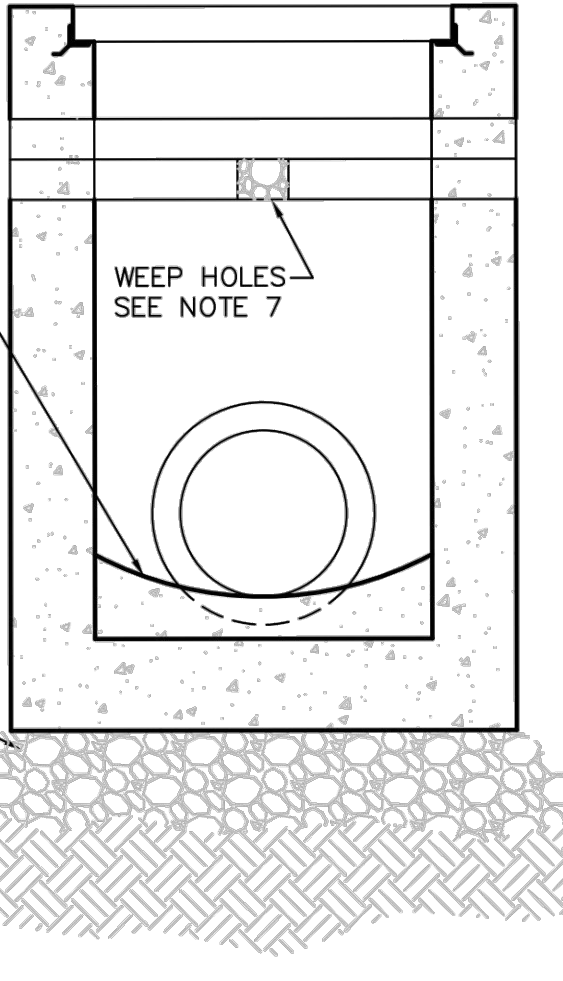
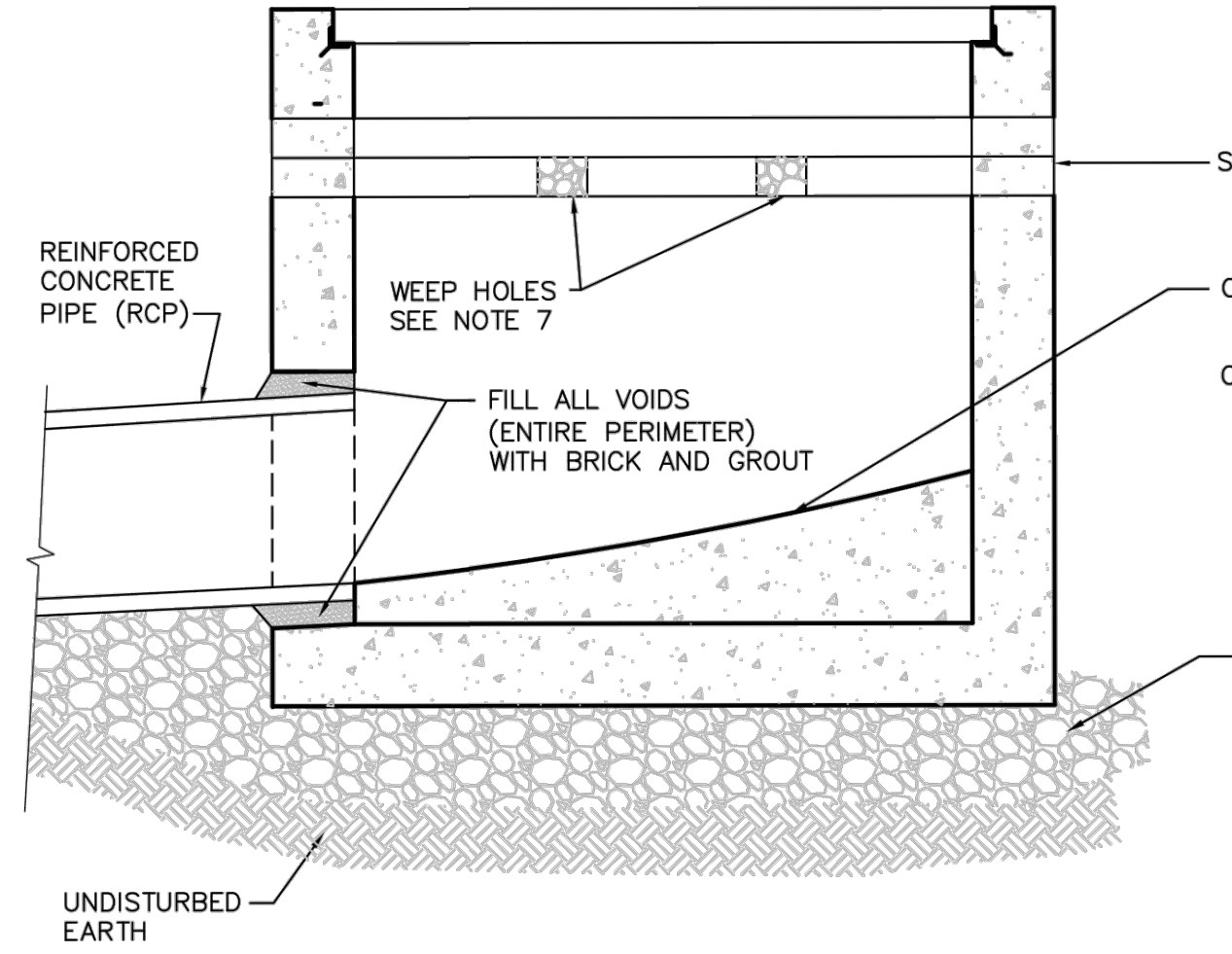
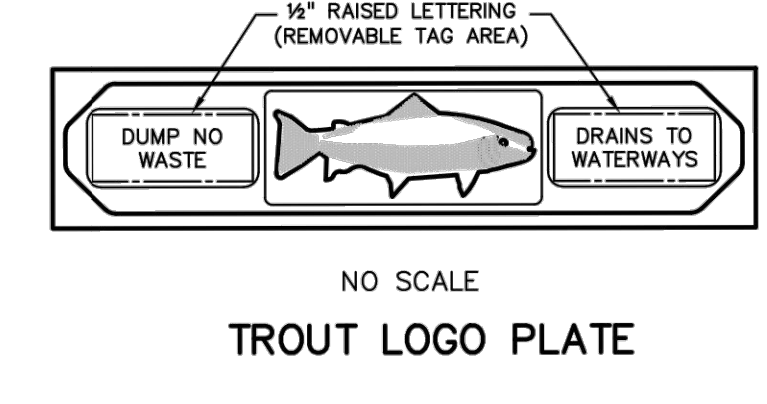
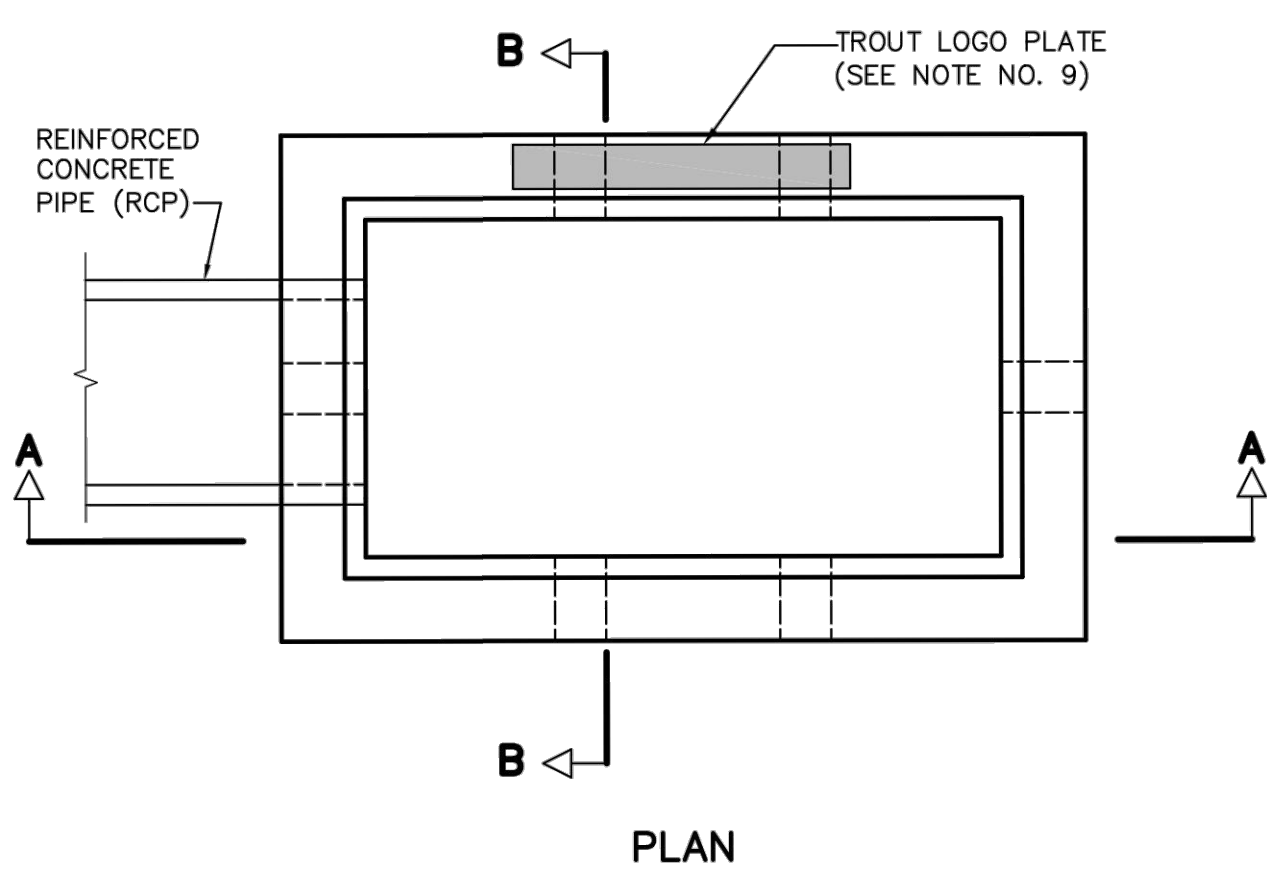
Date	Description	No.	Signature	Date Signed
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.	J. SCOTT ENGLHART	
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.		
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.		
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.		
	Date	Description	No.	

SIGNATURE: J. SCOTT ENGLHART
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

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 Langan Engineering and Environmental Services, Inc.
 Langan (U.S.) Inc.
 Langan International LLC
 Collectively known as Langan

Project: RIDGE FARMS
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY

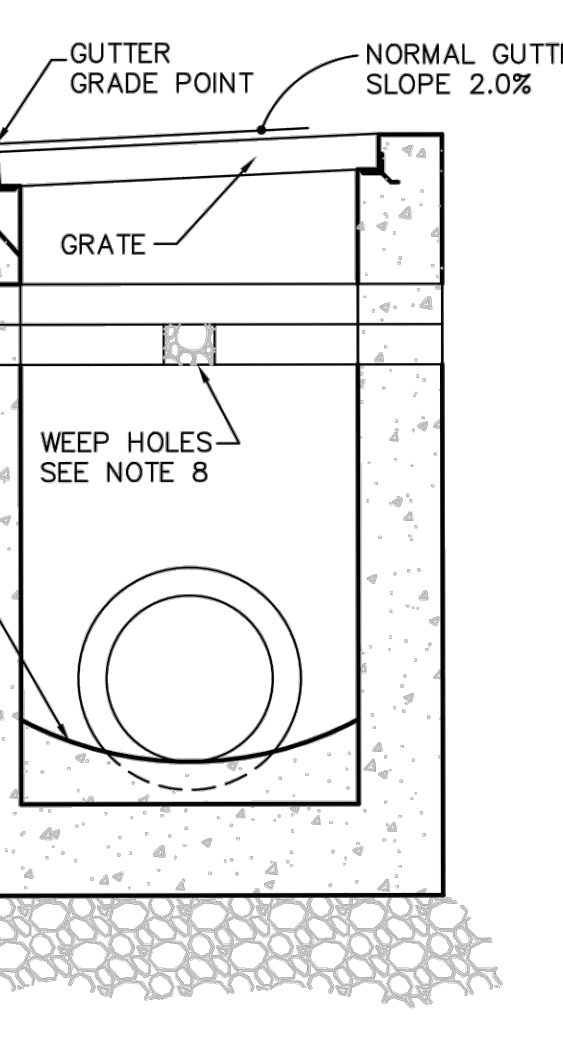
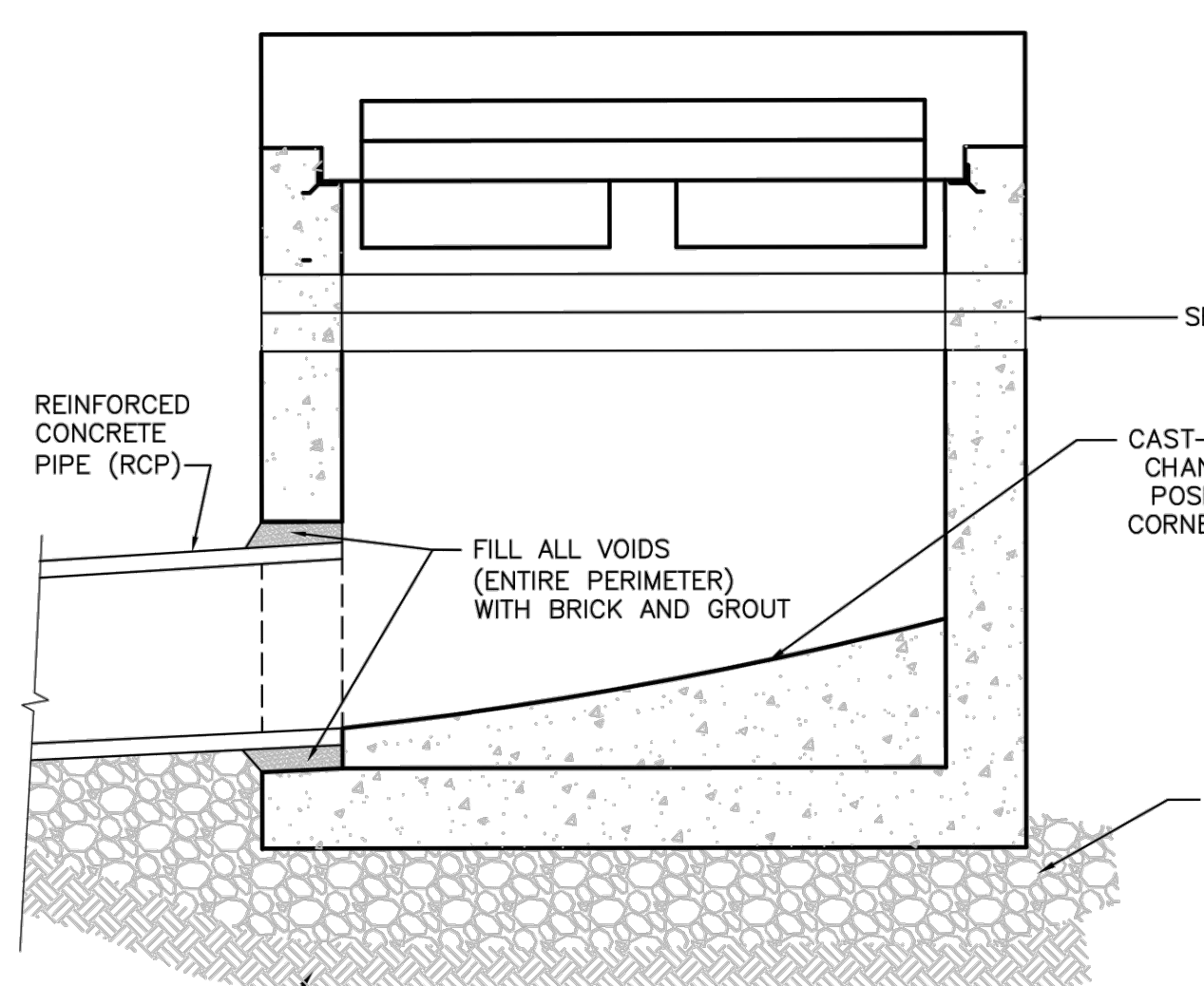
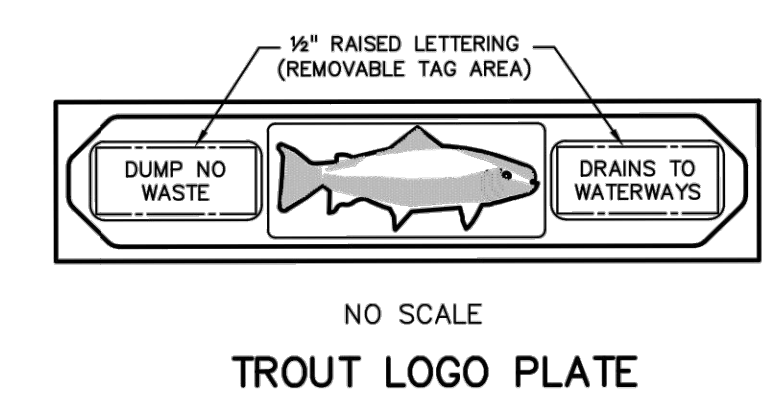
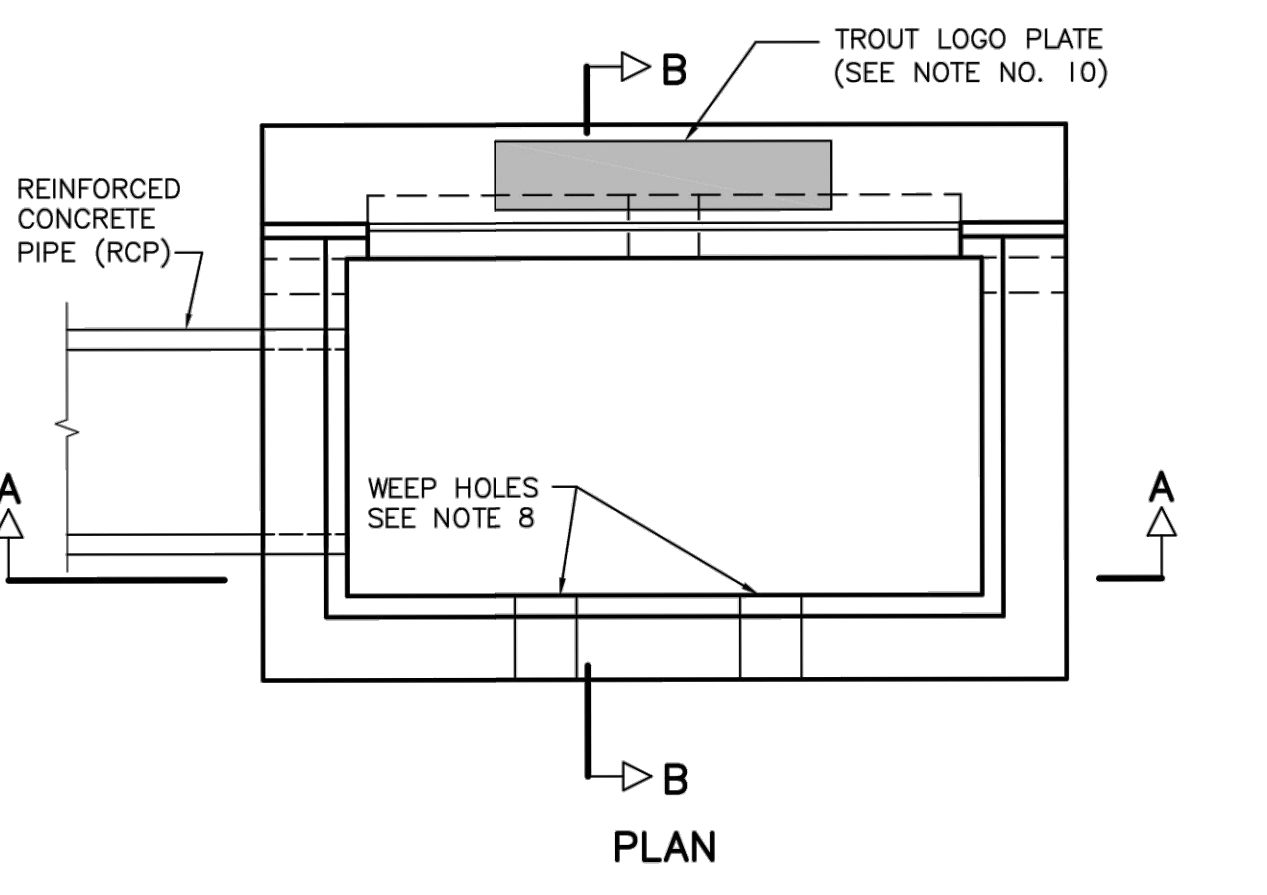
Drawing Title: DRAINAGE DETAILS
 Project No: 240043301
 Drawing No: CG-501
 Date: 10/06/2020
 Scale: N.T.S.
 Drawn By: IDL
 Checked By:
 Submission Date:
 Sheet 84 of 151



TYPE M INLET
NO SCALE

TYPE M INLET
NO SCALE

- NOTES:**
- CONCRETE INLET AND TOP UNITS SHALL BE AS DETAILED IN PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURRENT EDITION (PDT PUB #72M) RC-45M, "INLETS, CONCRETE TOP UNITS CAST-IN-PLACE AND PRECAST".
 - PROVIDE A MINIMUM OF 4 INCHES AND MAXIMUM OF 8 INCHES VERTICALLY OF PRECAST CONCRETE COLLARS WITH THROUGH-WALL OPENINGS ADJACENT TO SUBGRADE TO SERVE AS WEEP HOLES.
 - ALL EXPOSED EDGES SHALL BE CHAMFERED 1"x1".
 - STEPS SHALL BE PROVIDED WHENEVER STRUCTURE EXCEEDS 4 FEET IN DEPTH.
 - STEP DIMENSIONS AND CONFIGURATION SHALL BE IN ACCORDANCE WITH PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURRENT EDITION (PDT PUB #72M), RC-39M.
 - PROVIDE STRUCTURAL STEEL GRATE - BICYCLE SAFE, AS DETAILED IN PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURRENT EDITION (PDT PUB #72M) RC-45M, "INLET GRATES".
 - THE BACKFILL AROUND THE WEEPHOLES SHALL NOT CONTAIN SCREENINGS, I.E., PLACE PENNDOT NO. 3 OR LARGER STONES AS REQUIRED BY ENGINEER, WITHOUT SCREENINGS TO ALLOW WATER TO ENTER WEEPHOLES. PLACE GEOTEXTILE FABRIC AROUND BACKFILL TO PREVENT MIGRATION OF SURROUNDING MATERIAL INTO VOIDS OF BACKFILL.
 - THE MANUFACTURER OF THE INLETS SHALL BE INCLUDED ON THE PENNDOT LIST OF APPROVED MANUFACTURERS OF PRECAST CONCRETE PRODUCTS (BULLETIN 15).
 - TOP UNITS MUST CONTAIN THE 24-INCH BY 3-INCH TROUT LOGO PLATE AND TAGS DISPLAYING A DUMPING WARNING AS MANUFACTURED BY EAST JORDAN IRON WORKS INC. (CATALOG NO. 7003PL1) TO BE READ FROM ROADWAY SIDE OF INLET.
 - REFER TO CURRENT EDITION, (PDT PUB #72M), RC-46M FOR ADDITIONAL INLET BOX REQUIREMENTS.



TYPE C INLET
NO SCALE

TYPE C INLET
NO SCALE

- NOTES:**
- CONCRETE INLET AND TOP UNITS SHALL BE AS DETAILED IN PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURRENT EDITION (PDT PUB #72M) RC-45M, "INLETS, CONCRETE TOP UNITS CAST-IN-PLACE AND PRECAST".
 - PROVIDE A MINIMUM OF 4 INCHES AND MAXIMUM OF 8 INCHES VERTICALLY OF PRECAST CONCRETE COLLARS WITH THROUGH-WALL OPENINGS ADJACENT TO SUBGRADE TO SERVE AS WEEP HOLES.
 - ALL EXPOSED EDGES SHALL BE CHAMFERED 1"x1".
 - STEPS SHALL BE PROVIDED WHENEVER STRUCTURE EXCEEDS 4 FEET IN DEPTH.
 - STEP DIMENSIONS AND CONFIGURATION SHALL BE IN ACCORDANCE WITH PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURRENT EDITION (PDT PUB #72M), RC-39M.
 - THE CENTERLINE OF AN INLET SHALL BE NO CLOSER THAN 8 FEET TO THE EDGE OF A DRIVEWAY.
 - PROVIDE STRUCTURAL STEEL GRATE - BICYCLE SAFE, AS DETAILED IN PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION, CURRENT EDITION (PDT PUB #72M), RC-45M, "INLET GRATES".
 - THE BACKFILL AROUND THE WEEPHOLES SHALL NOT CONTAIN SCREENINGS, I.E., PLACE PENNDOT NO. 3 OR LARGER STONES AS REQUIRED BY ENGINEER, WITHOUT SCREENINGS TO ALLOW WATER TO ENTER WEEPHOLES. PLACE GEOTEXTILE FABRIC AROUND BACKFILL TO PREVENT MIGRATION OF SURROUNDING MATERIAL INTO VOIDS OF BACKFILL.
 - THE MANUFACTURER OF THE INLETS SHALL BE INCLUDED ON THE PENNDOT LIST OF APPROVED MANUFACTURERS OF PRECAST CONCRETE PRODUCTS (BULLETIN 15).
 - TOP UNITS MUST CONTAIN THE 24-INCH BY 3-INCH TROUT LOGO PLATE AND TAGS DISPLAYING A DUMPING WARNING AS MANUFACTURED BY EAST JORDAN IRON WORKS INC. (CATALOG NO. 7003PL1) TO BE READ FROM ROADWAY SIDE OF INLET.
 - REFER TO PDT PUB #72M, RC-46M FOR ADDITIONAL REQUIREMENTS.

