

AGENDA
EAST GOSHEN TOWNSHIP
BOARD OF SUPERVISORS
Tuesday, August 15, 2017

7:00 PM Public Meeting

1. Call to Order
2. Pledge of Allegiance
3. Moment of Silence – Supervisor Carmen Battavio
4. Ask if anyone is recording the meeting
5. Chairman’s Report
 - a. Announce that the Board met in executive session prior to tonight’s meeting to discuss a pending legal matter
 - b. [Announce that on August 14, 2017 Interstate Energy Company will begin preparations to conduct a hydrostatic test on their pipeline.](#)
 - c. [Announce the following Minimum Municipal Obligations for the following Pension Plans](#)

Goshen Fire Pension Plan	\$65,465
Township Non-Uniformed Defined Benefit Pension Plan	\$0
Township Non-Uniformed Defined Contribution Pension Plan	\$86,707
Police Admin Non-Uniformed Defined Contribution Pension Plan	\$10,277
 - d. Announce that the Township is accepting written comments until September 6, 2017 on the Township’s MS4 Pollution Reduction Plan which is available for review at the Township Building and it is also posted on the web page.
 - e. Announce ground breaking for the new playground on Saturday September 9, 2017.
6. [Public Hearing](#) - The Board will conduct a public hearing to consider a conditional use application filed by Crown Castle NG East LLC. They are seeking approval to install 6 Distributed Antenna System within the public right-of-ways of Wilson Drive, Boot Road, Goshen Parkway and Ellis Lane. **A copy of the transcript of the public hearing will be appended to the minutes of this meeting once the decision becomes “final, binding and nonappealable”.**
7. Emergency Services Reports
 - a. WEGO – none
 - b. Goshen Fire Co – Chief Bernot
 - c. Malvern Fire Co – none
 - d. Fire Marshal – none
8. [Financial Report – July 2017](#)
9. [Old Business – Update on Vibration Ordinance](#)
10. New Business
 - a. [Accept public comments on Township’s MS4 Pollution Reduction Plan.](#)
 - b. [Consider recommendation regarding a variance request for 1506 Meadowbrook Lane.](#)
 - b. [Consider recommendation to authorize M&T Securities, Inc. as a Township depository.](#)
 - c. [Consider Escrow Release for 1420 E. Strasburg Project](#)
 - d. [Consider Escrow Release for 943 & 934A Cornwallis Drive Project.](#)
 - e. [Consider replacing a pick-up truck.](#)
11. Any Other Matter

12. Approval of Minutes
 - a. August 1, 2017
13. Treasurer's Report – August 10, 2017
14. Liaison Reports
15. Correspondence, Reports of Interest
16. Public Comment – Hearing of Residents
17. Adjournment

The Chairperson, in his or her sole discretion, shall have the authority to rearrange the agenda in order to accommodate the needs of other board members, the public or an applicant.

Dates of Importance:

Aug 15, 2017	Board of Supervisors	07:00pm
Aug 17, 2017	Farmers Market	07:00pm
Aug 17, 2017	Paoli Pike Corridor Master Plan Committee	07:00pm
Aug 21, 2017	Futurist Committee	07:00pm
Aug 24, 2017	Farmers Market	03:00pm
Aug 26, 2017	Food Truck & Music Festival	
Aug 31, 2017	Farmers Market	03:00pm
Aug 31, 2017	Police Commission	06:00pm
Sep 05, 2017	Board of Supervisors	07:00pm

Newsletter Deadlines for Winter of 2018: November 1st



Neighbor,

Interstate Energy Company (IEC) maintains and operates an 84 mile long pipeline in your area and sends newsletters and annual updates about its safety and operating procedures.

We are sending this letter because starting the week of August 14, 2017, IEC will begin preparations to perform a hydrostatic test on approximately 50 miles of pipe to ensure its safety and integrity (please see enclosed map). In general terms, the testing will take place between our TETCO station, just south of Quakertown and Marcus Hook, near Philadelphia. The actual hydrostatic test will take less than 1 day and will occur the following week.

The test is part of IEC's pipeline surveillance, as well as its ongoing operating and maintenance programs. To ensure a successful test, numerous inspections of this portion of the line were completed earlier this year. Although we do not anticipate any issues, IEC personnel and contractors will be monitoring the line around the clock, because safe and efficient operations are the focus of every member of the IEC team.

While the actual hydrostatic test will only take a day, this work will be conducted in phases and is expected to take three weeks to complete. In a sequential manner, the line will be cleaned, filled, "pressurized" with water, drained, dried and filled with nitrogen.

Although it is very unlikely that an incident causing a release of water would occur, we encourage our neighbors to avoid the pipeline right of way during the testing period. Additionally, we have communicated with our state, county and local agencies to ensure they are aware of the upcoming test.

If you have any questions prior to or during testing, please call IEC's toll free number, 800-747-3375.

Sincerely,

A handwritten signature in black ink that reads "Paul D. Hackenbrack".

Paul Hackenbrack, General Manager
Interstate Energy Company

INTERSTATE ENERGY COMPANY



IMPORTANT SAFETY INFORMATION

Please keep and share with others.

E-mail: info@iec.energy
website: www.iec.energy

EMERGENCY NUMBER: 800-747-3375

Interstate Energy Company (IEC) purpose and energy market served

Interstate Energy Company, an oil and natural gas pipeline company, operates and maintains two pipelines in Pennsylvania that transport oil and natural gas to the Martins Creek and Lower Mount Bethel Energy power plants in Northampton County, Pa. Nitrogen is used for product separation and displacement.

The Lower Mount Bethel power plant generates electricity by burning natural gas, while the Martins Creek plant can burn oil or natural gas to generate electricity. This allows Talen Energy to choose the most cost-effective fuel to provide electricity to residential and business customers.

IEC Pipeline Markers

Pipeline markers indicate approximately where pipelines are located. **ALWAYS CALL 811 BEFORE YOU DIG.** Anytime you see suspicious activities please call **911** and our emergency number (800-747-3375), which is also posted on our markers.

Maintaining safety and integrity of IEC transmission pipelines

IEC invests significant resources maintaining the quality and integrity of our pipeline systems. IEC also uses periodic aerial surveillance and ground patrols to identify potential dangers. Control center personnel continually monitor the pipeline system and assess changes in pressure and flow. Security cameras at various locations are also continually monitored.

IEC has implemented an aggressive Integrity Management Program (IMP). While federal regulations require an IMP for areas designated as "high consequence areas" (HCAs), IEC applies the program to all areas. For an overview of the IEC IMP, go to our website.

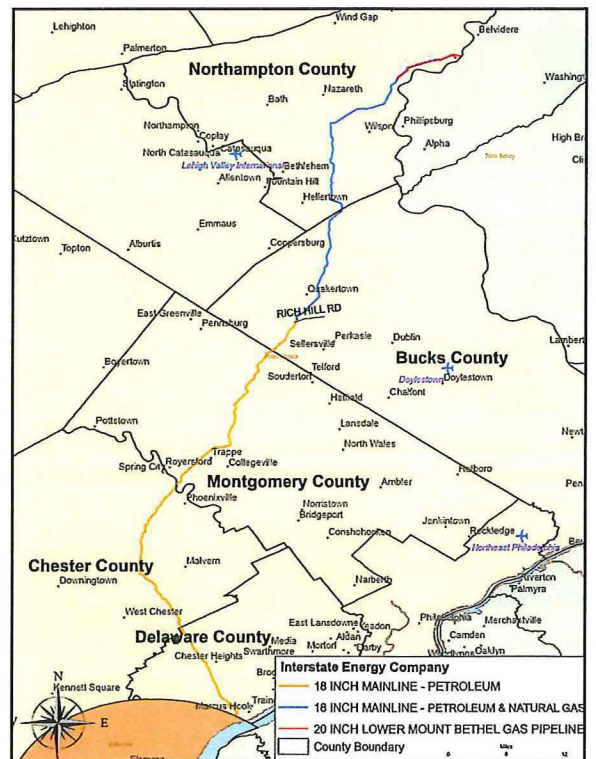
How to get additional information

Please visit our website noted above for more details about IEC as well as links to other pipeline safety websites.

PIPELINE MARKER



SYSTEM MAP



EMERGENCY OFFICIALS AND PUBLIC OFFICIALS

Interstate Energy Company (IEC) wants to increase your awareness of our pipelines that may be located in your area of jurisdiction. Pipelines are one of the safest modes of transportation for petroleum products and natural gas. However, in the unlikely event of a pipeline emergency, we want to make sure that IEC and you are familiar with each other's capabilities.

Our transmission pipelines are located in eastern Pennsylvania and deliver the fuel to two power plants operated by Talen Energy in Northampton County. These lines are:

- 84 mile long, 18" diameter pipeline, 1150 psig, transporting from Marcus Hook to Lower Mount Bethel Twp., Northampton County. This line transports No. 6 fuel oil and No. 2 fuel oil. The portion of the pipeline in Bucks and Northampton counties also transport natural gas which is odorized by suppliers to this transmission pipeline.
- 4.5 mile long, 20" diameter pipeline, 1200 psig, transporting natural gas in Northampton County, which is odorized by suppliers to this transmission pipeline.

In the event of a pipeline incident resulting in a product release and/or fire, IEC would call 911 for emergency assistance. Following are actions IEC would take and the actions that we would rely on emergency responders to take.

IEC Actions	Emergency Responder Actions
Shut down the pipeline	Employ Incident Command System
Respond to scene	If IEC is not on site, call IEC 24 hr. emergency number: 800-747-3375
Close valves to isolate incident	Identify hazards
Notify federal, state, local agencies	Evacuate people if required
Take steps to protect environment	Fight fires
Provide safety and health hazards briefing	Control traffic and provide security
Work within Incident Command System	Arrange for medical assistance

IEC exercises its Emergency Response Plan on an annual basis using table-top exercises or simulated on-scene exercises including deployment of equipment. We welcome participation by local emergency officials to help us engage in mutual assistance exercises designed to minimize hazards to life or property. If you or your organization would like to receive more information on our Emergency Response Plan or are interested in participating in our annual exercises, please contact us. Also, please visit our website at www.iec.energy for additional information.

PRODUCTS TRANSPORTED

PRODUCTS HANDLED IN IEC PIPELINES			
Product	DOT Guidebook ID#	Leak type	Vapors and Health Hazards
Fuel Oil #2, Fuel Oil #6	128	Liquid	Initially heavier than air and spread along ground and collect in low or confined areas. Vapors may travel to source of ignition and flash back. Explosion hazards indoors, outdoors and sewers. Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution.
Natural Gas	115	Gas	Easily ignited by heat, sparks, or flames and forms explosive mixtures with air. Vapors may cause dizziness or asphyxiation without warning and may be toxic if inhaled at high concentrations. Contact with gas may cause burns, severe injury and/or frostbite.
Nitrogen	121	Inert gas	Lighter than air and generally rises and dissipates. Product is nonflammable and does not support combustion. In high concentrations, may cause asphyxiation.

PENNSYLVANIA COUNTIES OF OPERATION
Bucks
Chester
Delaware
Montgomery
Northampton

INTERSTATE ENERGY COMPANY

Phone: 610-327-5334 • **Email:** info@iec.energy

214 Shoemaker Rd. • Pottstown, PA 19464

August 1, 2017

Mr. Louis F. Smith
Secretary
EAST GOSHEN TOWNSHIP
1580 Paoli Pike
West Chester, PA 19380

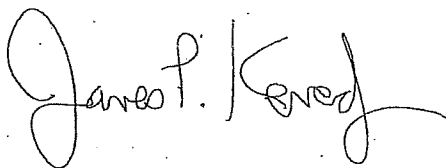
RE: 2018 Financial Requirement and Minimum Municipal Obligation

Dear Louis:

Enclosed is the Financial Requirement and Minimum Municipal Obligation (MMO) for your municipality's Pension Plan(s) for the upcoming 2018 plan year. Act 205 requires that the Chief Administrative Officer (CAO) of the pension plan(s) shall submit to the governing body of the municipality the financial requirement of the pension plan(s) for the following plan year (2018). This annual report must be presented to the governing body on or before the last business day in September (September 29, 2017).

If you should have any questions concerning any of the above, please do not hesitate to contact me. **Upon approval, please forward a signed copy of this budget for our records.**

Sincerely,



JAMES P. KENNEDY
President

**FINANCIAL REQUIREMENT AND MINIMUM MUNICIPAL
OBLIGATION BUDGET FOR 2018**

NAME OF MUNICIPALITY:
COUNTY:

EAST GOSHEN TOWNSHIP
CHESTER

FIRE
PENSION PLAN

1	TOTAL ANNUAL PAYROLL	\$666,056
	Estimated Payroll	
2	NORMAL COST AS A PERCENTAGE OF PAYROLL	10.820%
	(Derived from latest actuarial valuation)	1/1/17
3	TOTAL NORMAL COST	\$72,067
	(Item 1 x Item 2)	
4	AMORTIZATION REQUIREMENT	\$0
	(Derived from latest actuarial valuation)	
5	TOTAL ADMINISTRATIVE EXPENSES	\$5,900
	(Based on Estimate)	
6	FINANCIAL REQUIREMENT	\$77,967
	(+ Item 3 + Item 4 + Item 5)	
7	TOTAL MEMBERS CONTRIBUTIONS	\$12,002
8	FUNDING ADJUSTMENT	\$500
	(Derived from latest actuarial valuation)	
9	MINIMUM MUNICIPAL OBLIGATION	\$65,465
	(+ Item 6 - Item 7 - Item 8)	

Signature of Chief Administrative Officer

Date Certified to Governing Body

**FINANCIAL REQUIREMENT AND MINIMUM MUNICIPAL
OBLIGATION BUDGET FOR 2018**

NAME OF MUNICIPALITY:
COUNTY:

EAST GOSHEN TOWNSHIP
CHESTER

NON-UNIFORMED
PENSION PLAN

1	TOTAL ANNUAL PAYROLL	\$0
	Estimated Payroll	
2	NORMAL COST AS A PERCENTAGE OF PAYROLL	0.000%
	(Derived from latest actuarial valuation)	
	1/1/17	
3	TOTAL NORMAL COST	\$0
	(Item 1 x Item 2)	
4	AMORTIZATION REQUIREMENT	\$0
	(Derived from latest actuarial valuation)	
5	TOTAL ADMINISTRATIVE EXPENSES	\$6,850
	(Based on Estimate)	
6	FINANCIAL REQUIREMENT	\$6,850
	(+ Item 3 + Item 4 + Item 5)	
7	TOTAL MEMBERS CONTRIBUTIONS	\$0
8	FUNDING ADJUSTMENT	\$33,277
	(Derived from latest actuarial valuation)	
9	MINIMUM MUNICIPAL OBLIGATION	\$0
	(+ Item 6 - Item 7 - Item 8)	

NOTE: Since the actuarial value of assets exceeds the actuarial present value of future benefits,
there is no financial requirement or municipal obligation required for the year 2018

Signature of Chief Administrative Officer

Date Certified to Governing Body

**FINANCIAL REQUIREMENT AND MINIMUM MUNICIPAL
OBLIGATION BUDGET FOR 2018**

NAME OF MUNICIPALITY:

EAST GOSHEN TOWNSHIP

COUNTY:

CHESTER

NON-UNIFORMED
DEF. CONT.

1.	TOTAL ANNUAL PAYROLL (Estimated payroll)	1,640,148
2.	RATE OF CONTRIBUTION AS A % OF PAYROLL (Derived from latest actuarial valuation) 1/1/17	5.00%
3.	TOTAL CONTRIBUTION COST (Item 1 times Item 2)	82,007
4.	TOTAL ADMINISTRATIVE EXPENSES	4,700
5.	TOTAL FINANCIAL REQUIREMENT (+Item 3 +Item 4)	86,707
6.	MINIMUM MUNICIPAL OBLIGATION	86,707

Signature of Chief Administrative Officer

Date Certified to Governing Body

**FINANCIAL REQUIREMENT AND MINIMUM MUNICIPAL
OBLIGATION BUDGET FOR 2018**

NAME OF MUNICIPALITY:

EAST GOSHEN TOWNSHIP

COUNTY:

CHESTER

NON-UNIFORMED(COMM)
DEF. CONT.

1.	TOTAL ANNUAL PAYROLL (Estimated payroll)	205,532
2.	RATE OF CONTRIBUTION AS A % OF PAYROLL (Derived from latest actuarial valuation) 1/1/17	5.00%
3.	TOTAL CONTRIBUTION COST (Item 1 times Item 2)	10,277
4.	TOTAL ADMINISTRATIVE EXPENSES	0
5.	TOTAL FINANCIAL REQUIREMENT (+Item 3 +Item 4)	10,277
6.	MINIMUM MUNICIPAL OBLIGATION	10,277

Signature of Chief Administrative Officer

Date Certified to Governing Body

Memorandum

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

Voice: 610-692-7171
Fax: 610-692-8950
E-mail: mgordon@eastgoshen.org

Date: 7/27/2017
To: Board of Supervisors
From: Mark Gordon, Township Zoning Officer
Re: Crown Castle CU Plan

Dear Board Members,

The Township has received a Conditional Use application for 6 DAS Antenna Sites in the Township. Each facility will be located either on an existing utility pole, on a new wood pole or on a new metal pole within a street right of way (ROW). These facilities are Distributed Antenna System (DAS) Node installations which will enhance the existing wireless communication network.

You may recall the Board recently amended zoning ordinance to regulate facilities within street rights-of-way and also approved a ROW Agreement with Crown Castle in July.

The six new Wireless Communication Facilities proposed will be located in the following locations:

- 1. 1304 Wilson Drive, (EMP-030) within Township ROW:** One new wood pole with an antenna. Finished height of the pole and antenna will be 48'10" tall. The pole will be erected on the south side of Wilson Dr., 1,056' east of the Airport Rd. intersection.
- 2. 1361 Boot Rd., (EMP-031) Within PennDOT ROW:** One new wood pole with an antenna. Finished height of the pole and antenna will be 48', 10". The pole will be erected on the north side of Boot Rd., 202' west of the Jaclyn Dr. intersection.
- 3. 1375 Boot Rd., (EMP-032) Within PennDOT ROW:** One new antenna on an existing utility guy pole. Finished height of pole and antenna will be 32', 7". The pole is located on the north side of Boot Rd., 172' west of the Village Square Dr. intersection.

4. **1303 Goshen Parkway, (EMP-034) Within Township ROW:** One new metal pole with an antenna. Finished height of pole and antenna will be 35', 4". The pole will be erected on the north side of Goshen Parkway., 400' east of the Airport Rd. intersection.
5. **401 Ellis Ln., (EMP-039) Within Township ROW:** One new antenna on an existing utility pole. Finished height of pole and antenna will be 35'. The pole is located on the east side of Ellis Ln., 113' south of the Paoli Pike intersection.
6. **401 Ellis Ln.(EMP-040) Within Township ROW:** One new wood pole with an antenna. Finished height of pole and antenna will be 50', 8". The pole will be erected on the east side of Ellis Ln., 778' north of the Box Elder Dr. intersection.

Recommendation:

The planning commission voted unanimously in favor of the application and the Staff has no issues with this application. The application is very complete and compliant with the amended ordinance covering these facilities.

Draft Motion:

Mr. Chairman, I recommend that we approve the Crown Castle Conditional Use Application for the six new Wireless Communication Facilities outlined in their application pursuant to the Zoning Ordinance with the following conditions:

1. Aerial utilities shall not be used for the following facility locations:
 - a. EMP-030, Wilson Drive
 - b. EMP-034, Goshen Parkway
2. When and where feasible, underground utilities shall be used.
3. For the metal pole, (EMP-034), a black matte color shall be used.

EAST GOSHEN TOWNSHIP
PLANNING COMMISSION
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

FILE

July 27, 2016

East Goshen Township
Board of Supervisors
1580 Paoli Pike
West Chester, Pa. 19380

Re: Crown Castle Distributive Antenna System Project

Dear Board Members:

At their meeting on July 12, 2017 the Planning Commission voted unanimously in favor of the following motion:

Mr. Chairman, I move that we recommend that the Board of Supervisors approve the Conditional Use Application for the six new Wireless Communication facilities outlined in the Crown Castle Wireless Communications application pursuant to the Zoning Ordinance with the following condition(s):

1. No aerial utilities shall be permitted at the following facility locations:
 - a. EMP-030, Wilson Drive
 - b. EMP-034, Goshen Parkway
2. When and where feasible, underground utilities shall be used.
3. For the metal pole, (EMP-034), a black matte color shall be used.

Sincerely,



Mark A. Gordon
Township Zoning Officer

Conditional Use Application and Checklist

East Goshen Township

To: Township Zoning Officer

Name of Applicant: Crown Castle NG East LLC

Applicant Address: 3200 Horizon Drive, Suite 150, King of Prussia, PA 19406

c/o John Shive

Telephone Number: (610) 635-3218 Fax: _____

Email Address: john.shive@crowncastle.com

Property Address: N/A. See attached A&E plans. All locations are to be located in the Public Right-of-Way.

Tax Parcel Number: N/A Zoning District: N/A Acreage: N/A

Description of proposed use:

Crown Castle is proposing to install six ("6") Distributed Antenna System ("DAS") Node Facilities in East Goshen Township. The DAS infrastructure will enhance the existing mobile network which cannot handle the traffic of today's mobile users. The current network is overburdened due to the high bandwidth content demand. In practical terms, when the closest tower is at or over capacity, it may appear as though the mobile user has five-bars on their phone, but the capacity is fully exhausted. Our DAS infrastructure is closer to mobile handsets and other smart devices and this helps consumers use their devices without having to compete for space. In addition, this DAS network will also help to improve public safety because each DAS location provides advanced e911 locations, making it easier to find someone in an emergency.

Conditional Use is provided in Zoning Ordinance Section: See attached Exhibit A

We hereby acknowledge that we have read this application and state that the above is correct and agree to comply with all provisions of the East Goshen Township Zoning Ordinance applicable to this project and property.

John D. Shive
Signature of Applicant _____ Date 7/3/17

Attest: [Signature] 7/3/17

*** Review the formal Planning Commission review procedure on page three.**



Site # EMP- 030

1304 Wilson Drive
West Chester, CA



Existing



Proposed



Site # EMP- 031

1375 Boot Road
West Chester, PA



Existing



Proposed



Site # EMP- 032

1375 Boot Road
West Chester, PA



Existing



Proposed



Existing



Proposed



Existing



Proposed



Existing



Proposed



CROWN
CASTLE

Site # EMP- 039

401 Ellis Lane
West Chester, PA



Site # EMP- 040

401 Ellis Lane
West Chester, PA

BOARD OF SUPERVISORS
EAST GOSHEN TOWNSHIP
CHESTER COUNTY
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

July 5, 2017

Dear Property Owner:

The purpose of this letter is to inform you that Crown Castle has submitted a conditional use application to the Township requesting approval to construct 6 Wireless Communication Facility's within the Township. Each facility will be located either on an existing utility pole, on a new wood pole or on a new metal pole within a street right of way (ROW). These facilities are Distributed Antenna System (DAS) Node installations which will supplement the existing wireless communication network.

The six new Wireless communication Facilities are proposed for the following locations:

1. **Wilson Drive:** One new wood pole with an antenna. Finished height of the pole and antenna will be 48'10" tall. The pole will be erected on the south side of Wilson Dr., 1,056' east of the Airport Rd. intersection.
2. **Boot Rd.:** One new wood pole with an antenna. Finished height of the pole and antenna will be 48', 10". The pole will be erected on the north side of Boot Rd., 202' west of the Jaclyn Dr. intersection.
3. **Boot Rd.:** One new antenna on an existing utility guy pole. Finished height of pole and antenna will be 32', 7". The pole is located on the north side of Boot Rd., 172' west of the Village Square Dr. intersection.
4. **Goshen Parkway:** One new metal pole with an antenna. Finished height of pole and antenna will be 35', 4". The pole will be erected on the north side of Goshen Parkway., 400' east of the Airport Rd. intersection.
5. **Ellis Ln.:** One new antenna on an existing utility pole. Finished height of pole and antenna will be 35'. The pole is located on the east side of Ellis Ln., 113' south of the Paoli Pike intersection.
6. **Ellis Ln.:** One new wood pole with an antenna. Finished height of pole and antenna will be 50', 8". The pole will be erected on the east side of Ellis Ln., 778' north of the Box Elder Dr. intersection.

Pursuant to Township policy, all property owners within 1000 feet of the property subject to the Conditional Use application are notified of the proceedings.

This application is scheduled to be discussed at the following meetings and the schedule is subject to change.

July 12, 2017 - Planning Commission meeting (7:00 PM) (The applicant will make a presentation at this meeting)

August 2, 2017 - Planning Commission meeting (7:00 PM)

August 15, 2017 - Board of Supervisors (7:00 PM) **(Conditional Use Hearing)**

All meetings and workshops are held at the Township Building and are open to the public. The application and supporting materials plans are available for review during normal business hours. Please give me a call at 610-692-7171 or email me at mgordon@eastgoshen.org if you have any questions or need additional information.