THE FOLLOWING ARE THE BASIC PROCEDURES THAT WILL BE UTILIZED TO ADDRESS SINKHOLES AND SOLUTION CAVITIES WITHIN THE SITE IF THEY OCCUR DURING CONSTRUCTION, IN BUILDINGS AND PAVEMENT AREAS. THE SINKHOLE/SOLUTION CAVITY WILL BE PLUGGED/FILLED WITH CONCRETE TO PROVIDE THE SUPPORT REQUIRED FOR THESE STRUCTURES. INVERTED FILTERS WILL BE USED IN NON-BUILDING AND NON-PAVED AREAS WHEREVER PRACTICAL.

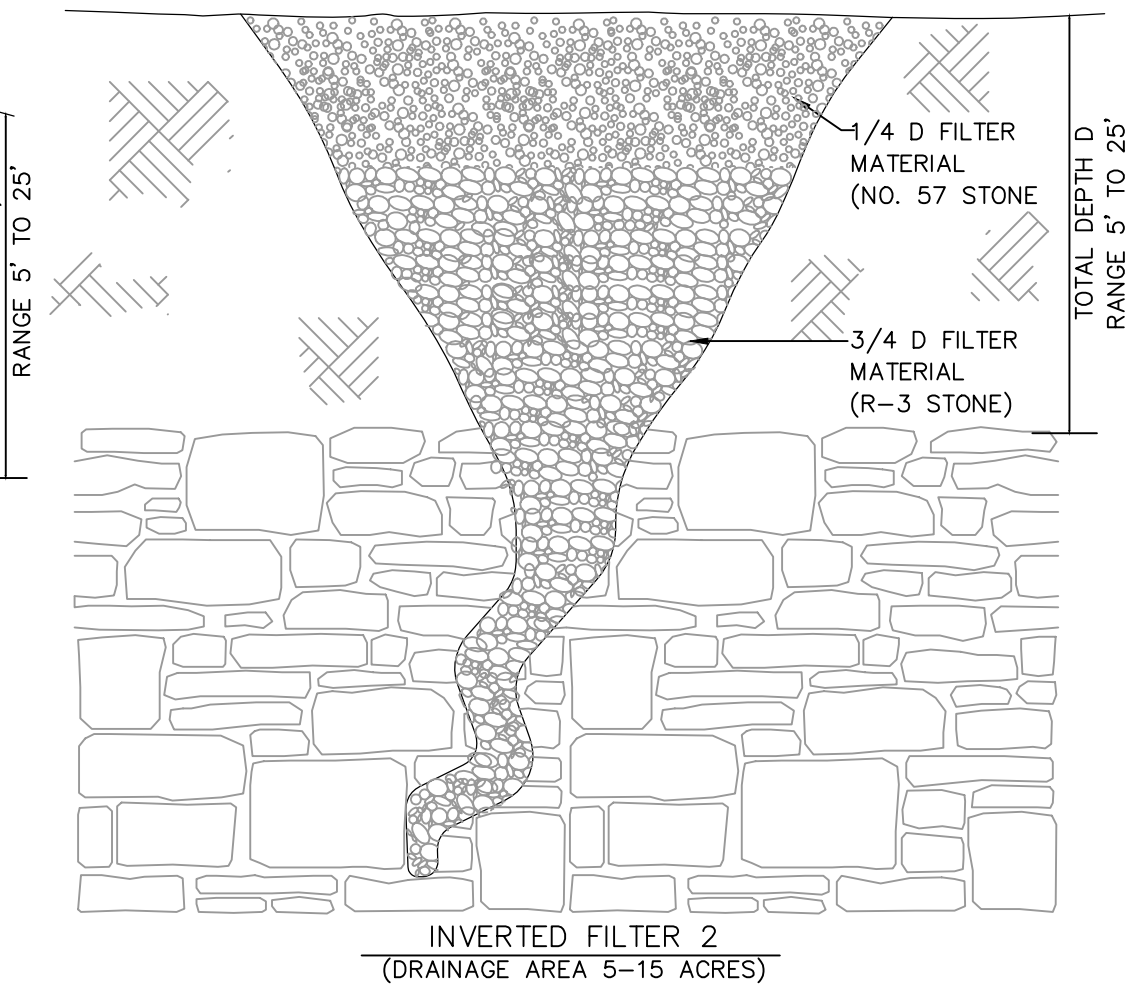
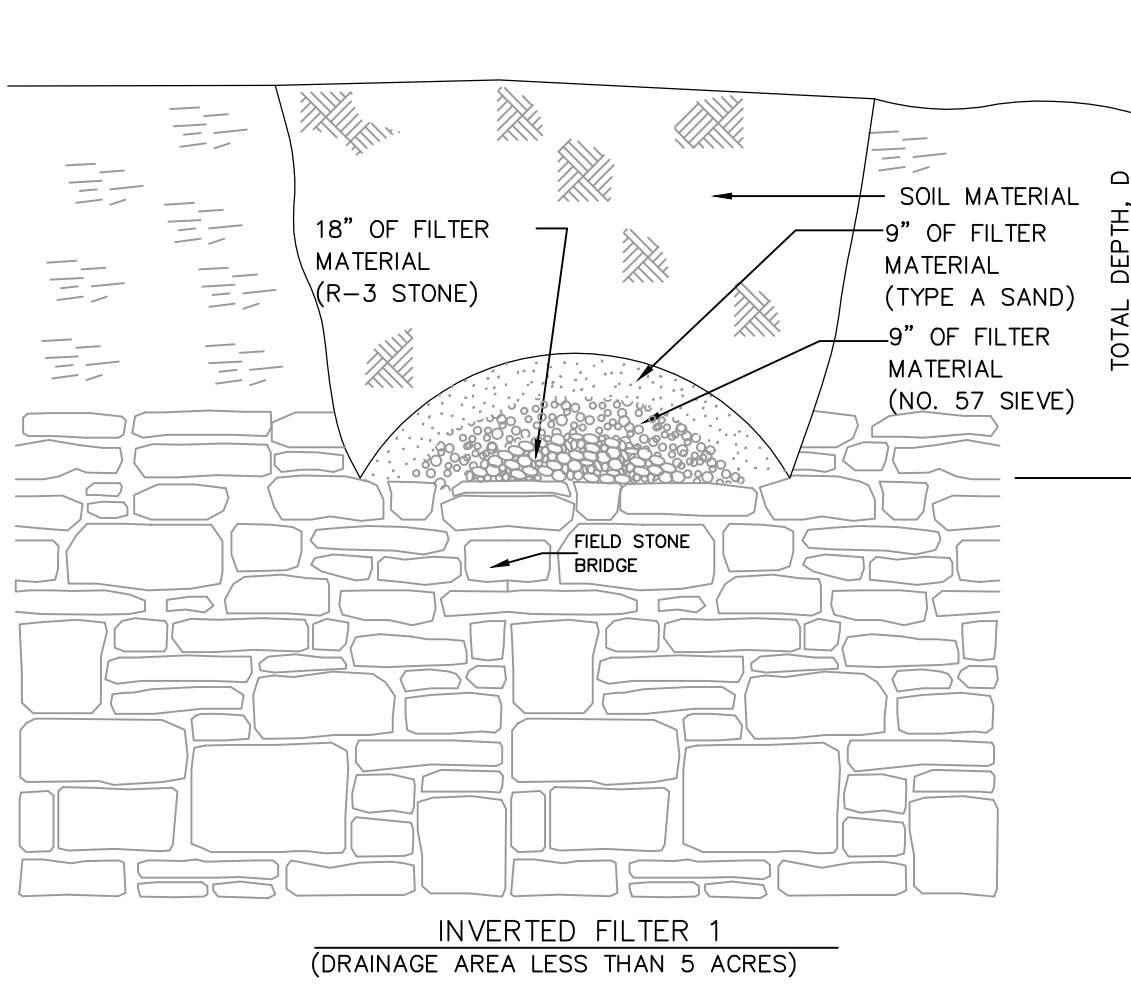
GROUT/CONCRETE FILL
THE FOLLOWING PROCEDURE SHALL BE USED FOR GROUTING/CONCRETE SINKHOLES WITHIN BUILDING AND PAVEMENT AREAS.

- REMOVE AND PROPERLY DISPOSE OF MATERIALS DUMPED IN AND AROUND THE SINKHOLE.
- EXCAVATE LOOSE MATERIAL FROM THE SINKHOLE AND TRY TO EXPOSE THE SOLUTION VOID(S) IN THE BOTTOM.
- ENLARGE THE SINKHOLE, AS NECESSARY, TO ALLOW FOR INSTALLATION OF THE CONCRETE PLUG OR TO FACILITATE FILLING THE VOID WITH GROUT OR CONCRETE.
- FILL VOID WITH HIGH SLUMP GROUT OR CONCRETE EITHER BY DIRECT DEPOSITION OF THE GROUT/CONCRETE INTO THE VOID USING A PUMP OR THE CHUTES OF THE READY-MIX TRUCK OR INSERT GROUT PIPES INTO THE VOID AND PUMP GROUT UNDER PRESSURE INTO THE VOID.

THE INITIAL GROUT MIX SHOULD HAVE A 2:1 WATER TO CEMENT RATIO. THIS MIX WOULD BE CHANGED IN THE FIELD TO ADDRESS THE CONDITIONS ENCOUNTERED.

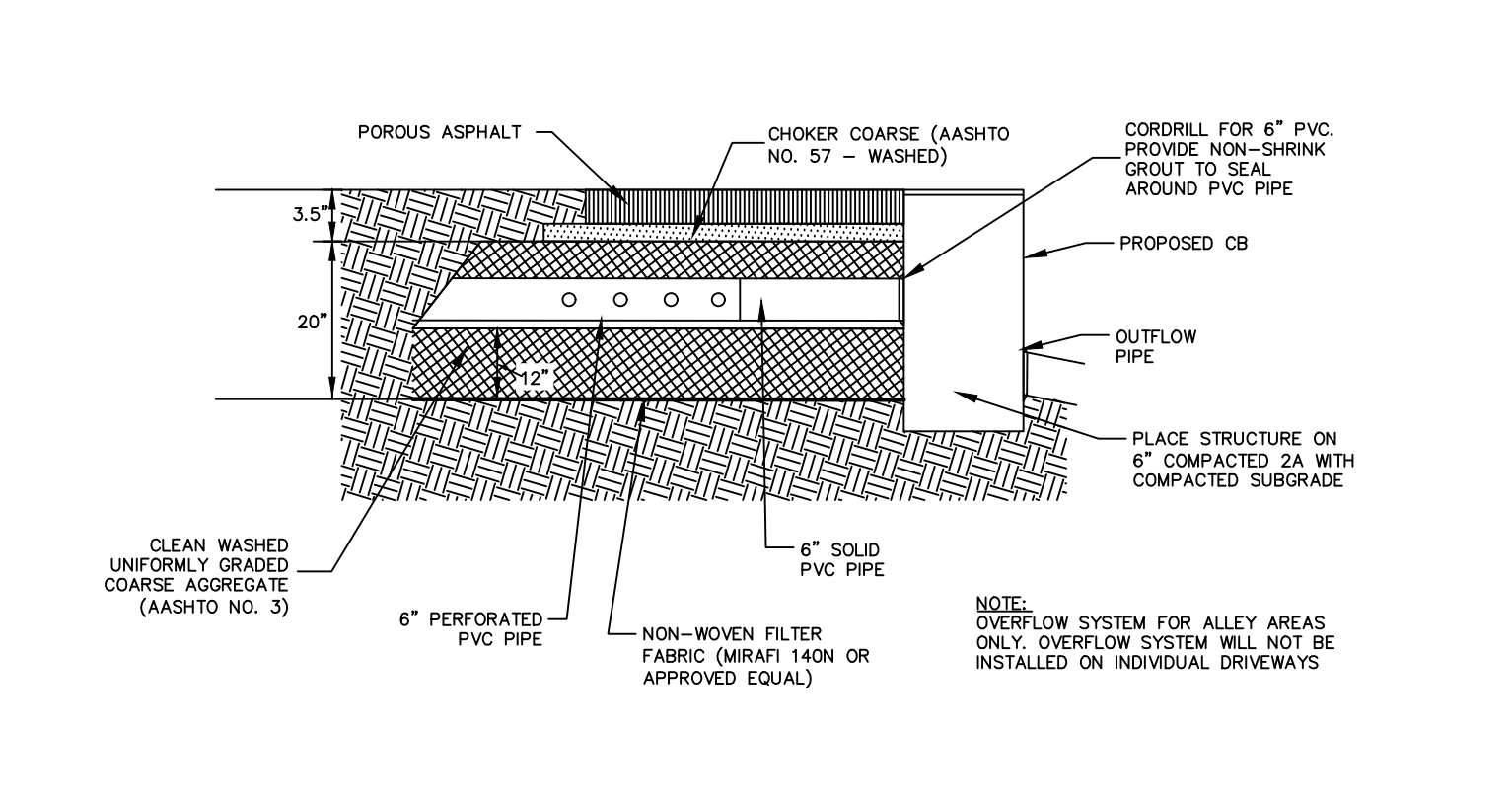
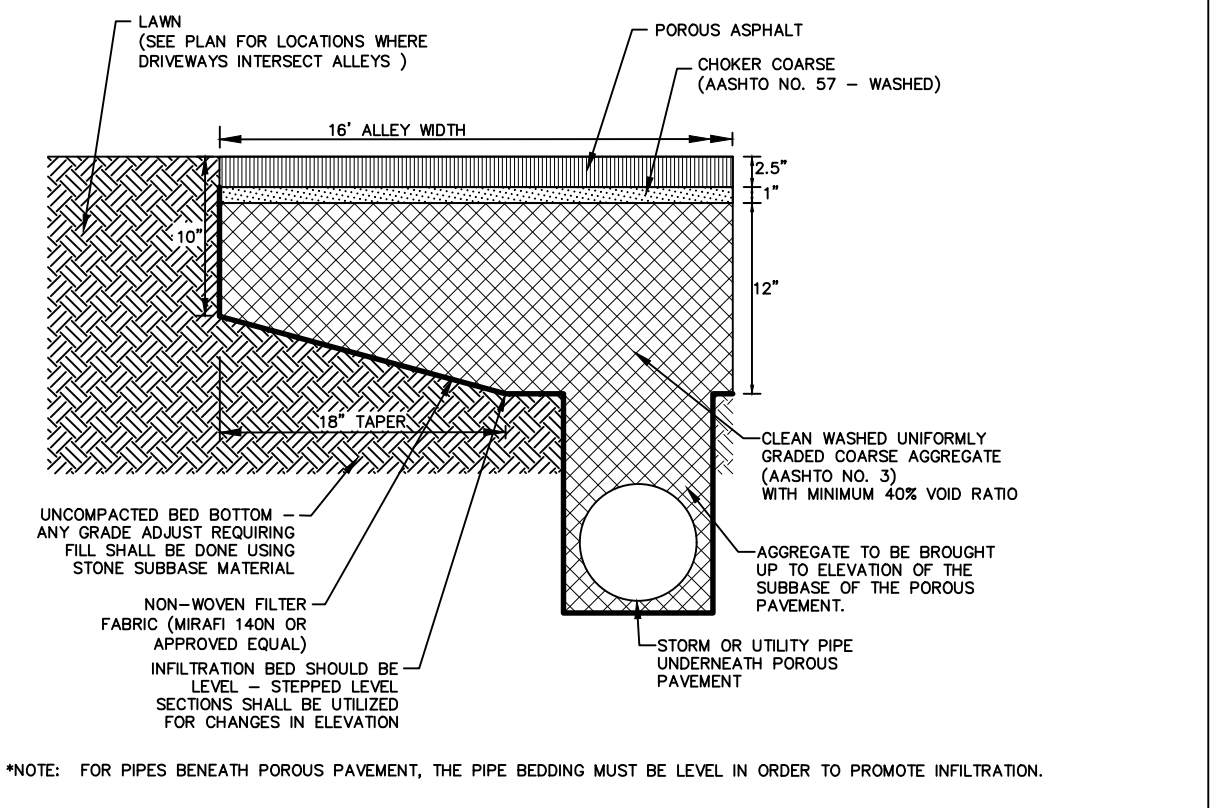
GROUT/CEMENT SHOULD BE PLACED TO WITHIN 2'-FT OF DESIGN SUBGRADE ELEVATION.

INSPECTION
ALL FIELD WORK RELATED TO SINKHOLES OR POTENTIAL SINK HOLES SHALL BE PERFORMED UNDER THE DIRECTION AND INSPECTION OF THE OWNER'S GEOTECHNICAL ENGINEER. FIELD CHANGES TO THESE GUIDELINES MAY BE NECESSARY DURING CONSTRUCTION SINCE SINKHOLE ACTIVITY IS A NATURAL OCCURRENCE AND ITS SCOPE OF REMEDIATION CANNOT BE FULLY DEFINED PRIOR TO FIELD OBSERVATION.



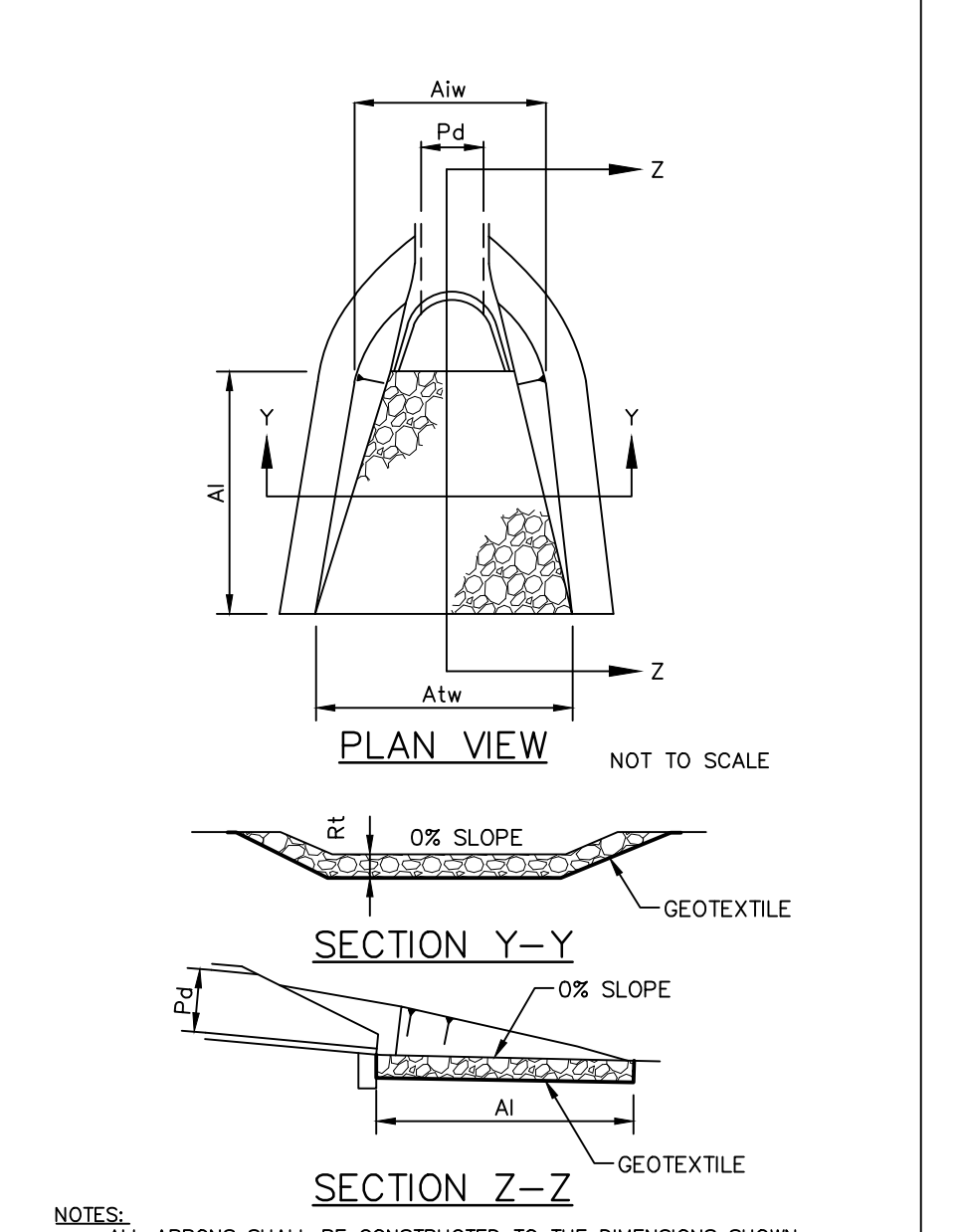
NOTE: A PROFESSIONAL ENGINEER OR GEOLOGIST WITH EXPERIENCE IN SINKHOLE REMEDIATION MUST BE CONSULTED FOR RECOMMENDATIONS FOR REMEDIATION OF SINKHOLES INVOLVING STRUCTURES, UTILITIES, OR ROADWAYS. IF A SINKHOLE IS TO OCCUR THE TOWNSHIP MUST BE NOTIFIED IMMEDIATELY.

SINKHOLE TREATMENT



POROUS ASPHALT DETAIL (WITH PIPE UNDERNEATH)

POROUS ASPHALT OVERFLOW SYSTEM



NOTE: ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.
ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAINFALL EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

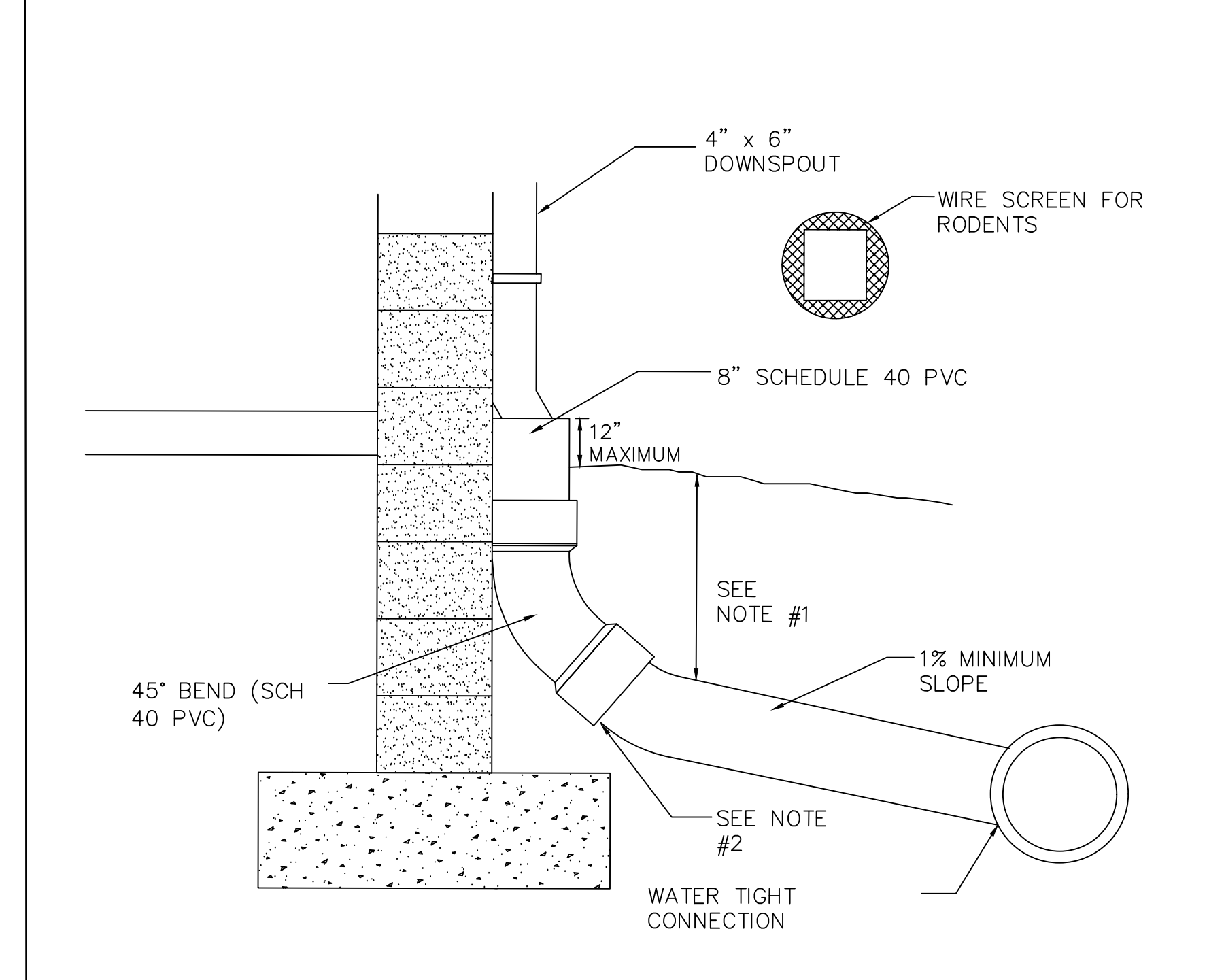
OUTLET NO.	PIPE DIA (IN)	RIPRAP SIZE (IN)	THICK (IN)	LENGTH (FT)	INITIAL WIDTH (FT)	TERMINAL WIDTH (FT)
HW-A-1	15	R-4	6	12	3.75	8.6
HW-B-1	24	R-5	6	22	6	14.8
HW-C-1	15	R-4	6	17	3.75	10.6
HW-D-1	15	R-3	4	4	3.75	5.4
HW-D-2	18	R-3	4	4	4.5	6.1
HW-F-1	24	R-4	6	13	13.5	18.7
HW-F-2	24	R-3	4	6	6	9.2
HW-F-3	15	R-4	6	10	3.75	7.8
HW-G-1	30	R-4	6	14	7.5	13.1
HW-G-2	24	R-4	6	6	6	8.4
HW-I-1	36	R-4	6	13	9	14.2
HW-I-2	15	R-3	4	4	3.75	5.4
HW-J-1	18	R-3	4	8	3.75	7.0
HW-J-2	15	R-3	4	4	3.75	5.4
HW-K-1	24	R-5	6	22	6	14.8
HW-L-1	36	R-4	6	12	9	13.8
HW-M-1	48	R-4	6	12	12	16.8
HW-M-2	15	R-5	6	12	3.75	8.6
HW-M-3	15	R-4	6	7	3.75	6.6
HW-M-4	30	R-4	6	24	7.5	17
HW-N-1	24	R-5	6	25	6	16.0