Sincerely,



Mark A. Gordon
Township Zoning Officer



Cc: All ABC's
Donald T. Petrosa, Esq. (Via Email)

Want more information about the latest news in the Township and surrounding area? East Goshen Township and Chester County offer two valuable resources to stay informed about important local issues. East Goshen communicates information by email about all Township news through Constant Contact. To sign up, go to www.eastgoshen.org, and click the "E-notification & Emergency Alert" button on the left side of the homepage. Chester County offers an emergency notification system called ReadyChesco, which notifies residents about public safety emergencies in the area via text, email and cell phone call. Signing up is a great way to keep you and your loved ones safe when disaster strikes. Visit www.readychesco.org to sign up today!


**West
Whiteland Township**

**East
Whiteland Township**

East Goshen Township
Chester County, Pennsylvania

-  Township Nodes (9)
-  PennDOT Nodes (8)

0 700 1,400 2,800 Feet



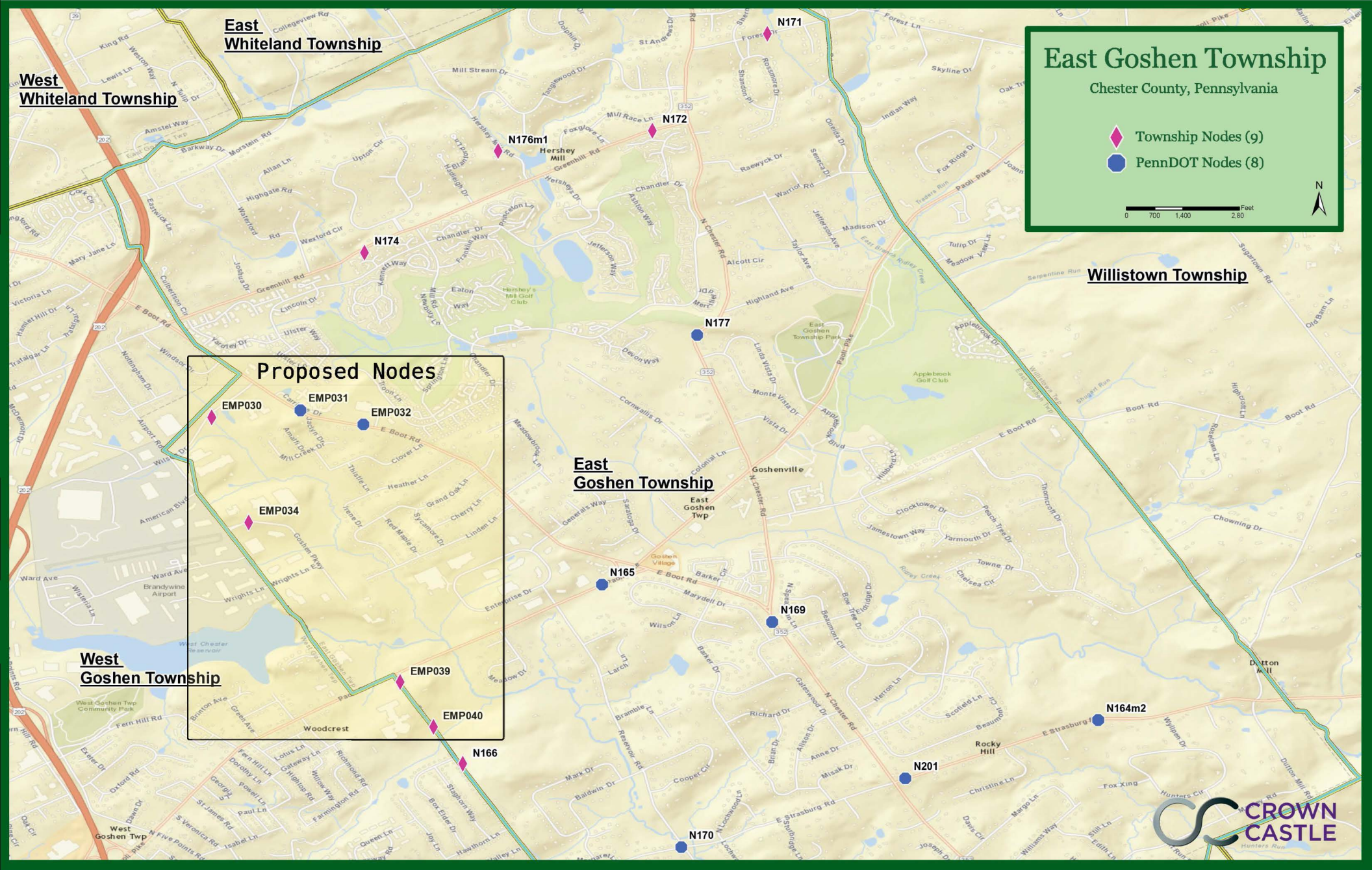
Willistown Township

Proposed Nodes

- EMP030
- EMP031
- EMP032
- EMP034
- EMP039
- EMP040

**East
Goshen Township**

**West
Goshen Township**





PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE



Crown Castle NG East LLC
West Chester, Pennsylvania

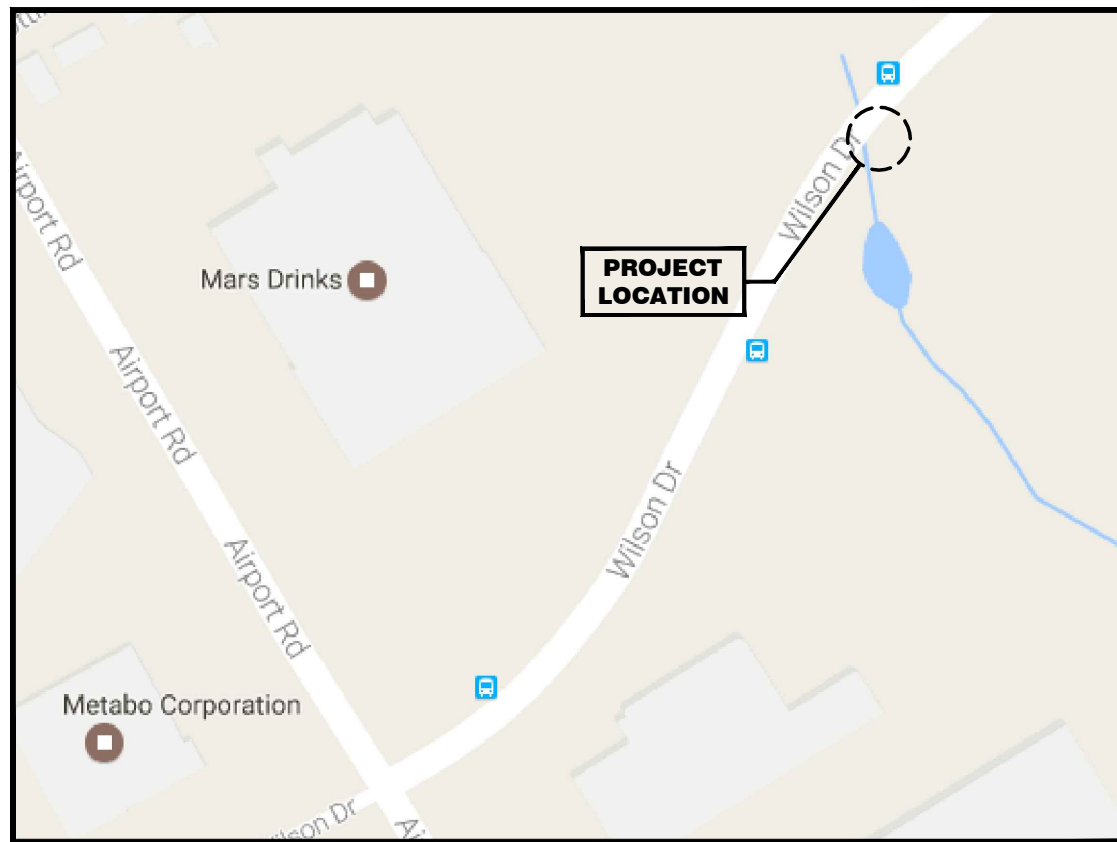
Jurisdiction: East Goshen Township

Proposed Distributed Antenna System (DAS) Node Installation

INDEX TO SHEETS

1. TITLE, LOCATION MAP, NODE PLACEMENT
2. PROPOSED POLE CONFIGURATION
3. PROPOSED EQUIPMENT DETAILS
4. EXISTING PHOTO
5. PROPOSED EQUIPMENT CUT SHEET
6. PROPOSED EQUIPMENT CUT SHEET
7. PROPOSED EQUIPMENT CUT SHEET
8. WIRING DIAGRAM

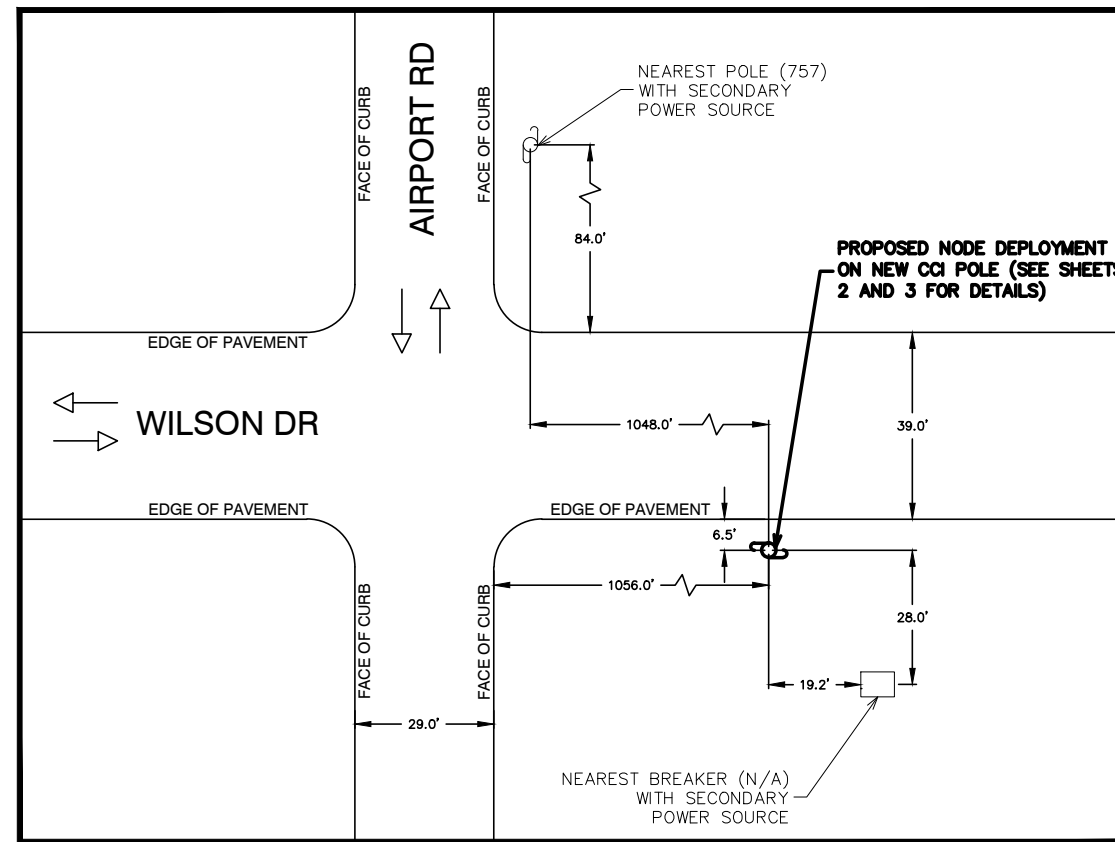
BILL OF MATERIALS : SEE SHEETS 2, AND 3.



LOCATION MAP

Latitude: 39.99834°N
Longitude: -75.57674°W

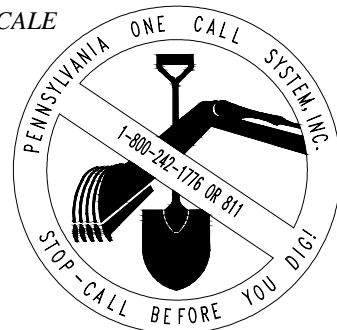
NOT TO SCALE



NODE PLACEMENT

1304 Wilson Dr.
New CCI wood pole to be planted
On South side of Wilson Dr. East of Airport Rd.
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

ENGINEER:
hbk ENGINEERING
HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-9076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:
CROWN CASTLE

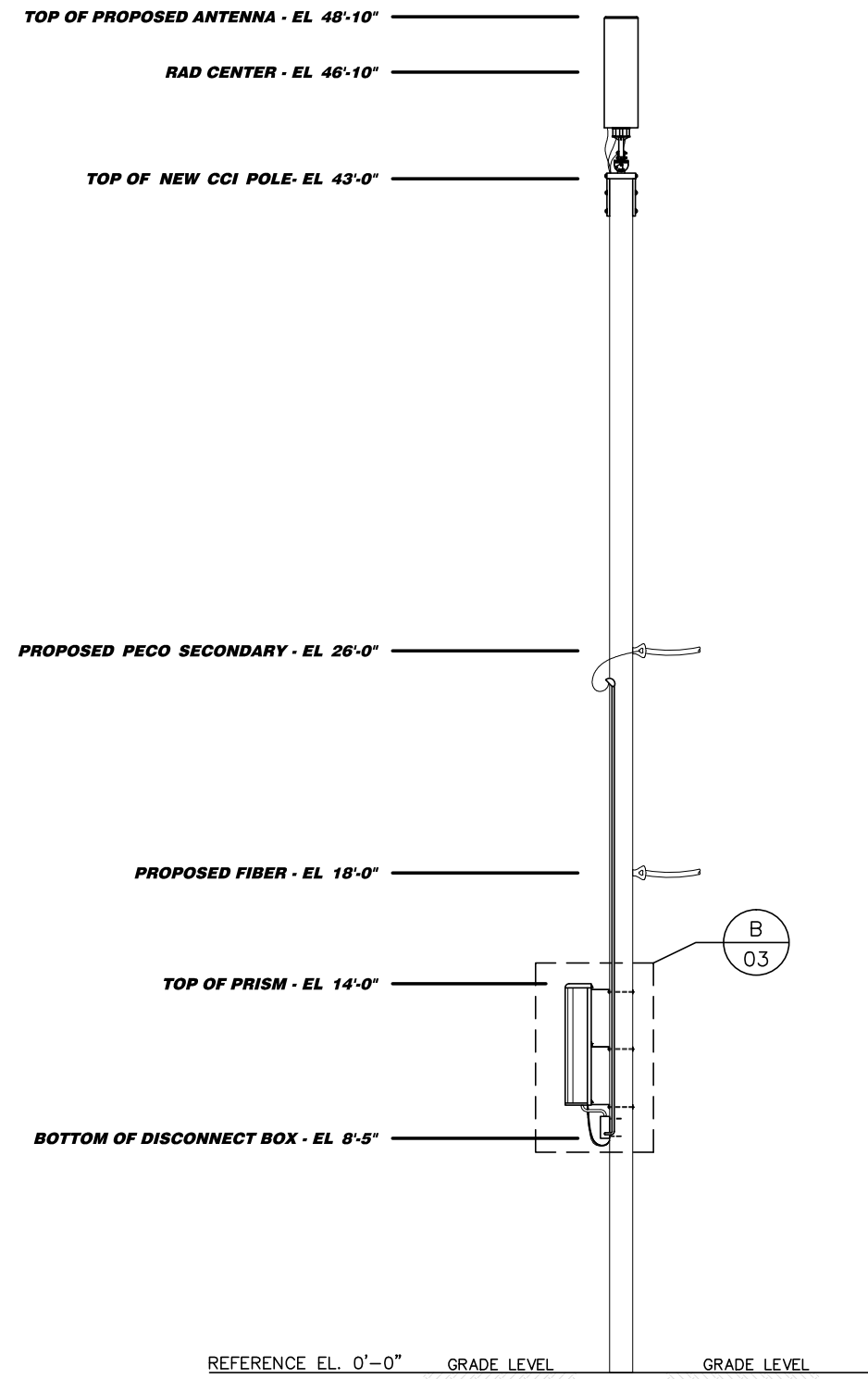
TITLE:
Crown Castle NG East LLC
1304 Wilson Dr.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

REVISIONS			
REV	DATE	DESCRIPTION	BY
00	04-28-17	FOR CC REVIEW	TLP
01	05-22-17	FOR PERMIT	TLP

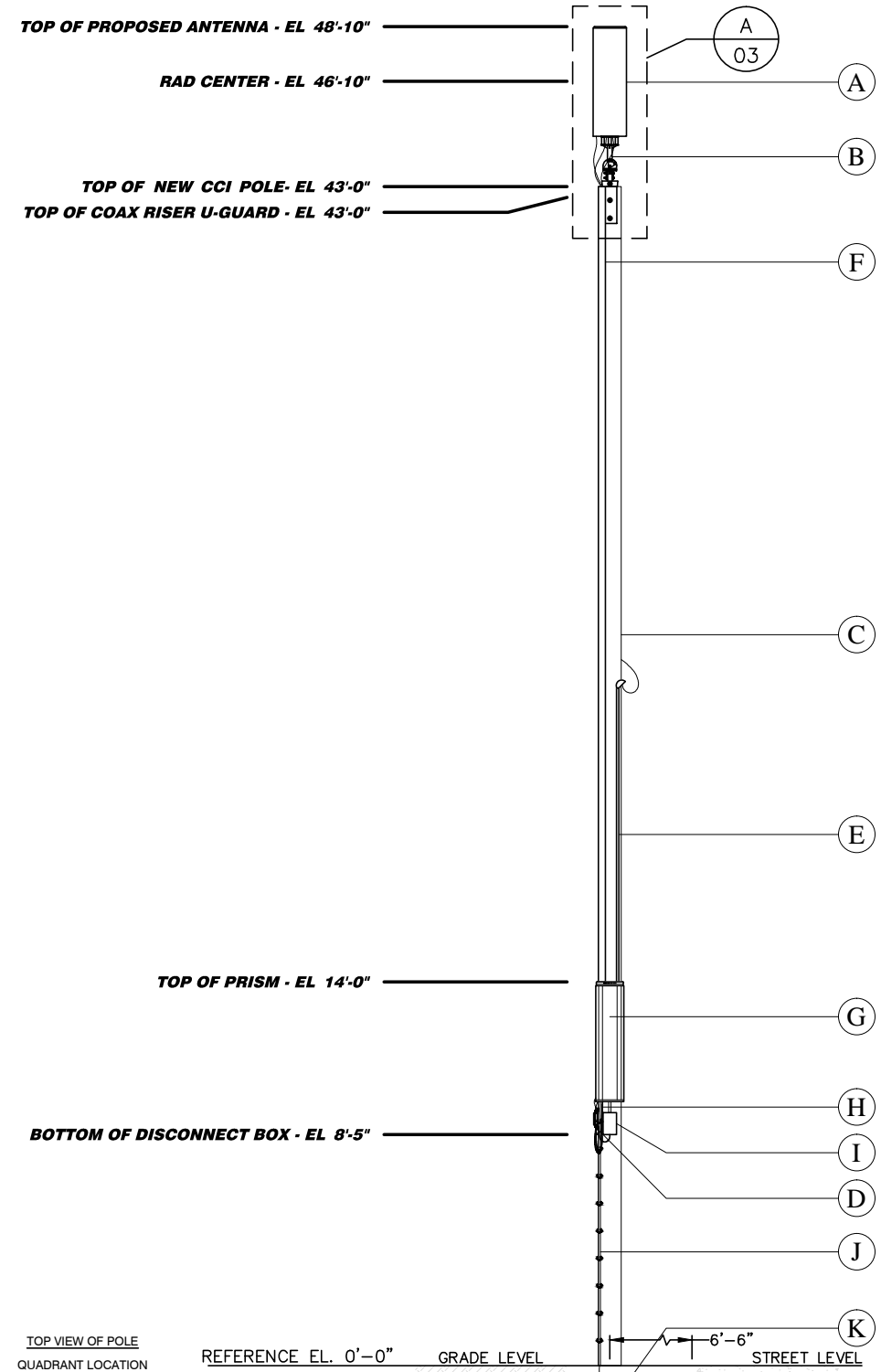
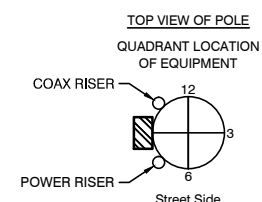
DRAWN BY: JUL	CHECKED BY: AMW	APPROVED BY: BMM
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PROJECT NUMBER:	17-0089
FILE NAME:	EMP-030
DATE DRAWN:	03-31-17

Antenna Azimuth		
Antenna #1	Antenna #2	Antenna #3
0°	N/A°	N/A°



**PROPOSED POLE DETAIL
LOOKING SOUTHEAST**



**PROPOSED POLE DETAIL
LOOKING SOUTHWEST**

- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" X 14.6" (HxDIA) - 52 lbs
GALTRONICS EXTENT - MODEL: C3-GT2x12-T6-6-F4
INSTALL (4) 4.3-10 DIN MALE ANTENNA CAPS
MODEL: 78211297
- (B) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
MODEL: 002M (WEIGHT - 26 lbs)
- (C) INSTALL NEW 43'-0" AGL (50'-0") CCI WOOD POLE CLASS 2 OR BETTER
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND ON POLE
- (E) INSTALL 1/2" PVC CONDUIT WITH #6/C POWER CABLE
- (F) INSTALL 3" RISER GUARD WITH FIBER OPTIC CABLES, #4 SOL. CU COVERED SD, (2) COAXIAL CABLES FROM COMBINER TO ANTENNA WITH (4) 4.3-10 DIN MALE CONNECTORS
MODEL: UXP-4MT-12
- (G) INSTALL ADC FLEXWAVE 4-BAY PRISM REMOTE UNIT 52.4" x 12.2" x 11.2" (HxWxD) - 188 lbs
UTILIZE THRU-BOLT ASSEMBLY
- (H) INSTALL FIBER OPTIC CABLE(S)
INSTALL (4) JMA JUMPERS FROM PRISM TO COMBINER
MODEL: JMA-4MWNW-14F1-4
- (I) INSTALL SQUARE D MAIN DISCONNECT BOX 9.5" x 6" x 4" (HxWxD) - 5 lbs
INSTALL (1) SINGLE POLE 15A BREAKER
- (J) INSTALL #4 SOL. CU GROUND COVERED SD WIRE 1/2" ID x 8' LG. MOLDING. 1/2" x 2" STAPLE, GALV.
- (K) INSTALL 5/8" x 8' LG CU POINTED GROUND ROD AND CLAMP

ENGINEER:

hbk ENGINEERING

HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-9076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:

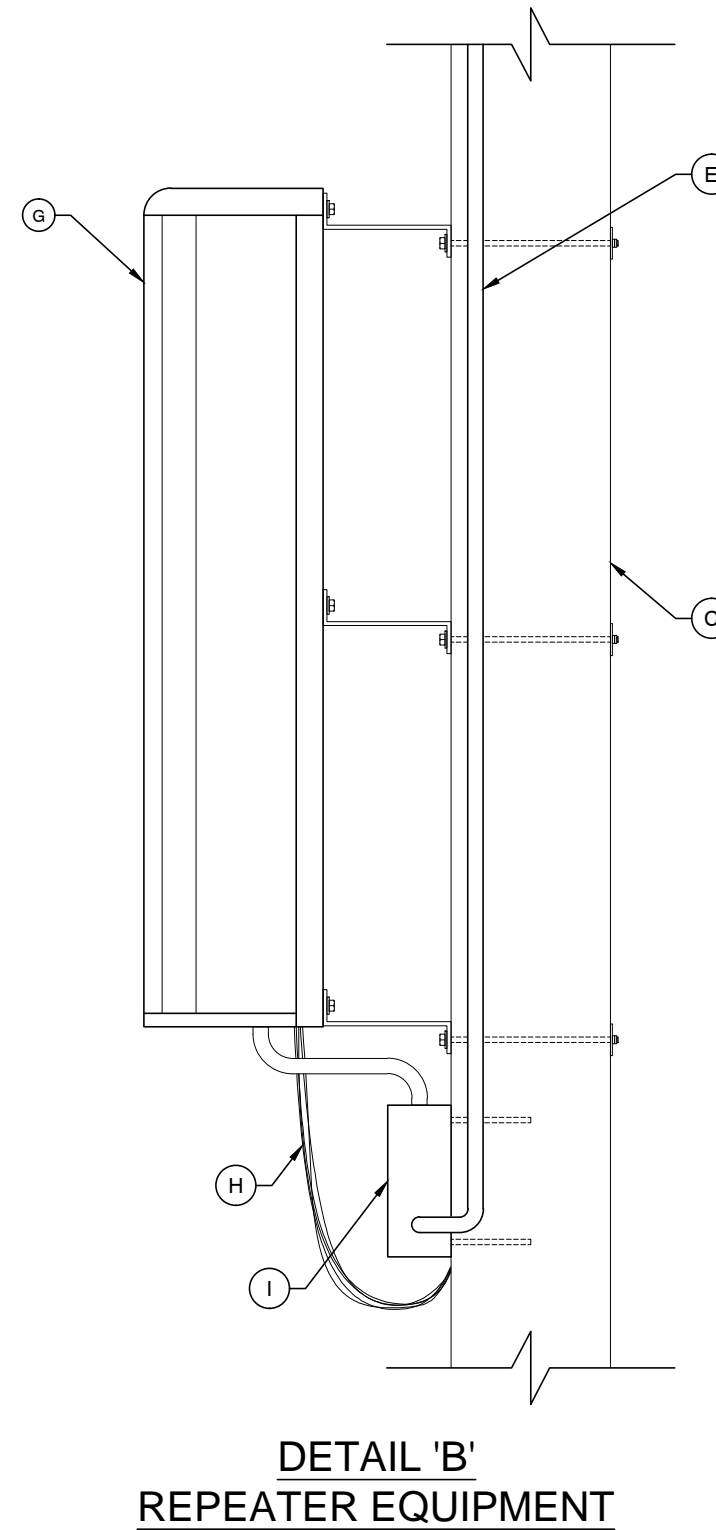
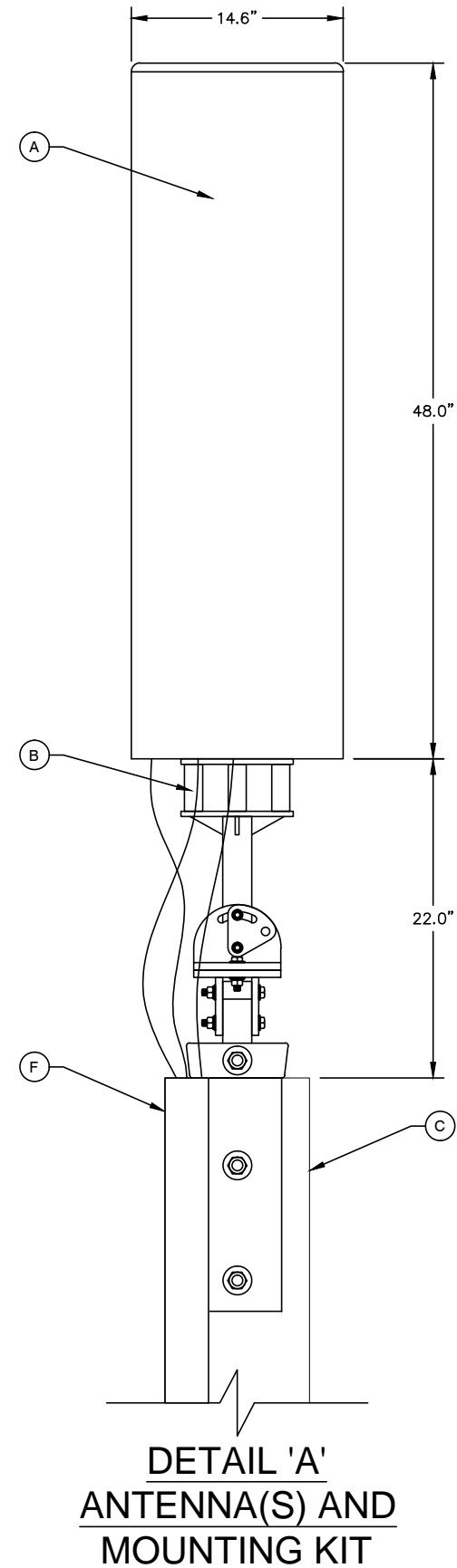
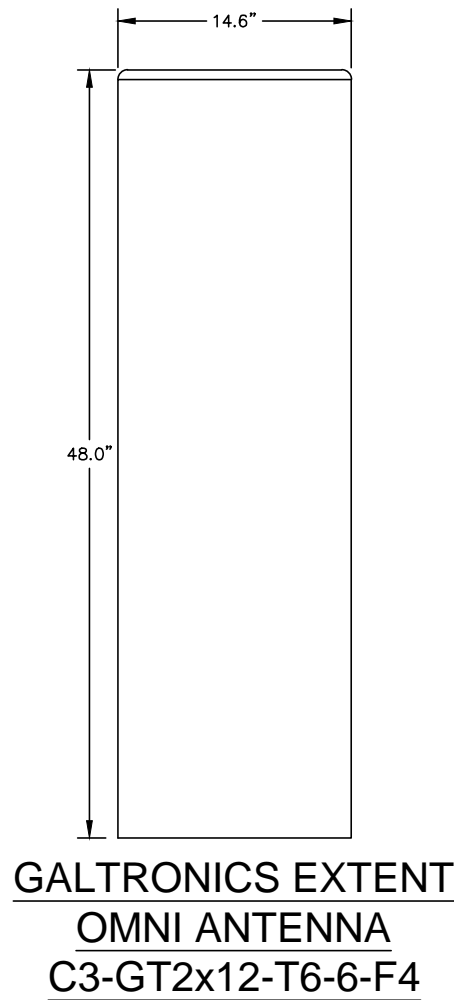
CROWN CASTLE

TITLE: Crown Castle NG East LLC
1304 Wilson Dr.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

REVISIONS			
REV	DATE	DESCRIPTION	BY
00	04-28-17	FOR CC REVIEW	TLP
01	05-22-17	FOR PERMIT	TLP

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJL	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-030
DATE DRAWN:	03-31-17



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LG. MOLDING. 1/2" x 2" STAPLE, GALV.
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CHICAGO, IL 60607
PHONE: (312) 432-9076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
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OWNER/DEVELOPER:

**CROWN
CASTLE**

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Crown Castle NG East LLC
1304 Wilson Dr.
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EXISTING CONDITION



EXISTING CONDITION

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FILE NAME:	EMP-030
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PCS/AWS-WCS Diplexer Filter, BK-745E

PCS/GSM 1900 Band and AWS-1 + AWS-3 + WCS Dual Diplexer
1850 - 1990/1695 - 1780 & 2110 - 2360 MHz
Rev. 3

Preliminary Specification

\$ Saver Product Line

- ◆ Dual Diplexer - Compact Design
- ◆ Integrates PCS/GSM 1900 with AWS-1 + AWS-3 + WCS Bands
- ◆ 40 dB Input Isolation
- ◆ Minimal RF Insertion Loss
- ◆ Includes Mounting Bracket
- ◆ Low PIM Guaranteed
- ◆ Up to 100 W/port Avg. Power
- ◆ Rugged, High Reliability
- ◆ RoHS compliant



Model Number	Body Type	Connector Type	Power Avg.	Weight, nom. lb. (kg)
BK-745E	Dual	4.3-10 (f)	100W	TBD

Microlab BK-745E is a dual Diplexer which allows combination and separation of the signals in the PCS band 1850 - 1990 MHz with the AWS-WCS bands 1695 - 1780 MHz and 2110 - 2360 MHz. To minimize band inter-reaction, the inputs are well isolated and have minimal insertion loss over their respective frequency bands.

The Diplexer has been designed using passive, proprietary techniques which minimizes cost and size. At the same time it ensures minimal loss and very high reliability at input powers up to 100W per input. Mounting brackets are included.

Frequency Bands:
Port 1/4 - COM1/2: 1695-1780 & 2110-2360 MHz
Port 2/3 - COM1/2: 1850 - 1990 MHz
Group Delay: 15 ns max.
Isolation: >40 dB, in each band
Return Loss: >20 dB
Passband Loss: <0.35 dB
PIM (Intermod): <-155 dBc (test with 2 +43dBm tones)
DC Path: All paths
Impedance: 50Ω nominal
Environment: -40°C to +65°C, IP67
Ground Lug: M6 Screw
Finish: Connectors: Triplate
Housing: Grey color coating

Note: Specifications are subject to change without prior notification.

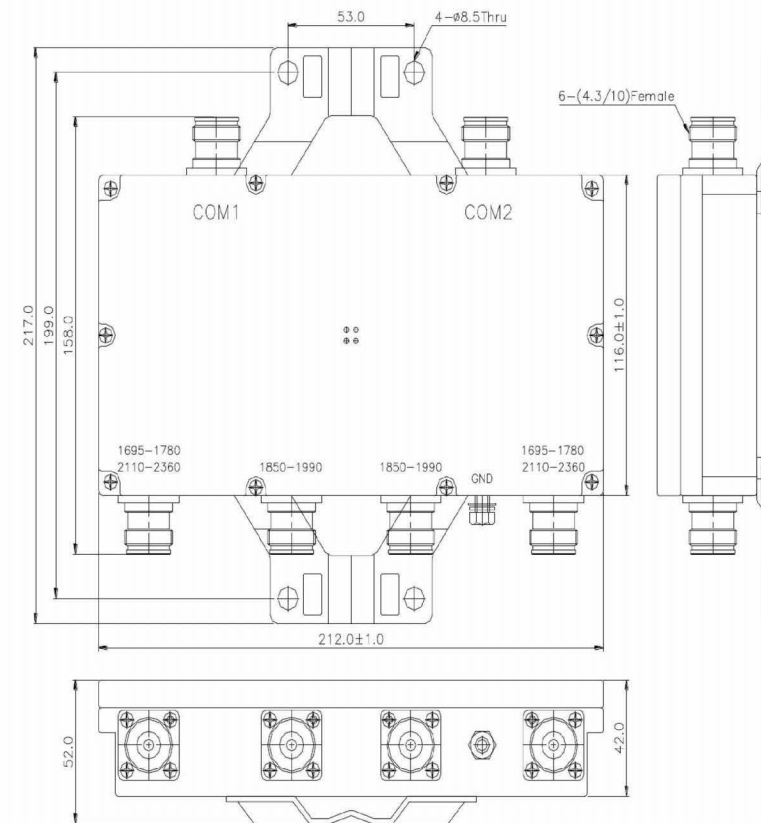
13Sep2016

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191



PCS/AWS-WCS Diplexer Filter, BK-745E

Outline
BK-745E



Dimensions in mm

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
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ENGINEER:



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West Chester, Pennsylvania
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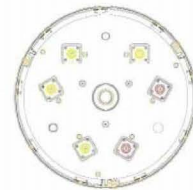
PROJECT NUMBER:	17-0089
FILE NAME:	EMP-030
DATE DRAWN:	05-22-17



694-960 / 1695-2700 MHz, 2xHB+LB Column Pseudo Omni Canister Antenna



14" x 48" Outdoor 2xHB+LB Column Pseudo Omni Canister Antenna
EXTENT™ P5913
[694-960 / 1695-2700 MHz]



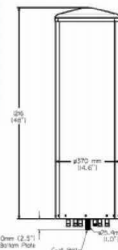
Description:
Dual column high band, single column low band broadband pseudo-omni outdoor antenna for small cell applications and outdoor distributed antenna systems (DAS).

Electrical Specifications:

Frequency [MHz]	694-790	790-894	894-960	1695-1880	1850-1990	1920-2180	2180-2360	2360-2500	2500-2700
Polarization	Dual Slant 45° (+/-45°)								
Sector Orientation	Pseudo Omni (360°)								
Input	6x 4.3-10(f) DIN or 7-16(f) DIN, Long Neck, Bottom Mount								
Impedance	50 Ω								
VSWR / Return Loss	< 1.5:1 / 14.0 dB								
Gain	7.0 dBi	7.2 dBi	7.5 dBi	9.5 dBi	9.7 dBi	10.0 dBi	10.0 dBi	10.0 dBi	10.0 dBi
Isolation	-22 dB								
Inter-Band Isolation	-30 dB								
Vertical Beamwidth	18°	17°	15°	8°	7.5°	7°	7°	6.5°	6.5°
Horizontal Beamwidth	360° (Omni)								
Downtilt	0° / 2° / 4° fixed								
USLS - First Lobe	10 dB								
CPR	10 dB			13 dB					
PIM @ 2 x 43 dBm	< -153 dBc								
Max Input Power / Port	250 W				200 W				

Mechanical Specifications:

Operating Temperature	-40° to 158° F -40° to +70° C
Antenna Weight	52 lbs (24 kg)
Antenna Diameter	14.57" (370mm)
Antenna Height (w/o conn)	48" (1219mm)
Radome Color	Gray or Brown
Wind Survival Rating / Load	125 mph (200 kph)
Ingress Protection	IP65
RoHS	Compliant



Mounting hardware includes 1" nut, lock and spring washer and cotter pin.

Part Numbers:

Part Number	Connector	Color
C3-GT2x12-T6-1	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1	7-16(f) DIN	Gray
C3-GT2x12-D6-6	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F2	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F2	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F2	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F2	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F4	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F4	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F4	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F4	7-16(f) DIN	Brown

Release Date: May 25, 2016; Revision: S-1; Patent Pending

ENGINEER:



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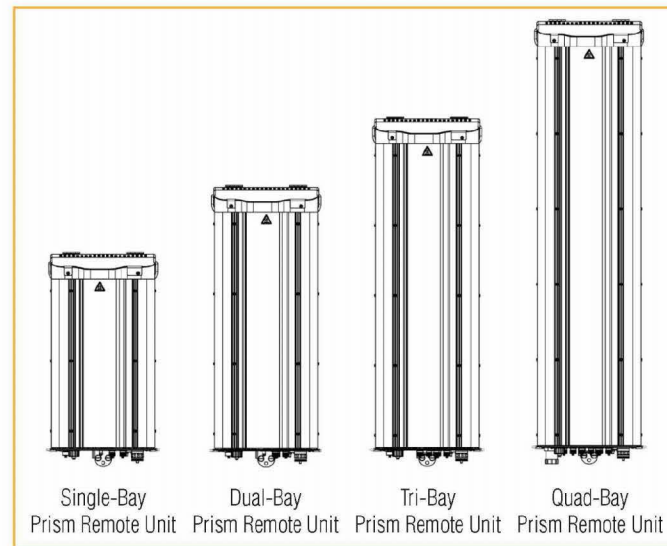
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DATE DRAWN:	05-22-17



**FlexWave
Prism Remote Unit**
Installation Guide

TECP-77-142 • Issue 6 • December 2014



This manual provides the information you need to install a TE Connectivity FlexWave Prism Remote Unit (PRU). FlexWave PRUs control RF emissions, interface with the FlexWave Prism Host Unit II and perform the optical to electrical conversion for transport to the antennas. The PRU is an environmentally-sealed unit designed for outdoor use that houses the electronic assemblies such as the DART board and the Power Amplifier, and seals out dirt and moisture. The PRU uses fans located on the top of each unit to cool its chassis. The antenna cable connectors, fiber connectors, AC or DC power connector, and the unit status indicator are located on the bottom of the unit.

A PRU supports or provides the following basic functions:

- Receives on the forward path the digitized spectrum from the Host Unit and converts the spectrum back into an RF signal to be distributed via an externally mounted antenna system. On the reverse path, the PRU digitizes the designated RF spectrum and digitally transports it over single mode fiber. Millimeter Wave product can be used in place of fiber optic cable.
- Provides RF interface (antenna port) for the antennas.
- Accepts either AC or DC power input.

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All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

Table 2. Prism Remote Unit Enclosure Dimensions ⁽¹⁾

PRU Model		Height	Width ⁽²⁾	Depth
Single-Bay	Inches	25.2	12.2	11.2
	Centimeters	64	30.99	28.45
Dual-Bay	Inches	33.2	12.2	11.2
	Centimeters	84.3	30.99	28.45
Tri-Bay	Inches	41.2	12.2	11.2
	Centimeters	104.6	30.99	28.45
Quad-Bay	Inches	52.4	12.2	11.2
	Centimeters	133.10	30.99	28.45

(1) To have adequate clearance to open the PRU chassis door, allow a minimum of 7 inches at the left, right and front of each PRU.

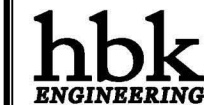
(2) Dimension for width includes the mounting brackets.

Table 3. Prism Remote Unit Weights ⁽¹⁾

PRU Model		Unpopulated	Populated
Single-Bay	Pounds	65	83
	Kilograms	29	38
Dual-Bay	Pounds	81	117
	Kilograms	37	53
Tri-Bay	Pounds	97	151
	Kilograms	44	68
Quad-Bay	Pounds	116	188
	Kilograms	53	85

(1) "Unpopulated" weight includes the Solar shields, which are always present. "Populated" weight is the weight of the chassis that has the SeRF Module and RF Modules installed.

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921 WEST VAN BUREN, SUITE 100
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STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:



TITLE:

Crown Castle NG East LLC
1304 Wilson Dr.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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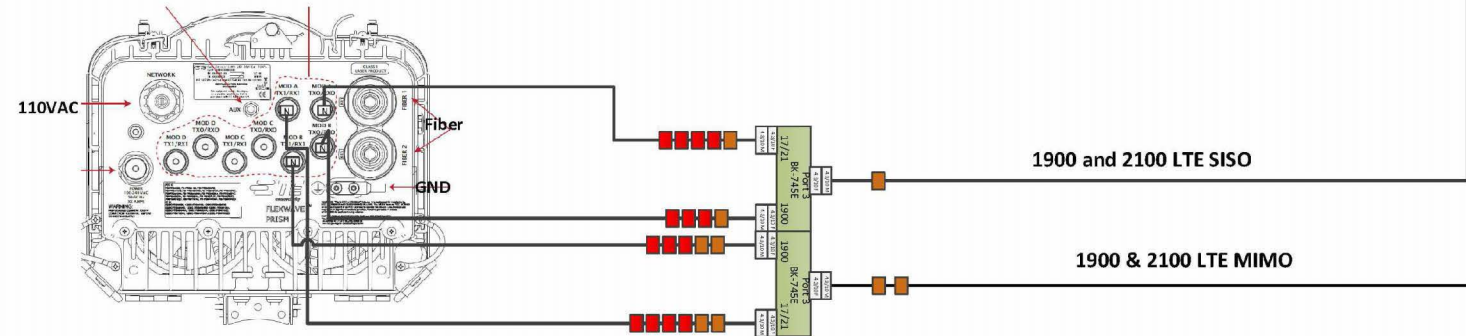
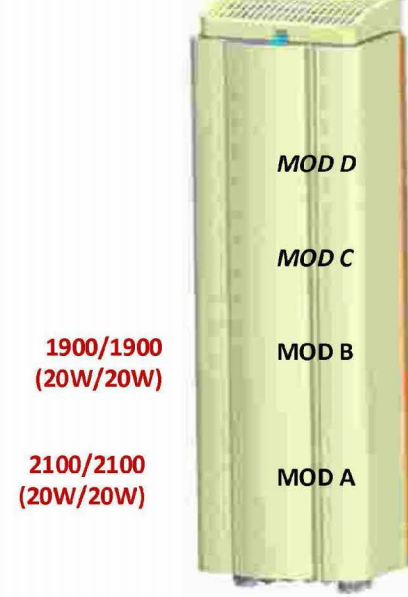
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PROJECT NUMBER:	17-0089
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DATE DRAWN:	05-22-17

Wiring Diagram Scenario 1 (Omni)

TE Connectivity Prism 4-Bay Chassis with
2x20W 1900 & 2x20W 2100 HDMs



Carrier	Band (MHz)	Band Color		SISO Path	MIMO Path	Comments
		Color	Description			
Verizon	700		1x Red	Brown	Brown/Brown	
	850		2x Red	Brown	Brown/Brown	Alternately named Cellular Band
	1900		3x Red	Brown	Brown/Brown	Alternately named PCS Band
	2100		4x Red	Brown	Brown/Brown	Alternately named AWS or 1700 Band
AT&T	700		1x Blue	Brown	Brown/Brown	
	850		2x Blue	Brown	Brown/Brown	Alternately named Cellular Band
	1900		3x Blue	Brown	Brown/Brown	Alternately named PCS Band
	2100		4x Blue	Brown	Brown/Brown	Alternately named AWS or 1700 Band
	2300		5x Blue	Brown	Brown/Brown	Alternately named WCS Band
T-Mobile	700		1x Green	Brown	Brown/Brown	
	1900		3x Green	Brown	Brown/Brown	Alternately named PCS Band
	2100		4x Green	Brown	Brown/Brown	Alternately named AWS or 1700 Band
Metro	2100		1x Yellow	Brown	Brown/Brown	Alternately named AWS or 1700 Band
	700		1x Yellow	Brown	Brown/Brown	
Sprint	800		2x Yellow	Brown	Brown/Brown	Alternately named 800 SMR
	1900		3x Yellow	Brown	Brown/Brown	Alternately named PCS Band
	2500		4x Yellow	Brown	Brown/Brown	Alternately named 2.5
	700		1x Yellow	Brown	Brown/Brown	

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 1304 Wilson Dr.
 West Chester, Pennsylvania
 Jurisdiction: East Goshen Township

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DATE DRAWN:	05-22-17



PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE



Crown Castle NG East LLC
West Chester, Pennsylvania

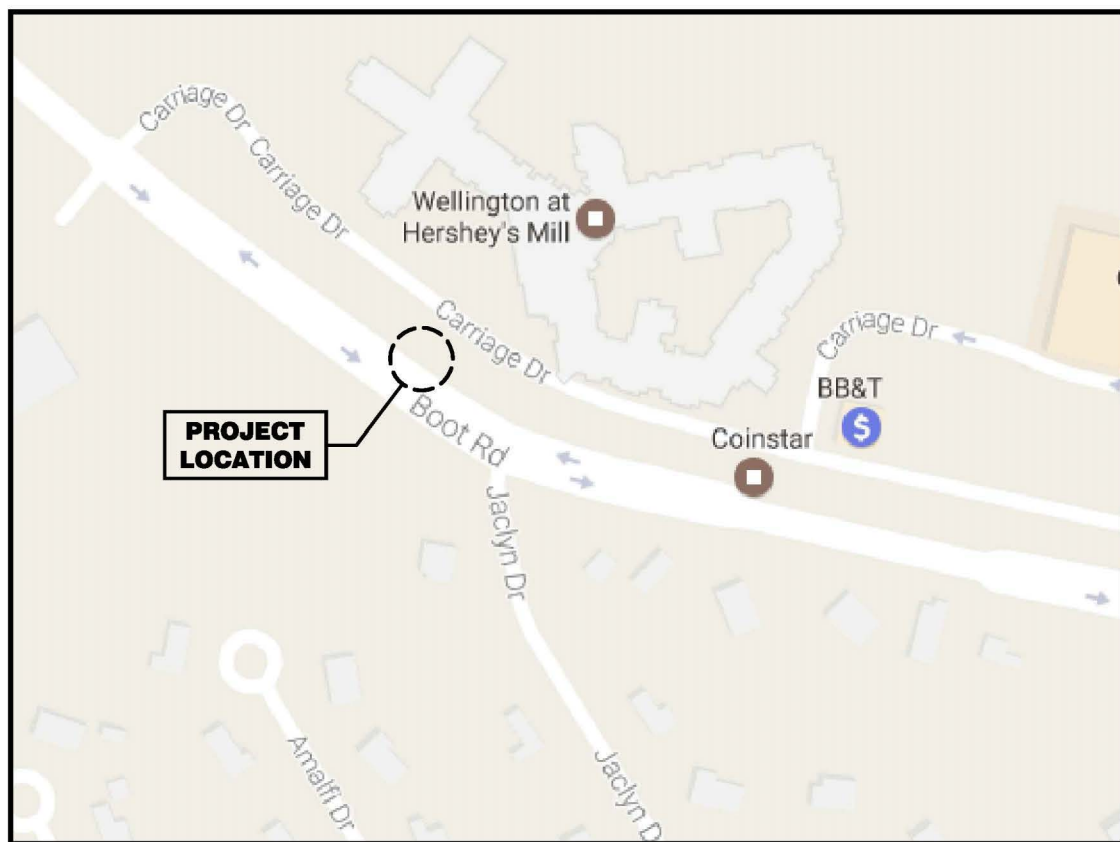
Jurisdiction: East Goshen Township / PennDOT

Proposed Distributed Antenna System (DAS) Node Installation

INDEX TO SHEETS

1. TITLE, LOCATION MAP, NODE PLACEMENT
2. PROPOSED POLE CONFIGURATION
3. PROPOSED EQUIPMENT DETAILS
4. EXISTING PHOTO
5. PROPOSED EQUIPMENT CUT SHEET
6. PROPOSED EQUIPMENT CUT SHEET
7. PROPOSED EQUIPMENT CUT SHEET
8. WIRING DIAGRAM

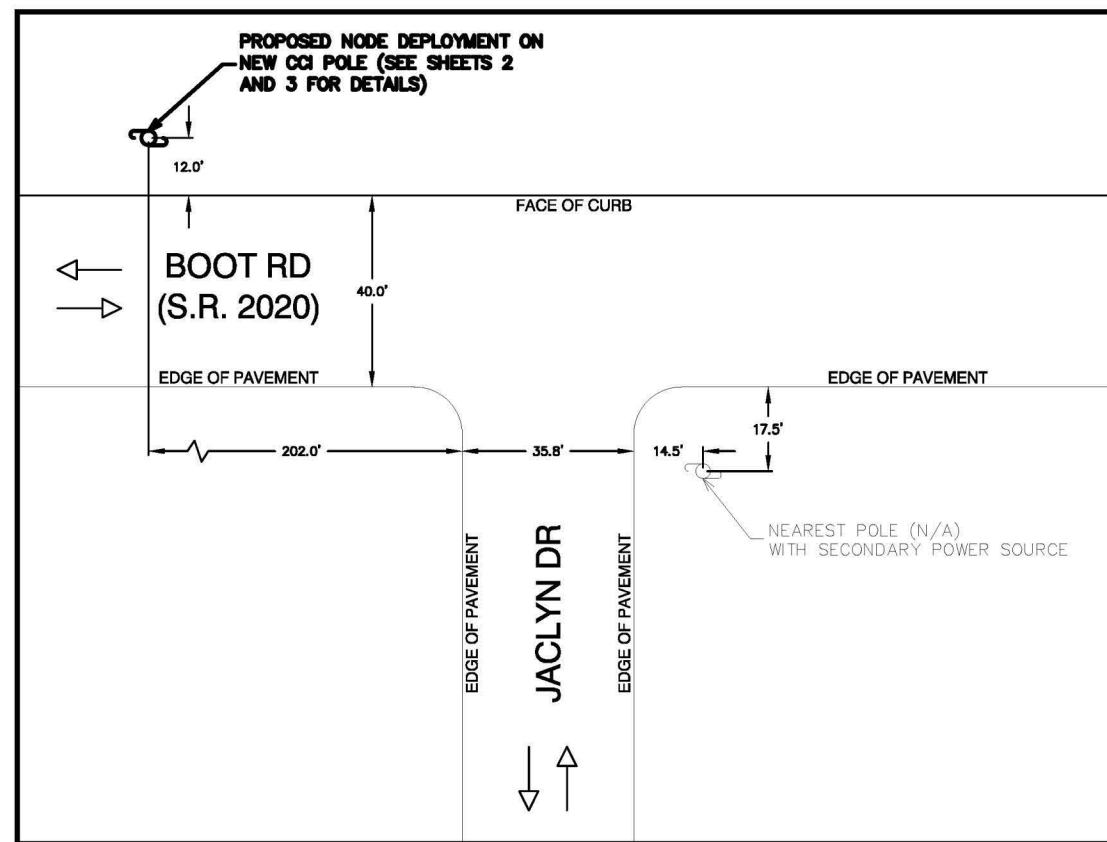
BILL OF MATERIALS : SEE SHEETS 2, AND 3.