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

POROUS ASPHALT DETAIL (WITH PIPE UNDERNEATH)

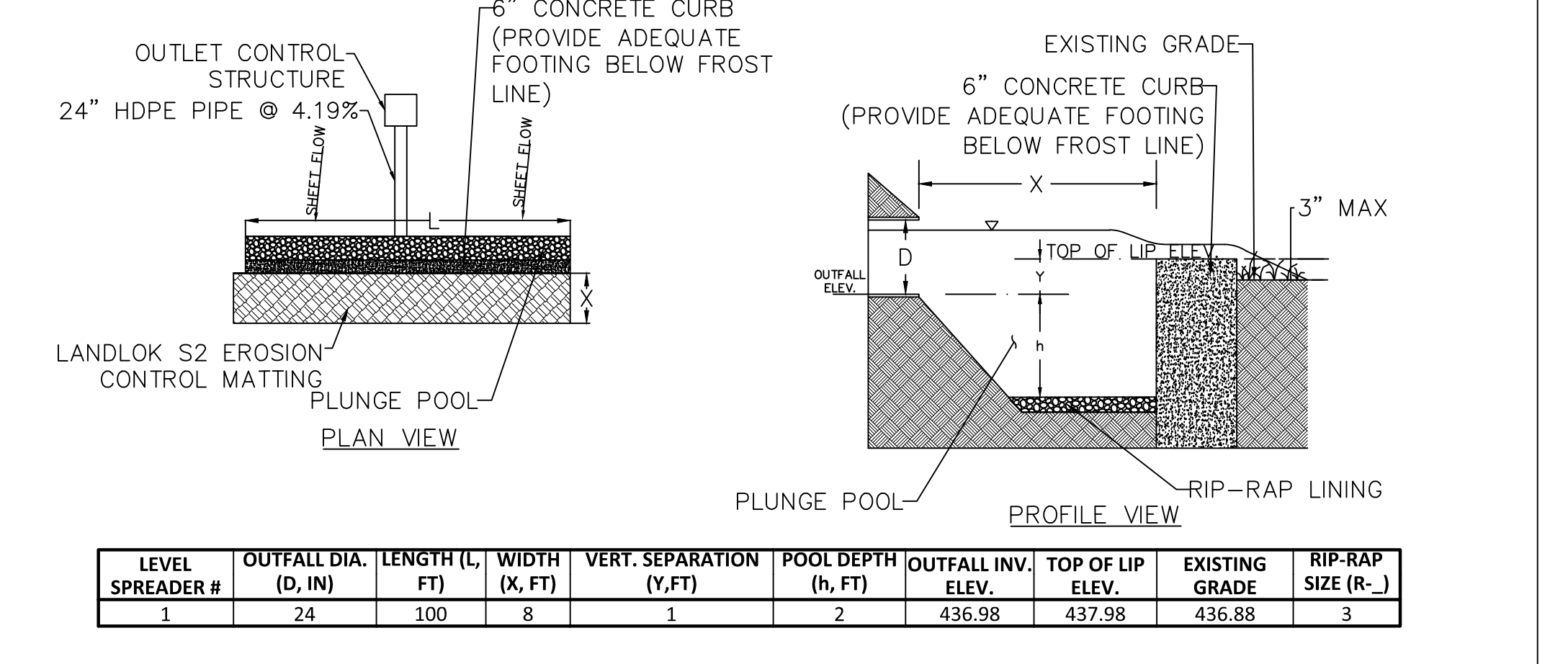
POROUS ASPHALT OVERFLOW SYSTEM

RIP RAP APRON

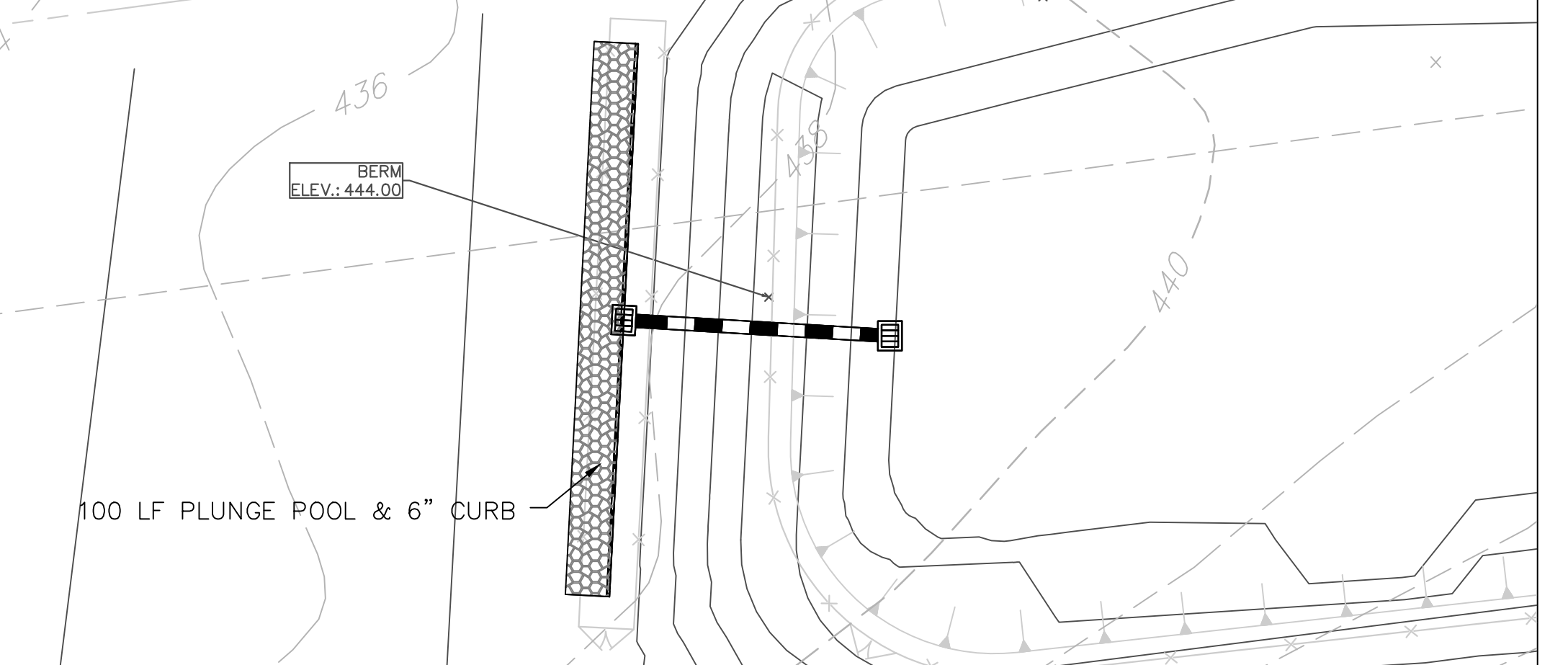


- NOTES:**
- FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES.
 - A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE.
 - THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING. SITEMARK CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK TO AND INCLUDING THE RODENT SCREEN. BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION AT THE POINT OF THE RODENT SCREEN.

DOWNSPOUT COLLECTOR



LEVEL SPREADER #	OUTFALL DIA. (D, IN)	LENGTH (L, FT)	WIDTH (X, FT)	VERT. SEPARATION (Y, FT)	POOL DEPTH (h, FT)	OUTFALL INV. ELEV.	TOP OF LIP ELEV.	EXISTING GRADE	RIP-RAP SIZE (R-J)
1	24	100	8	1	2	436.98	437.98	436.88	3



LEVEL SPREADER LAYOUT

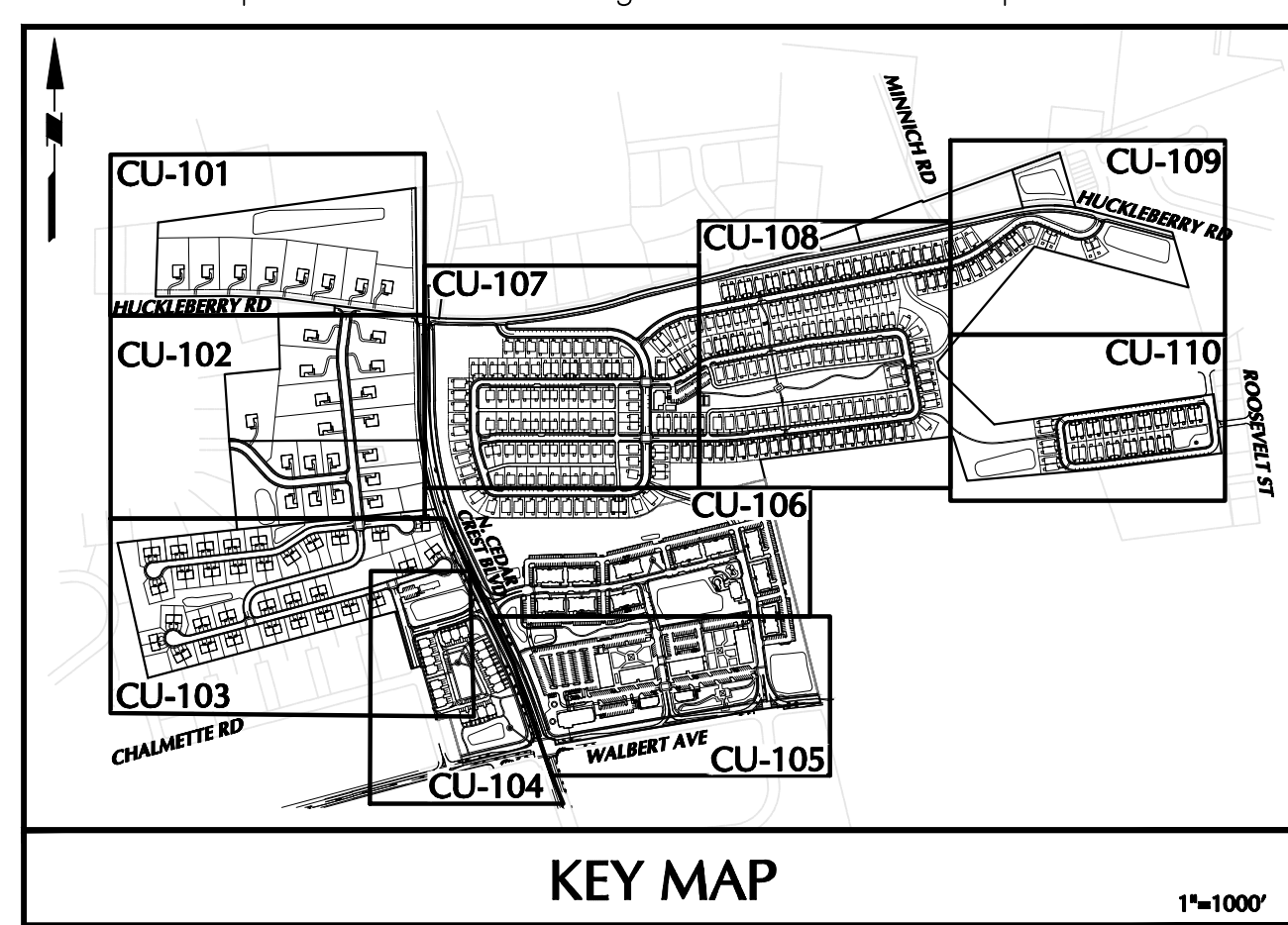
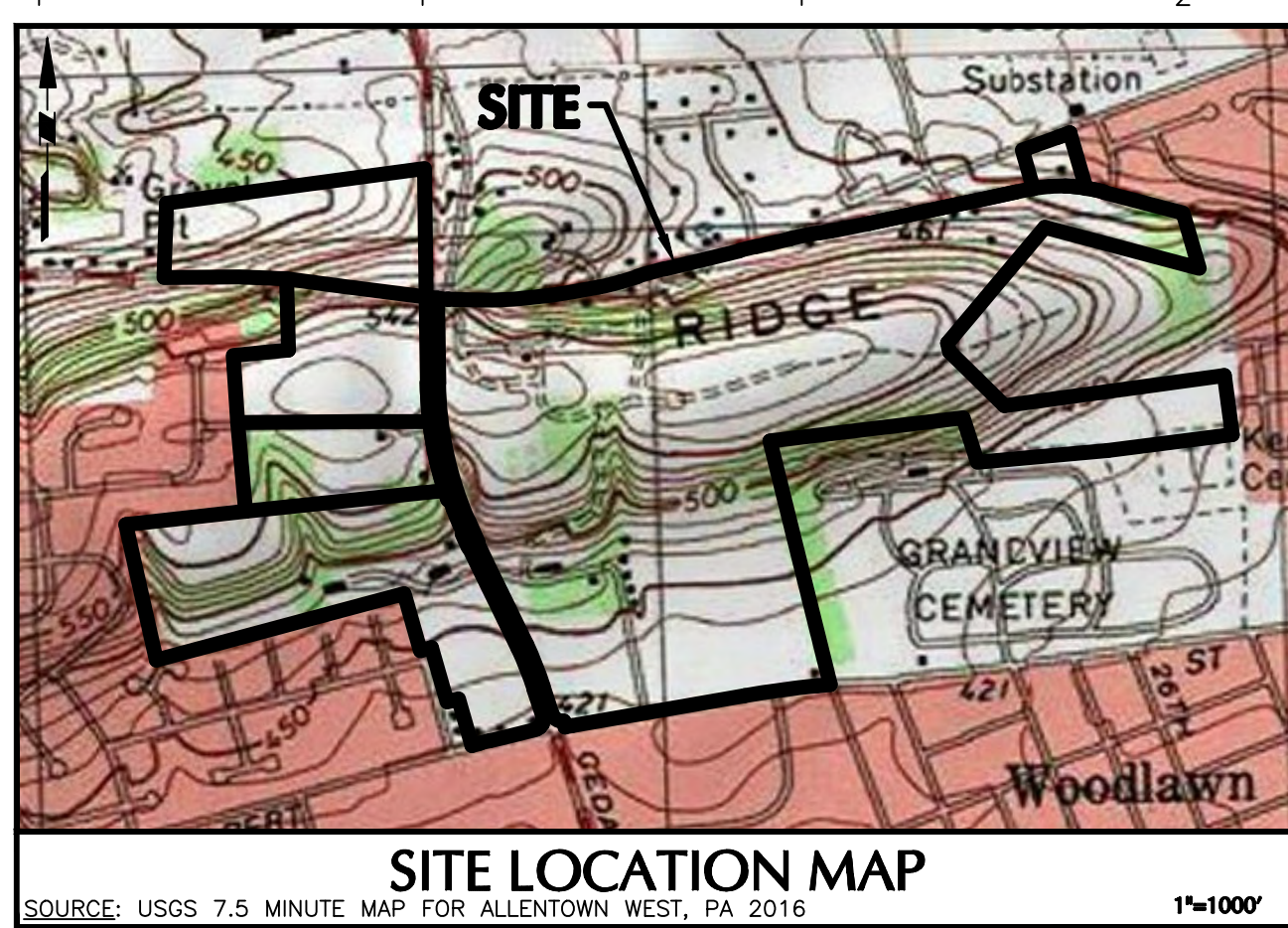
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09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: J. SCOTT ENGBART
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

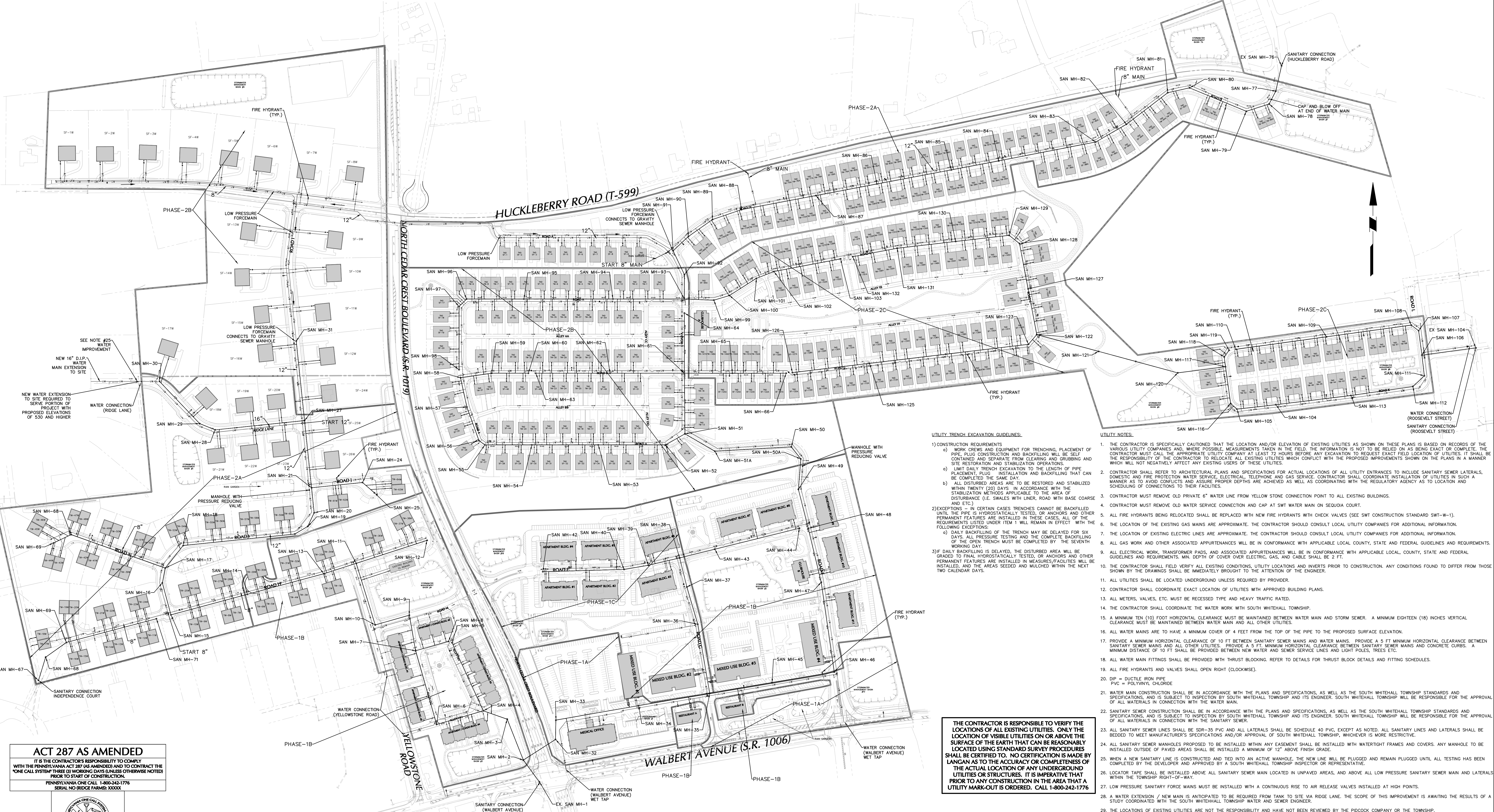
LANGAN
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Project: **RIDGE FARMS**
Project No. **240043301**
Date: **10/06/2020**
Scale: **N.T.S.**
Drawn By: **IDL**
Checked By:
Submission Date:
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY PENNSYLVANIA

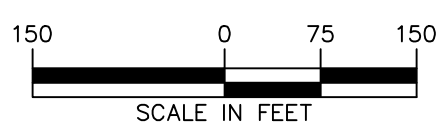
Drawing Title: **DRAINAGE DETAILS**
Project No. **240043301**
Date: **10/06/2020**
Scale: **N.T.S.**
Drawn By: **IDL**
Checked By:
Submission Date:
Drawing No. **CG-502**
Sheet **85** of **151**



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPERTY LINE	SOILS SYMBOLS
PROPOSED LOT LINE (WITH PIN MARKED)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EXHUMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASEIN LIMITS	
UTILITY SYMBOLS	EXISTING UTILITY SYMBOLS
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING MANHOLE
PROPOSED GAS MAIN	EXISTING ELECTRIC POLE
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 (AS AMENDED) AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTED) PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-242-1775
 SERIAL NO. RIDGE FARMS: 303034



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *Jeffrey E. Hardt* DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

LANGAN
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 Langan Engineering and Environmental Services, Inc.
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 Collectively known as Langan

Project: **RIDGE FARMS**
 Drawing Title: **MASTER UTILITY PLAN**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

Project No.	240043301	Drawing No.	CU-100
Date	10/06/2020	Scale	1" = 150'
Drawn By	JDM	Checked By	
Submission Date		Sheet	86 of 151

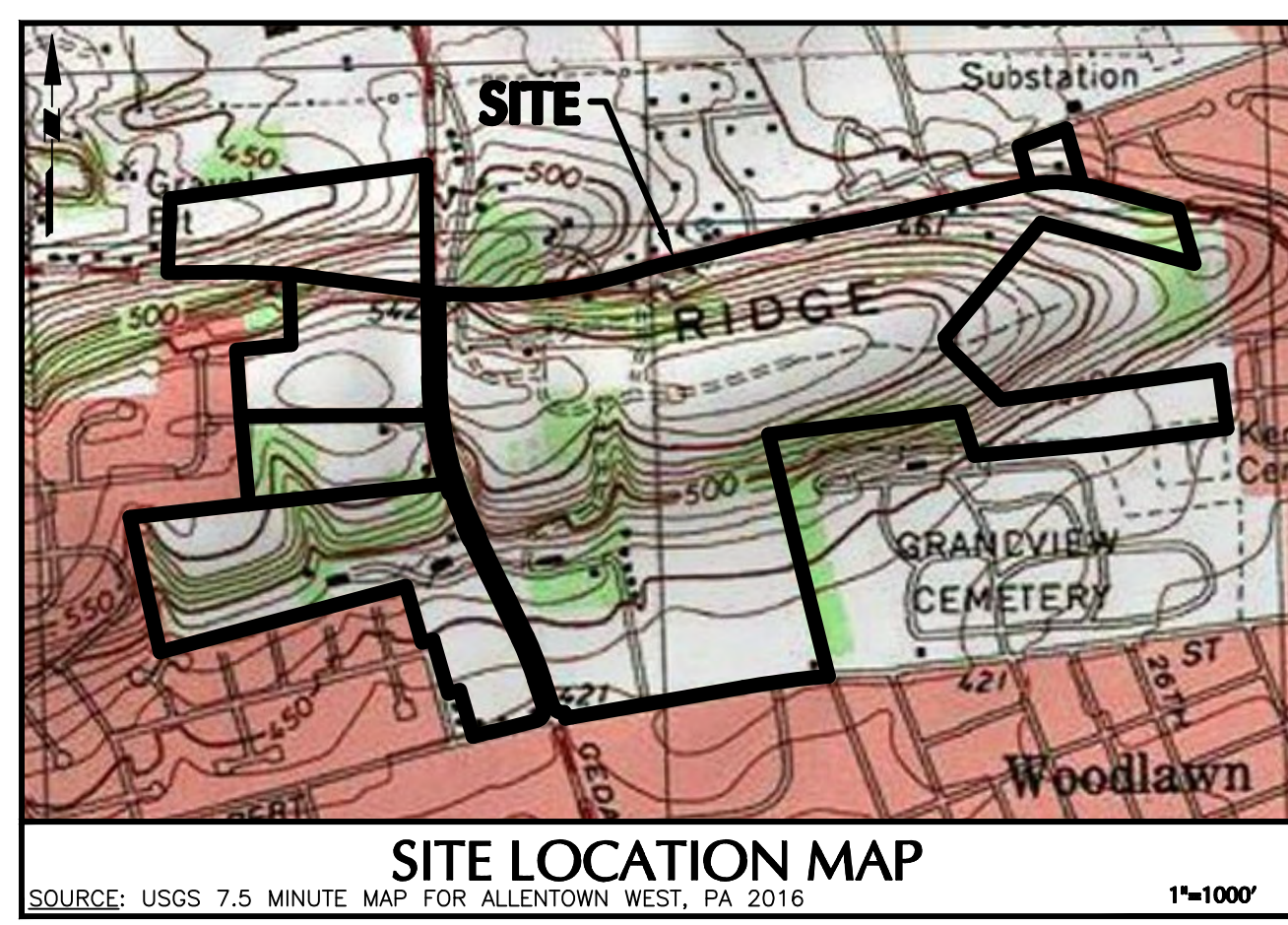
THE CONTRACTOR IS RESPONSIBLE TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES. ONLY THE LOCATION OF VISIBLE UTILITIES ON OR ABOVE THE SURFACE OF THE EARTH THAT CAN BE REASONABLY LOCATED USING STANDARD SURVEY PROCEDURES SHALL BE CERTIFIED TO. NO CERTIFICATION IS MADE BY LANGAN AS TO THE ACCURACY OR COMPLETENESS OF THE ACTUAL LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES. IT IS IMPERATIVE THAT PRIOR TO ANY CONSTRUCTION IN THE AREA THAT A UTILITY MARK-OUT IS ORDERED. CALL 1-800-242-1775

UTILITY TRENCH EXCAVATION GUIDELINES:

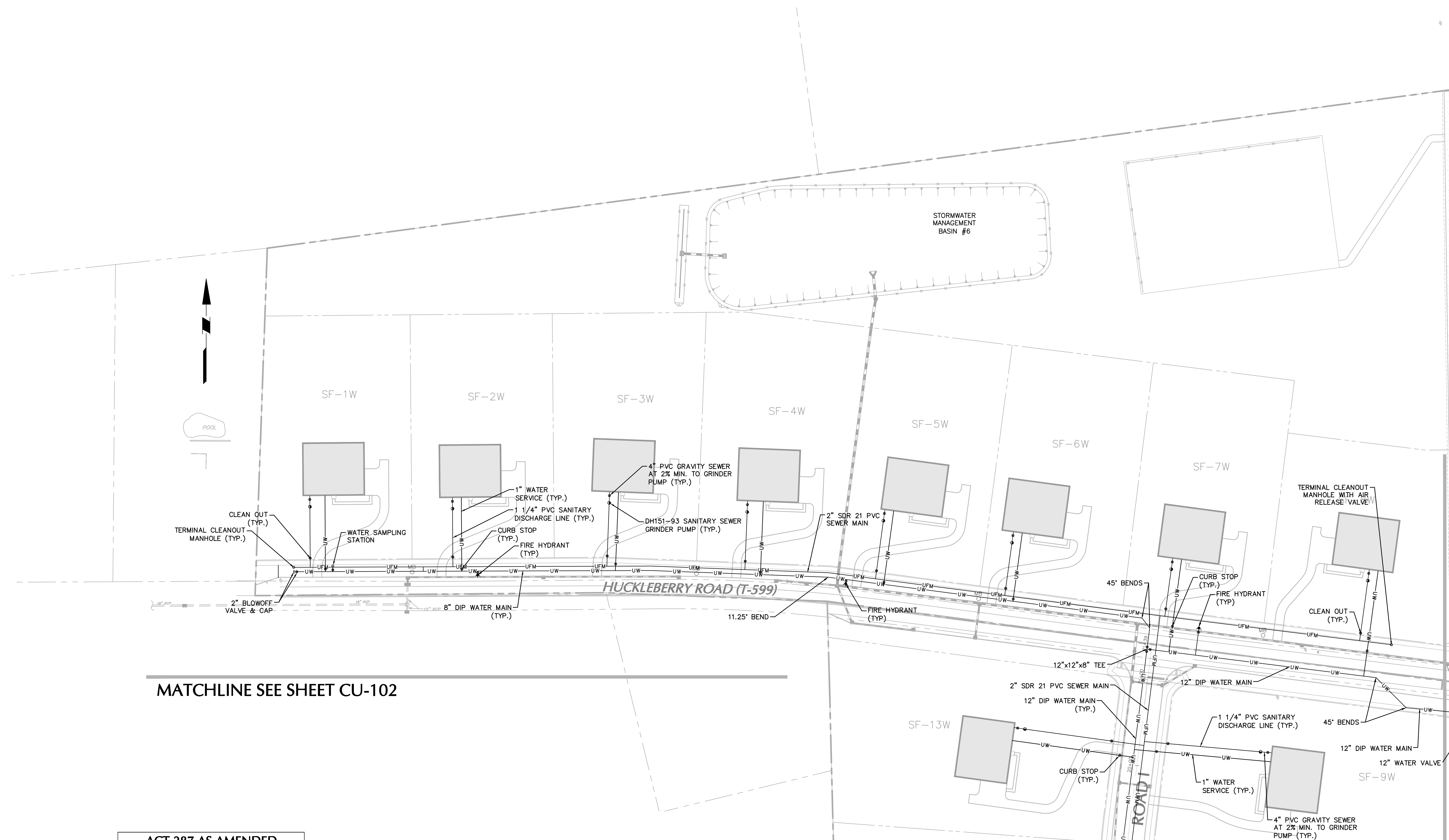
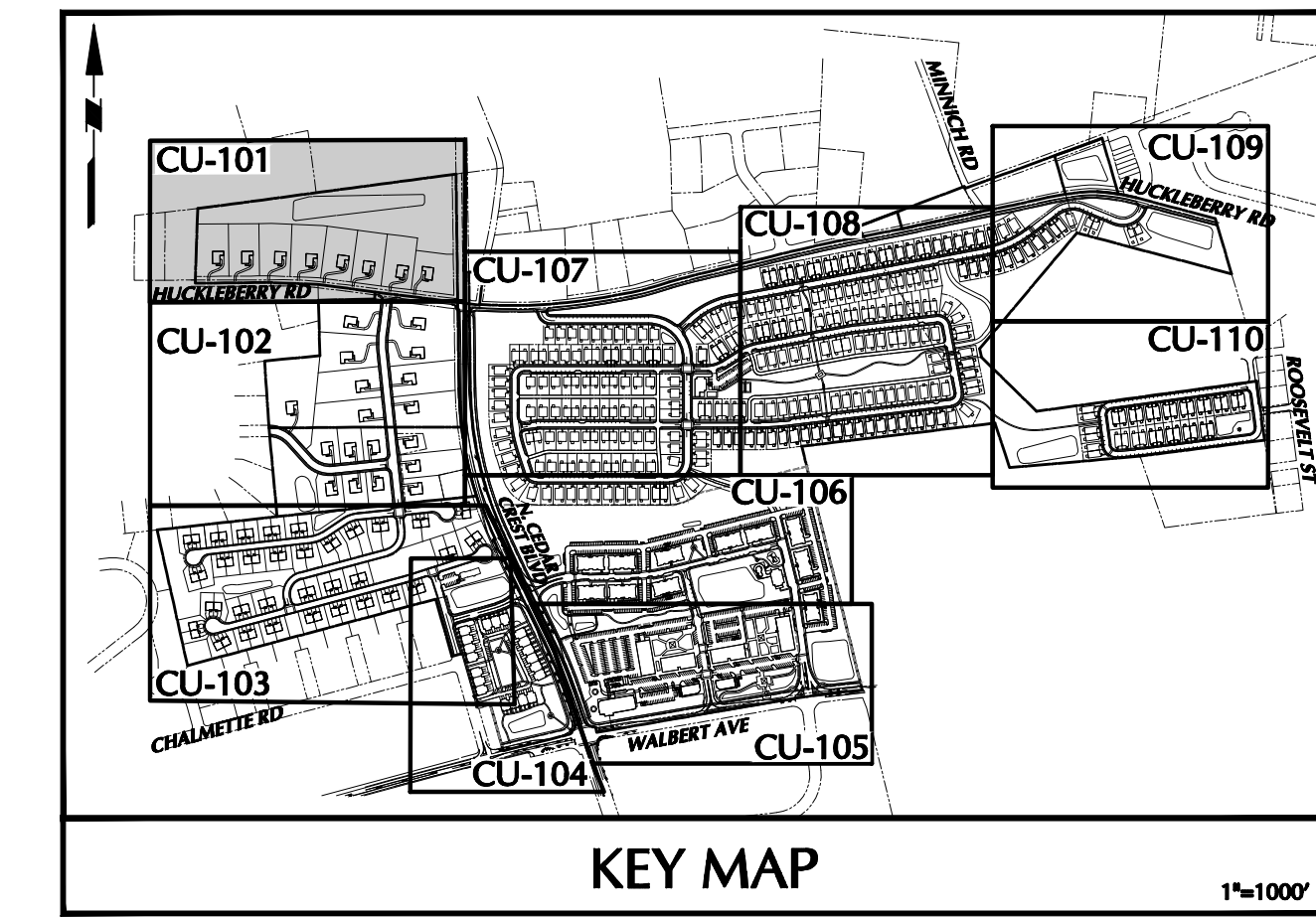
- CONSTRUCTION REQUIREMENTS
 - WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PILING CONSTRUCTION AND BACKFILLING WILL BE SELF-CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
 - LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUS INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
 - ALL DISTURBED AREAS ARE TO BE RESTORED AND STABILIZED WITHIN TWENTY (20) DAYS IN ACCORDANCE WITH THE STABILIZATION METHODS APPLICABLE TO THE AREA OF DISTURBANCE (I.E. SWALES WITH LINER, ROAD WITH BASE COURSE AND ETC.)
- EXCEPTIONS - IN CERTAIN CASES TRENCHES CANNOT BE BACKFILLED UNTIL THE PIPE IS HYDROSTATICALLY TESTED, OR ANCHORS AND OTHER PERMANENT FEATURES ARE INSTALLED IN THESE CASES, ALL OF THE REQUIREMENTS LISTED UNDER ITEM 1 WILL REMAIN IN EFFECT WITH THE FOLLOWING EXCEPTIONS:
 - DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR SIX (6) DAYS, ALL PRESSURE TESTING AND THE COMPLETE BACKFILLING OF THE OPEN TRENCH MUST BE COMPLETED BY THE SEVENTH (7) WORKING DAY.
 - IF DAILY BACKFILLING IS DELAYED, THE DISTURBED AREA WILL BE GRADED TO FINAL HYDROSTATICALLY TESTED, OR ANCHORS AND OTHER PERMANENT FEATURES ARE INSTALLED IN THESE CASES, ALL OF THE REQUIREMENTS LISTED UNDER ITEM 1 WILL REMAIN IN EFFECT WITH THE FOLLOWING EXCEPTIONS:
 - ALL DISTURBED AREAS ARE TO BE RESTORED AND STABILIZED WITHIN TWENTY (20) DAYS IN ACCORDANCE WITH THE STABILIZATION METHODS APPLICABLE TO THE AREA OF DISTURBANCE (I.E. SWALES WITH LINER, ROAD WITH BASE COURSE AND ETC.)

UTILITY NOTES:

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS IN A MANNER WHICH WILL NOT NEGATIVELY AFFECT ANY EXISTING USERS OF THESE UTILITIES.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRICAL, TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE REGULATORY AGENCY AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
- CONTRACTOR MUST REMOVE OLD PRIVATE 6" WATER LINE FROM YELLOW STONE CONNECTION POINT TO ALL EXISTING BUILDINGS.
- CONTRACTOR MUST REMOVE OLD WATER SERVICE CONNECTION AND CAP AT SWT WATER MAIN ON SEQUOIA COURT.
- ALL FIRE HYDRANTS BEING RELOCATED SHALL BE REPLACED WITH NEW FIRE HYDRANTS WITH CHECK VALVES (SEE SWT CONSTRUCTION STANDARD SWT-W-1).
- THE LOCATION OF THE EXISTING GAS MAINS ARE APPROXIMATE. THE CONTRACTOR SHOULD CONSULT LOCAL UTILITY COMPANIES FOR ADDITIONAL INFORMATION.
- THE LOCATION OF EXISTING ELECTRIC LINES ARE APPROXIMATE. THE CONTRACTOR SHOULD CONSULT LOCAL UTILITY COMPANIES FOR ADDITIONAL INFORMATION.
- ALL GAS WORK AND OTHER ASSOCIATED APPURTENANCES WILL BE IN CONFORMANCE WITH APPLICABLE LOCAL COUNTY, STATE AND FEDERAL GUIDELINES AND REQUIREMENTS.
- ALL ELECTRICAL WORK, TRANSFORMER PADS, AND ASSOCIATED APPURTENANCES WILL BE IN CONFORMANCE WITH APPLICABLE LOCAL COUNTY, STATE AND FEDERAL GUIDELINES AND REQUIREMENTS. MIN. DEPTH OF COVER OVER ELECTRIC, GAS, AND CABLE SHALL BE 2 FT.
- THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITY LOCATIONS AND INVERTS PRIOR TO CONSTRUCTION. ANY CONDITIONS FOUND TO DIFFER FROM THOSE SHOWN BY THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- ALL UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY PROVIDER.
- CONTRACTOR SHALL COORDINATE EXACT LOCATION OF UTILITIES WITH APPROVED BUILDING PLANS.
- ALL METERS, VALVES, ETC. MUST BE RECESSED TYPE AND HEAVY TRAFFIC RATED.
- THE CONTRACTOR SHALL COORDINATE THE WATER WORK WITH SOUTH WHITEHALL TOWNSHIP.
- A MINIMUM TEN (10) FOOT HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN WATER MAIN AND STORM SEWER. A MINIMUM EIGHTEEN (18) INCHES VERTICAL CLEARANCE MUST BE MAINTAINED BETWEEN WATER MAIN AND ALL OTHER UTILITIES.
- ALL WATER MAINS ARE TO HAVE A MINIMUM COVER OF 4 FEET FROM THE TOP OF THE PIPE TO THE PROPOSED SURFACE ELEVATION.
- PROVIDE A MINIMUM HORIZONTAL CLEARANCE OF 10 FT BETWEEN SANITARY SEWER MAINS AND WATER MAINS. PROVIDE A 5 FT MINIMUM HORIZONTAL CLEARANCE BETWEEN SANITARY SEWER MAINS AND ALL OTHER UTILITIES. PROVIDE A 5 FT MINIMUM HORIZONTAL CLEARANCE BETWEEN SANITARY SEWER MAINS AND CONCRETE CURBS. A MINIMUM DISTANCE OF 10 FT SHALL BE PROVIDED BETWEEN NEW WATER AND SEWER SERVICE LINES AND LIGHT POLES, TREES ETC.
- ALL WATER MAIN FITTINGS SHALL BE PROVIDED WITH THRUST BLOCKING. REFER TO DETAILS FOR THRUST BLOCK DETAILS AND FITTING SCHEDULES.
- ALL FIRE HYDRANTS AND VALVES SHALL OPEN RIGHT (CLOCKWISE).
- DIP = DUCTILE IRON PIPE
PVC = POLYVINYL CHLORIDE
- WATER MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, AS WELL AS THE SOUTH WHITEHALL TOWNSHIP STANDARDS AND SPECIFICATIONS, AND IS SUBJECT TO INSPECTION BY SOUTH WHITEHALL TOWNSHIP AND ITS ENGINEER. SOUTH WHITEHALL TOWNSHIP WILL BE RESPONSIBLE FOR THE APPROVAL OF ALL MATERIALS IN CONNECTION WITH THE WATER MAIN.
- SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, AS WELL AS THE SOUTH WHITEHALL TOWNSHIP STANDARDS AND SPECIFICATIONS, AND IS SUBJECT TO INSPECTION BY SOUTH WHITEHALL TOWNSHIP AND ITS ENGINEER. SOUTH WHITEHALL TOWNSHIP WILL BE RESPONSIBLE FOR THE APPROVAL OF ALL MATERIALS IN CONNECTION WITH THE SANITARY SEWER.
- ALL SANITARY SEWER LINES SHALL BE SDN-35 PVC AND ALL LATERALS SHALL BE SCHEDULE 40 PVC, EXCEPT AS NOTED. ALL SANITARY LINES AND LATERALS SHALL BE BEDDED TO MEET MANUFACTURER'S SPECIFICATIONS AND/OR APPROVAL OF SOUTH WHITEHALL TOWNSHIP, WHICHEVER IS MORE RESTRICTIVE.
- ALL SANITARY SEWER MANHOLES PROPOSED TO BE INSTALLED WITH ANY EASEMENT SHALL BE INSTALLED WITH WATER TIGHT FRAMES AND COVERS. ANY MANHOLE TO BE INSTALLED OUTSIDE OF PAVED AREAS SHALL BE INSTALLED A MINIMUM OF 12" ABOVE FINISH GRADE.
- WHEN A NEW SANITARY LINE IS INSTALLED AND TIED INTO AN ACTIVE MANHOLE, THE NEW LINE WILL BE PLUGGED AND REMAIN PLUGGED UNTIL ALL TESTING HAS BEEN COMPLETED BY THE DEVELOPER AND APPROVED BY A SOUTH WHITEHALL TOWNSHIP INSPECTOR OR REPRESENTATIVE.
- LOCATOR TAPS SHALL BE INSTALLED ABOVE ALL SANITARY SEWER MAIN LOCATED IN UNPAVED AREAS, AND ABOVE ALL LOW PRESSURE SANITARY SEWER MAINS AND LATERALS WITHIN THE TOWNSHIP RIGHT-OF-WAY.
- LOW PRESSURE SANITARY SEWER MAINS SHALL BE INSTALLED WITH A CONTINUOUS RISE TO AIR RELEASE VALVES INSTALLED AT HIGH POINTS.
- A WATER EXTENSION / NEW MAIN IS ANTICIPATED TO BE REQUIRED FROM TANK TO SITE VIA RIDGE LANE. THE SCOPE OF THIS IMPROVEMENT IS AWAITING THE RESULTS OF A STUDY COORDINATED WITH THE SOUTH WHITEHALL TOWNSHIP WATER AND SEWER ENGINEER.
- THE LOCATIONS OF EXISTING UTILITIES ARE NOT THE RESPONSIBILITY AND HAVE NOT BEEN REVIEWED BY THE PIDCOCK COMPANY OR THE TOWNSHIP.



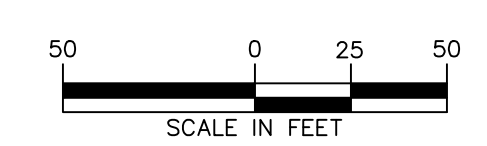
LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING PROPERTY LINE	EXISTING SPOT ELEVATION
EXISTING MONUMENT	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOILS SYMBOLS
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



MATCHLINE SEE SHEET CU-102

MATCHLINE SEE SHEET CU-107

ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 (AS AMENDED) AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTED) PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-242-1776
 SERIAL NO. (DIGIT FARM#): XXXXX



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *[Signature]* DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

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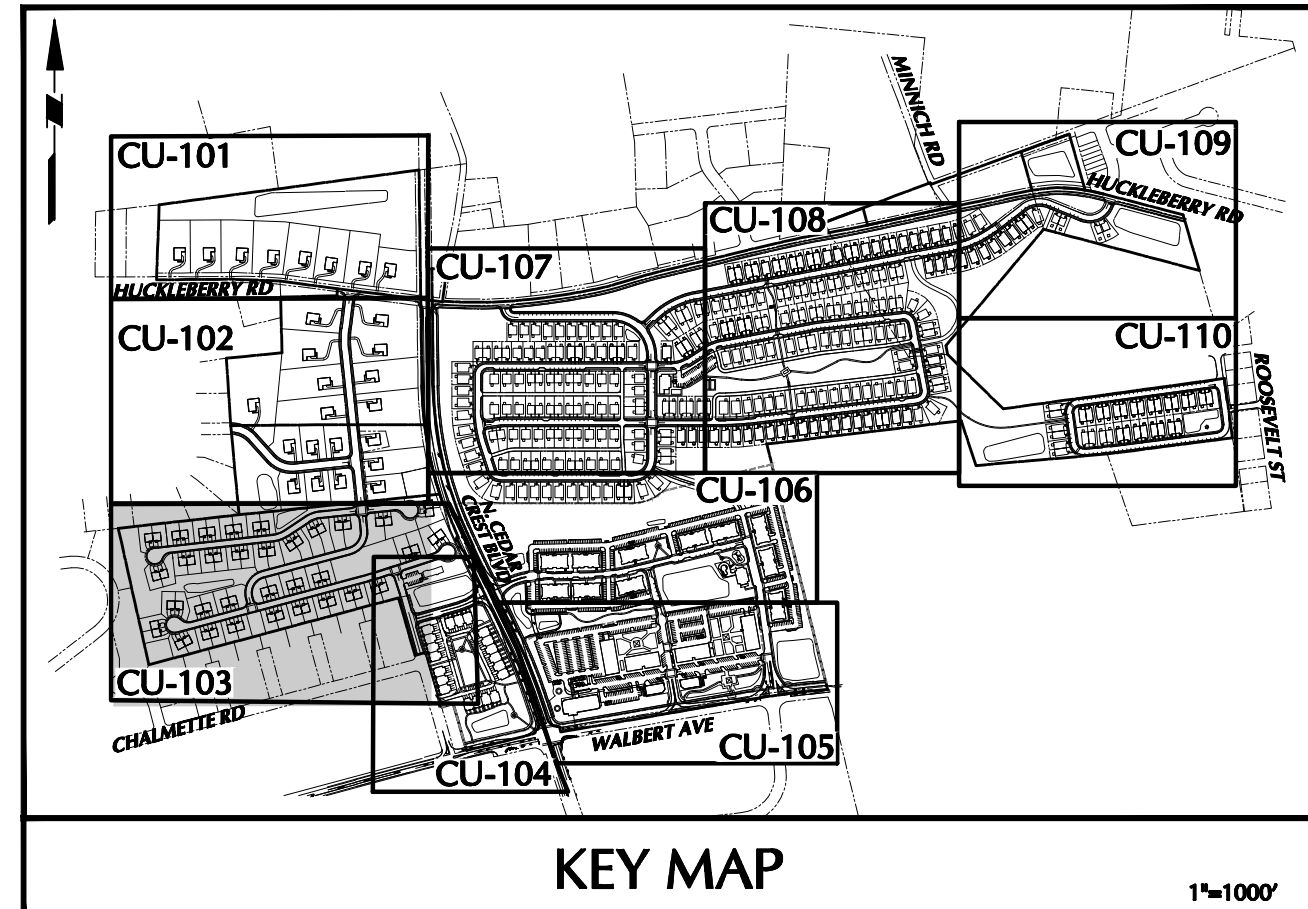
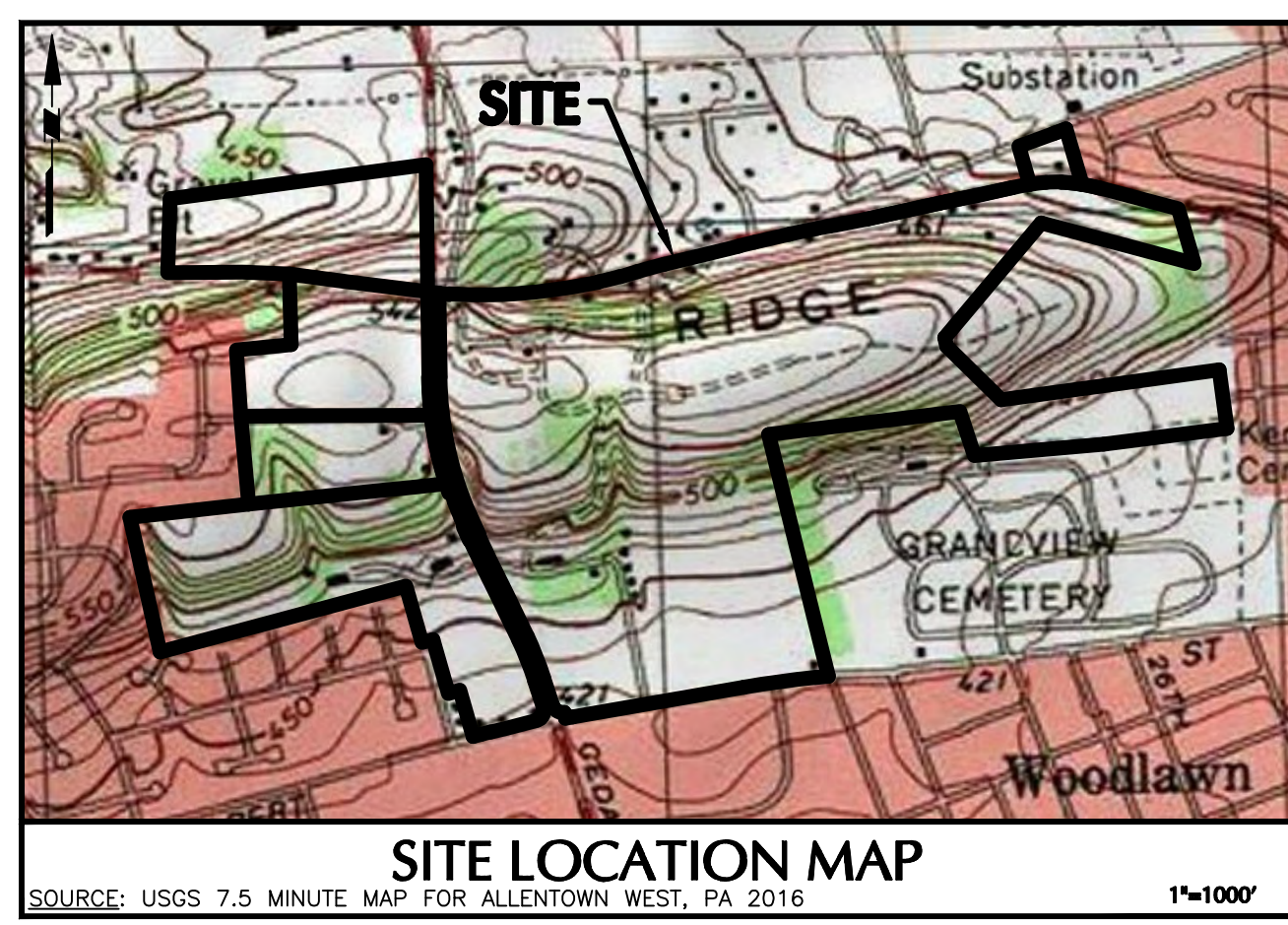
Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **UTILITY PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CU-101**
 Sheet 87 of 151

OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOIL TYPE
PROPOSED LOT LINE (WITH PIN MARKER)	TREELINE
PROPOSED LOT LINE (WITH CHORITE REFERENCE MONUMENTS)	
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
RETAINING WALL	
BASELINE LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER	EXISTING MANHOLE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING ELECTRIC POLE
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	

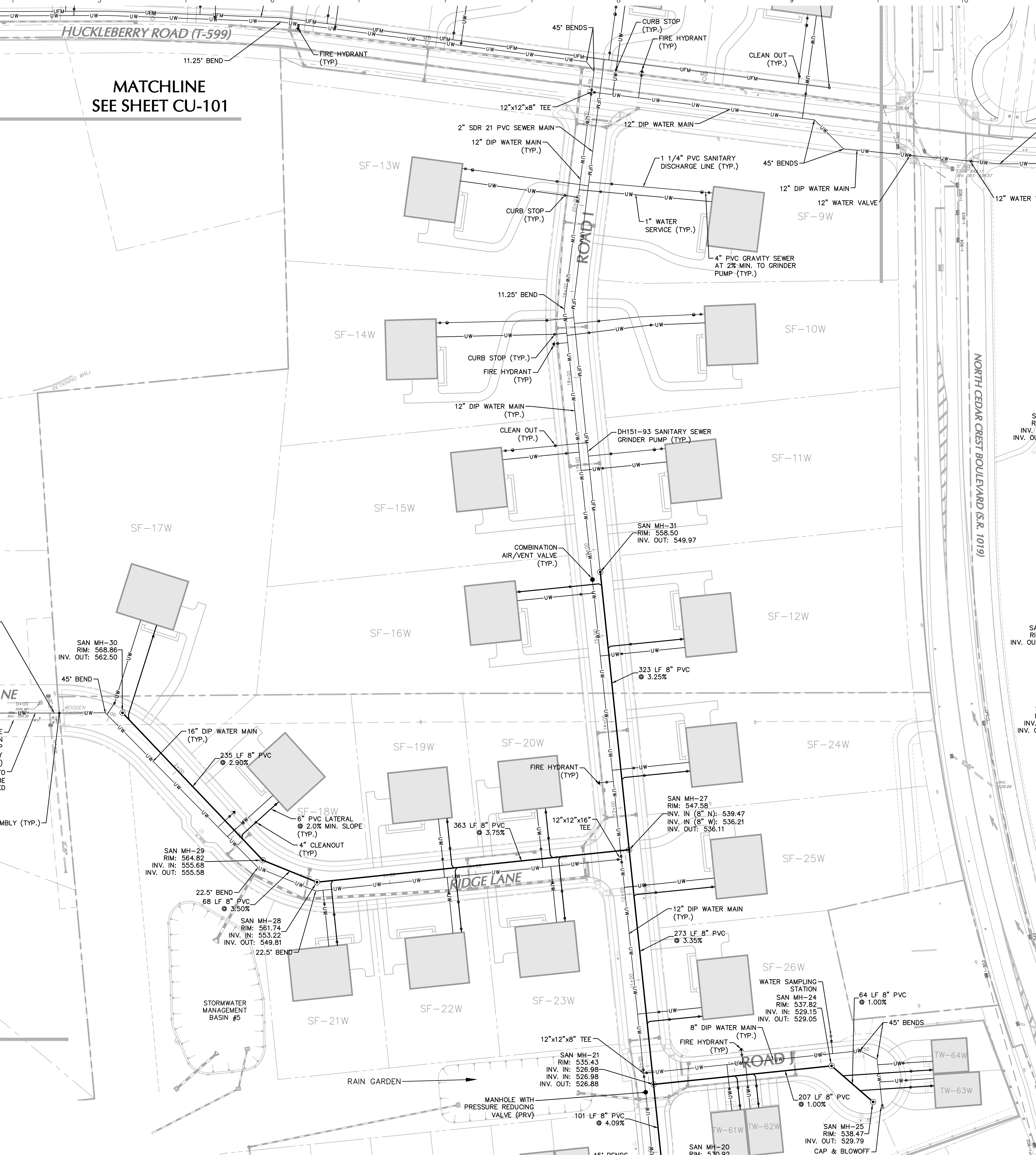
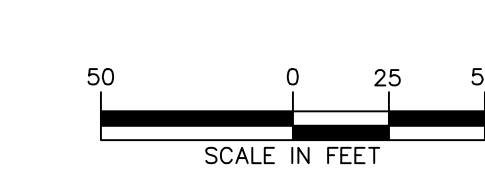
ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 (AS AMENDED) AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTICED) PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-242-1776
 SERIAL NO. RIDGE FARMS 520251



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

MATCHLINE SEE SHEET CU-103

NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: JEFFREY H. HARDY
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E
 DATE SIGNED: [Blank]

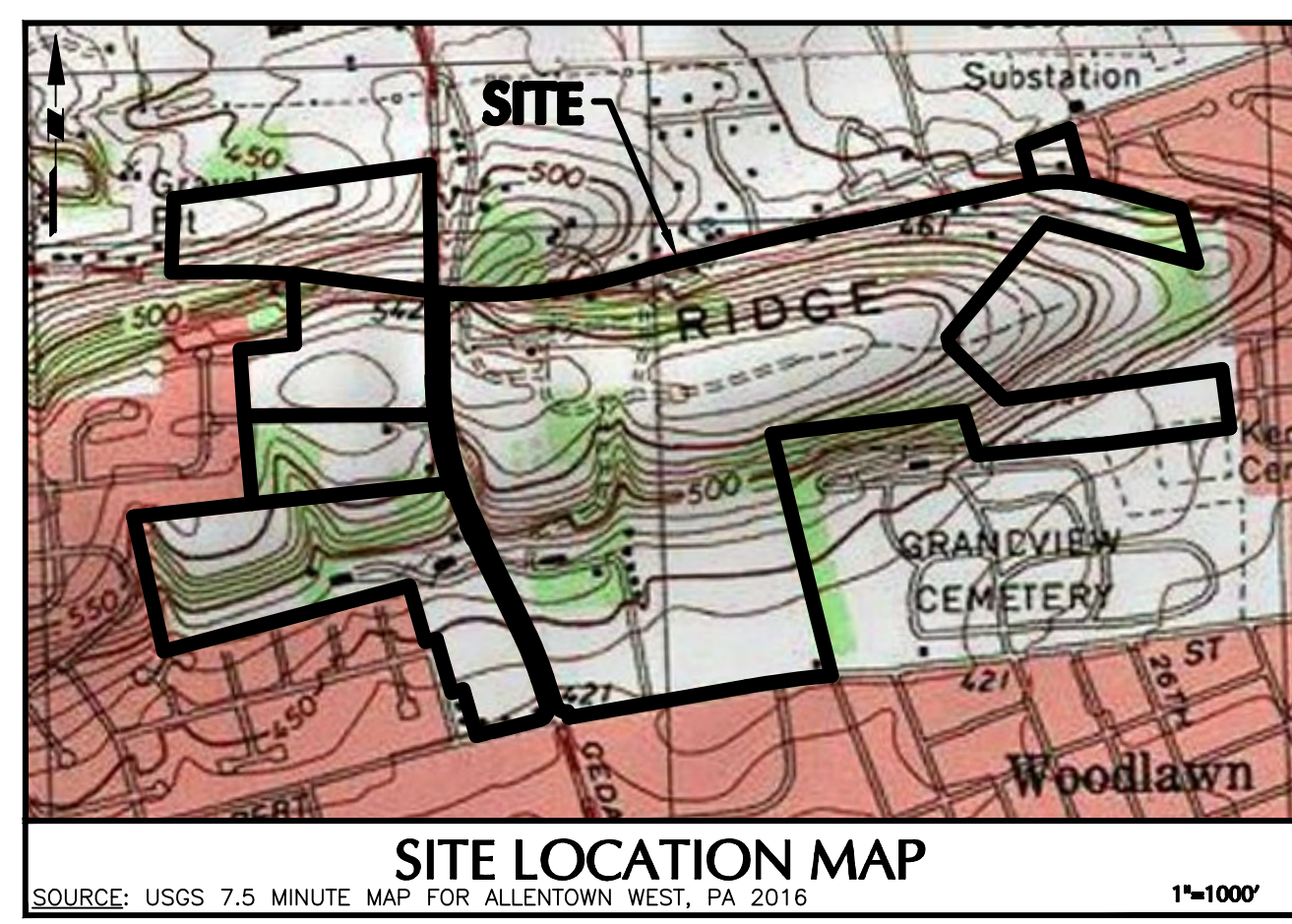


Project: RIDGE FARMS
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

Drawing Title: UTILITY PLAN

Project No. 240043301
 Date: 10/06/2020
 Scale: 1" = 50'
 Drawn By: JDM
 Checked By: JSE
 Submission Date: [Blank]
 Drawing No. CU-102
 Sheet 88 of 151

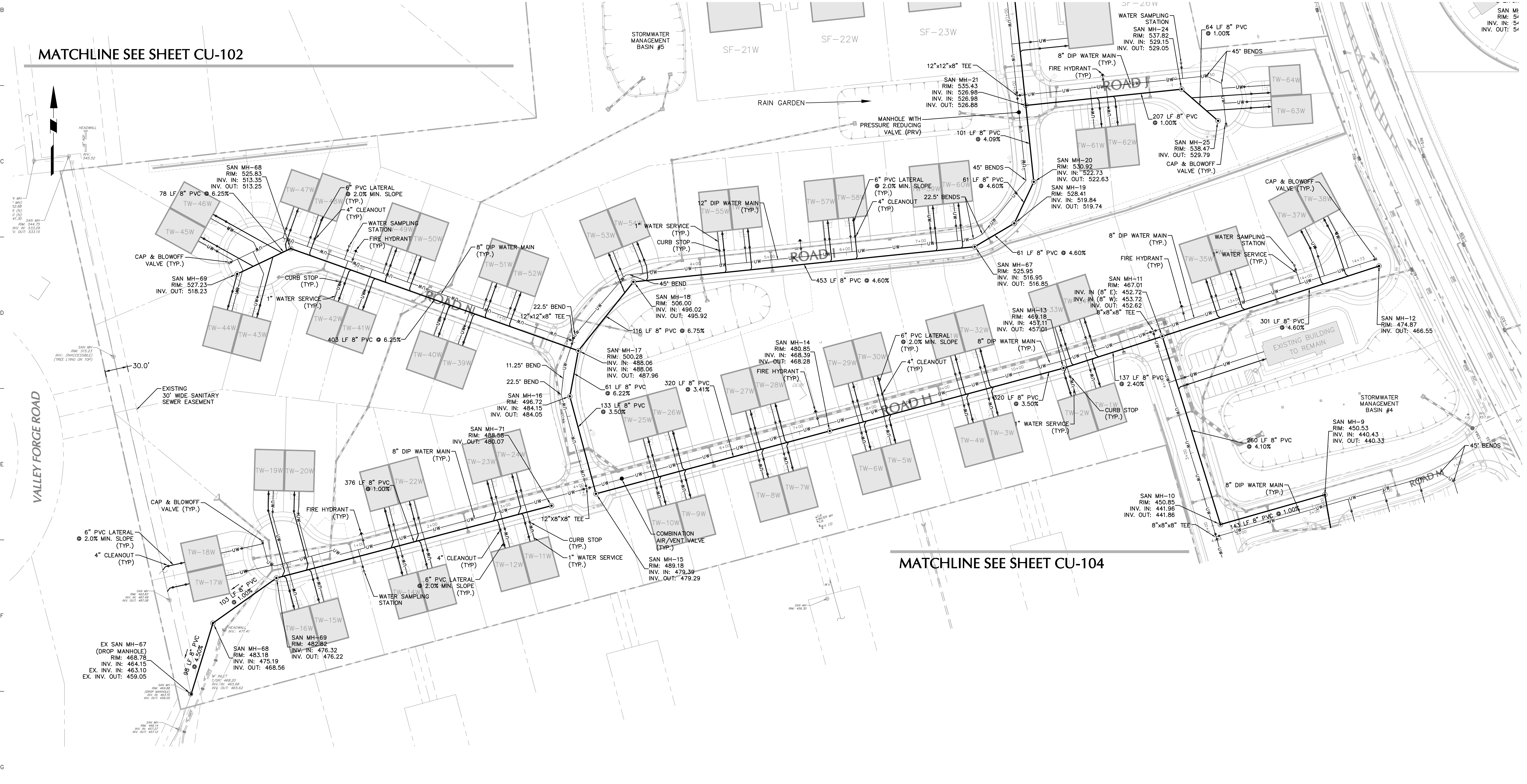
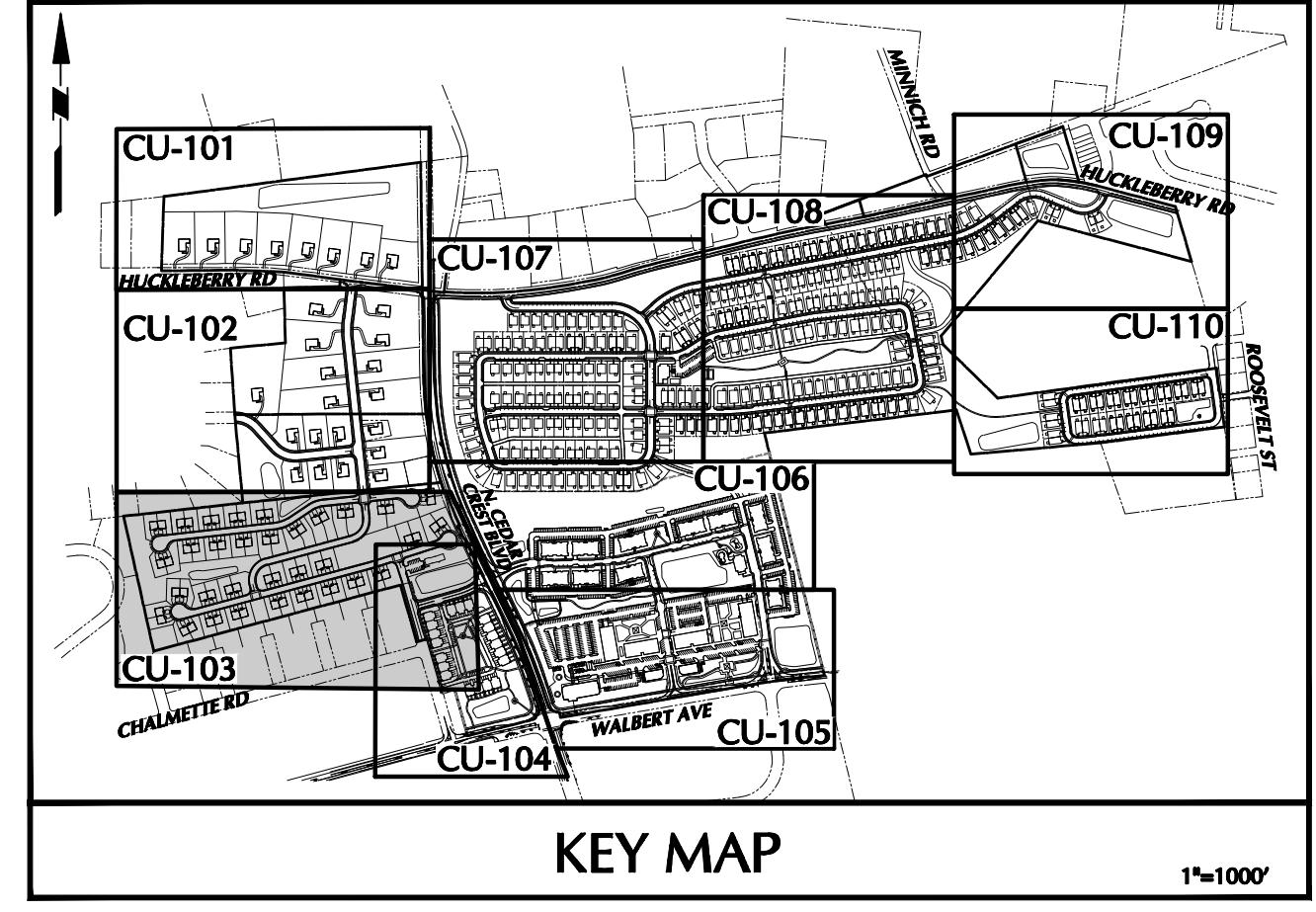
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ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 AS AMENDED AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTED) PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-245-1776
 SERIAL NO. (RIDGE FARMS): XXXXX

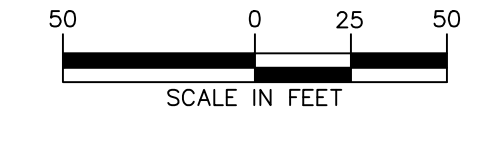
CALL BEFORE YOU DIG
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 1-800-245-1776
 FOR FREE MARKOUTS TO LOCATE UNDERGROUND UTILITIES
 "IT'S THE LAW"

LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING PROPERTY LINE	EXISTING SPOT ELEVATION
PROPOSED BUILDING LINE	PROPOSED SPOT ELEVATION
PROPERTY LINE	SOILS SYMBOLS
PROPOSED LOT LINE (WITH FIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

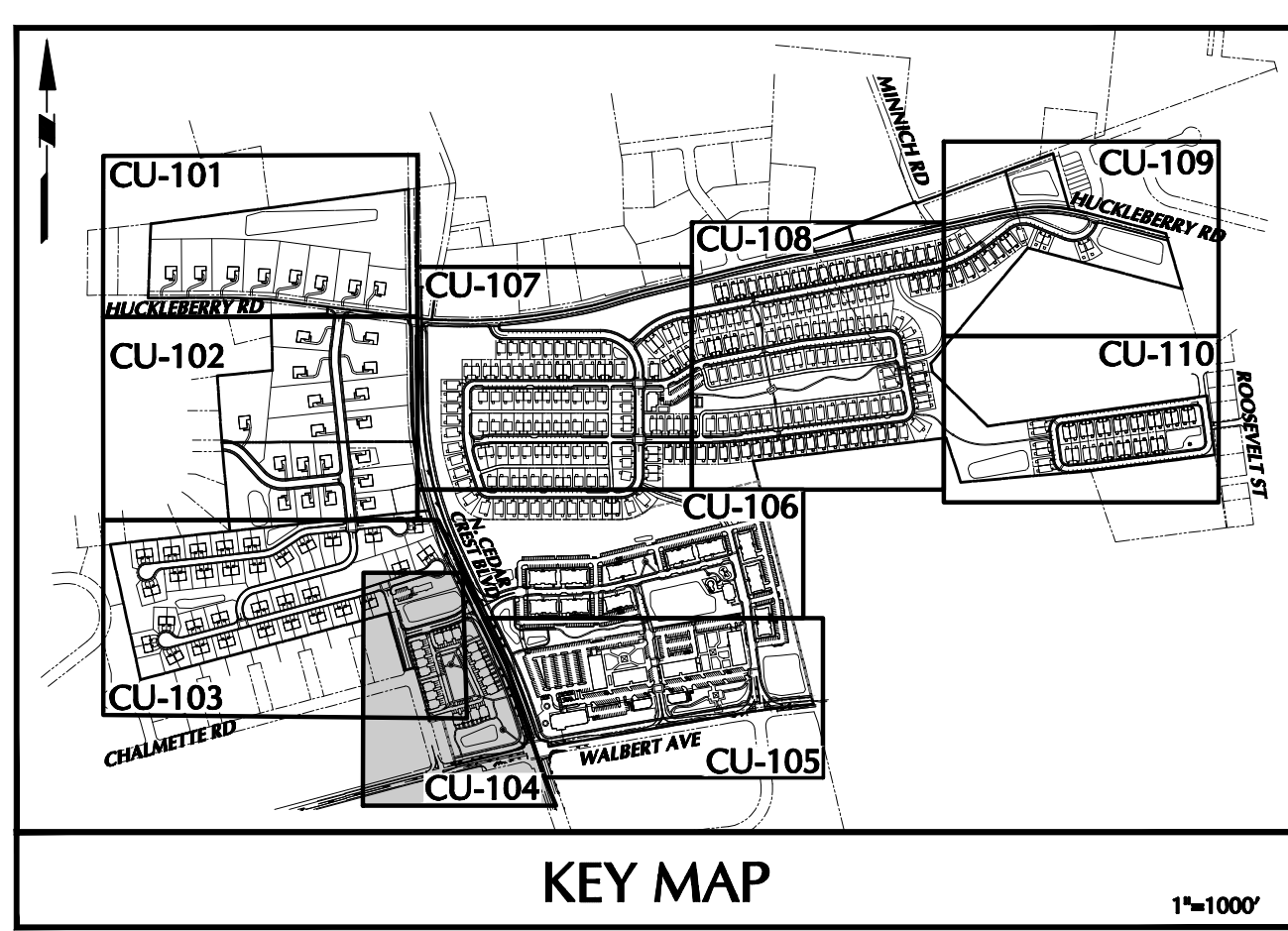
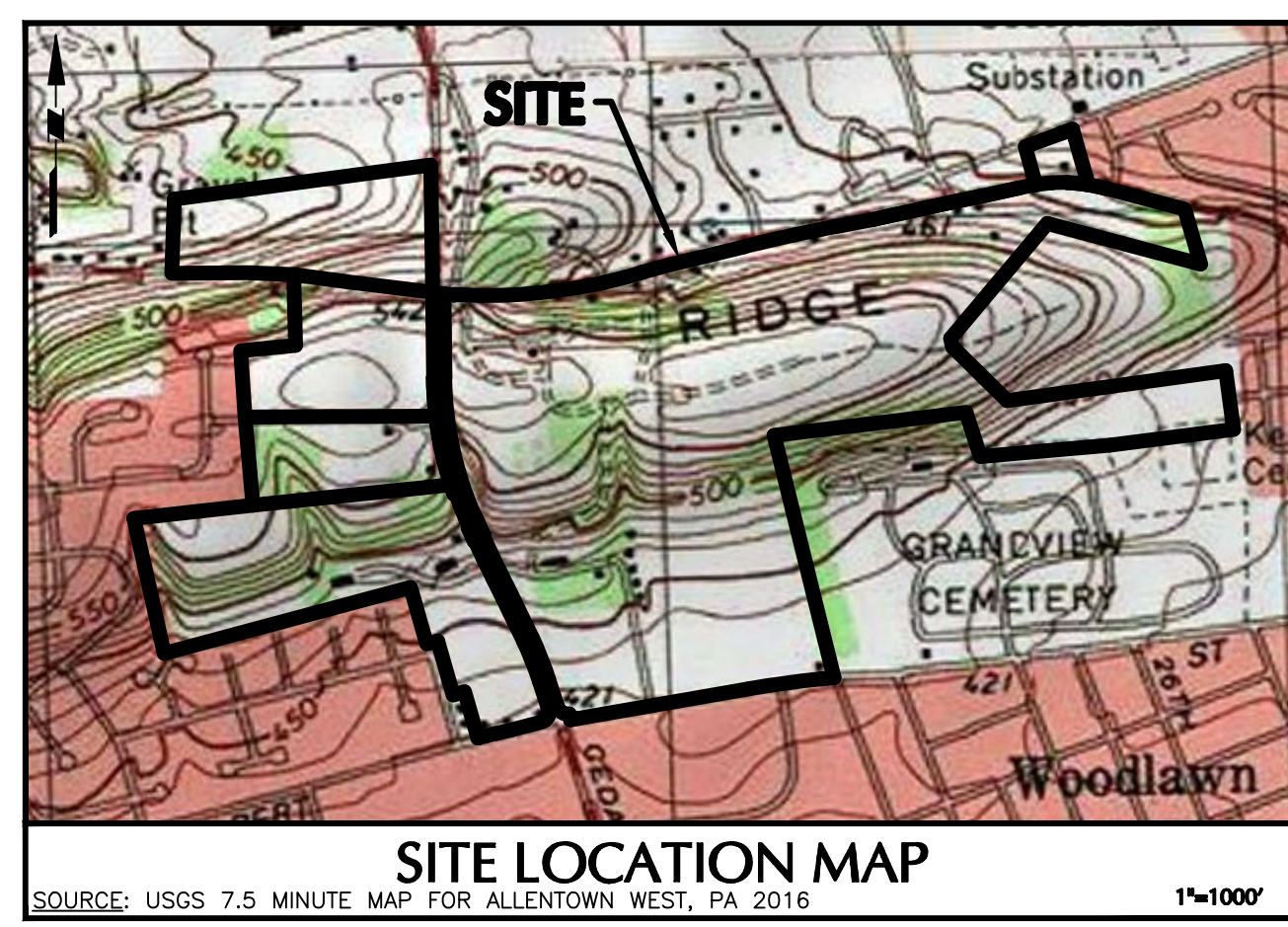
SIGNATURE: DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

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 Langan International LLC
 Collectively known as Langan

Project: **RIDGE FARMS**
 Drawing Title: **UTILITY PLAN**
 Project No.: **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 SHEET 89 OF 151

Project: **SOUTH WHITEHALL TOWNSHIP**
 LEHIGH COUNTY PENNSYLVANIA

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301

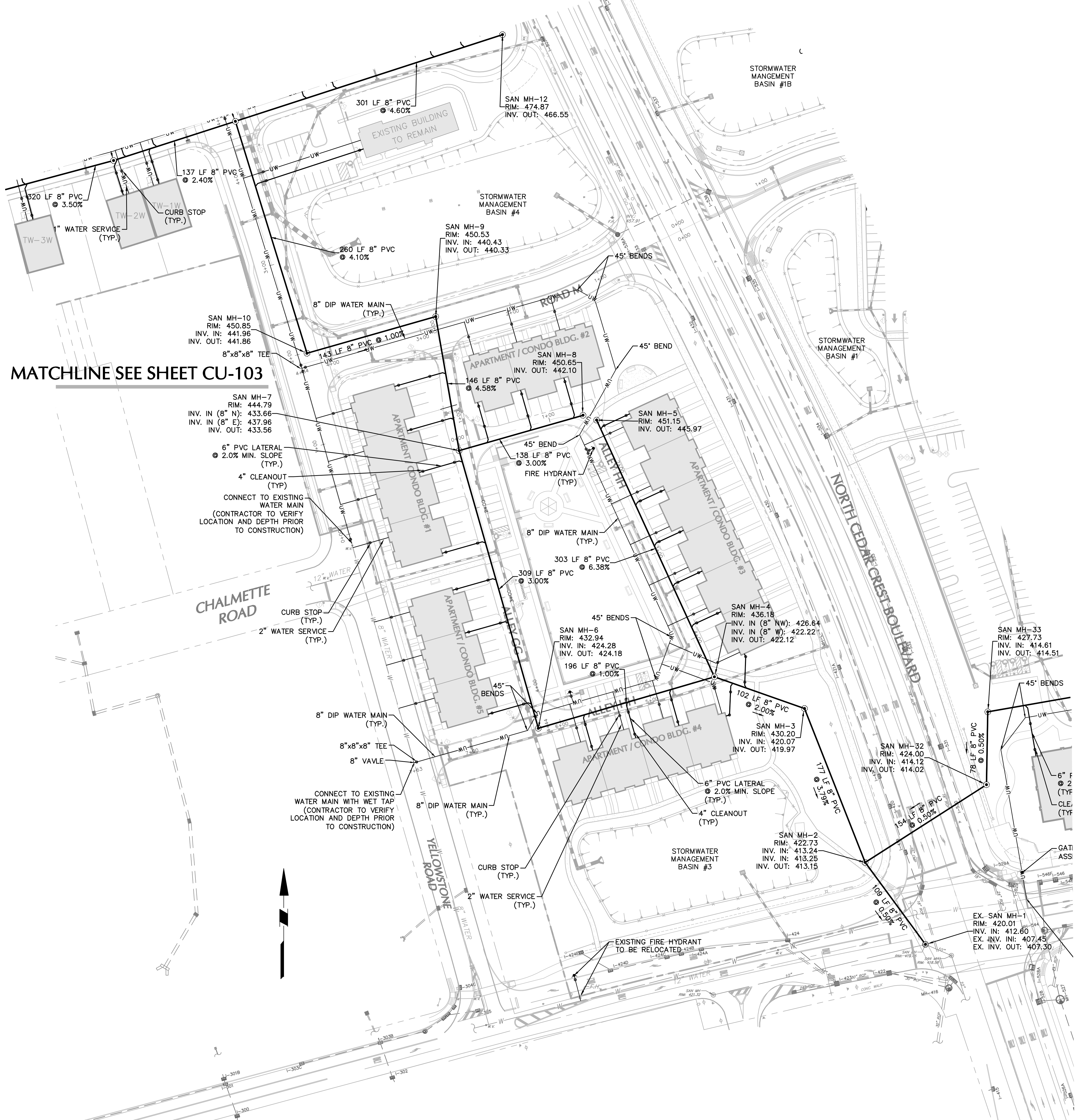


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOIL TYPE
PROPOSED LOT LINE (WITH PIN MARKER)	TREELINE
PROPOSED LOT LINE (WITH GRADE REFERENCE MONUMENTS)	
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	

ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 (AS AMENDED) AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTED) PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-242-1776
 SERIAL NO (BRIDGE FARMS): XXXXX



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MATCHLINE SEE SHEET CU-103

OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

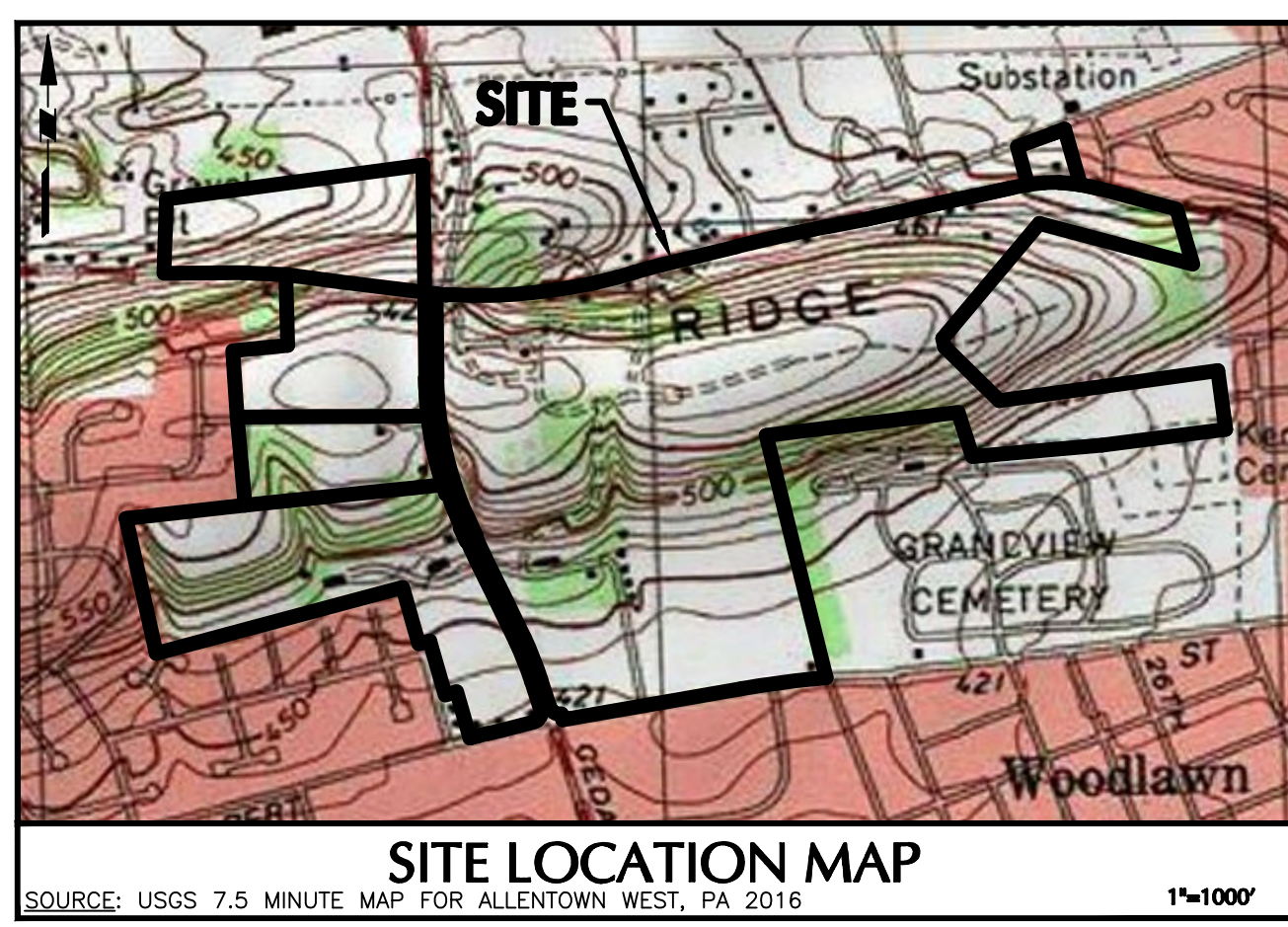
SIGNATURE: *[Signature]* DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

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Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **UTILITY PLAN**

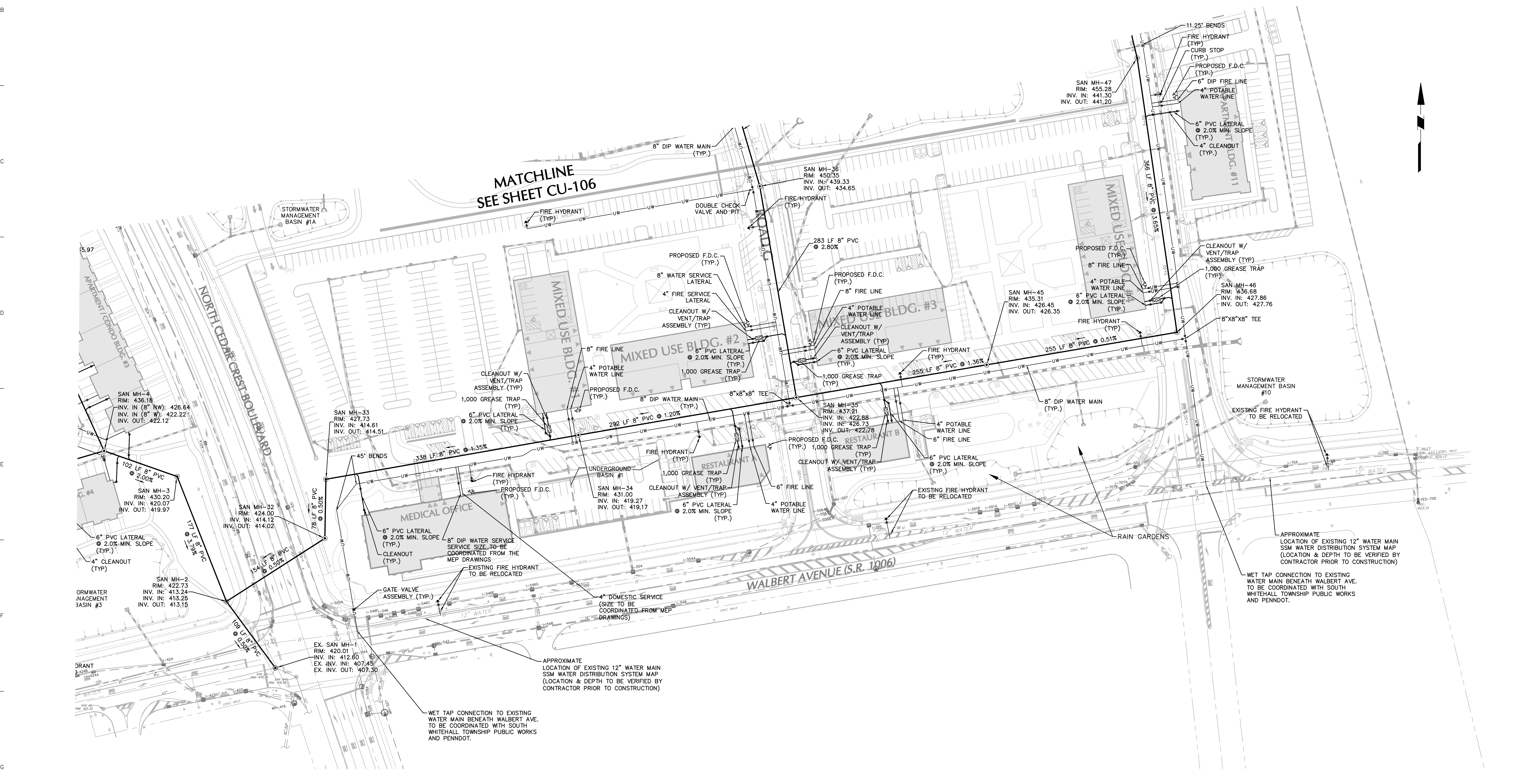
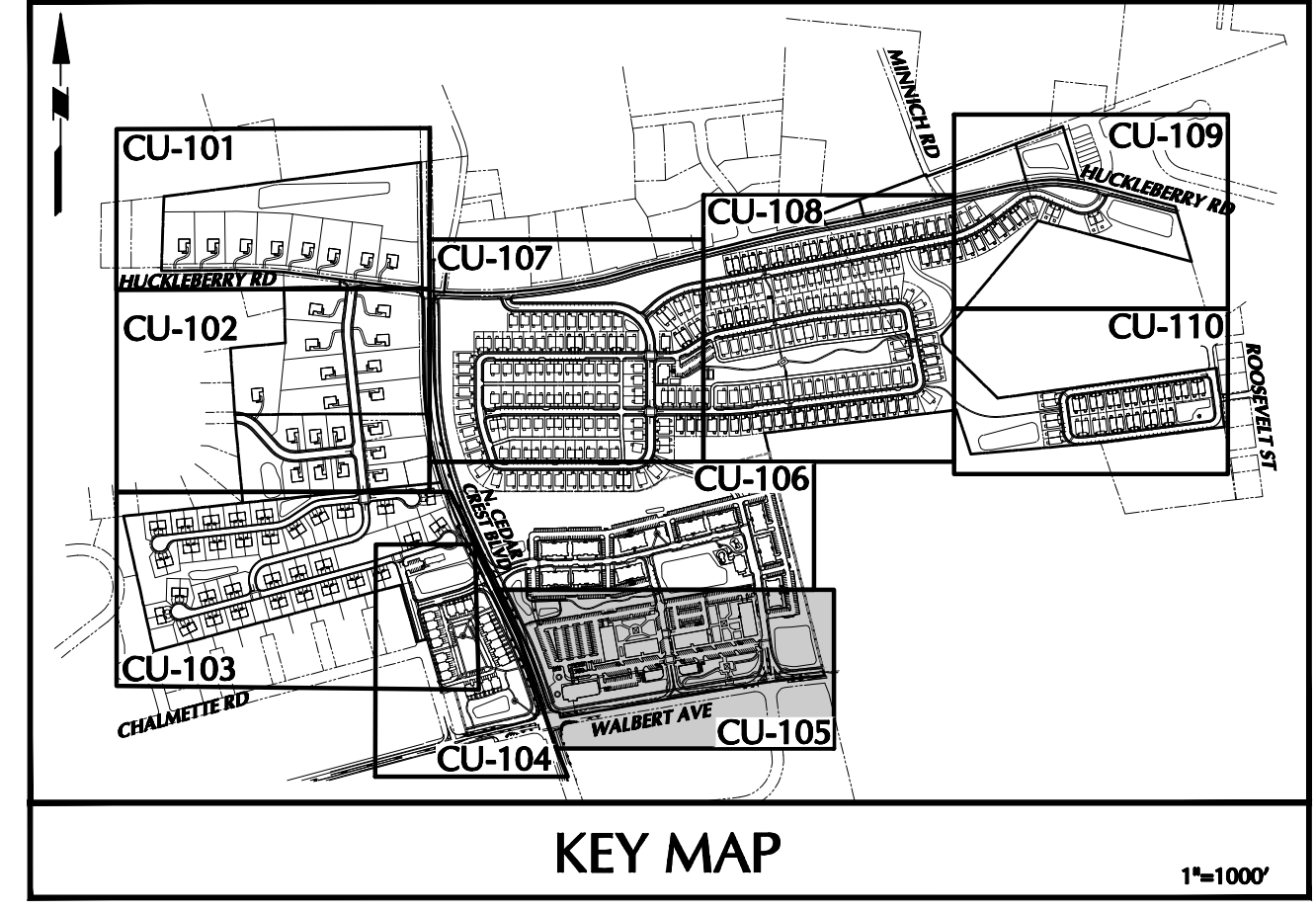
Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CU-104**
 Sheet 90 of 151



ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 AS AMENDED AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTED) PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-242-1776
 SERIAL NO (BRIDGE FARMS): XXXXX

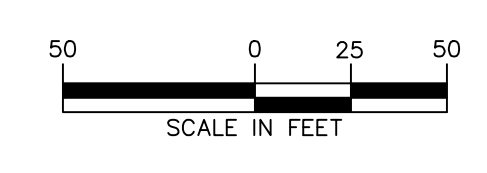


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING PROPERTY LINE	EXISTING SPOT ELEVATION
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PROPERTY LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASEIN LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER	EXISTING MANHOLE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING ELECTRIC POLE
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
 KAY WALBERT LLC.
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *Jason Scott Enghardt* DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

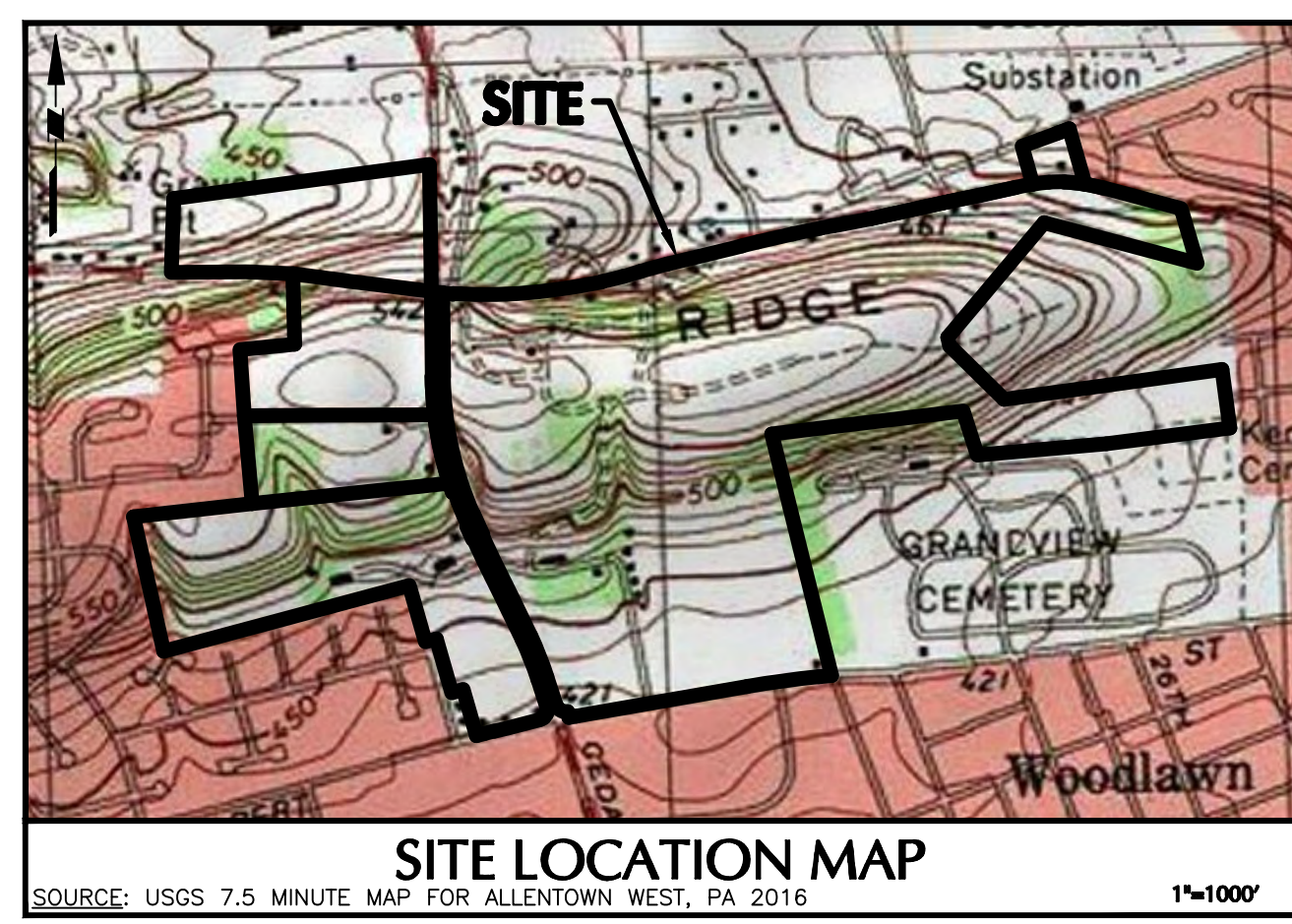
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 Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
 Langan GI, Inc.
 Langan International LLC
 Collectively known as Langan

Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **UTILITY PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CU-105**
 Sheet 91 of 151

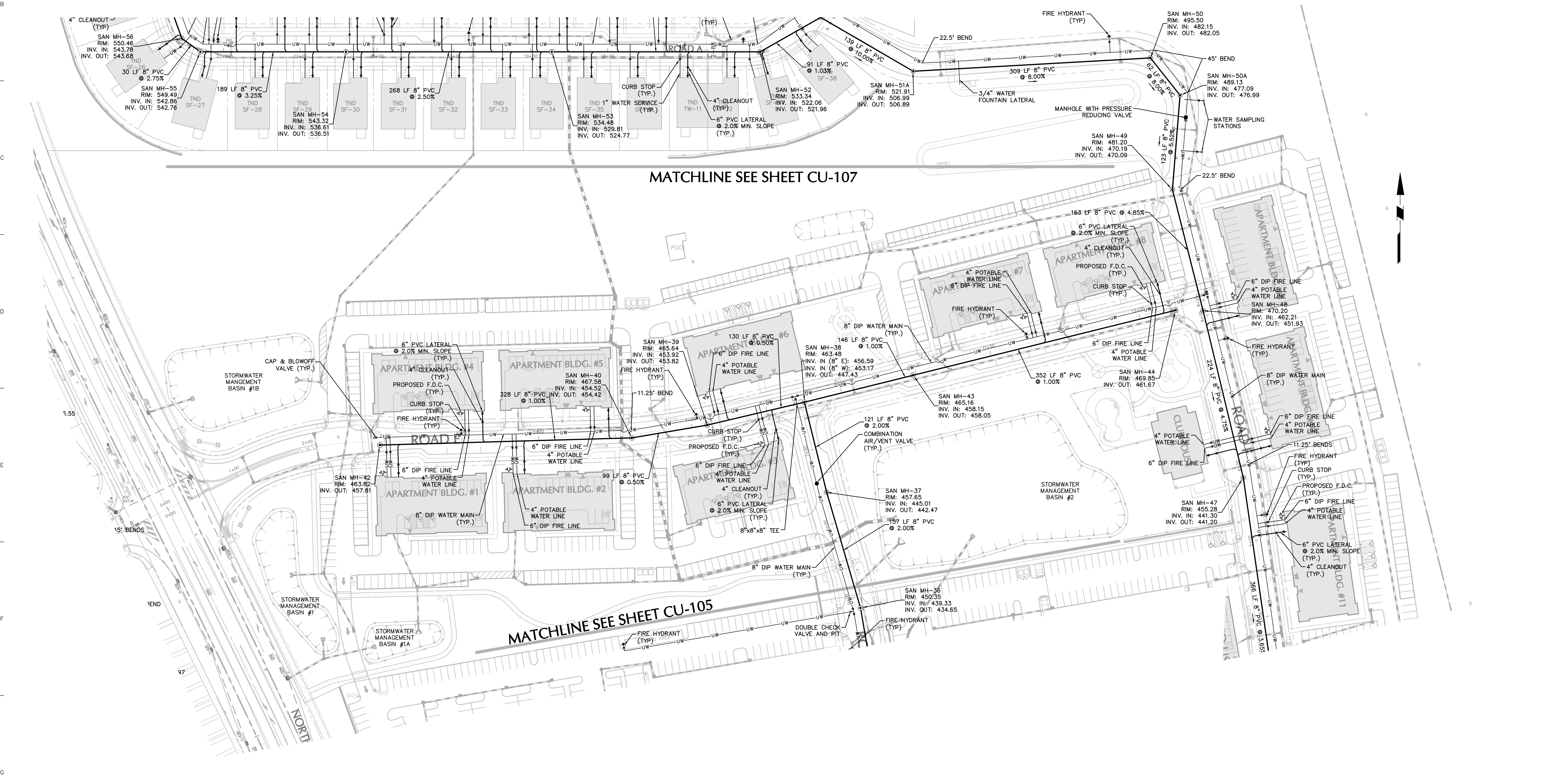
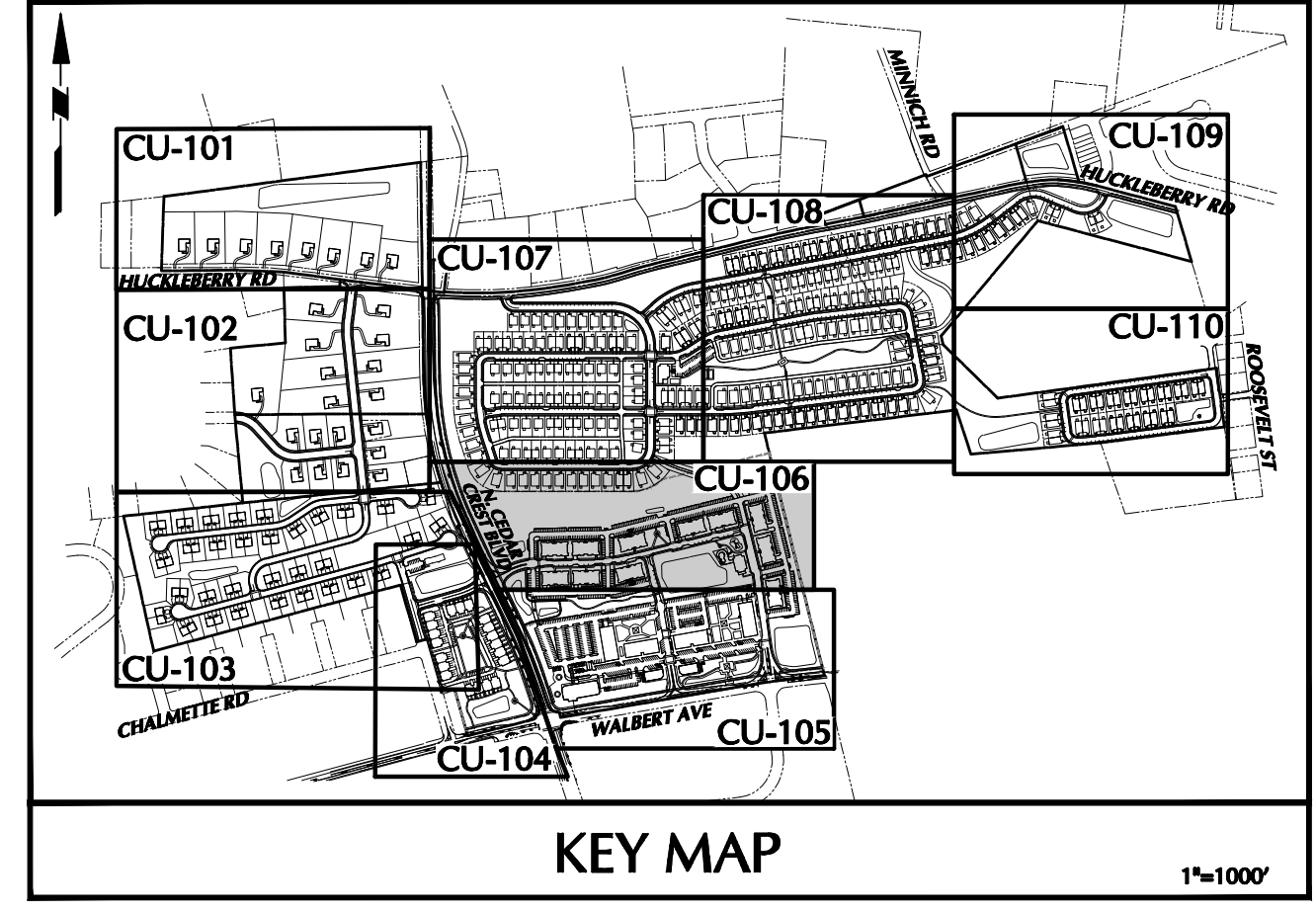
SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301 LANSAN



ACT 287 AS AMENDED
IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 AS AMENDED AND TO CONTRACT THE 'ONE CALL SYSTEM' THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTED) PRIOR TO START OF CONSTRUCTION.
PENNSYLVANIA ONE CALL 1-800-343-1776 SERIAL NO. (BRIDGE FARMS): XXXXX

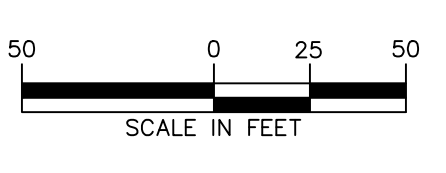
CALL BEFORE YOU DIG
IN PA, TOLL FREE 1-800-243-1776
FOR FREE MARKOUTS TO LOCATE UNDERGROUND UTILITIES
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LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING PROPERTY LINE	EXISTING SPOT ELEVATION
PROPOSED BUILDING LINE	PROPOSED SPOT ELEVATION
PROPERTY LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOILS SYMBOL
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	SOIL TYPE
BUILDING SETBACK LINE	TREELINE
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



MATCHLINE SEE SHEET CU-107

MATCHLINE SEE SHEET CU-105



NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.