LOCATION MAP

Latitude: 39.99867°N
Longitude: -75.57148°W

NOT TO SCALE



NODE PLACEMENT

1361 Boot Rd. (S.R. 2020)
New CCI wood pole to be planted
On the North side of Boot Rd. West of Jaclyn Dr.
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

ENGINEER:

hbk ENGINEERING

HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-0076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION LICENSE NO. 184-002308

OWNER/DEVELOPER:

CROWN CASTLE

TITLE:
Crown Castle NG East LLC
1361 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
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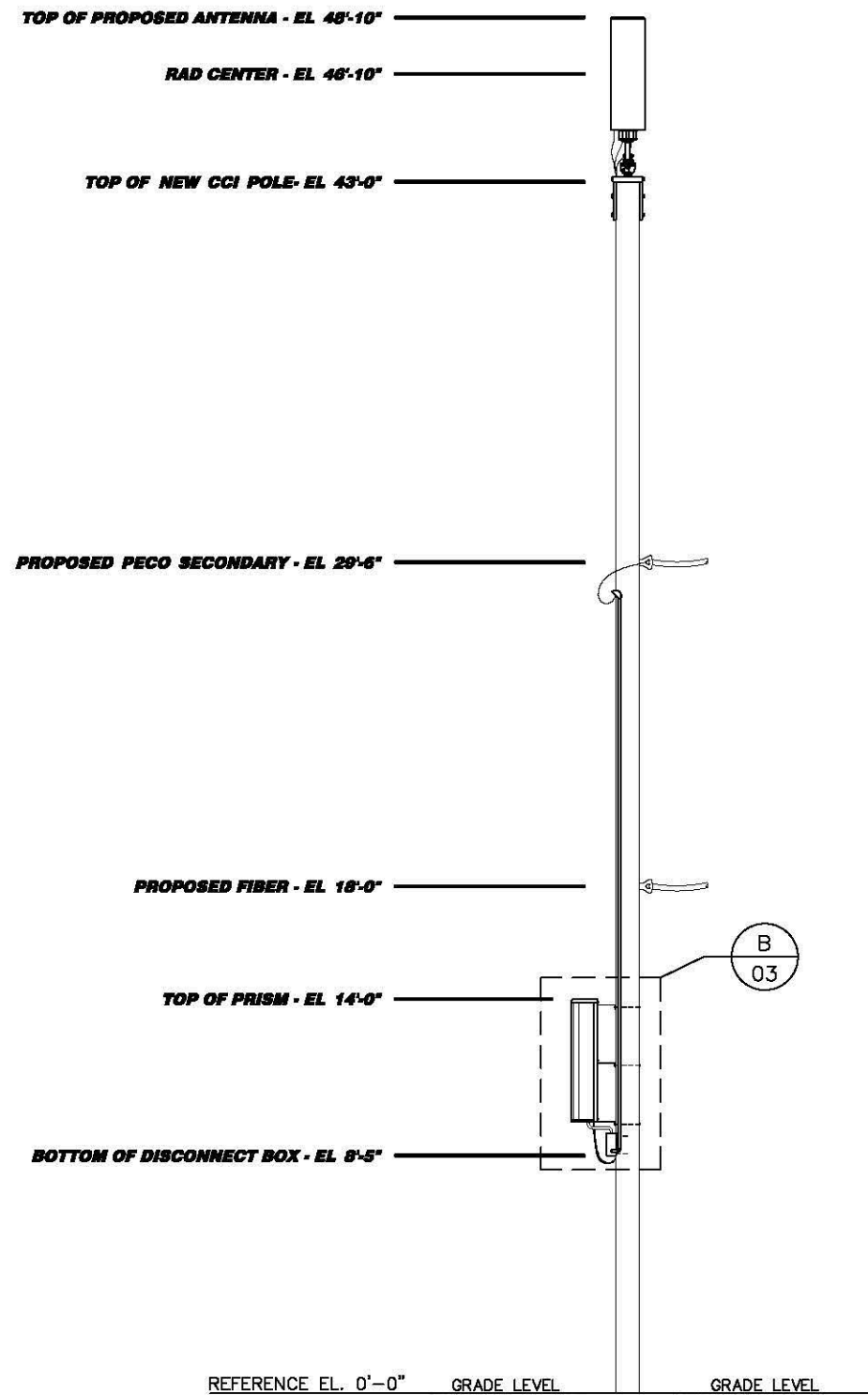
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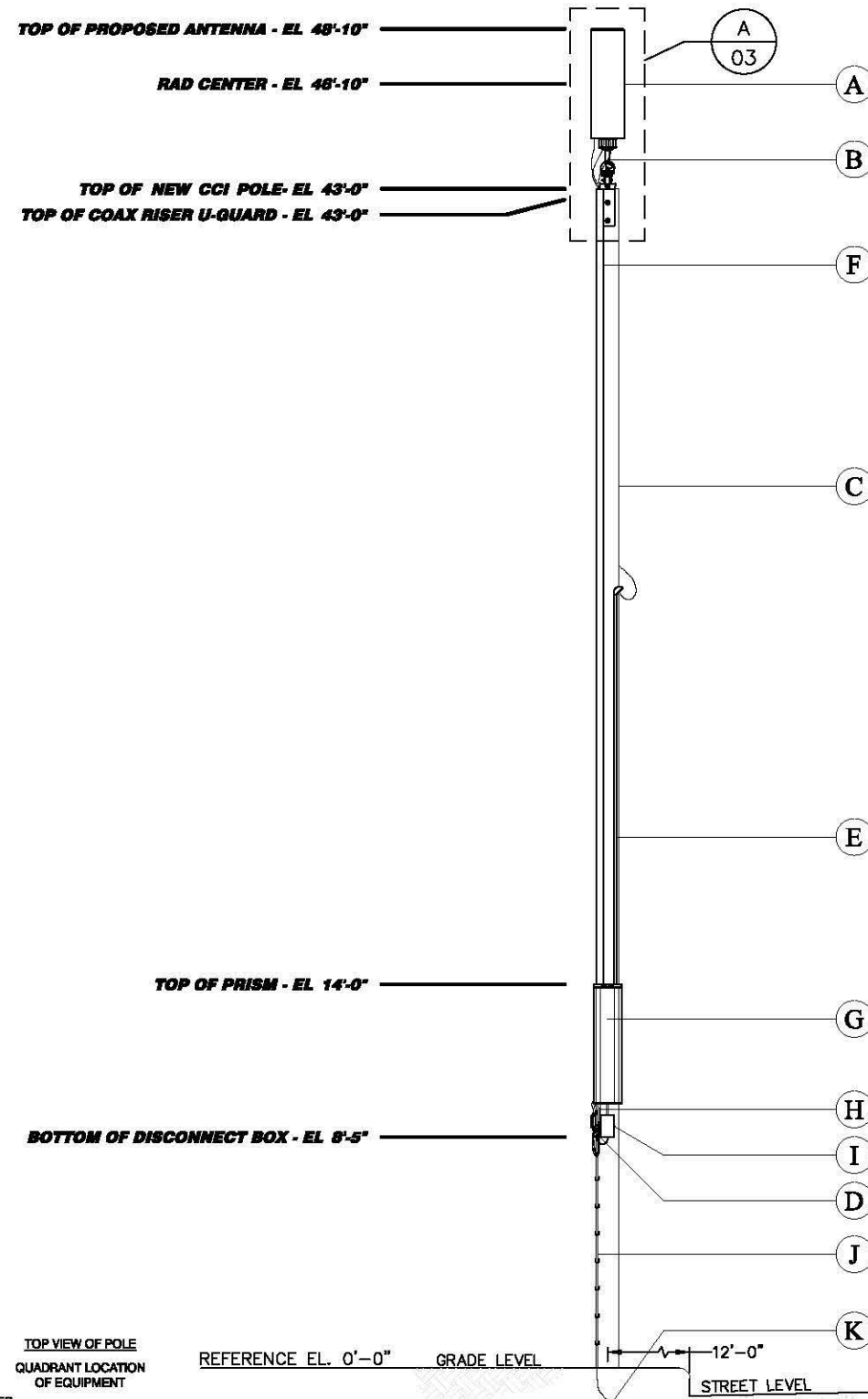
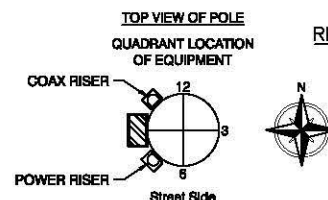
Crown Castle NG East LLC
PROPOSED POLE CONFIGURATION

NODE:
EMP-031

Antenna Azimuth		
Antenna #1	Antenna #2	Antenna #3
0°	N/A°	N/A°



**PROPOSED POLE DETAIL
LOOKING NORTH**



**PROPOSED POLE DETAIL
LOOKING EAST**

- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" X 14.8" (HxDIA) - 52 lbs
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- (C) INSTALL NEW 43'-0" AGL (50'-0") CCI WOOD POLE
CLASS 2 OR BETTER
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND
ON POLE
- (E) INSTALL 1/2" PVC CONDUIT WITH #6/C POWER CABLE
- (F) INSTALL 3" RISER GUARD WITH FIBER OPTIC CABLES, #4 SOL.
CU COVERED SD, (2) COAXIAL CABLES FROM COMBINER TO
ANTENNA WITH (4) 4.3-10 DIN MALE CONNECTORS
MODEL: UXP-4MT-12
- (G) INSTALL ADC FLEXWAVE 4-BAY PRISM REMOTE UNIT
52.4" x 12.2" x 11.2" (HxWxD) - 188 lbs
UTILIZE THRU-BOLT ASSEMBLY
- (H) INSTALL FIBER OPTIC CABLE(S)
INSTALL (4) JMA JUMPERS FROM PRISM TO COMBINER
MODEL: JMA-4MWNW-14F1-4
- (I) INSTALL SQUARE D MAIN DISCONNECT BOX
9.5" x 8" x 4" (HxWxD) - 5 lbs
INSTALL (1) SINGLE POLE 15A BREAKER
- (J) INSTALL #4 SOL. CU GROUND COVERED SD WIRE 1/2" ID x 8'
LG. MOLDING. 1/2" x 2" STAPLE, GALV.
- (K) INSTALL 5/8" x 8' LG CU POINTED GROUND ROD AND CLAMP

ENGINEER:
hbk ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-0076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

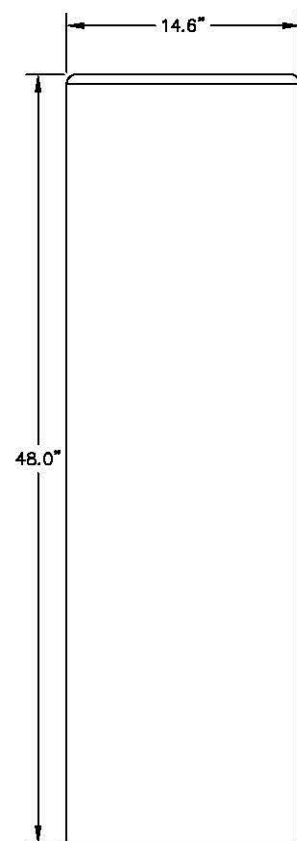
OWNER/DEVELOPER:
CROWN CASTLE

TITLE:
Crown Castle NG East LLC
1361 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
Jurisdiction: East Goshen Township / PennDOT

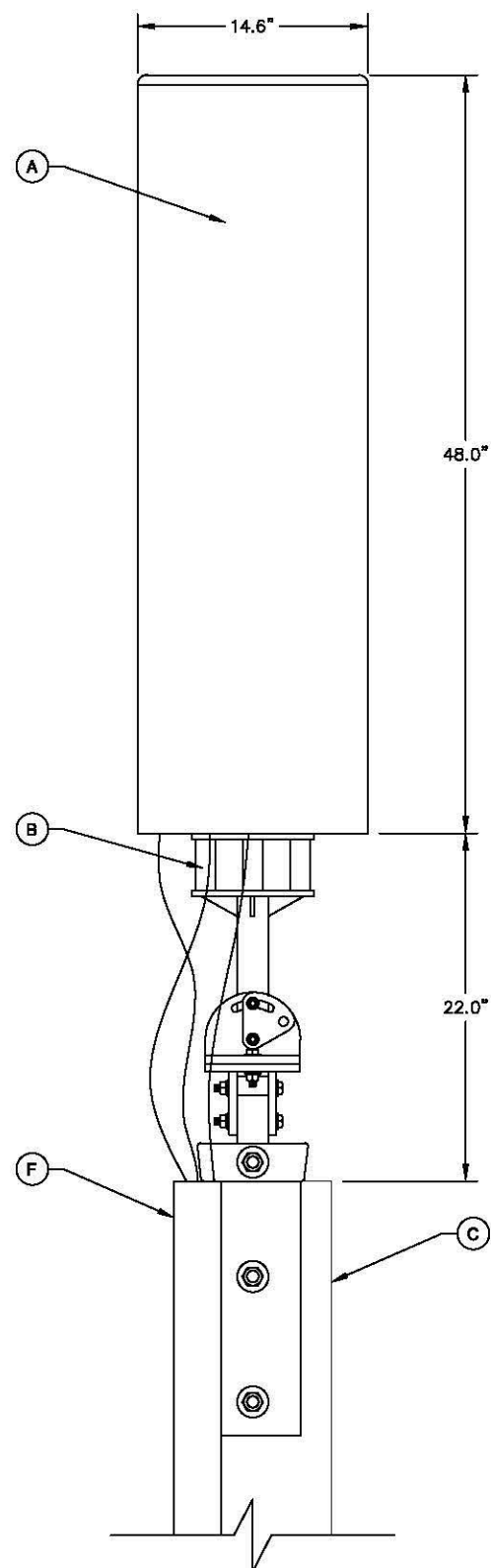
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02	05-22-17	FOR PERMIT	TLP

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TLP	AMW	BMM

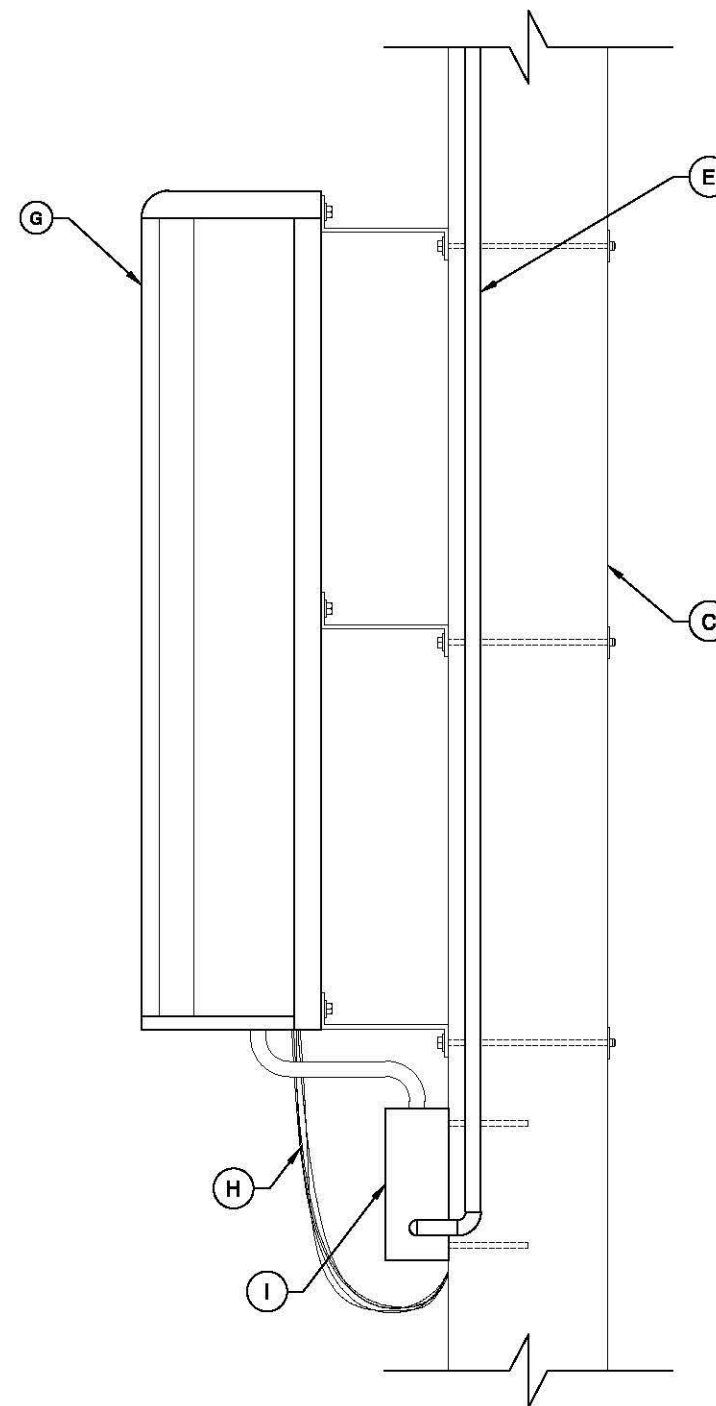
PROJECT NUMBER:	17-0089
FILE NAME:	EMP-031
DATE DRAWN:	03-31-17



**GALTRONICS EXTENT
OMNI ANTENNA
C3-GT2x12-T6-6-F4**



**DETAIL 'A'
ANTENNA(S) AND
MOUNTING KIT**



**DETAIL 'B'
REPEATER EQUIPMENT**

- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" X 14.6" (HxDIA) - 52 lbs
GALTRONICS EXTENT - MODEL: C3-GT2x12-T6-6-F4
INSTALL (4) 4.3-10 DIN MALE ANTENNA CAPS
MODEL: 78211297
- (B) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
MODEL: 002M (WEIGHT - 26 lbs)
- (C) INSTALL NEW 43'-0" AGL (50'-0") CCI WOOD POLE
CLASS 2 OR BETTER
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
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CU COVERED SD, (2) COAXIAL CABLES FROM COMBINER TO
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LG. MOLDING. 1/2" x 2" STAPLE, GALV.
- (K) INSTALL 5/8" x 8' LG CU POINTED GROUND ROD AND CLAMP

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PHONE: (312) 432-0076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:

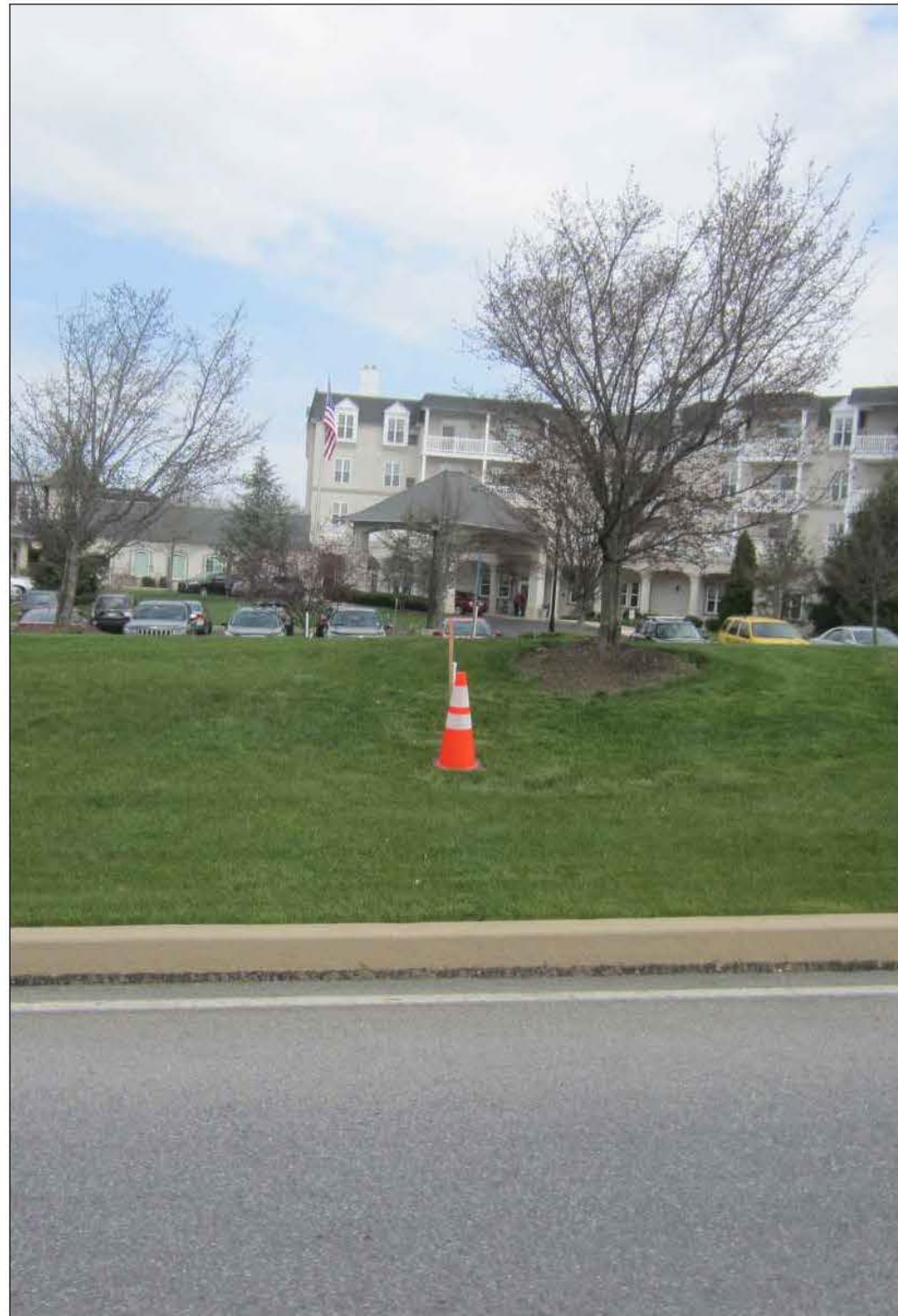


TITLE: **Crown Castle NG East LLC**
1361 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
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PROJECT NUMBER:	17-0089
FILE NAME:	EMP-031
DATE DRAWN:	03-31-17



EXISTING CONDITION



EXISTING CONDITION

ENGINEER:



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CHICAGO, IL 60607
PHONE: (312) 492-0076 FAX: (312) 492-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-062386

OWNER/DEVELOPER:



TITLE:

Crown Castle NG East LLC
1361 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
Jurisdiction: East Goshen Township / PennDOT

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PROJECT NUMBER:	17-0089
FILE NAME:	EMP-031
DATE DRAWN:	05-22-17



PCS/AWS-WCS Diplexer Filter, BK-745E

PCS/GSM 1900 Band and AWS-1 + AWS-3 + WCS Dual Diplexer
1850 - 1990/1695 - 1780 & 2110 - 2360 MHz
Rev. 3

Preliminary Specification

\$ Saver Product Line

- ◆ Dual Diplexer - Compact Design
- ◆ Integrates PCS/GSM 1900 with AWS-1 + AWS-3 + WCS Bands
- ◆ 40 dB Input Isolation
- ◆ Minimal RF Insertion Loss
- ◆ Includes Mounting Bracket
- ◆ Low PIM Guaranteed
- ◆ Up to 100 W/port Avg. Power
- ◆ Rugged, High Reliability
- ◆ RoHS compliant



Model Number	Body Type	Connector Type	Power Avg.	Weight, nom. lb. (kg)
BK-745E	Dual	4.3-10 (f)	100W	TBD

Microlab BK-745E is a dual Diplexer which allows combination and separation of the signals in the PCS band 1850 - 1990 MHz with the AWS-WCS bands 1695 - 1780 MHz and 2110 - 2360 MHz. To minimize band inter-reaction, the inputs are well isolated and have minimal insertion loss over their respective frequency bands.

The Diplexer has been designed using passive, proprietary techniques which minimizes cost and size. At the same time it ensures minimal loss and very high reliability at input powers up to 100W per input. Mounting brackets are included.