OWNER/APPLICANT
KAY WALBERT LLC
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: J. SCOTT ENGBART
DATE SIGNED: 10/06/2020
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

LANGAN
One West Broad Street, Suite 200, Bethlehem, PA 18018
T: 610-864-8900 F: 610-864-8501 www.langan.com
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Collectively known as Langan

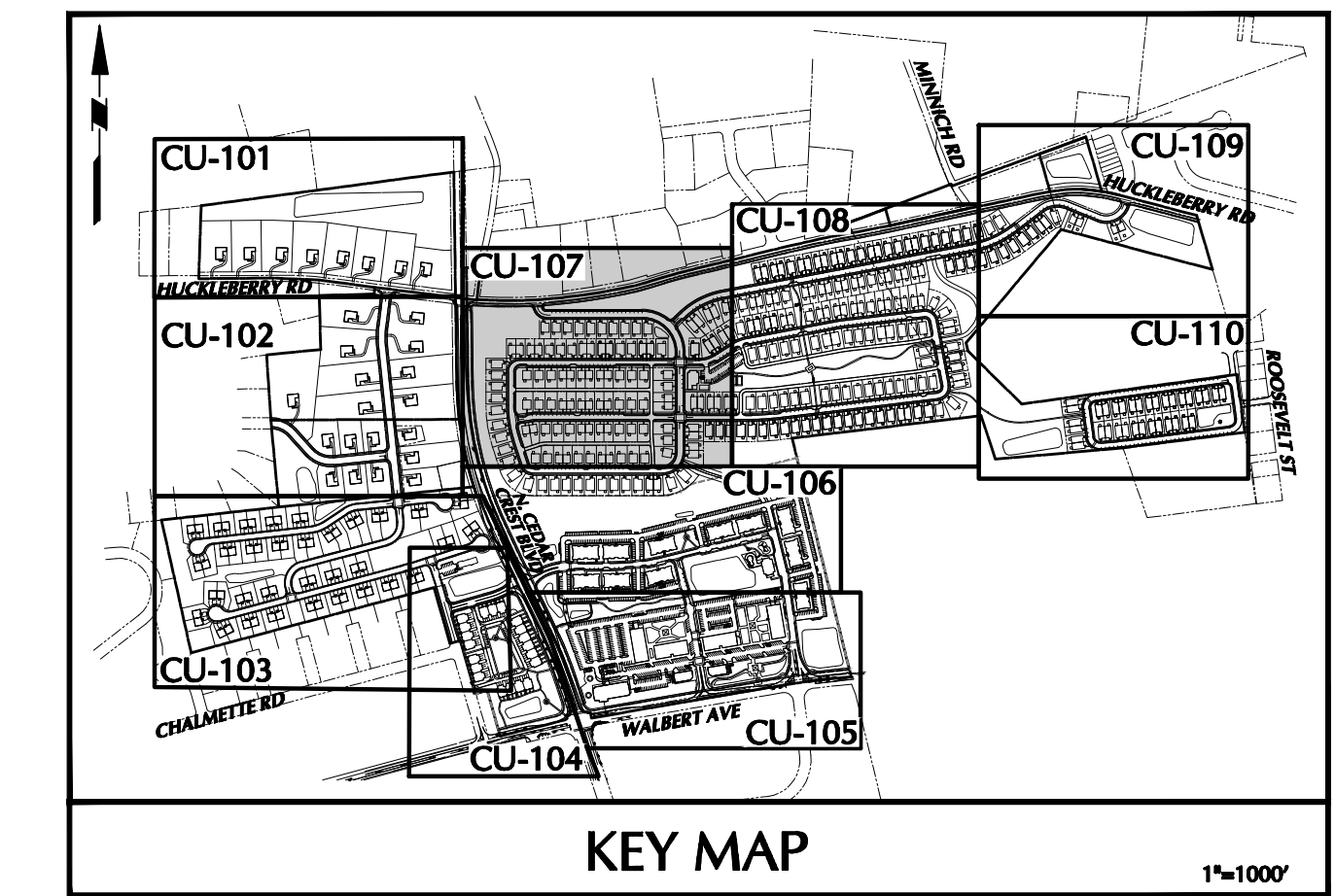
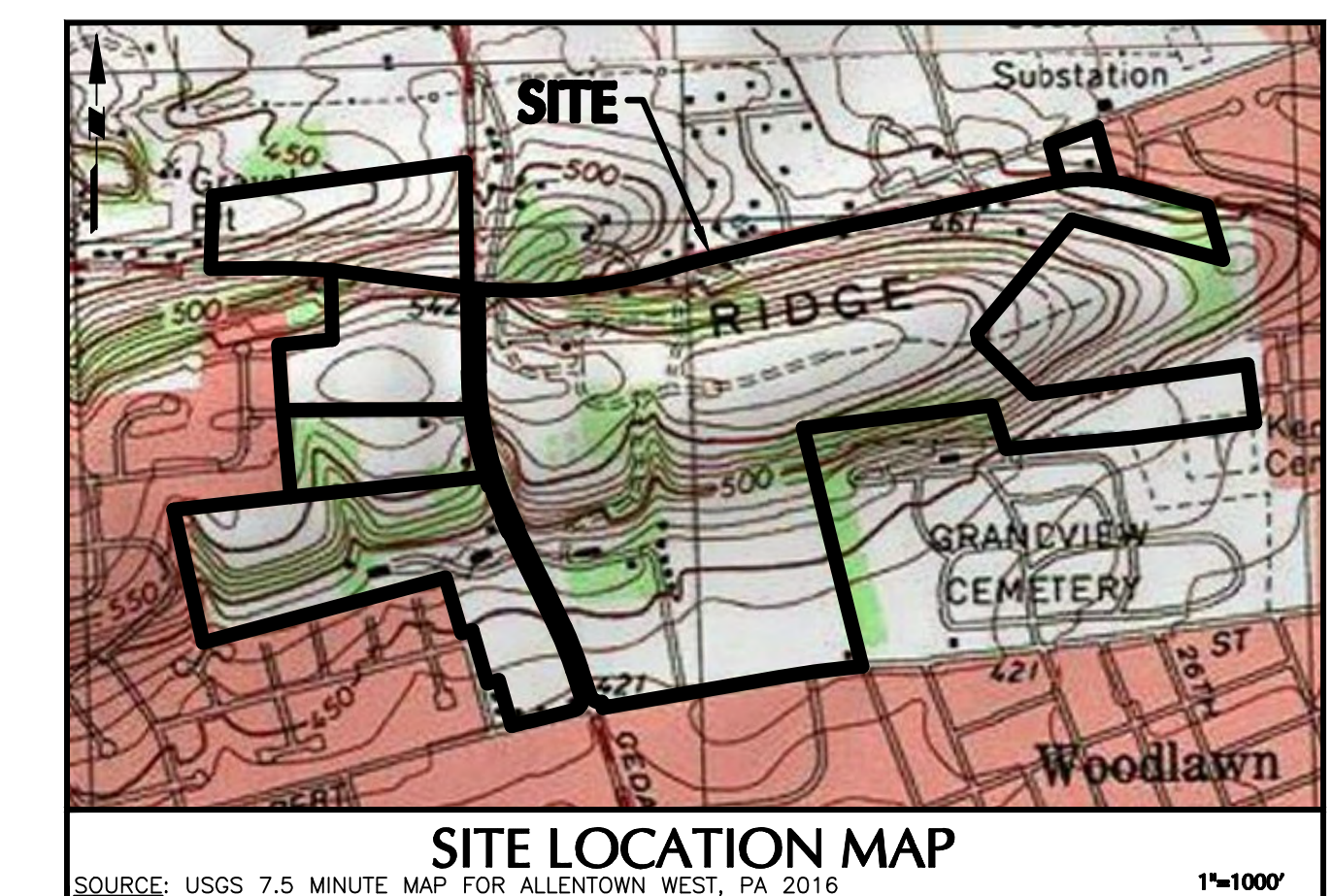
Project: **RIDGE FARMS**
Drawing Title: **UTILITY PLAN**
Project No.: **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
Sheet 92 of 151

Project No.: **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
Sheet 92 of 151

SUBMISSION DATE: SEPTEMBER 23, 2021
PROJECT NO. 240043301

MATCHLINE SEE SHEET CU-101

MATCHLINE SEE SHEET CU-108

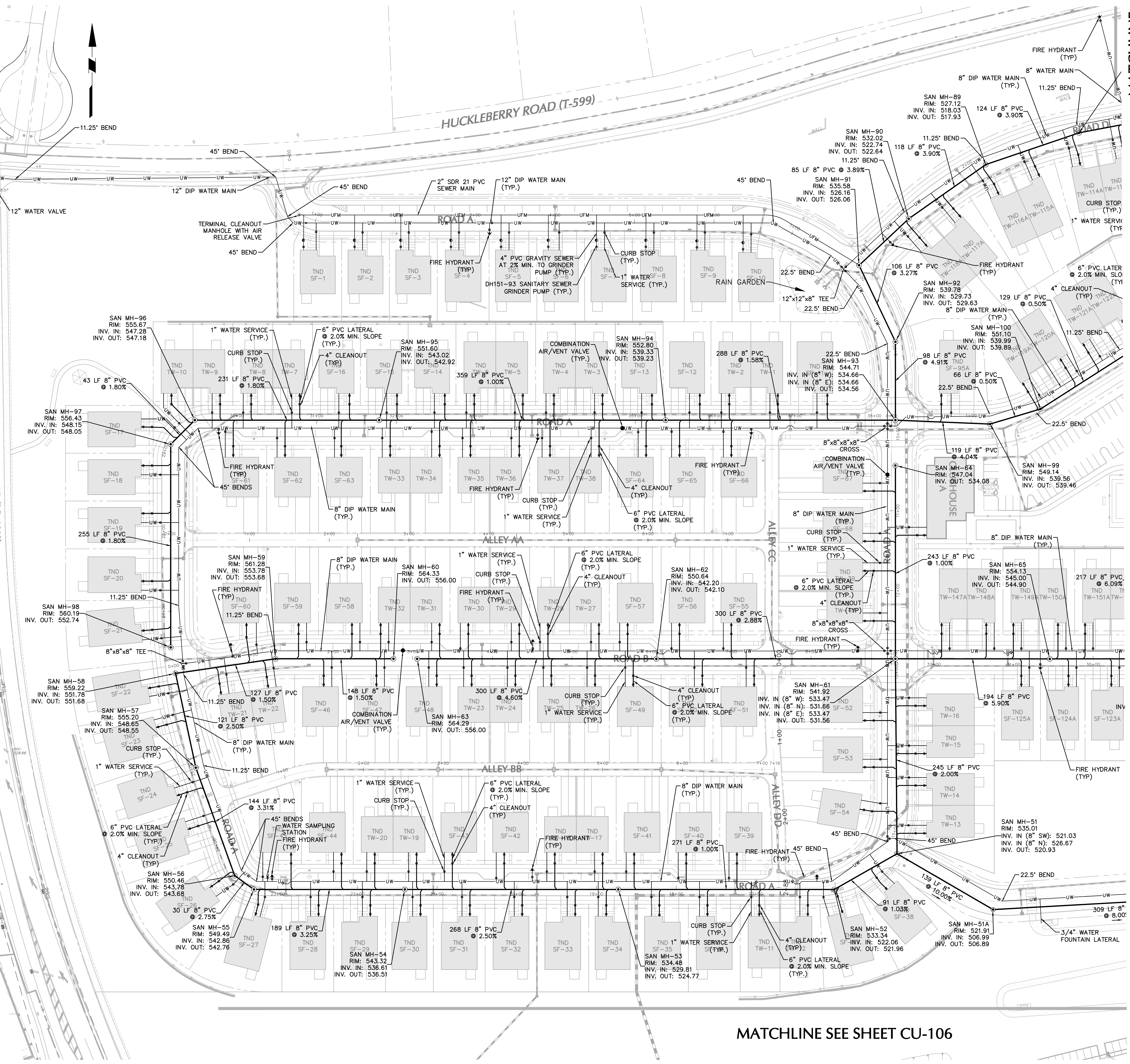


LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE RESIDUE MONUMENTS)	TREELINE
PROPOSED UTILITY EASEMENT	UTILITY SYMBOLS
STORMWATER BMP AREA	EXISTING SANITARY SEWER MANHOLE
CONCRETE SIDEWALK	EXISTING FIRE HYDRANT
RETAINING WALL	EXISTING CATCH BASIN
BASELINE	EXISTING WATER VALVE
	EXISTING MANHOLE
	EXISTING ELECTRIC POLE
EXISTING STORM SEWER	
EXISTING WATER MAIN	
PROPOSED STORM SEWER	
PROPOSED SANITARY SEWER FORCE MAIN	
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	

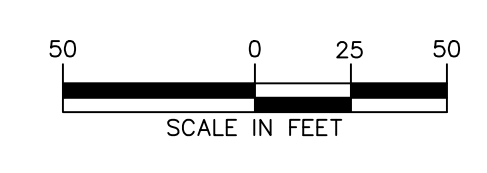
ACT 287 AS AMENDED
IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 AS AMENDED AND TO CONTRACT THE 'ONE CALL SYSTEM' THREE (3) WORKING DAYS UNLESS OTHERWISE NOTED PRIOR TO START OF CONSTRUCTION.
PENNSYLVANIA ONE CALL 1-800-343-7776
SERIAL NO (RIDGE FARMS): XXXXX



CALL BEFORE YOU DIG
IN PA, TOLL FREE 1-800-243-7776
FOR FREE MARKOUTS TO LOCATE UNDERGROUND UTILITIES
IT'S THE LAW



MATCHLINE SEE SHEET CU-106



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *J. P. ENELHARDT* DATE SIGNED: _____
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

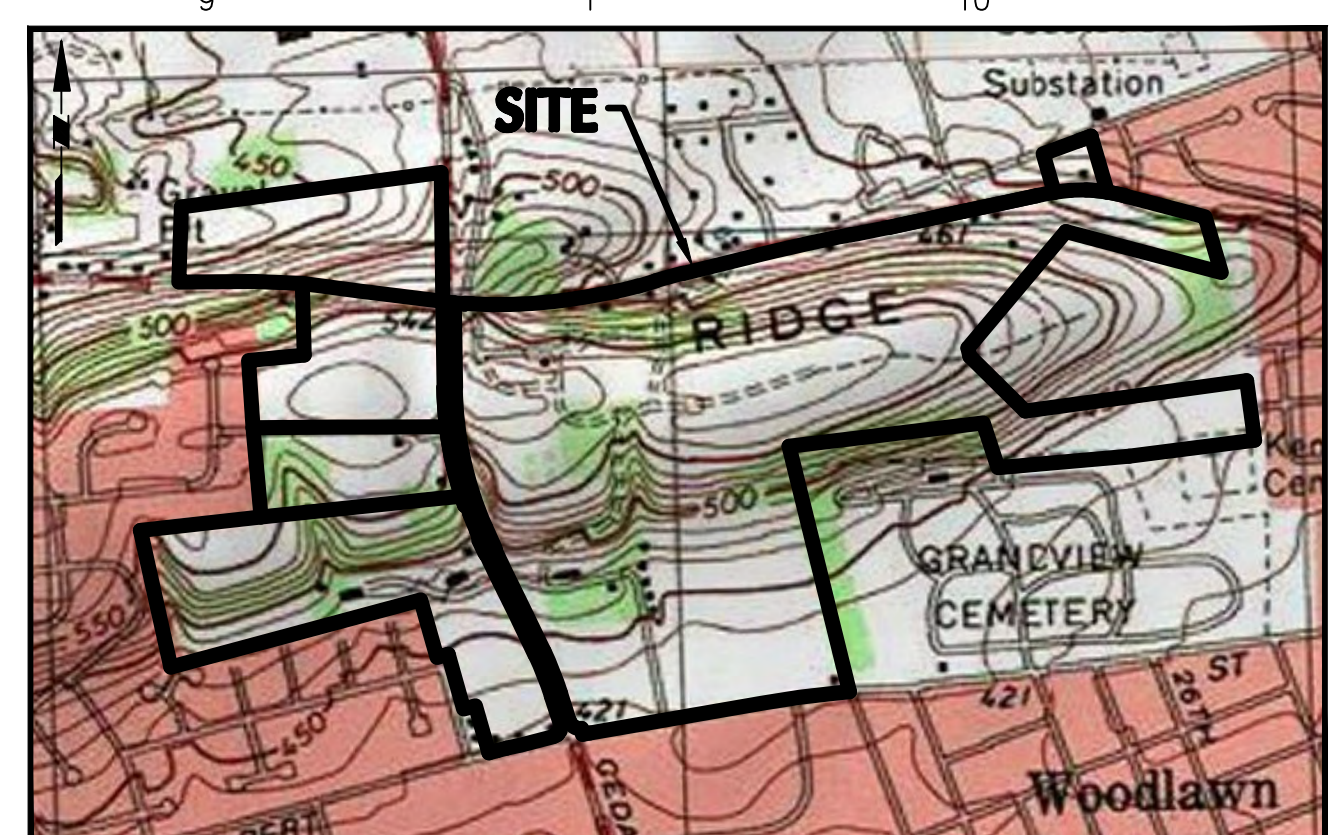
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Langan Engineering and Environmental Services, Inc.
Langan International LLC
Collectively known as Langan

Project: **RIDGE FARMS**
Drawing Title: **UTILITY PLAN**
Project No.: **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
Sheet 93 of 151

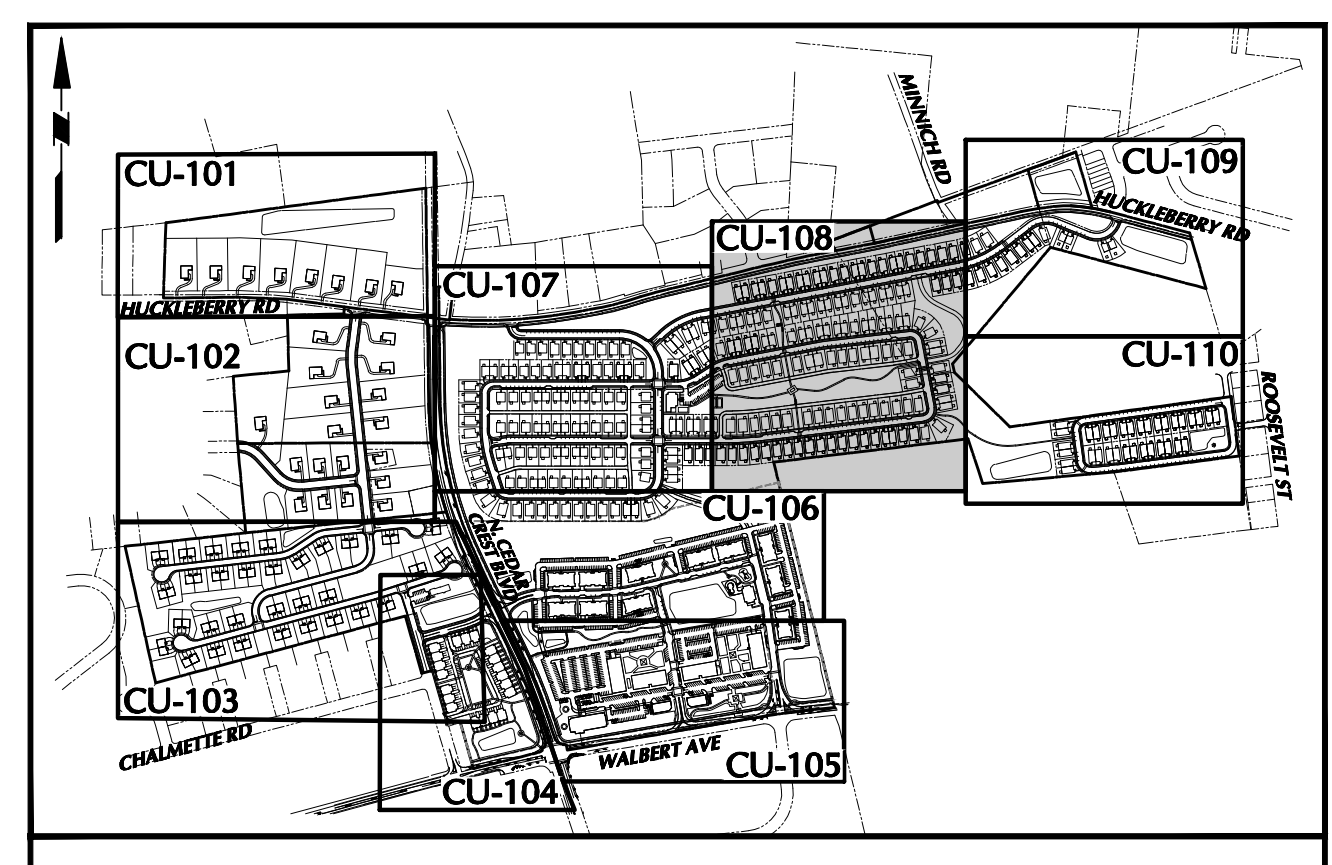
OWNER/APPLICANT
KAY WALBERT LLC.
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.

SUBMISSION DATE: SEPTEMBER 23, 2021
PROJECT NO. 240043301
LANGAN



SITE LOCATION MAP 1"=100'



KEY MAP 1"=100'

LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	PROPOSED SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	SOILS BOUNDARY
PROPERTY LINE	SOILS TYPE
PROPOSED LOT LINE (WITH FIN MARKER)	TREELINE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	UTILITY SYMBOLS
BUILDING SETBACK LINE	EXISTING STORM SEWER
PROPOSED UTILITY EASEMENT	EXISTING WATER MAIN
STORMWATER BMP AREA	PROPOSED STORM SEWER
CONCRETE SIDEWALK	PROPOSED SANITARY SEWER FORCE MAIN
SIGN	PROPOSED WATER MAIN
RETAINING WALL	PROPOSED GAS MAIN
BASELINE	PROPOSED TELEPHONE AND ELECTRIC
	PROPOSED FIRE HYDRANT
	EXISTING SANITARY SEWER MANHOLE
	EXISTING FIRE HYDRANT
	EXISTING CATCH BASIN
	EXISTING WATER VALVE
	EXISTING MANHOLE
	EXISTING ELECTRIC POLE

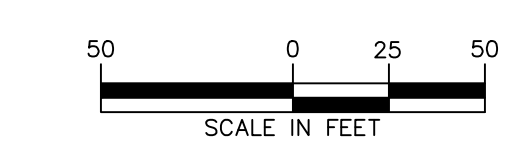
ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 AS AMENDED AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS UNLESS OTHERWISE NOTED PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-245-1776
 SERIAL NO. BRIDGE FARMS: XXXXX



CALL BEFORE YOU DIG
 IN PA, TOLL FREE
 1-800-245-1776
 FOR FREE MARKOUTS TO LOCATE
 UNDERGROUND UTILITIES
 IT'S THE LAW



NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.