Frequency Bands:
Port 1/4 - COM1/2: 1695-1780 & 2110-2360 MHz
Port 2/3 - COM1/2: 1850 - 1990 MHz
Group Delay: 15 ns max.
Isolation: >40 dB, in each band
Return Loss: >20 dB
Passband Loss: <0.35 dB
PIM (Intermod): <-155 dBc (test with 2 +43dBm tones)
DC Path: All paths
Impedance: 50Ω nominal
Environment: -40°C to +65°C, IP67
Ground Lug: M6 Screw
Finish: Connectors: Triplate
Housing: Grey color coating

Note: Specifications are subject to change without prior notification.

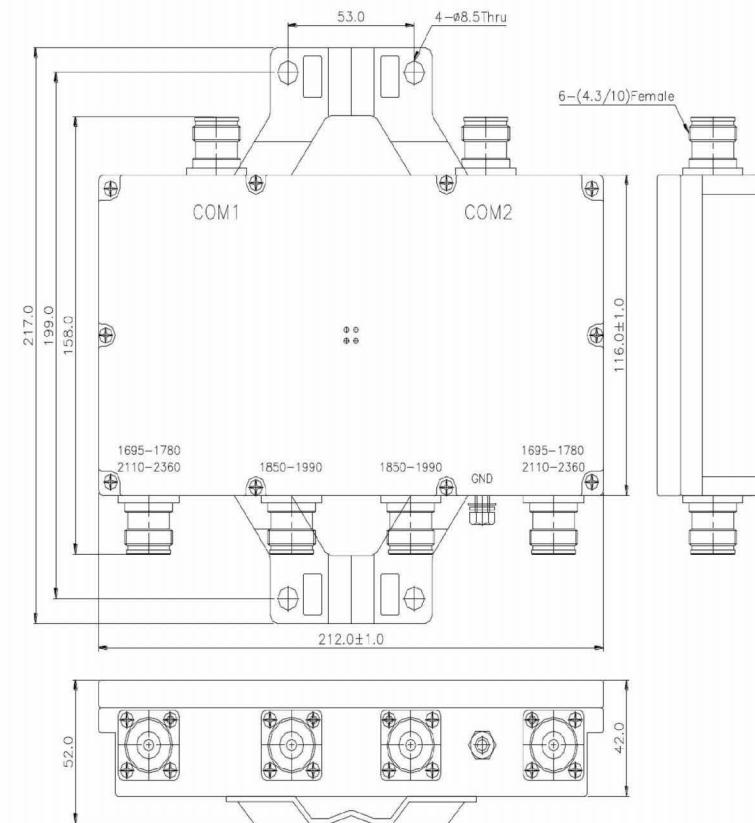
13Sep2016

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191



PCS/AWS-WCS Diplexer Filter, BK-745E

Outline
BK-745E



Dimensions in mm

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191

ENGINEER:



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STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:



TITLE:

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West Chester, Pennsylvania
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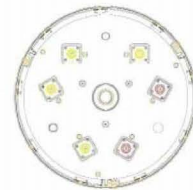
PROJECT NUMBER:	17-0089
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DATE DRAWN:	05-22-17



694-960 / 1695-2700 MHz, 2xHB+LB Column Pseudo Omni Canister Antenna



14" x 48" Outdoor 2xHB+LB Column Pseudo Omni Canister Antenna
EXTENT™ P5913
[694-960 / 1695-2700 MHz]



Description:
Dual column high band, single column low band broadband pseudo-omni outdoor antenna for small cell applications and outdoor distributed antenna systems (DAS).

Electrical Specifications:

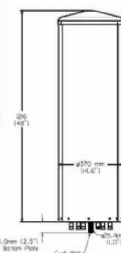
Frequency [MHz]	694-790	790-894	894-960	1695-1880	1850-1990	1920-2180	2180-2360	2360-2500	2500-2700
Polarization	Dual Slant 45° (+/-45°)								
Sector Orientation	Pseudo Omni (360°)								
Input	6x 4.3-10(f) DIN or 7-16(f) DIN, Long Neck, Bottom Mount								
Impedance	50 Ω								
VSWR / Return Loss	< 1.5:1 / 14.0 dB								
Gain	7.0 dBi	7.2 dBi	7.5 dBi	9.5 dBi	9.7 dBi	10.0 dBi	10.0 dBi	10.0 dBi	10.0 dBi
Isolation	-22 dB								
Inter-Band Isolation	-30 dB								
Vertical Beamwidth	18°	17°	15°	8°	7.5°	7°	7°	6.5°	6.5°
Horizontal Beamwidth	360° (Omni)								
Downtilt	0° / 2° / 4° fixed								
USLS - First Lobe	10 dB								
CPR	10 dB			13 dB					
PIM @ 2 x 43 dBm	< -153 dBc								
Max Input Power / Port	250 W				200 W				

Mechanical Specifications:

Operating Temperature	-40° to 158° F -40° to +70° C
Antenna Weight	52 lbs (24 kg)
Antenna Diameter	14.57" (370mm)
Antenna Height (w/o conn)	48" (1219mm)
Radome Color	Gray or Brown
Wind Survival Rating / Load	125 mph (200 kph)
Ingress Protection	IP65
RoHS	Compliant

Part Numbers:

Part Number	Connector	Color
C3-GT2x12-T6-1	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1	7-16(f) DIN	Gray
C3-GT2x12-D6-6	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F2	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F2	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F2	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F2	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F4	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F4	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F4	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F4	7-16(f) DIN	Brown



Mounting hardware includes 1" nut, lock and spring washer and cotter pin.

Release Date: May 25, 2016; Revision: S-1; Patent Pending

ENGINEER:



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OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:



TITLE:

Crown Castle NG East LLC
1361 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
Jurisdiction: East Goshen Township / PennDOT

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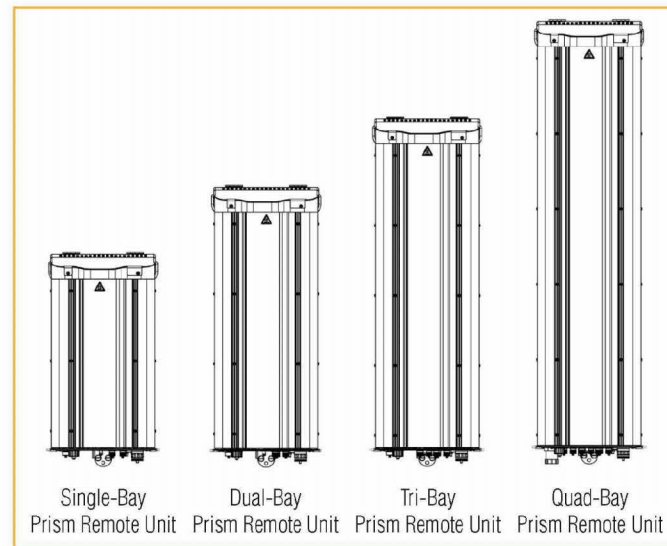
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TLP	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-031
DATE DRAWN:	05-22-17



**FlexWave
Prism Remote Unit**
Installation Guide

TECP-77-142 • Issue 6 • December 2014



This manual provides the information you need to install a TE Connectivity FlexWave Prism Remote Unit (PRU). FlexWave PRUs control RF emissions, interface with the FlexWave Prism Host Unit II and perform the optical to electrical conversion for transport to the antennas. The PRU is an environmentally-sealed unit designed for outdoor use that houses the electronic assemblies such as the DART board and the Power Amplifier, and seals out dirt and moisture. The PRU uses fans located on the top of each unit to cool its chassis. The antenna cable connectors, fiber connectors, AC or DC power connector, and the unit status indicator are located on the bottom of the unit.

A PRU supports or provides the following basic functions:

- Receives on the forward path the digitized spectrum from the Host Unit and converts the spectrum back into an RF signal to be distributed via an externally mounted antenna system. On the reverse path, the PRU digitizes the designated RF spectrum and digitally transports it over single mode fiber. Millimeter Wave product can be used in place of fiber optic cable.
- Provides RF interface (antenna port) for the antennas.
- Accepts either AC or DC power input.

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The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

Table 2. Prism Remote Unit Enclosure Dimensions ⁽¹⁾

PRU Model		Height	Width ⁽²⁾	Depth
Single-Bay	Inches	25.2	12.2	11.2
	Centimeters	64	30.99	28.45
Dual-Bay	Inches	33.2	12.2	11.2
	Centimeters	84.3	30.99	28.45
Tri-Bay	Inches	41.2	12.2	11.2
	Centimeters	104.6	30.99	28.45
Quad-Bay	Inches	52.4	12.2	11.2
	Centimeters	133.10	30.99	28.45

(1) To have adequate clearance to open the PRU chassis door, allow a minimum of 7 inches at the left, right and front of each PRU.

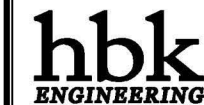
(2) Dimension for width includes the mounting brackets.

Table 3. Prism Remote Unit Weights ⁽¹⁾

PRU Model		Unpopulated	Populated
Single-Bay	Pounds	65	83
	Kilograms	29	38
Dual-Bay	Pounds	81	117
	Kilograms	37	53
Tri-Bay	Pounds	97	151
	Kilograms	44	68
Quad-Bay	Pounds	116	188
	Kilograms	53	85

(1) "Unpopulated" weight includes the Solar shields, which are always present. "Populated" weight is the weight of the chassis that has the SeRF Module and RF Modules installed.

ENGINEER:



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921 WEST VAN BUREN, SUITE 100
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PHONE: (312) 432-0076 FAX: (312) 432-0231
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OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:



TITLE:

Crown Castle NG East LLC
1361 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
Jurisdiction: East Goshen Township / PennDOT

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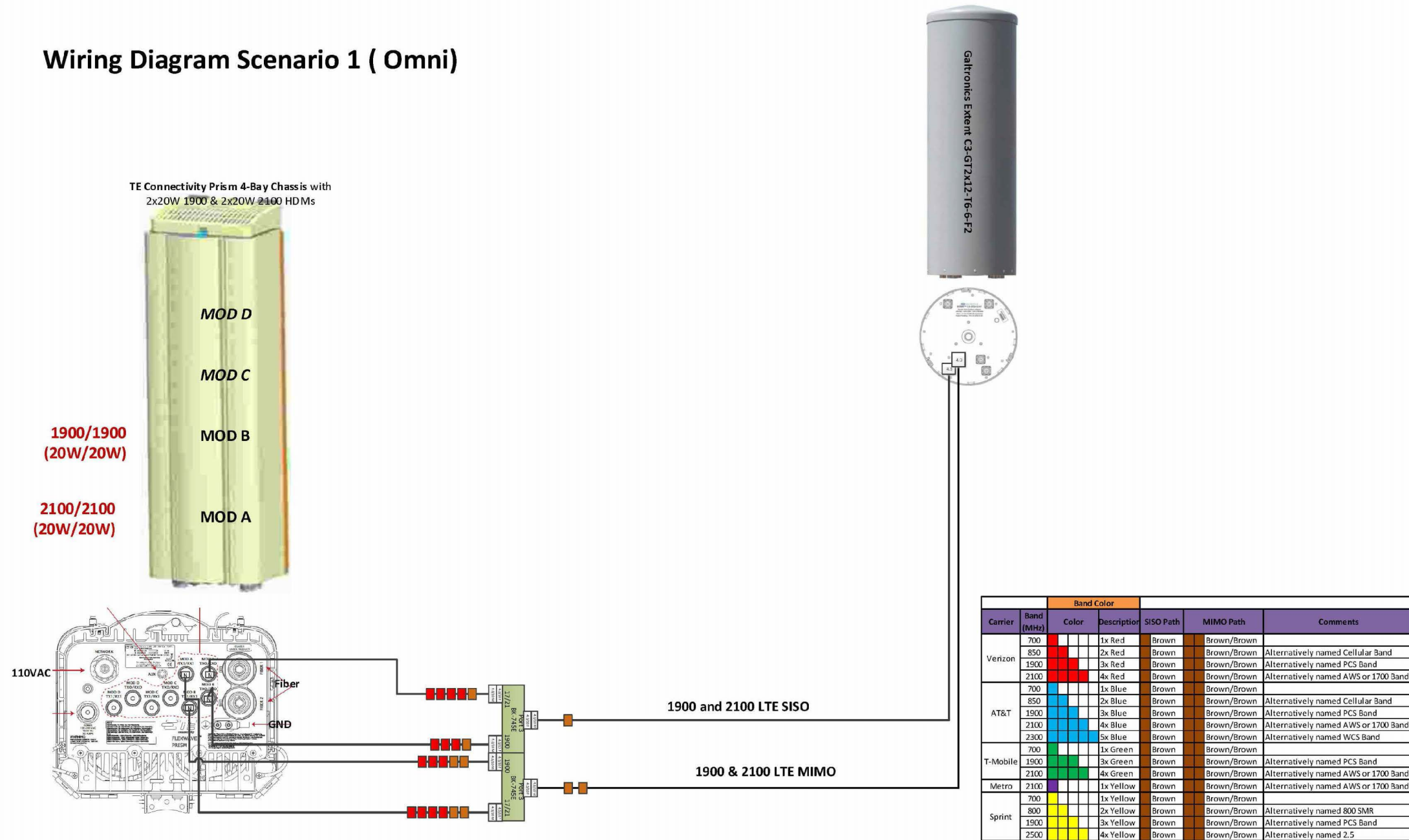
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SHEET:

Wiring Diagram Scenario 1 (Omni)



ENGINEER:



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DATE DRAWN:	05-22-17



PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE



Crown Castle NG East LLC
West Chester, Pennsylvania

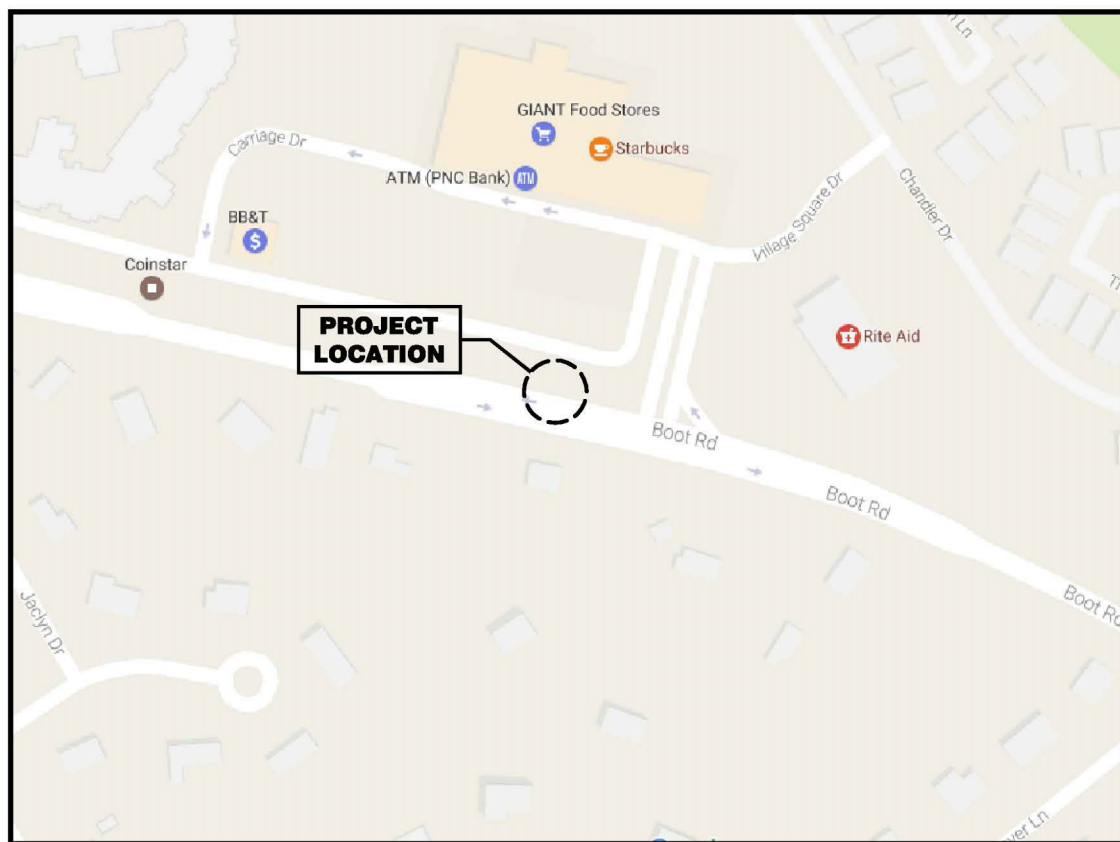
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Proposed Distributed Antenna System (DAS) Node Installation

INDEX TO SHEETS

1. TITLE, LOCATION MAP, NODE PLACEMENT
2. EXISTING POLE CONFIGURATION
3. PROPOSED POLE CONFIGURATION
4. PROPOSED EQUIPMENT DETAILS
5. EXISTING PHOTO
6. PROPOSED EQUIPMENT CUT SHEET
7. PROPOSED EQUIPMENT CUT SHEET
8. PROPOSED EQUIPMENT CUT SHEET
9. WIRING DIAGRAM

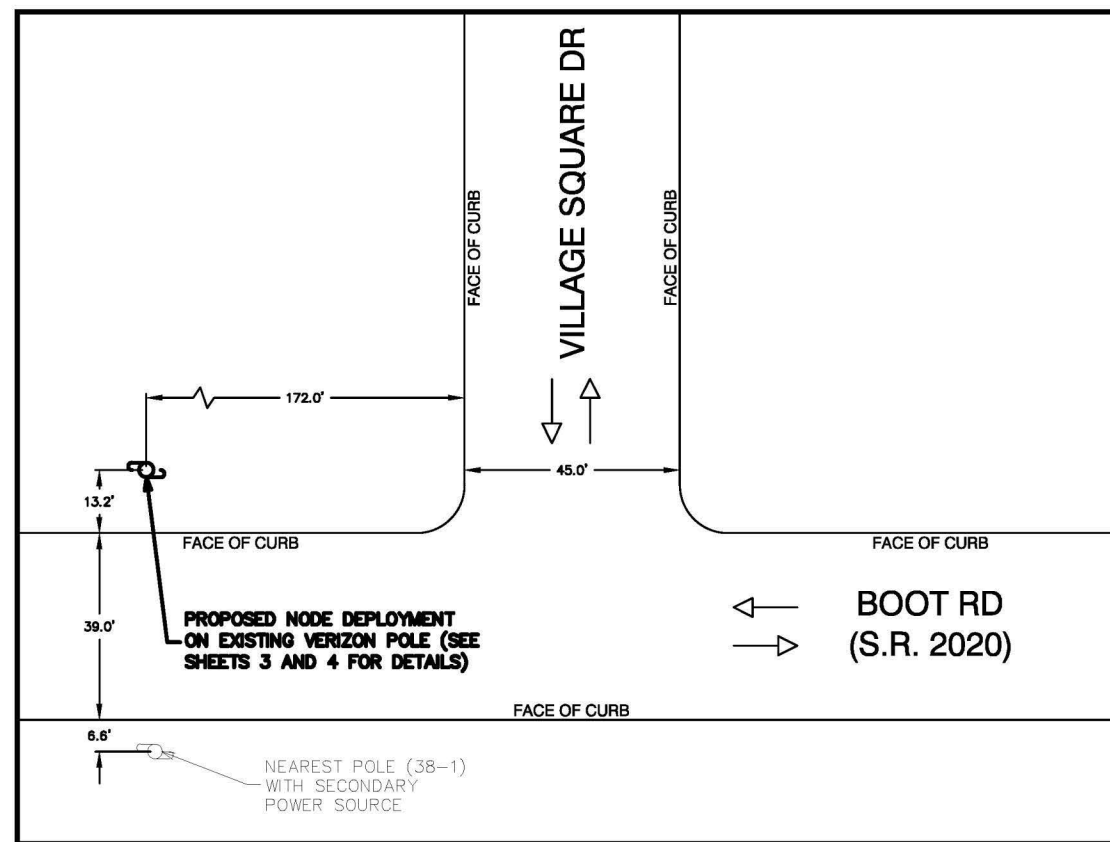
BILL OF MATERIALS : SEE SHEETS 3, AND 4.



LOCATION MAP

Latitude: 39.99779°N
Longitude: -75.56768°W

NOT TO SCALE



NODE PLACEMENT

1375 Boot Rd. (S.R. 2020)
Existing Verizon wood pole to remain
On the North side of Boot Rd. West of Village Square Dr.
Pole ID: 38-2

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

ENGINEER:
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HBK ENGINEERING, LLC
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CHICAGO, IL 60607
PHONE: (312) 432-0076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION LICENSE NO. 184-002308

OWNER/DEVELOPER:
CROWN CASTLE

TITLE:
Crown Castle NG East LLC
1375 Boot Rd. (S.R. 2020)
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DATE DRAWN:	03-31-17

TOP OF EXISTING VERIZON POLE — EL 26'-9"

POLE TO POLE GUY — EL 22'-4"

REFERENCE EL. 0'-0" GRADE LEVEL

**EXISTING POLE DETAIL
LOOKING NORTH**

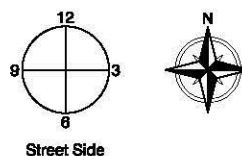
TOP OF EXISTING VERIZON POLE — EL 26'-9"

ANCHOR GUY — EL 22'-4"
POLE TO POLE GUY — EL 22'-4"

REFERENCE EL. 0'-0" GRADE LEVEL
STREET LEVEL

**EXISTING POLE DETAIL
LOOKING EAST**

TOP VIEW OF POLE
QUADRANT LOCATION
OF EQUIPMENT



ENGINEER:



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921 WEST VAN BUREN, SUITE 100
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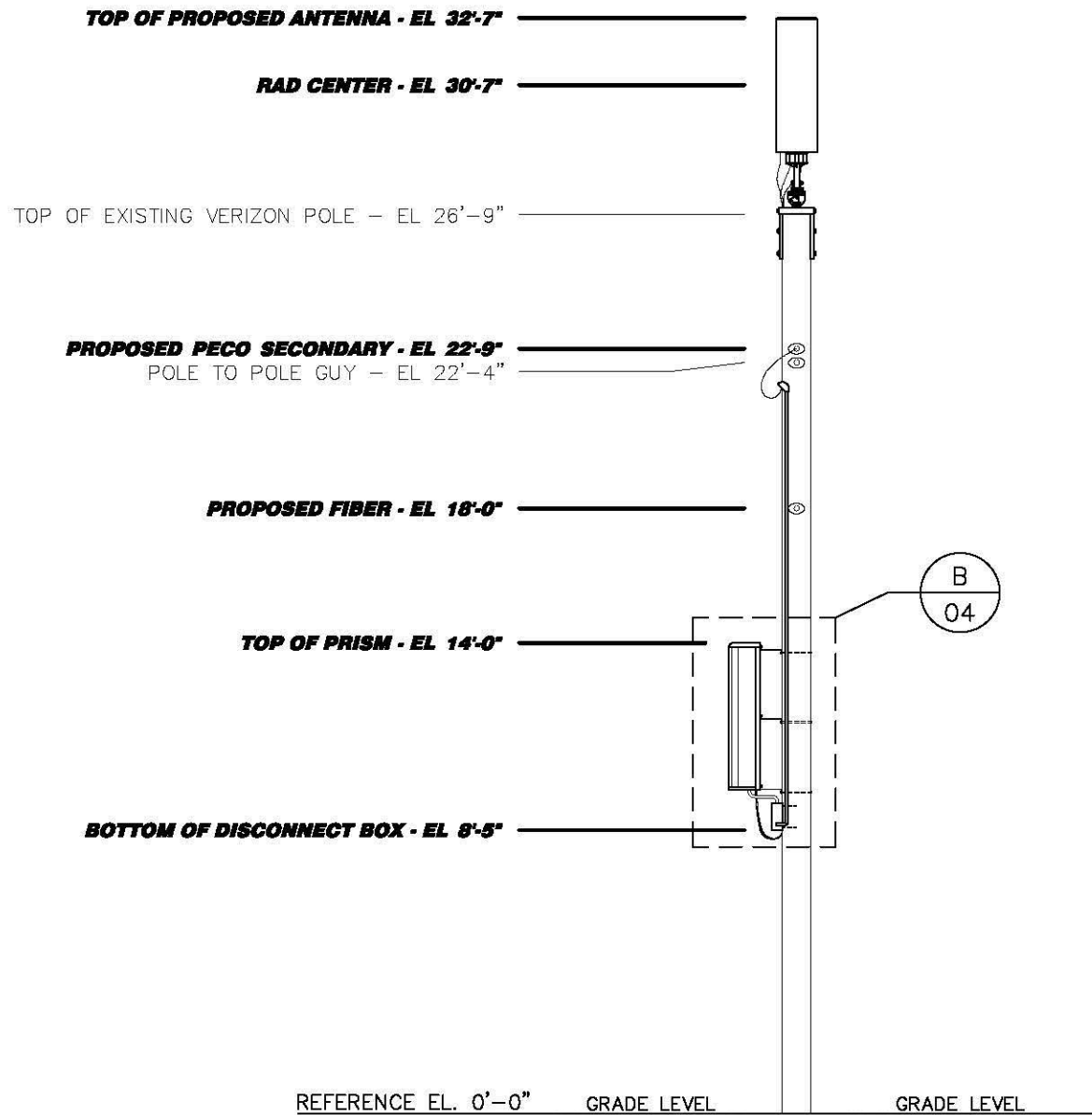
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Crown Castle NG East LLC
PROPOSED POLE CONFIGURATION

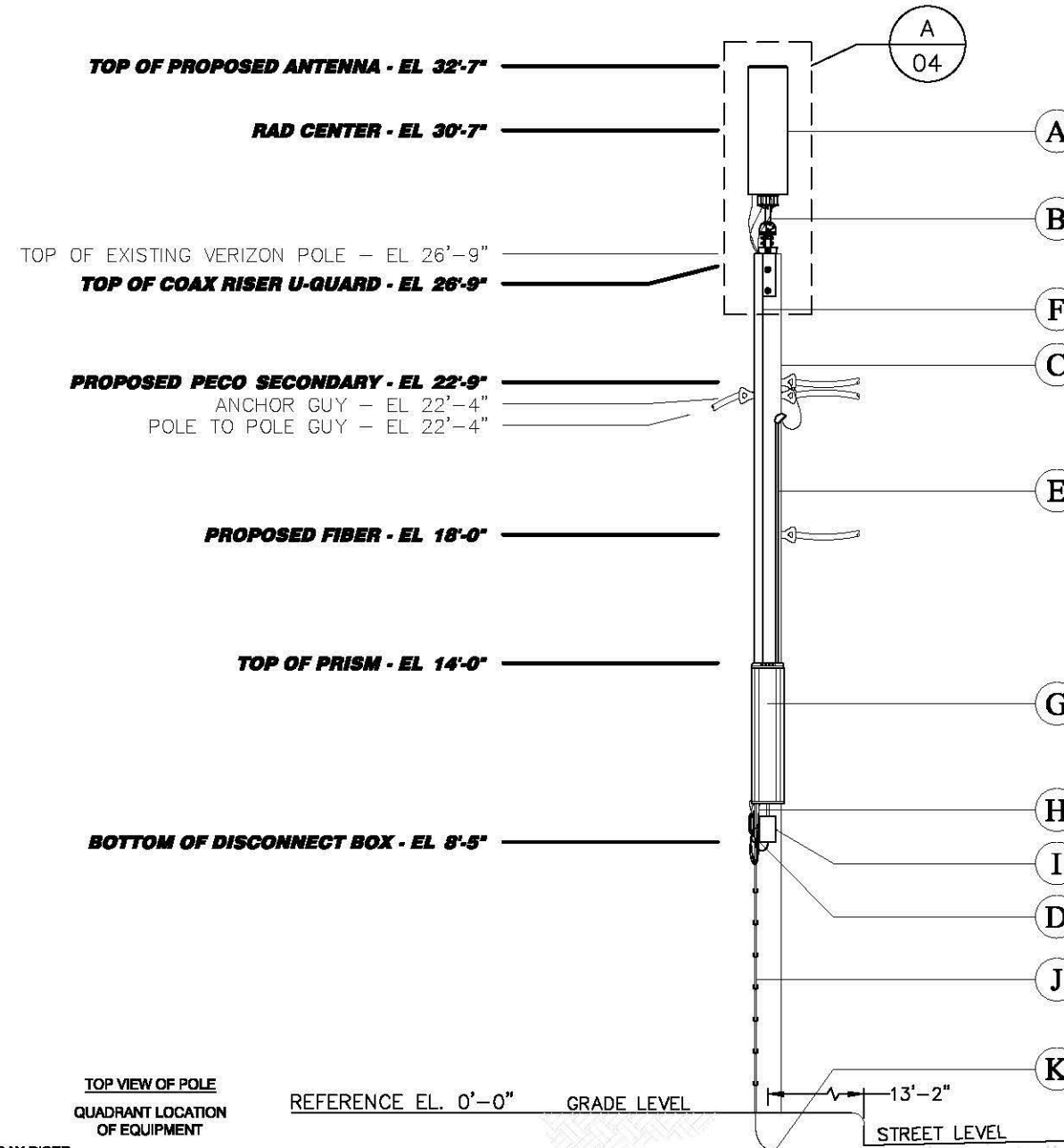
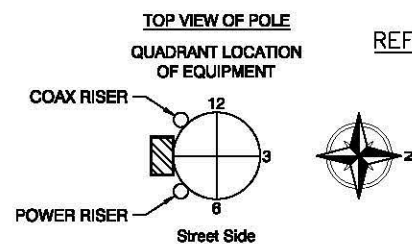
NODE: **EMP-032**

Antenna Azimuth		
Antenna #1	Antenna #2	Antenna #3
80°	N/A°	N/A°

- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" X 14.8" (HxW) - 52 lbs
GALTRONICS EXTENT - MODEL: C3-GT2x12-TB-6-F4
INSTALL (4) 4.3-10 DIN MALE ANTENNA CAPS
MODEL: 78211297
- (B) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
MODEL: 002M (WEIGHT - 26 lbs)
- (C) EXISTING POLE TO REMAIN
CLASS 3-35 HEIGHT 26'-9"
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND ON POLE
- (E) INSTALL 1/2" PVC CONDUIT WITH #6/C POWER CABLE
- (F) INSTALL 3" RISER GUARD WITH FIBER OPTIC CABLES, #4 SOL. CU COVERED SD, (2) COAXIAL CABLES FROM COMBINER TO ANTENNA WITH (4) 4.3-10 DIN MALE CONNECTORS
MODEL: UXP-4MT-12
- (G) INSTALL ADC FLEXWAVE 4-BAY PRISM REMOTE UNIT 52.4" x 12.2" x 11.2" (HxWxD) - 188 lbs
UTILIZE THRU-BOLT ASSEMBLY
- (H) INSTALL FIBER OPTIC CABLE(S)
INSTALL (4) JMA JUMPERS FROM PRISM TO COMBINER
MODEL: JMA-4MWNW-14F1-4
- (I) INSTALL SQUARE D MAIN DISCONNECT BOX 9.5" x 8" x 4" (HxWxD) - 5 lbs
INSTALL (1) SINGLE POLE 15A BREAKER
- (J) INSTALL #4 SOL. CU GROUND COVERED SD WIRE 1/2" ID x 8' LG. MOLDING. 1/2" x 2" STAPLE, GALV.
- (K) INSTALL 5/8" x 8' LG CU POINTED GROUND ROD AND CLAMP



**PROPOSED POLE DETAIL
LOOKING WEST**



**PROPOSED POLE DETAIL
LOOKING NORTH**

ENGINEER:
hbk ENGINEERING
HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-0076 FAX: (312) 432-0431
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:
CROWN CASTLE

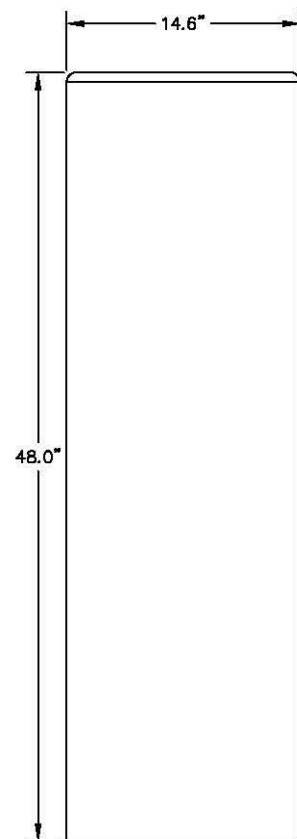
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Crown Castle NG East LLC
1375 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
Jurisdiction: East Goshen Township / PennDOT

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01	04-28-17	PER CC COMMENTS	TLP
02	05-22-17	FOR PERMIT	TLP

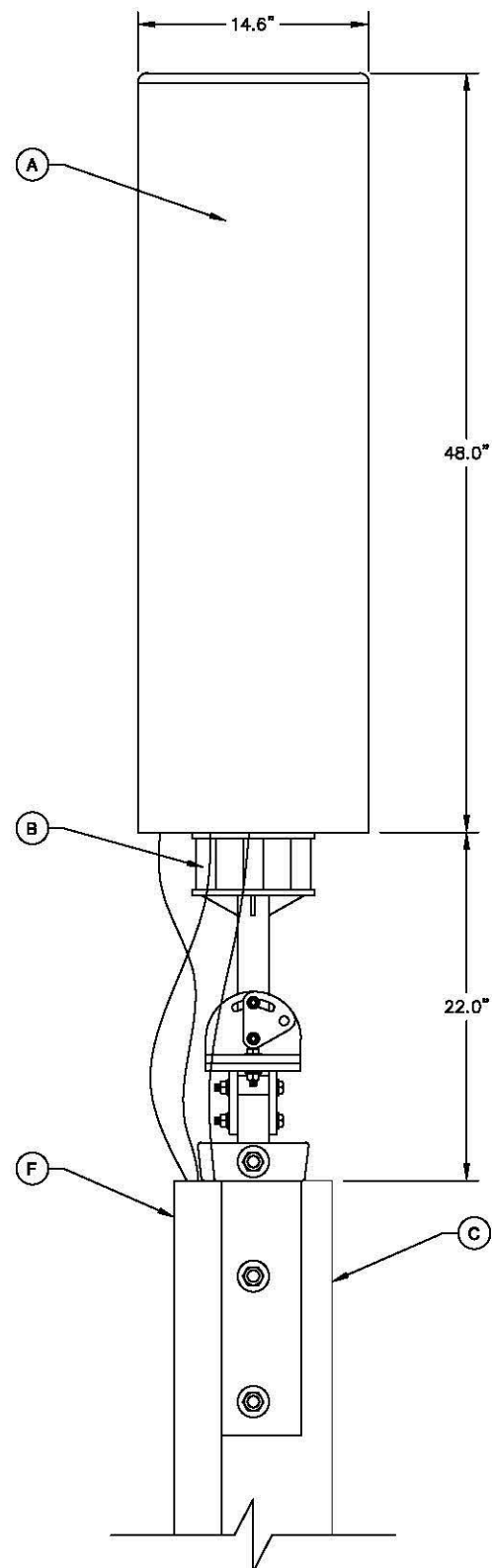
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FILE NAME:	EMP-032
DATE DRAWN:	03-31-17

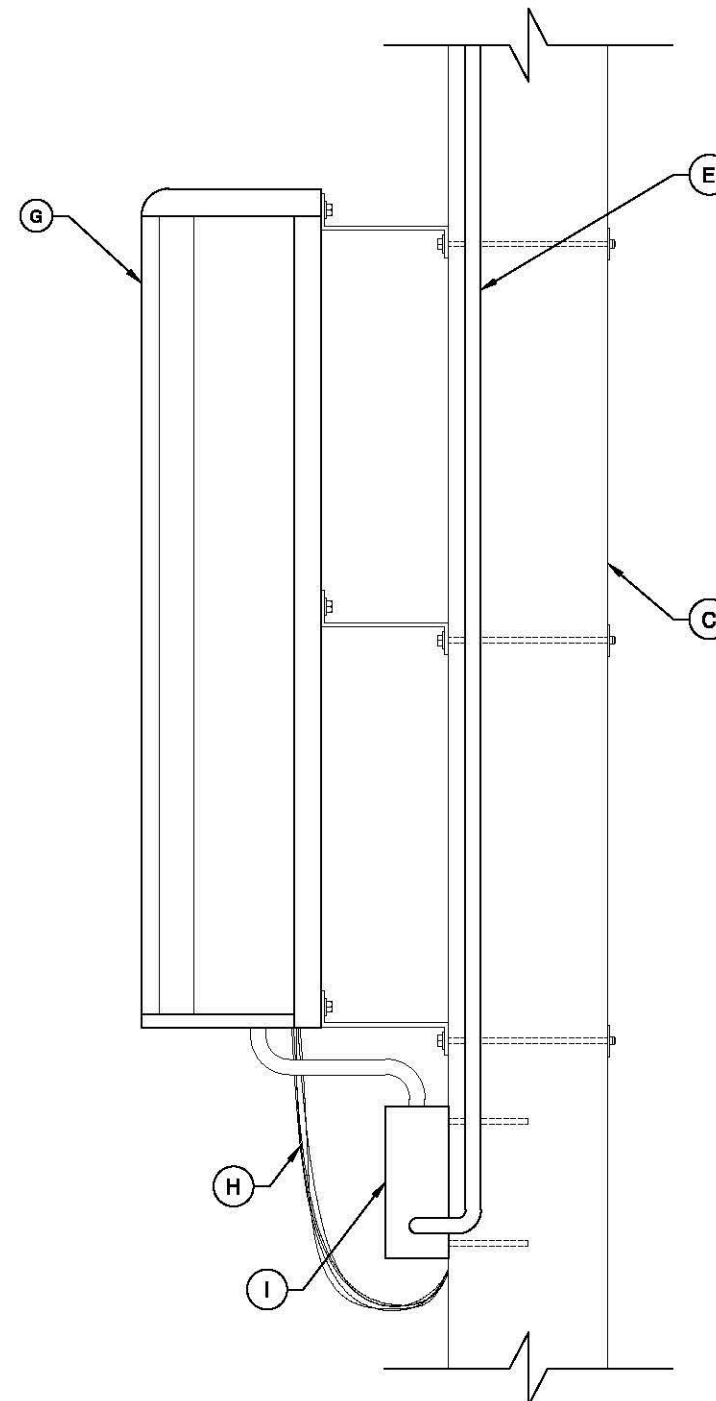
SHEET: **3 OF 9**



**GALTRONICS EXTENT
OMNI ANTENNA
C3-GT2x12-T6-6-F4**



**DETAIL 'A'
ANTENNA(S) AND
MOUNTING KIT**



**DETAIL 'B'
REPEATER EQUIPMENT**

- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" X 14.6" (HxDIA) - 52 lbs
GALTRONICS EXTENT - MODEL: C3-GT2x12-T6-6-F4
INSTALL (4) 4.3-10 DIN MALE ANTENNA CAPS
MODEL: 78211297
- (B) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
MODEL: 002M (WEIGHT - 26 lbs)
- (C) EXISTING POLE TO REMAIN
CLASS 3-35 HEIGHT 26'-9"
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
- (E) INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND ON POLE
- (F) INSTALL 1/2" PVC CONDUIT WITH #6/C POWER CABLE
- (G) INSTALL 3" RISER GUARD WITH FIBER OPTIC CABLES, #4 SOL. CU COVERED SD, (2) COAXIAL CABLES FROM COMBINER TO ANTENNA WITH (4) 4.3-10 DIN MALE CONNECTORS
MODEL: UXP-4MT-12
- (H) INSTALL ADC FLEXWAVE 4-BAY PRISM REMOTE UNIT
52.4" x 12.2" x 11.2" (HxWxD) - 188 lbs
UTILIZE THRU-BOLT ASSEMBLY
- (I) INSTALL FIBER OPTIC CABLE(S)
INSTALL (4) JMA JUMPERS FROM PRISM TO COMBINER
MODEL: JMA-4MWNW-14F1-4
- (J) INSTALL SQUARE D MAIN DISCONNECT BOX
9.5" x 8" x 4" (HxWxD) - 5 lbs
INSTALL (1) SINGLE POLE 15A BREAKER
- (K) INSTALL #4 SOL. CU GROUND COVERED SD WIRE 1/2" ID x 8' LG. MOLDING. 1/2" x 2" STAPLE, GALV.
- (L) INSTALL 5/8" x 8' LG CU POINTED GROUND ROD AND CLAMP

ENGINEER:

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CHICAGO, IL 60607
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OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:



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1375 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
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FILE NAME:	EMP-032
DATE DRAWN:	03-31-17



EXISTING CONDITION



EXISTING CONDITION

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PCS/AWS-WCS Diplexer Filter, BK-745E

PCS/GSM 1900 Band and AWS-1 + AWS-3 + WCS Dual Diplexer
1850 - 1990/1695 - 1780 & 2110 - 2360 MHz
Rev. 3

Preliminary Specification

\$ Saver Product Line

- ◆ Dual Diplexer - Compact Design
- ◆ Integrates PCS/GSM 1900 with AWS-1 + AWS-3 + WCS Bands
- ◆ 40 dB Input Isolation
- ◆ Minimal RF Insertion Loss
- ◆ Includes Mounting Bracket
- ◆ Low PIM Guaranteed
- ◆ Up to 100 W/port Avg. Power
- ◆ Rugged, High Reliability
- ◆ RoHS compliant



Model Number	Body Type	Connector Type	Power Avg.	Weight, nom. lb. (kg)
BK-745E	Dual	4.3-10 (f)	100W	TBD

Microlab BK-745E is a dual Diplexer which allows combination and separation of the signals in the PCS band 1850 - 1990 MHz with the AWS-WCS bands 1695 - 1780 MHz and 2110 - 2360 MHz. To minimize band inter-reaction, the inputs are well isolated and have minimal insertion loss over their respective frequency bands.

The Diplexer has been designed using passive, proprietary techniques which minimizes cost and size. At the same time it ensures minimal loss and very high reliability at input powers up to 100W per input. Mounting brackets are included.

Frequency Bands:
Port 1/4 - COM1/2: 1695-1780 & 2110-2360 MHz
Port 2/3 - COM1/2: 1850 - 1990 MHz
Group Delay: 15 ns max.
Isolation: >40 dB, in each band
Return Loss: >20 dB
Passband Loss: <0.35 dB
PIM (Intermod): <-155 dBc (test with 2 +43dBm tones)
DC Path: All paths
Impedance: 50Ω nominal
Environment: -40°C to +65°C, IP67
Ground Lug: M6 Screw
Finish: Connectors: Triplate
Housing: Grey color coating

Note: Specifications are subject to change without prior notification.

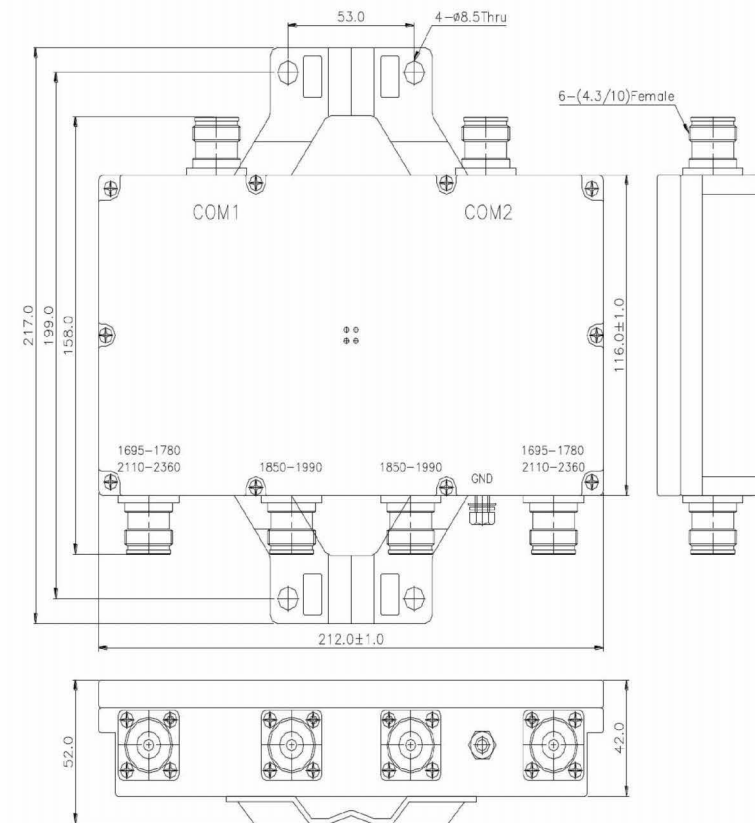
13Sep2016

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191



PCS/AWS-WCS Diplexer Filter, BK-745E

Outline
BK-745E



Dimensions in mm

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191

ENGINEER:



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LICENSE NO. 184-002308

OWNER/DEVELOPER:



TITLE:

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West Chester, Pennsylvania
Jurisdiction: East Goshen Township / PennDOT

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PROJECT NUMBER:	17-0089
FILE NAME:	EMP-032
DATE DRAWN:	05-22-17



694-960 / 1695-2700 MHz, 2xHB+LB Column Pseudo Omni Canister Antenna



14" x 48" Outdoor 2xHB+LB Column Pseudo Omni Canister Antenna
EXTENT™ P5913
[694-960 / 1695-2700 MHz]



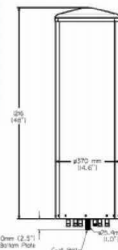
Description:
Dual column high band, single column low band broadband pseudo-omni outdoor antenna for small cell applications and outdoor distributed antenna systems (DAS).

Electrical Specifications:

Frequency [MHz]	694-790	790-894	894-960	1695-1880	1850-1990	1920-2180	2180-2360	2360-2500	2500-2700
Polarization	Dual Slant 45° (+/-45°)								
Sector Orientation	Pseudo Omni (360°)								
Input	6x 4.3-10(f) DIN or 7-16(f) DIN, Long Neck, Bottom Mount								
Impedance	50 Ω								
VSWR / Return Loss	< 1.5:1 / 14.0 dB								
Gain	7.0 dBi	7.2 dBi	7.5 dBi	9.5 dBi	9.7 dBi	10.0 dBi	10.0 dBi	10.0 dBi	10.0 dBi
Isolation	-22 dB								
Inter-Band Isolation	-30 dB								
Vertical Beamwidth	18°	17°	15°	8°	7.5°	7°	7°	6.5°	6.5°
Horizontal Beamwidth	360° (Omni)								
Downtilt	0° / 2° / 4° fixed								
USLS - First Lobe	10 dB								
CPR	10 dB			13 dB					
PIM @ 2 x 43 dBm	< -153 dBc								
Max Input Power / Port	250 W				200 W				

Mechanical Specifications:

Operating Temperature	-40° to 158° F -40° to +70° C
Antenna Weight	52 lbs (24 kg)
Antenna Diameter	14.57" (370mm)
Antenna Height (w/o conn)	48" (1219mm)
Radome Color	Gray or Brown
Wind Survival Rating / Load	125 mph (200 kph)
Ingress Protection	IP65
RoHS	Compliant



Mounting hardware includes 1" nut, lock and spring washer and cotter pin.

Part Numbers:

Part Number	Connector	Color
C3-GT2x12-T6-1	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1	7-16(f) DIN	Gray
C3-GT2x12-D6-6	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F2	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F2	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F2	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F2	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F4	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F4	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F4	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F4	7-16(f) DIN	Brown

Release Date: May 25, 2016; Revision: S-1; Patent Pending

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LICENSE NO. 184-002308

OWNER/DEVELOPER:



TITLE:

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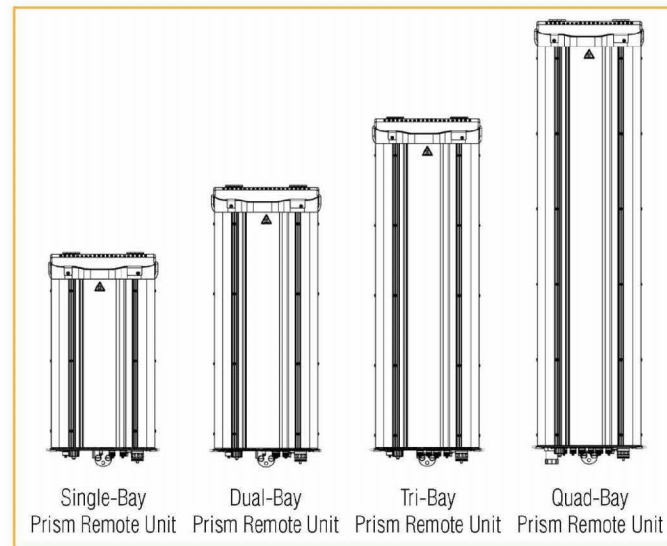
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PROJECT NUMBER:	17-0089
FILE NAME:	EMP-032
DATE DRAWN:	05-22-17



**FlexWave
Prism Remote Unit**
Installation Guide

TECP-77-142 • Issue 6 • December 2014



This manual provides the information you need to install a TE Connectivity FlexWave Prism Remote Unit (PRU). FlexWave PRUs control RF emissions, interface with the FlexWave Prism Host Unit II and perform the optical to electrical conversion for transport to the antennas. The PRU is an environmentally-sealed unit designed for outdoor use that houses the electronic assemblies such as the DART board and the Power Amplifier, and seals out dirt and moisture. The PRU uses fans located on the top of each unit to cool its chassis. The antenna cable connectors, fiber connectors, AC or DC power connector, and the unit status indicator are located on the bottom of the unit.

A PRU supports or provides the following basic functions:

- Receives on the forward path the digitized spectrum from the Host Unit and converts the spectrum back into an RF signal to be distributed via an externally mounted antenna system. On the reverse path, the PRU digitizes the designated RF spectrum and digitally transports it over single mode fiber. Millimeter Wave product can be used in place of fiber optic cable.
- Provides RF interface (antenna port) for the antennas.
- Accepts either AC or DC power input.

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All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

Table 2. Prism Remote Unit Enclosure Dimensions ⁽¹⁾

PRU Model		Height	Width ⁽²⁾	Depth
Single-Bay	Inches	25.2	12.2	11.2
	Centimeters	64	30.99	28.45
Dual-Bay	Inches	33.2	12.2	11.2
	Centimeters	84.3	30.99	28.45
Tri-Bay	Inches	41.2	12.2	11.2
	Centimeters	104.6	30.99	28.45
Quad-Bay	Inches	52.4	12.2	11.2
	Centimeters	133.10	30.99	28.45

(1) To have adequate clearance to open the PRU chassis door, allow a minimum of 7 inches at the left, right and front of each PRU.