OWNER/APPLICANT
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 ALLENTOWN, PA 18106
 610-395-6857

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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: DATE SIGNED: _____
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

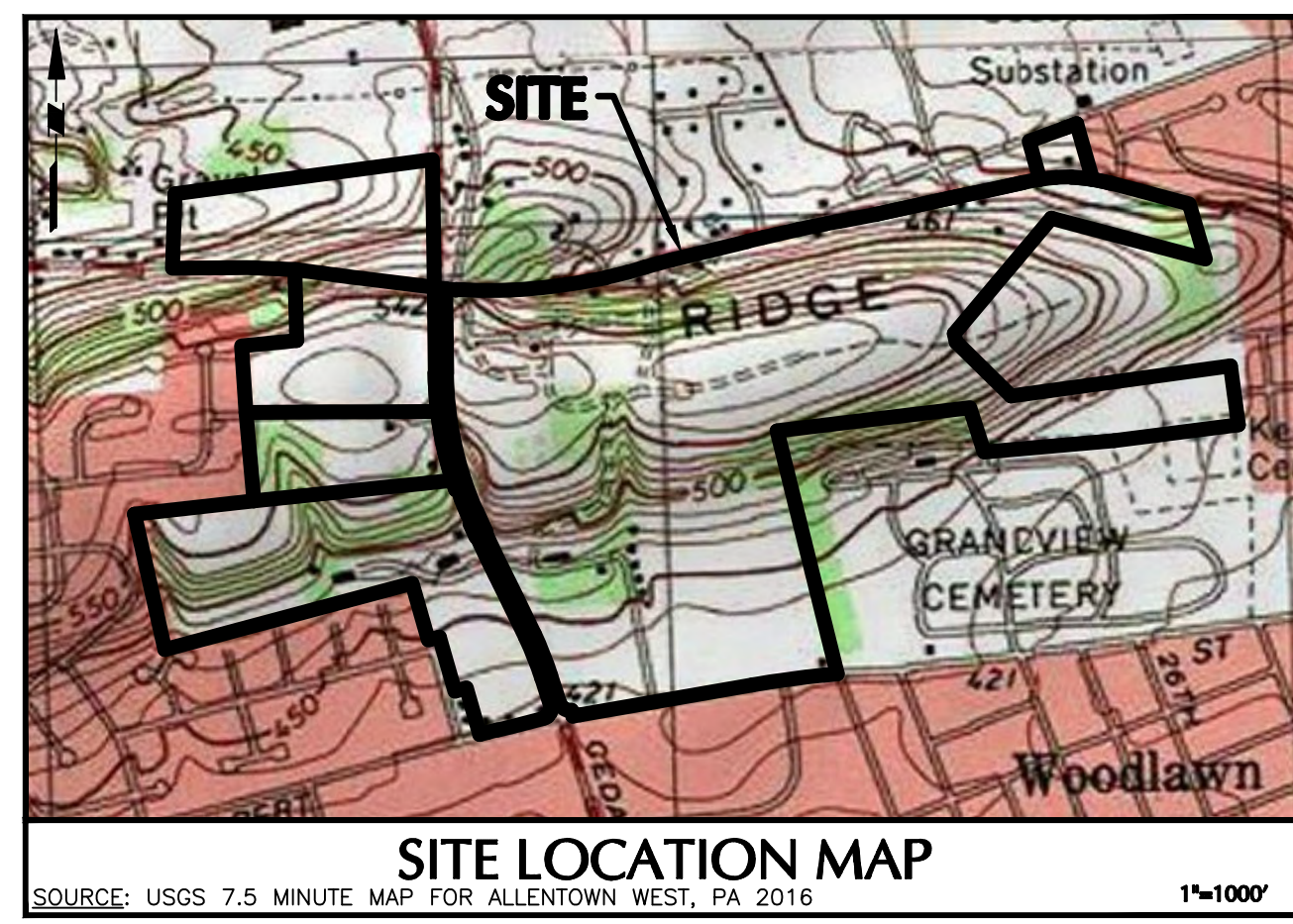
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Project: **RIDGE FARMS**
 Drawing Title: **UTILITY PLAN**
 Project No.: **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____

Drawing No.: **CU-108**
 Sheet 94 of 151

SAN MH-51
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 INV. IN (8" SW): 521.03
 INV. IN (8" N): 526.67
 INV. OUT: 520.93

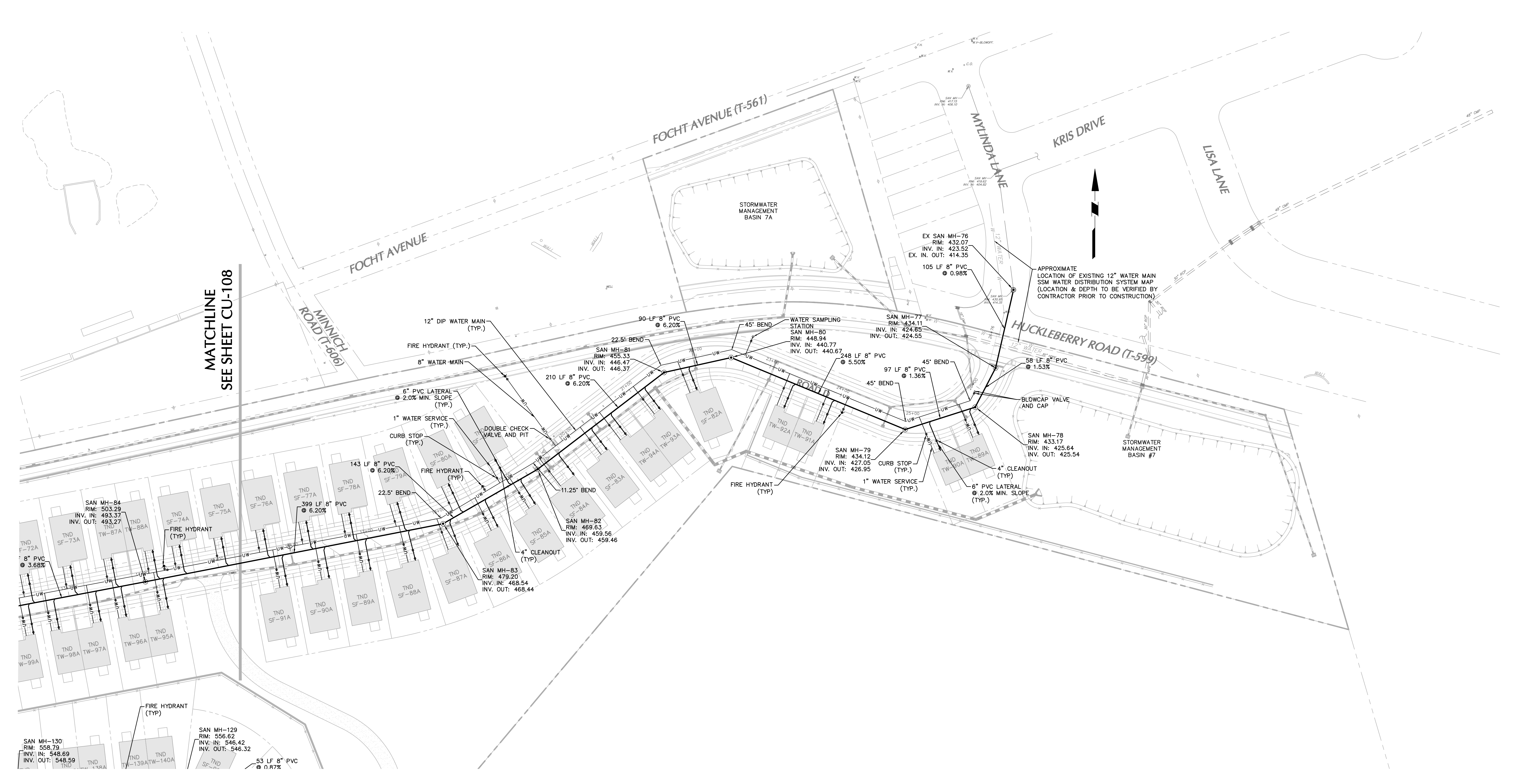
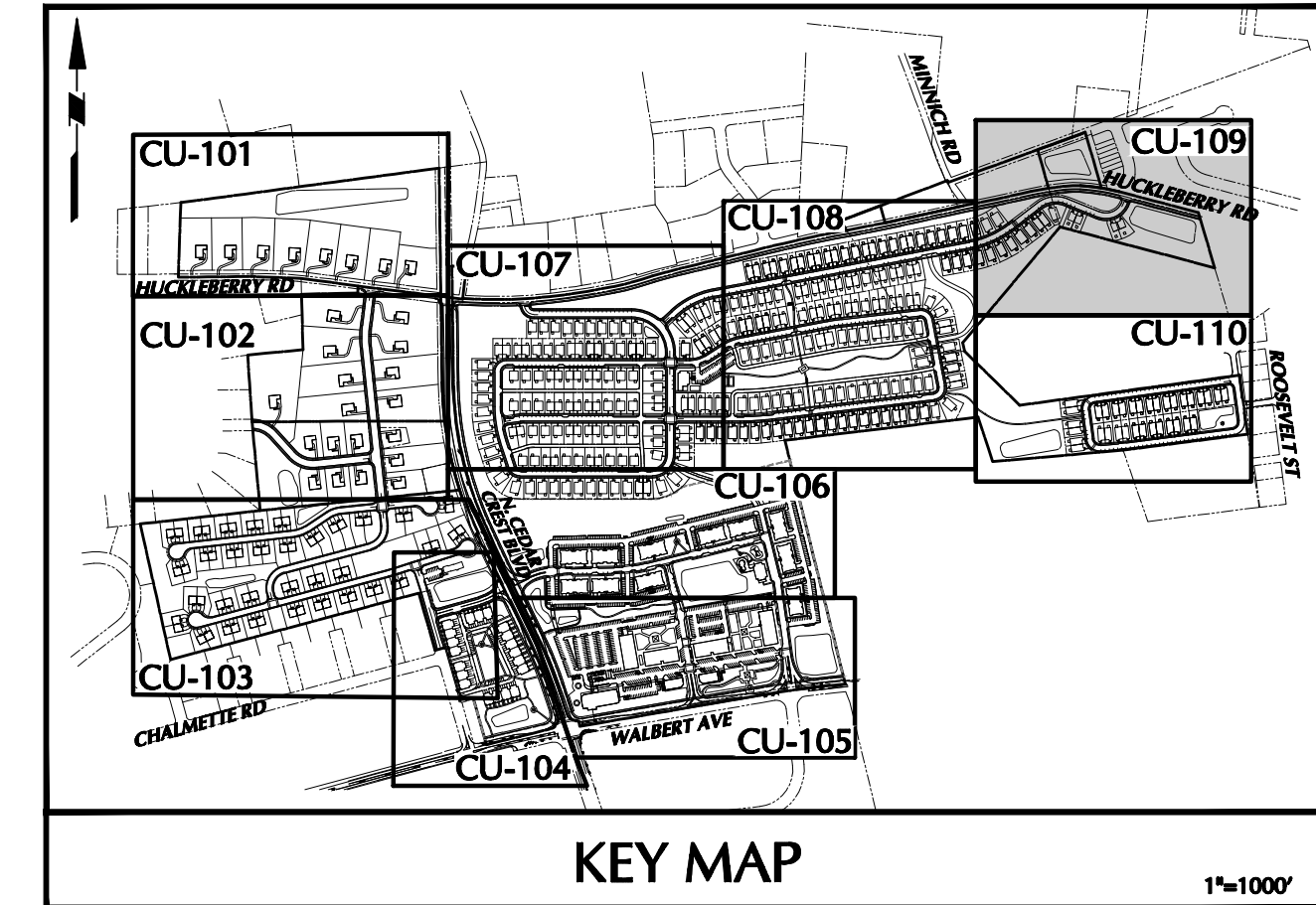
SAN MH-50
 RIM: 495.50



ACT 287 AS AMENDED
IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 AS AMENDED AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTED) PRIOR TO START OF CONSTRUCTION.
PENNSYLVANIA ONE CALL 1-800-342-1776
SERIAL NO BRIDGE FARMS: XXXXX



LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING PROPERTY LINE	EXISTING SPOT ELEVATION
PROPOSED BUILDING LINE	PROPOSED SPOT ELEVATION
PROPERTY LINE	SOILS BOUNDARY
PROPOSED LOT LINE (WITH PIN MARKER)	SOIL TYPE
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	TREELINE
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	
EXISTING STORM SEWER	EXISTING SANITARY SEWER MANHOLE
EXISTING WATER MAIN	EXISTING FIRE HYDRANT
PROPOSED STORM SEWER	EXISTING CATCH BASIN
PROPOSED SANITARY SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING MANHOLE
PROPOSED WATER MAIN	EXISTING ELECTRIC POLE
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



OWNER/APPLICANT
KAY WALBERT LLC.
ATTN: RICK KOZE
5930 HAMILTON BLVD., SUITE 10
ALLENTOWN, PA 18106
610-395-6857

NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.



Date	Description	No.
09-23-21	REVISED PER TOWNSHIP COMMENTS	4.
07-15-21	REVISED PER TOWNSHIP COMMENTS	3.
05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

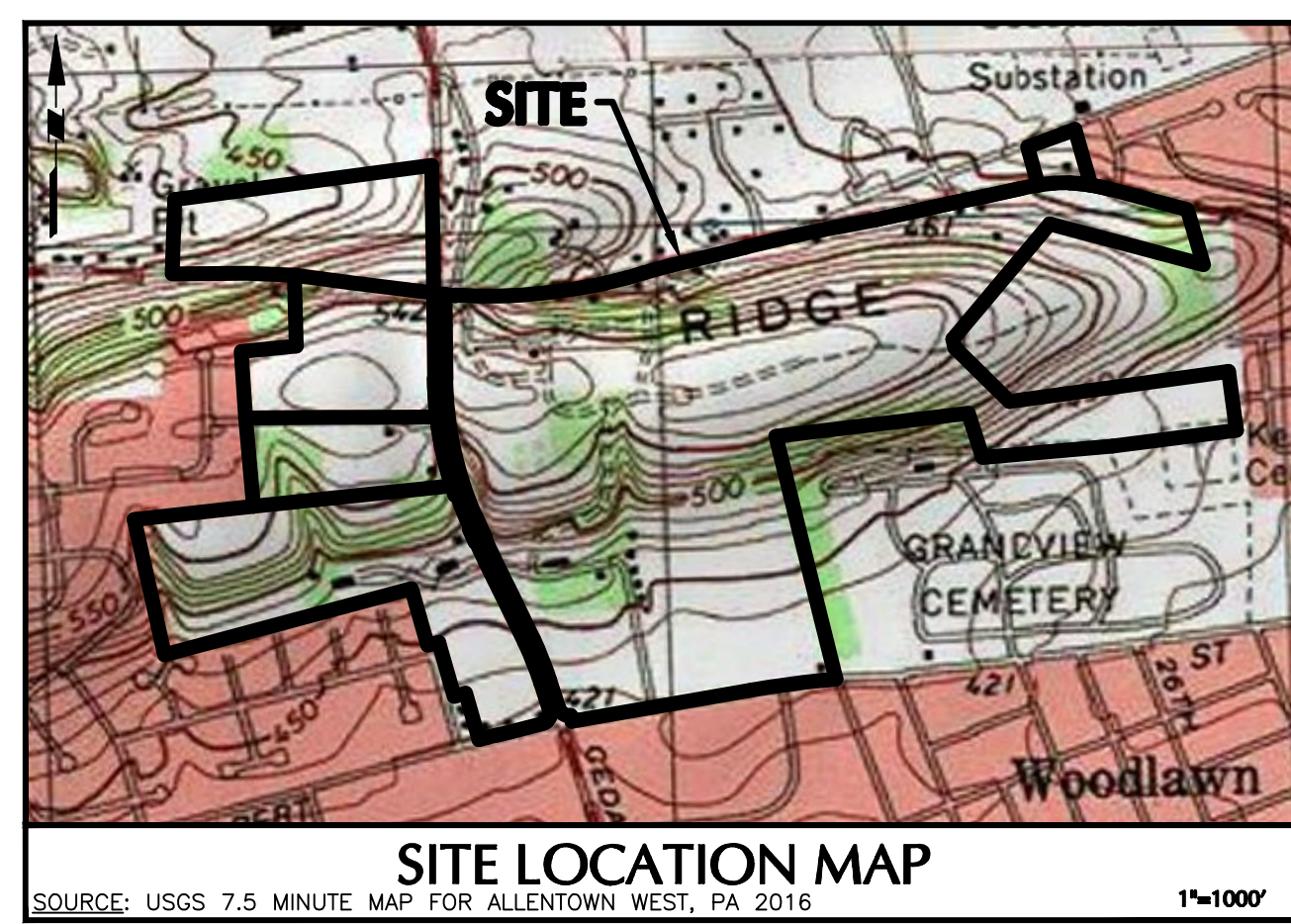
SIGNATURE: *John E. Elshardt* DATE SIGNED: _____
PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

LANGAN
One West Broad Street, Suite 200, Bethlehem, PA 18018
T: 610.861.8900 F: 610.861.8501 www.langan.com
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Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
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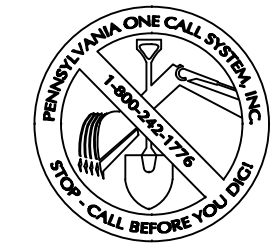
Project: **RIDGE FARMS**
Drawing Title: **UTILITY PLAN**
Project No.: **240043301**
Date: **10/06/2020**
Scale: **1" = 50'**
Drawn By: **JDM** Checked By: **JSE**
Submission Date: _____
SOUTH WHITEHALL TOWNSHIP
LEHIGH COUNTY PENNSYLVANIA

Drawing No.: **CU-109**
Sheet 95 of 151

SUBMISSION DATE: SEPTEMBER 23, 2021 PROJECT NO. 240043301 LANSAN

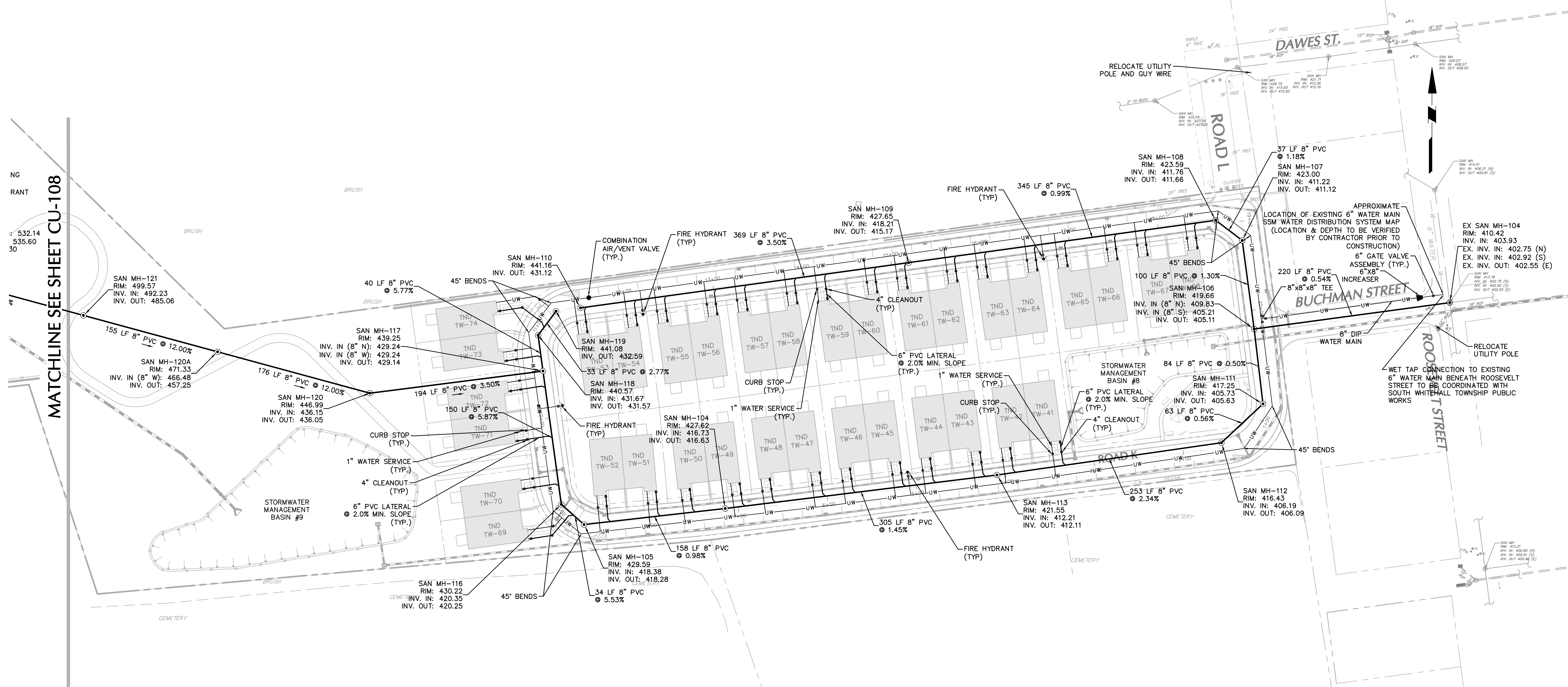
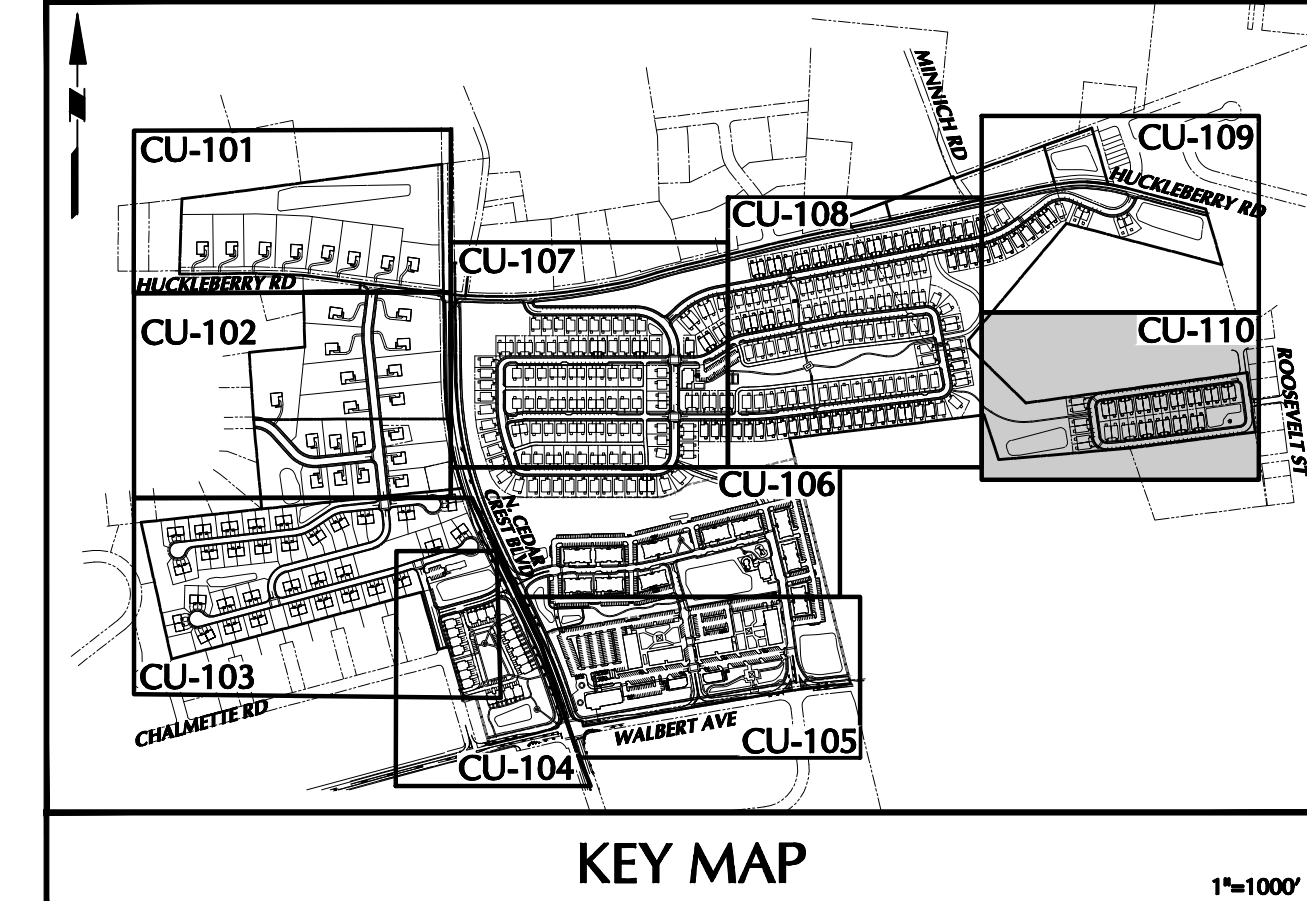


ACT 287 AS AMENDED
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE PENNSYLVANIA ACT 287 AS AMENDED AND TO CONTRACT THE "ONE CALL SYSTEM" THREE (3) WORKING DAYS (UNLESS OTHERWISE NOTED) PRIOR TO START OF CONSTRUCTION.
 PENNSYLVANIA ONE CALL 1-800-242-1776
 SERIAL NO. BRIDGE FARMS: XXXXXX



CALL BEFORE YOU DIG
 IN PA, TOLL FREE
 1-800-242-1776
 FOR FREE MARKOUTS TO LOCATE UNDERGROUND UTILITIES
 "IT'S THE LAW"

LEGEND	
SITE SYMBOLS	GRADING SYMBOLS
EXISTING CURB LINE	EXISTING CONTOUR
EXISTING FENCE	PROPOSED CONTOUR
EXISTING MONUMENT	EXISTING SPOT ELEVATION
EXISTING PROPERTY LINE	PROPOSED SPOT ELEVATION
PROPOSED BUILDING LINE	PROPOSED SPOT ELEVATION
PROPOSED LOT LINE (WITH PIN MARKER)	SOILS SYMBOLS
PROPOSED LOT LINE (WITH CONCRETE REFERENCE MONUMENTS)	SOIL TYPE
PROPERTY LINE	TREELINE
PROPOSED UTILITY EASEMENT	
BUILDING SETBACK LINE	
PROPOSED UTILITY EASEMENT	
STORMWATER BMP AREA	
CONCRETE SIDEWALK	
SIGN	
RETAINING WALL	
BASIN LIMITS	
UTILITY SYMBOLS	EXISTING SANITARY SEWER MANHOLE
EXISTING STORM SEWER	EXISTING FIRE HYDRANT
EXISTING WATER MAIN	EXISTING CATCH BASIN
PROPOSED STORM SEWER	EXISTING WATER VALVE
PROPOSED SANITARY SEWER	EXISTING MANHOLE
PROPOSED SANITARY SEWER FORCE MAIN	EXISTING ELECTRIC POLE
PROPOSED WATER MAIN	
PROPOSED GAS MAIN	
PROPOSED TELEPHONE AND ELECTRIC	
PROPOSED FIRE HYDRANT	



MATCHLINE SEE SHEET CU-108



NOTE: SEE SHEET CU-100 FOR UTILITY PLAN NOTES.

OWNER/APPLICANT
 KAY WALBERT LLC
 ATTN: RICK KOZE
 5930 HAMILTON BLVD., SUITE 10
 ALLENTOWN, PA 18106
 610-395-6857

Date	Description	No.
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05-19-21	REVISED PER TOWNSHIP COMMENTS	2.
01-21-21	REVISED PER TOWNSHIP COMMENTS & WAIVER APPROVALS	1.

SIGNATURE: *Scott Enghardt* DATE SIGNED: 10/06/2020
 PROFESSIONAL ENGINEER PA Lic. No. PE-057145-E

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 One West Broad Street, Suite 200, Bethlehem, PA 18018
 T: 610.864.8900 F: 610.864.8501 www.langan.com
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 Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
 Langan GI, Inc.
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Project: **RIDGE FARMS**
 SOUTH WHITEHALL TOWNSHIP
 LEHIGH COUNTY PENNSYLVANIA

Drawing Title: **UTILITY PLAN**

Project No. **240043301**
 Date: **10/06/2020**
 Scale: **1" = 50'**
 Drawn By: **JDM** Checked By: **JSE**
 Submission Date: _____
 Drawing No. **CU-110**
 Sheet 96 of 151

PROJECT NO. 240043301 SUBMISSION DATE: SEPTEMBER 23, 2021 FILENAME: c:\bmlangan-pw-01dm4264240043301-CU101-0101.DWG Date: 9/23/2021 Time: 18:27 User: dmroyer Style Table: Langan.tbl Layout: CU-110