(2) Dimension for width includes the mounting brackets.

Table 3. Prism Remote Unit Weights ⁽¹⁾

PRU Model		Unpopulated	Populated
Single-Bay	Pounds	65	83
	Kilograms	29	38
Dual-Bay	Pounds	81	117
	Kilograms	37	53
Tri-Bay	Pounds	97	151
	Kilograms	44	68
Quad-Bay	Pounds	116	188
	Kilograms	53	85

(1) "Unpopulated" weight includes the Solar shields, which are always present. "Populated" weight is the weight of the chassis that has the SeRF Module and RF Modules installed.

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OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:



TITLE:

Crown Castle NG East LLC
1375 Boot Rd. (S.R. 2020)
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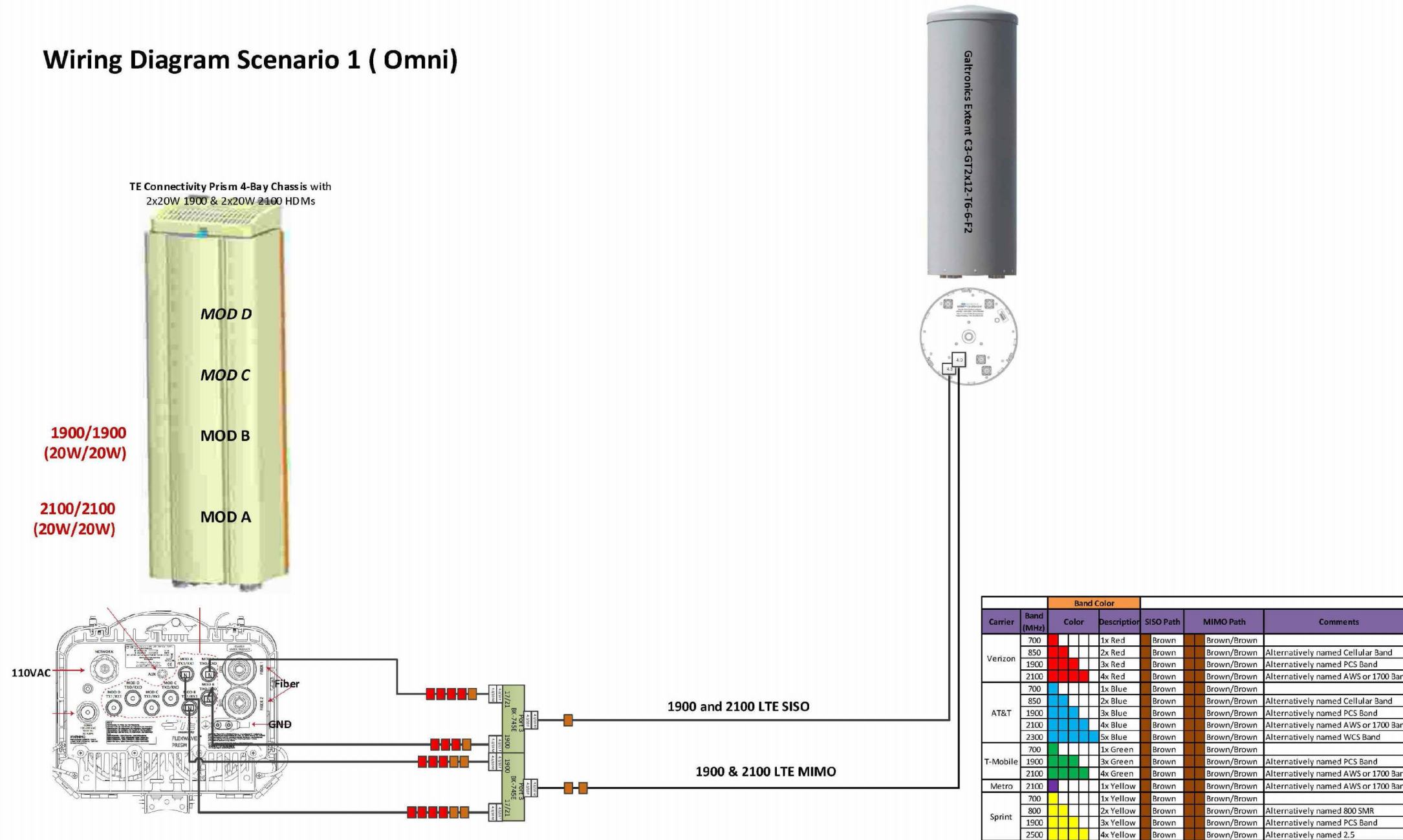
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Wiring Diagram Scenario 1 (Omni)



Carrier	Band (MHz)	Band Color		SISO Path	MIMO Path	Comments
		Color	Description			
Verizon	700		1x Red	Brown	Brown/Brown	
	850		2x Red	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Red	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Red	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
AT&T	700		1x Blue	Brown	Brown/Brown	
	850		2x Blue	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Blue	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Blue	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
	2300		5x Blue	Brown	Brown/Brown	Alternatively named WCS Band
T-Mobile	700		1x Green	Brown	Brown/Brown	
	1900		3x Green	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Green	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
Metro	2100		1x Yellow	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
	700		1x Yellow	Brown	Brown/Brown	
Sprint	800		2x Yellow	Brown	Brown/Brown	Alternatively named 800 SMR
	1900		3x Yellow	Brown	Brown/Brown	Alternatively named PCS Band
	2500		4x Yellow	Brown	Brown/Brown	Alternatively named 2.5

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PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE



Crown Castle NG East LLC
West Chester, Pennsylvania

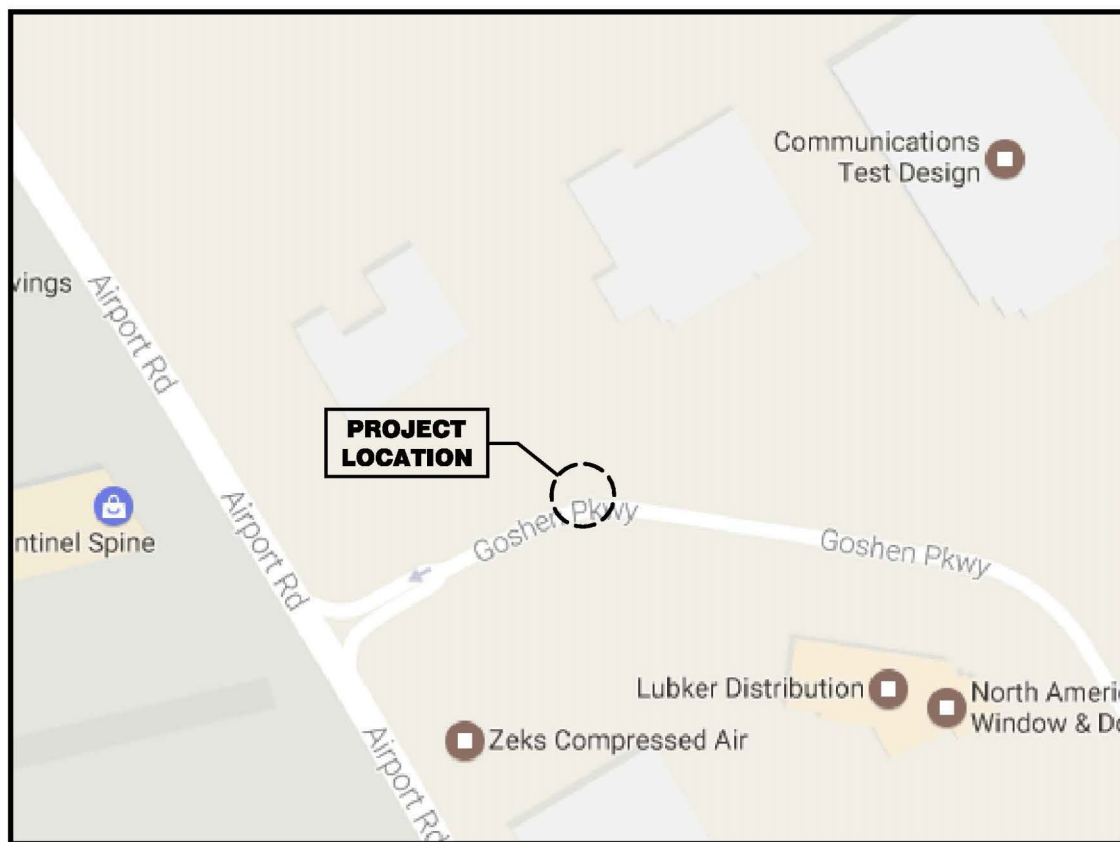
Jurisdiction: East Goshen Township

Proposed Distributed Antenna System (DAS) Node Installation

INDEX TO SHEETS

1. TITLE, LOCATION MAP, NODE PLACEMENT
2. PROPOSED POLE CONFIGURATION
3. PROPOSED EQUIPMENT DETAILS
4. EXISTING PHOTO
5. PROPOSED EQUIPMENT CUT SHEET
6. PROPOSED EQUIPMENT CUT SHEET
7. PROPOSED EQUIPMENT CUT SHEET
8. WIRING DIAGRAM

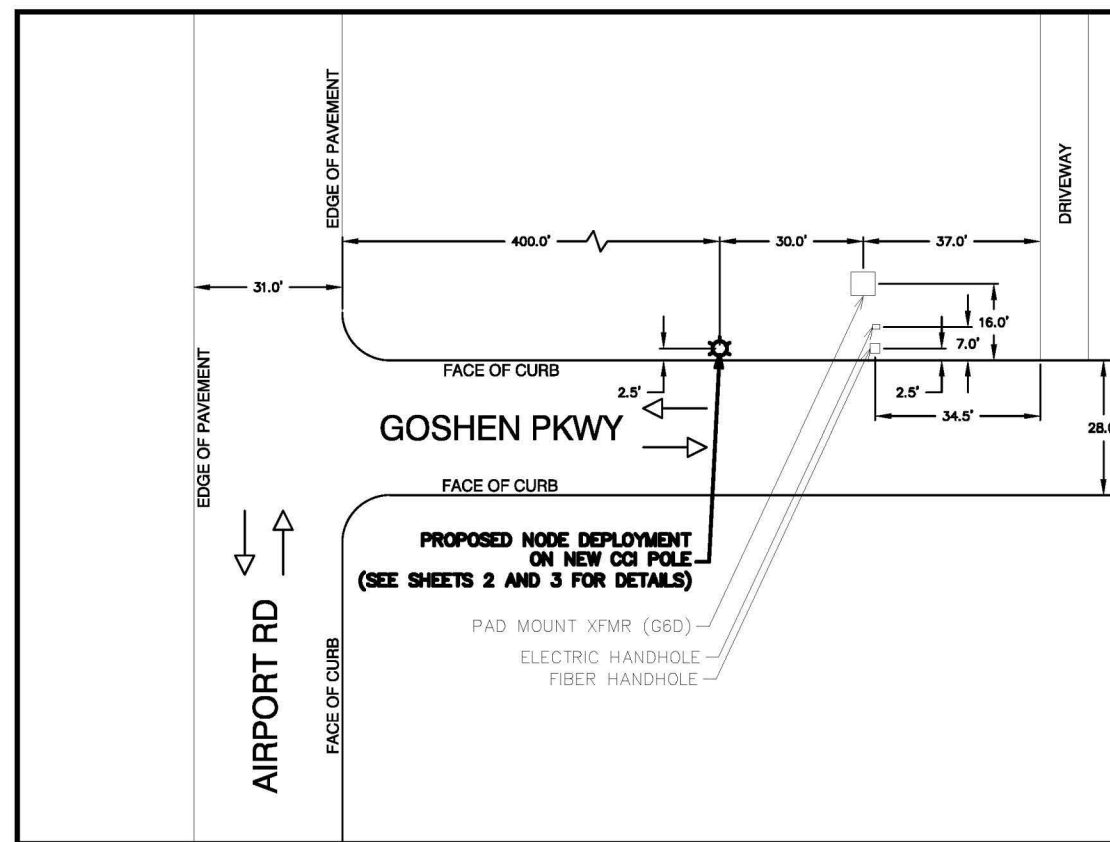
BILL OF MATERIALS : SEE SHEETS 2, AND 3.



LOCATION MAP

Latitude: 39.99195°N
Longitude: -75.57454°W

NOT TO SCALE



NODE PLACEMENT

1303 Goshen Pkwy.
New CCI metal pole to be planted
On the North side of Goshen Pkwy. East of Airport Rd.
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

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TLP	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-034
DATE DRAWN:	04-03-17

Crown Castle NG East LLC
PROPOSED POLE CONFIGURATION

NODE: **EMP-034**

Antenna Azimuth		
Antenna #1	Antenna #2	Antenna #3
0°	N/A°	N/A°

TOP OF PROPOSED ANTENNA - EL 35'-4"

RAD CENTER - EL 33'-4"

TOP OF NEW CCI POLE - EL 30'-0"

TOP OF PRISM - EL 14'-0"

BOTTOM OF DISCONNECT BOX - EL 8'-5"

REFERENCE EL. 0'-0" GRADE LEVEL

GRADE LEVEL

**PROPOSED POLE DETAIL
LOOKING NORTHWEST**

TOP OF PROPOSED ANTENNA - EL 35'-4"

RAD CENTER - EL 33'-4"

TOP OF NEW CCI POLE - EL 30'-0"

TOP OF PRISM - EL 14'-0"

BOTTOM OF DISCONNECT BOX - EL 8'-5"

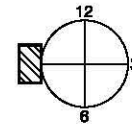
REFERENCE EL. 0'-0" GRADE LEVEL

GRADE LEVEL

STREET LEVEL

**PROPOSED POLE DETAIL
LOOKING NORTHEAST**

TOP VIEW OF POLE
QUADRANT LOCATION
OF EQUIPMENT



Street Side

- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" x 14.6" (HxDIA) - 52 lbs
GALTRONICS EXTENT - MODEL: C3-GT2x12-T8-1-F4
TO BE PAINTED TBD
- (B) INSTALL (4) 4.3-10 DIN MALE ANTENNA CAPS
MODEL: 7821297
- (C) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
MODEL: 008H W/ SKIRT (WEIGHT - 25 lbs)
TO BE PAINTED TBD
- (D) INSTALL NEW 30'-0" METAL D-POLE
TO BE PAINTED TBD
- (E) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
STAINLESS STEEL BANDING TO BE PAINTED TBD
- (F) INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND
RUNNING INSIDE POLE
- (G) INSTALL #6/C POWER CABLE RUNNING INSIDE POLE
- (H) INSTALL #4 SOL CU COVERED SD AND (2) COAXIAL CABLES
FROM COMBINER TO ANTENNA WITH (4) 4.3-10 DIN MALE
CONNECTORS
MODEL: UXP-4MT-12
- (I) INSTALL ADD FLEXWAVE 4-BAY PRISM REMOTE UNIT
52.4" x 12.2" x 11.2" (HxWxD) - 185 lbs,
STAINLESS STEEL BANDING
TO BE PAINTED TBD
- (J) INSTALL (4) JMA JUMPERS FROM PRISM TO COMBINER
MODEL: JMA-4MWMW-14F1-4
- (K) INSTALL SQUARE D MAIN DISCONNECT BOX,
9.5" x 8" x 4" (HxWxD) - 5 lbs,
STAINLESS STEEL BANDING
TO BE PAINTED TBD
- (L) INSTALL (1) SINGLE POLE 15A BREAKER
- (M) INSTALL #4 SOL CU GROUND COVERED SD WIRE
1/2" ID x 8' LG. RUNNING INSIDE POLE
- (N) INSTALL 5/8" x 8' LG CU POINTED GROUND ROD AND CLAMP
- (O) PROPOSED CAST-IN-PLACE CONCRETE FOUNDATION
- (P) PROPOSED FIBER OPTIC HANDHOLE
(TO BE DESIGNED AND INSTALLED BY OTHERS)
- (Q) PROPOSED POWER HANDHOLE
(TO BE DESIGNED AND INSTALLED BY OTHERS)
- (R) INSTALL FIBER OPTIC CABLE(S)

ENGINEER:
hbk ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-0076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:
CROWN CASTLE

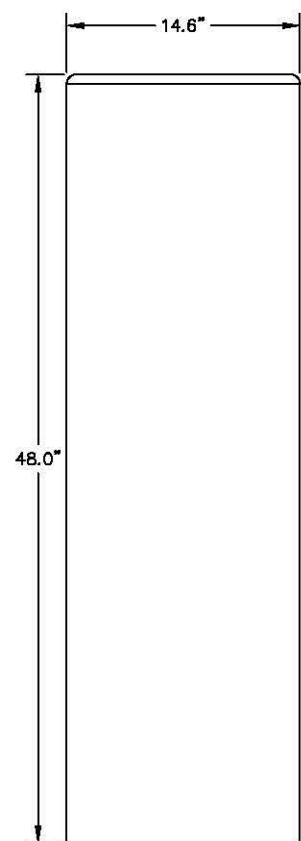
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Crown Castle NG East LLC
1303 Goshen Pkwy.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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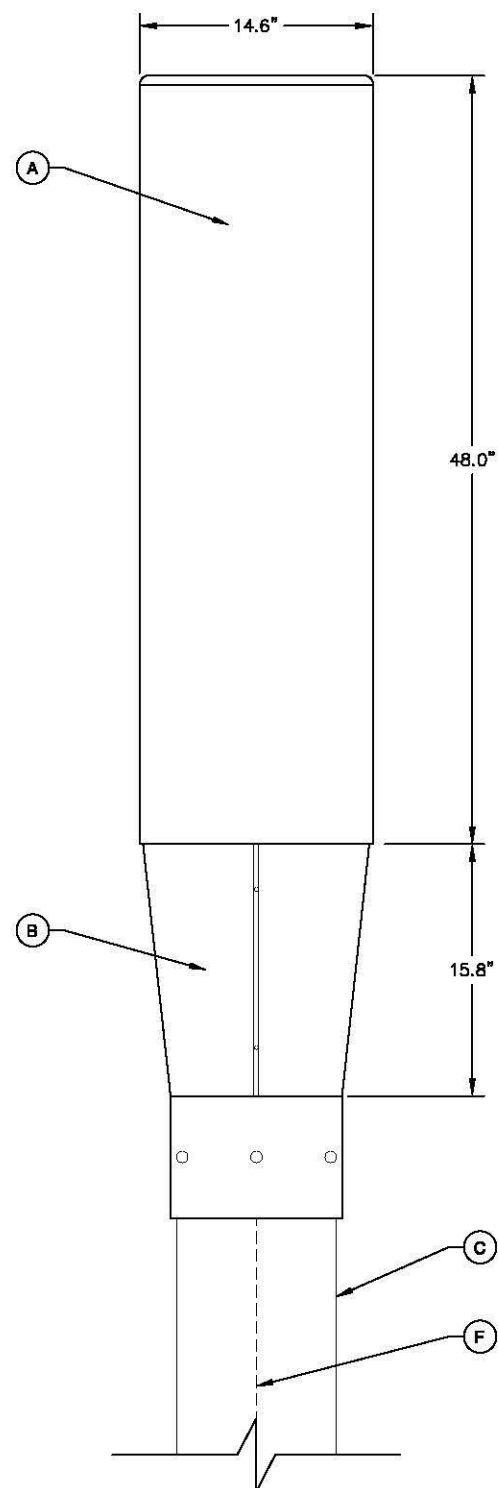
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DATE DRAWN:	04-03-17

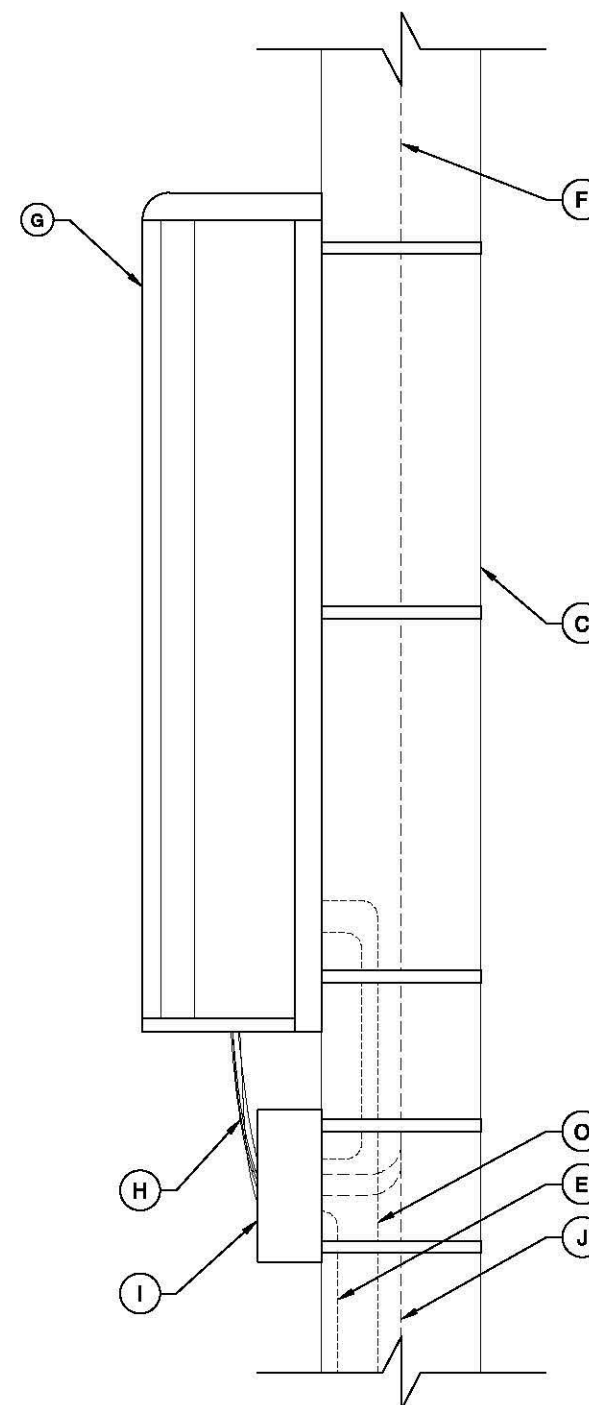
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**GALTRONICS EXTENT
OMNI ANTENNA
C3-GT2x12-T6-1-F4**



**DETAIL 'A'
ANTENNA(S) AND
MOUNTING KIT**



**DETAIL 'B'
REPEATER EQUIPMENT**

- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" x 14.6" (HxDIA) - 52 lbs
GALTRONICS EXTENT - MODEL: C3-GT2x12-T6-1-F4
TO BE PAINTED TBD
- INSTALL (4) 4.3-10 DIN MALE ANTENNA CAPS
MODEL: 78211297
- (B) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
MODEL: 008H W/ SKIRT (WEIGHT - 25 lbs)
TO BE PAINTED TBD
- (C) INSTALL NEW 30'-0" METAL D-POLE
TO BE PAINTED TBD
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
STAINLESS STEEL BANDING TO BE PAINTED TBD
INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND
RUNNING INSIDE POLE
- (E) INSTALL #6/C POWER CABLE RUNNING INSIDE POLE
- (F) INSTALL #4 SOL CU COVERED SD AND (2) COAXIAL CABLES
FROM COMBINER TO ANTENNA WITH (4) 4.3-10 DIN MALE
CONNECTORS
MODEL: UXP-4MT-12
- (G) INSTALL ADC FLEXWAVE 4-BAY PRISM REMOTE UNIT
52.4" x 12.2" x 11.2" (HxWxD) - 185 lbs,
STAINLESS STEEL BANDING
TO BE PAINTED TBD
- (H) INSTALL FIBER OPTIC CABLE(S)
INSTALL (4) JMA JUMPERS FROM PRISM TO COMBINER
MODEL: JMA-4MWMW-14F1-4
- (I) INSTALL SQUARE D MAIN DISCONNECT BOX,
9.5" x 8" x 4" (HxWxD) - 5 lbs,
STAINLESS STEEL BANDING
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INSTALL (1) SINGLE POLE 15A BREAKER
- (J) INSTALL #4 SOL CU GROUND COVERED SD WIRE
1/2" ID x 8' LG. RUNNING INSIDE POLE
- (K) INSTALL 5/8" x 8' LG CU POINTED GROUND ROD AND CLAMP
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- (N) PROPOSED POWER HANDHOLE
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- (O) INSTALL FIBER OPTIC CABLE(S)

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LICENSE NO. 184-002308

OWNER/DEVELOPER:



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West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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PROJECT NUMBER:	17-0089
FILE NAME:	EMP-034
DATE DRAWN:	04-03-17



EXISTING CONDITION



EXISTING CONDITION

ENGINEER:



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West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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PCS/AWS-WCS Diplexer Filter, BK-745E

PCS/GSM 1900 Band and AWS-1 + AWS-3 + WCS Dual Diplexer
1850 - 1990/1695 - 1780 & 2110 - 2360 MHz
Rev. 3

Preliminary Specification

\$ Saver Product Line

- ◆ Dual Diplexer - Compact Design
- ◆ Integrates PCS/GSM 1900 with AWS-1 + AWS-3 + WCS Bands
- ◆ 40 dB Input Isolation
- ◆ Minimal RF Insertion Loss
- ◆ Includes Mounting Bracket
- ◆ Low PIM Guaranteed
- ◆ Up to 100 W/port Avg. Power
- ◆ Rugged, High Reliability
- ◆ RoHS compliant



Model Number	Body Type	Connector Type	Power Avg.	Weight, nom. lb. (kg)
BK-745E	Dual	4.3-10 (f)	100W	TBD

Microlab BK-745E is a dual Diplexer which allows combination and separation of the signals in the PCS band 1850 - 1990 MHz with the AWS-WCS bands 1695 - 1780 MHz and 2110 - 2360 MHz. To minimize band inter-reaction, the inputs are well isolated and have minimal insertion loss over their respective frequency bands.

The Diplexer has been designed using passive, proprietary techniques which minimizes cost and size. At the same time it ensures minimal loss and very high reliability at input powers up to 100W per input. Mounting brackets are included.

Frequency Bands:	Port 1/4 - COM1/2: 1695-1780 & 2110-2360 MHz Port 2/3 - COM1/2: 1850 - 1990 MHz
Group Delay:	15 ns max.
Isolation:	>40 dB, in each band
Return Loss:	>20 dB
Passband Loss:	<0.35 dB
PIM (Intermod):	<-155 dBc (test with 2 +43dBm tones)
DC Path:	All paths
Impedance:	50Ω nominal
Environment:	-40°C to +65°C, IP67
Ground Lug:	M6 Screw
Finish: Connectors:	Triplate
Housing:	Grey color coating

Note: Specifications are subject to change without prior notification.

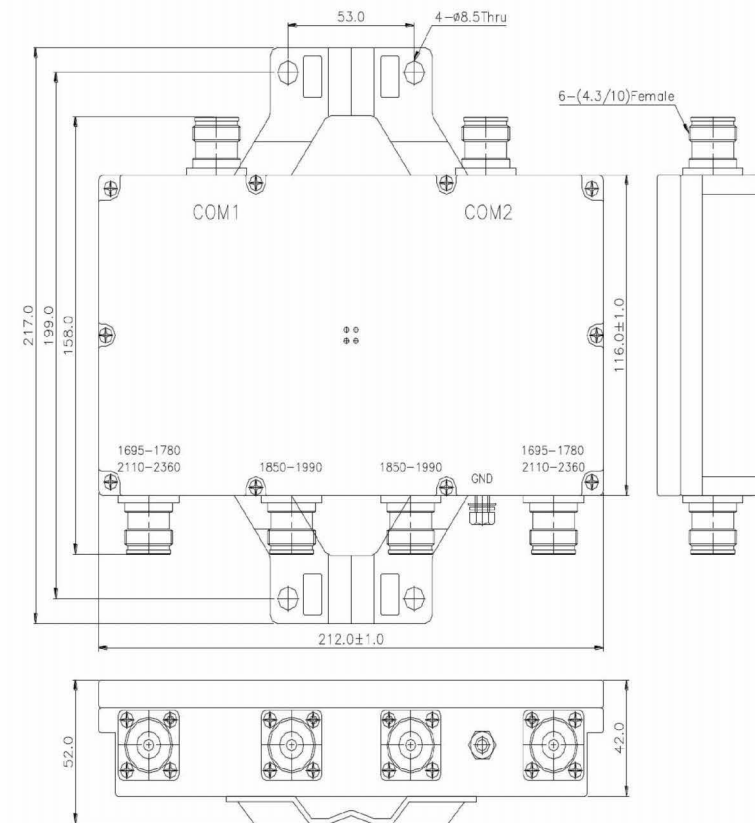
13Sep2016

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191



PCS/AWS-WCS Diplexer Filter, BK-745E

Outline
BK-745E



Dimensions in mm

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
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LICENSE NO. 184-002308

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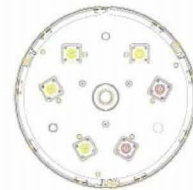
SHEET:



694-960 / 1695-2700 MHz, 2xHB+LB Column Pseudo Omni Canister Antenna



14" x 48" Outdoor 2xHB+LB Column Pseudo Omni Canister Antenna
EXTENT™ P5913
[694-960 / 1695-2700 MHz]



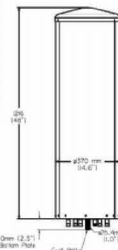
Description:
Dual column high band, single column low band broadband pseudo-omni outdoor antenna for small cell applications and outdoor distributed antenna systems (DAS).

Electrical Specifications:

Frequency [MHz]	694-790	790-894	894-960	1695-1880	1850-1990	1920-2180	2180-2360	2360-2500	2500-2700
Polarization	Dual Slant 45° (+/-45°)								
Sector Orientation	Pseudo Omni (360°)								
Input	6x 4.3-10(f) DIN or 7-16(f) DIN, Long Neck, Bottom Mount								
Impedance	50 Ω								
VSWR / Return Loss	< 1.5:1 / 14.0 dB								
Gain	7.0 dBi	7.2 dBi	7.5 dBi	9.5 dBi	9.7 dBi	10.0 dBi	10.0 dBi	10.0 dBi	10.0 dBi
Isolation	-22 dB								
Inter-Band Isolation	-30 dB								
Vertical Beamwidth	18°	17°	15°	8°	7.5°	7°	7°	6.5°	6.5°
Horizontal Beamwidth	360° (Omni)								
Downtilt	0° / 2° / 4° fixed								
USLS - First Lobe	10 dB								
CPR	10 dB			13 dB					
PIM @ 2 x 43 dBm	< -153 dBc								
Max Input Power / Port	250 W				200 W				

Mechanical Specifications:

Operating Temperature	-40° to 158° F -40° to +70° C
Antenna Weight	52 lbs (24 kg)
Antenna Diameter	14.57" (370mm)
Antenna Height (w/o conn)	48" (1219mm)
Radome Color	Gray or Brown
Wind Survival Rating / Load	125 mph (200 kph)
Ingress Protection	IP65
RoHS	Compliant



Mounting hardware includes 1" nut, lock and spring washer and cotter pin.

Part Numbers:

Part Number	Connector	Color
C3-GT2x12-T6-1	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1	7-16(f) DIN	Gray
C3-GT2x12-D6-6	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F2	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F2	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F2	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F2	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F4	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F4	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F4	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F4	7-16(f) DIN	Brown

Release Date: May 25, 2016; Revision: S-1; Patent Pending

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LICENSE NO. 184-002308

OWNER/DEVELOPER:

TITLE: **Crown Castle NG East LLC**
1303 Goshen Pkwy.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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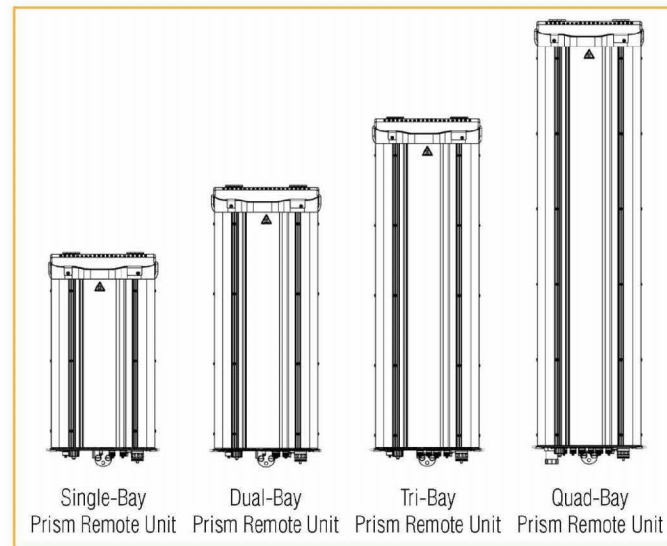
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DATE DRAWN:	05-22-17



**FlexWave
Prism Remote Unit**
Installation Guide

TECP-77-142 • Issue 6 • December 2014



This manual provides the information you need to install a TE Connectivity FlexWave Prism Remote Unit (PRU). FlexWave PRUs control RF emissions, interface with the FlexWave Prism Host Unit II and perform the optical to electrical conversion for transport to the antennas. The PRU is an environmentally-sealed unit designed for outdoor use that houses the electronic assemblies such as the DART board and the Power Amplifier, and seals out dirt and moisture. The PRU uses fans located on the top of each unit to cool its chassis. The antenna cable connectors, fiber connectors, AC or DC power connector, and the unit status indicator are located on the bottom of the unit.

A PRU supports or provides the following basic functions:

- Receives on the forward path the digitized spectrum from the Host Unit and converts the spectrum back into an RF signal to be distributed via an externally mounted antenna system. On the reverse path, the PRU digitizes the designated RF spectrum and digitally transports it over single mode fiber. Millimeter Wave product can be used in place of fiber optic cable.
- Provides RF interface (antenna port) for the antennas.
- Accepts either AC or DC power input.

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The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

Table 2. Prism Remote Unit Enclosure Dimensions ⁽¹⁾

PRU Model		Height	Width ⁽²⁾	Depth
Single-Bay	Inches	25.2	12.2	11.2
	Centimeters	64	30.99	28.45
Dual-Bay	Inches	33.2	12.2	11.2
	Centimeters	84.3	30.99	28.45
Tri-Bay	Inches	41.2	12.2	11.2
	Centimeters	104.6	30.99	28.45
Quad-Bay	Inches	52.4	12.2	11.2
	Centimeters	133.10	30.99	28.45

(1) To have adequate clearance to open the PRU chassis door, allow a minimum of 7 inches at the left, right and front of each PRU.

(2) Dimension for width includes the mounting brackets.

Table 3. Prism Remote Unit Weights ⁽¹⁾

PRU Model		Unpopulated	Populated
Single-Bay	Pounds	65	83
	Kilograms	29	38
Dual-Bay	Pounds	81	117
	Kilograms	37	53
Tri-Bay	Pounds	97	151
	Kilograms	44	68
Quad-Bay	Pounds	116	188
	Kilograms	53	85

(1) "Unpopulated" weight includes the Solar shields, which are always present. "Populated" weight is the weight of the chassis that has the SeRF Module and RF Modules installed.

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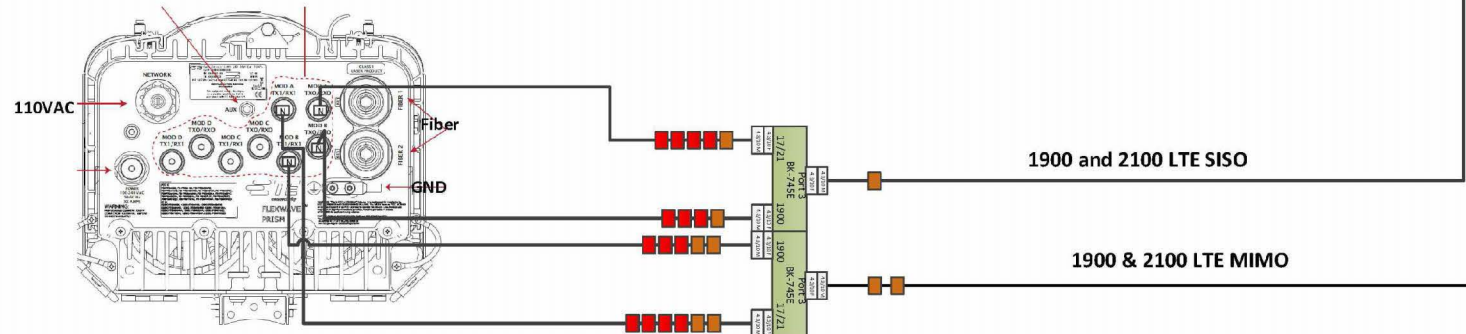
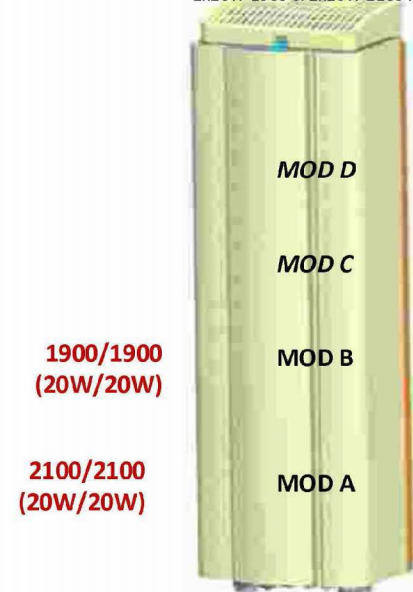
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SHEET:

Wiring Diagram Scenario 1 (Omni)

TE Connectivity Prism 4-Bay Chassis with
2x20W 1900 & 2x20W 2100 HDMs



Carrier	Band (MHz)	Band Color		SISO Path	MIMO Path	Comments
		Color	Description			
Verizon	700		1x Red	Brown	Brown/Brown	
	850		2x Red	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Red	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Red	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
AT&T	700		1x Blue	Brown	Brown/Brown	
	850		2x Blue	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Blue	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Blue	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
	2300		5x Blue	Brown	Brown/Brown	Alternatively named WCS Band
T-Mobile	700		1x Green	Brown	Brown/Brown	
	1900		3x Green	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Green	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
Metro	2100		1x Yellow	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
Sprint	700		1x Yellow	Brown	Brown/Brown	
	800		2x Yellow	Brown	Brown/Brown	Alternatively named 800 SMR
	1900		3x Yellow	Brown	Brown/Brown	Alternatively named PCS Band
	2500		4x Yellow	Brown	Brown/Brown	Alternatively named 2.5

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PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE



Crown Castle NG East LLC
West Chester, Pennsylvania

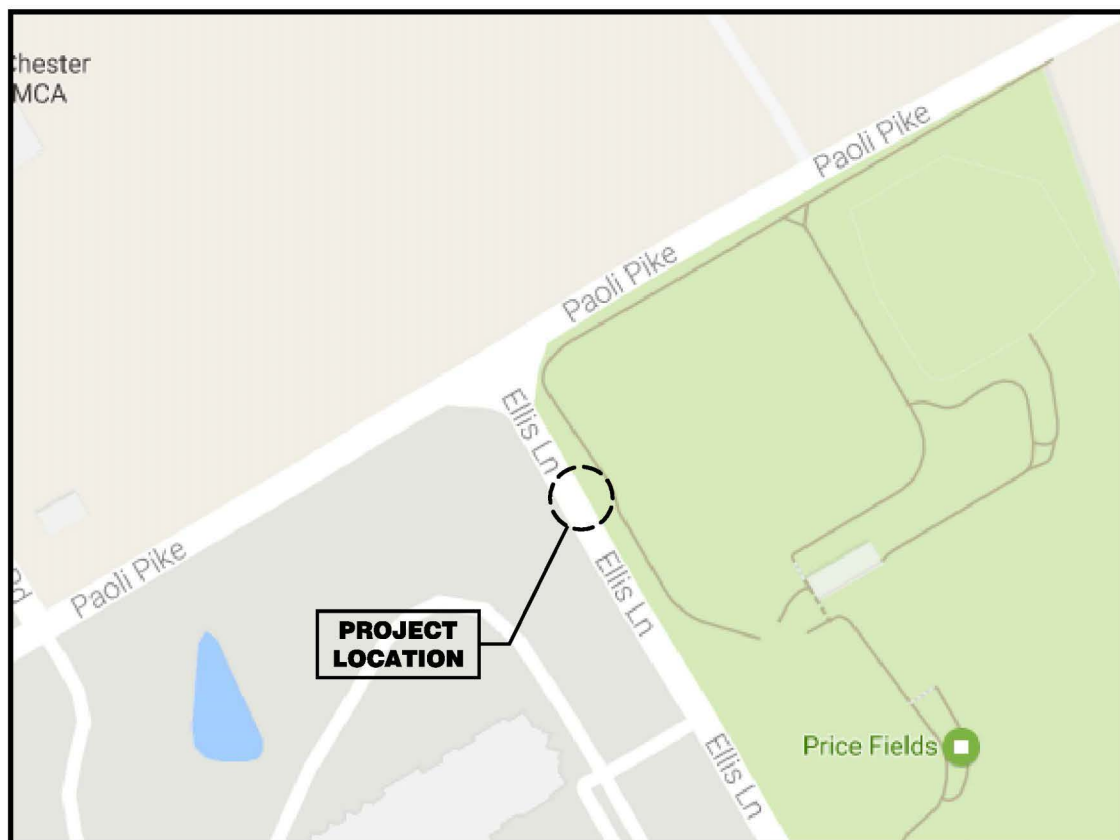
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Proposed Distributed Antenna System (DAS) Node Installation

INDEX TO SHEETS

1. TITLE, LOCATION MAP, NODE PLACEMENT
2. EXISTING POLE CONFIGURATION
3. PROPOSED POLE CONFIGURATION
4. PROPOSED EQUIPMENT DETAILS
5. EXISTING PHOTO
6. PROPOSED EQUIPMENT CUT SHEET
7. PROPOSED EQUIPMENT CUT SHEET
8. PROPOSED EQUIPMENT CUT SHEET
9. WIRING DIAGRAM

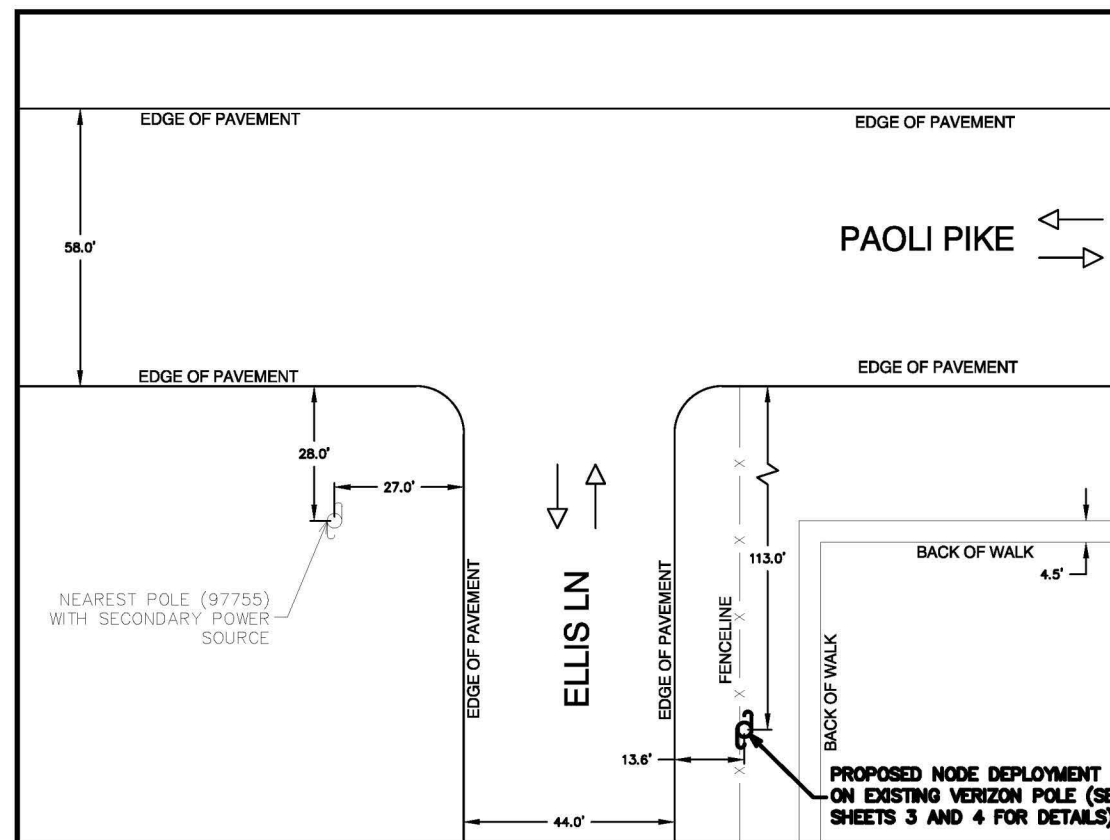
BILL OF MATERIALS : SEE SHEETS 3, AND 4.



LOCATION MAP

Latitude: 39.98234°N
Longitude: -75.56542°W

NOT TO SCALE



NODE PLACEMENT

401 Ellis Ln.
Existing Verizon wood pole to remain
On the East side of Ellis Ln. South of Paoli Pike
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

ENGINEER:
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OWNER/DEVELOPER:
CROWN CASTLE

TITLE:
Crown Castle NG East LLC
401 Ellis Ln.
West Chester, Pennsylvania
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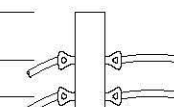
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TOP OF EXISTING VERIZON POLE — EL 29'-2"
POLE TO POLE GUY — EL 27'-10"
POLE TO POLE GUY — EL 26'-10"



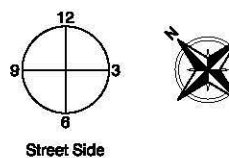
TOP OF EXISTING VERIZON POLE — EL 29'-2"
POLE TO POLE GUY (6:00)/ANCHOR GUY (12:00) — EL 27'-10"
POLE TO POLE GUY (6:00)/ANCHOR GUY (12:00) — EL 26'-10"



REFERENCE EL. 0'-0" GRADE LEVEL GRADE LEVEL

**EXISTING POLE DETAIL
LOOKING NORTHEAST**

TOP VIEW OF POLE
QUADRANT LOCATION
OF EQUIPMENT



REFERENCE EL. 0'-0" GRADE LEVEL 13'-7" STREET LEVEL

**EXISTING POLE DETAIL
LOOKING SOUTHEAST**

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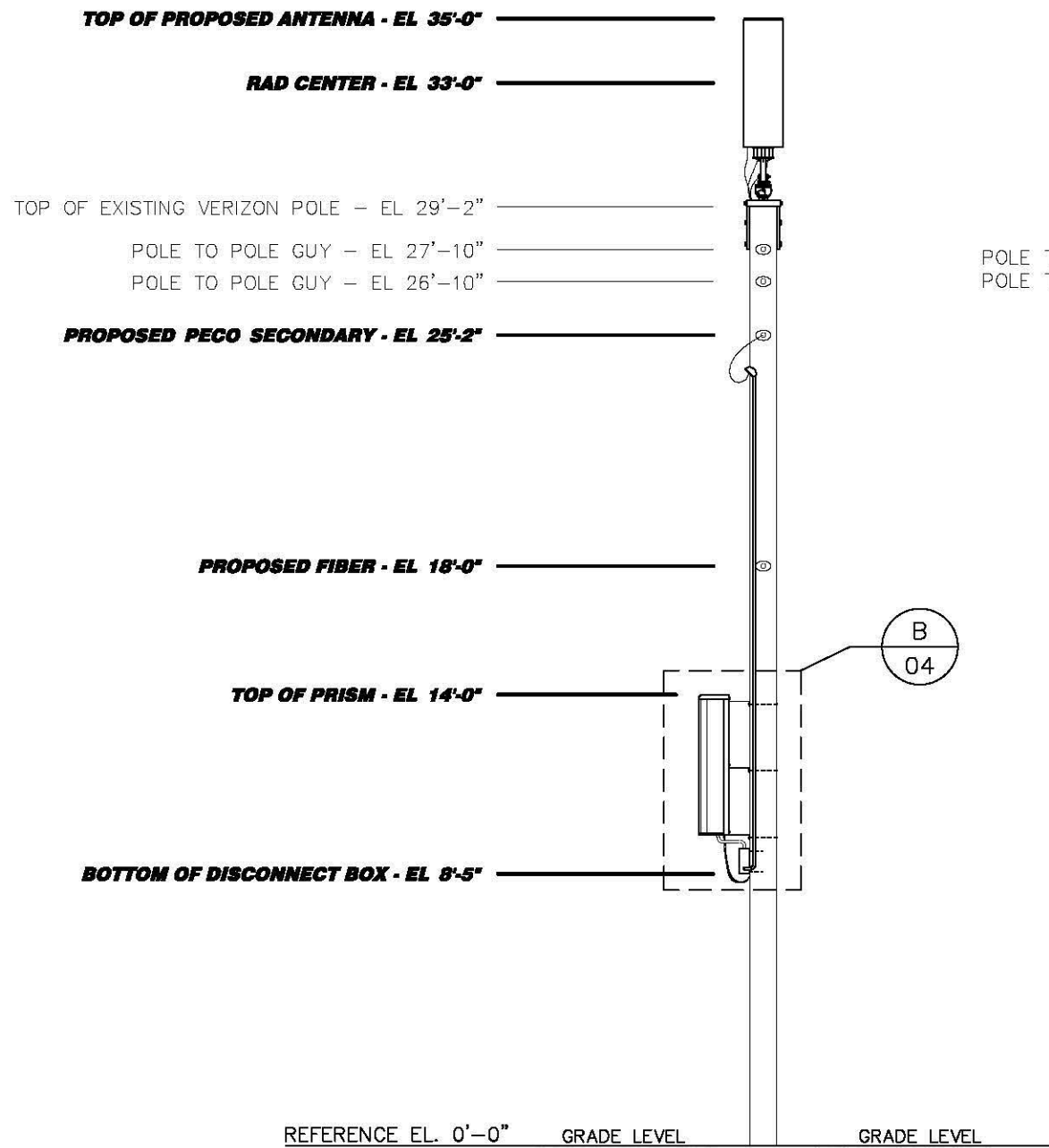
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JJL	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-039
DATE DRAWN:	04-03-17

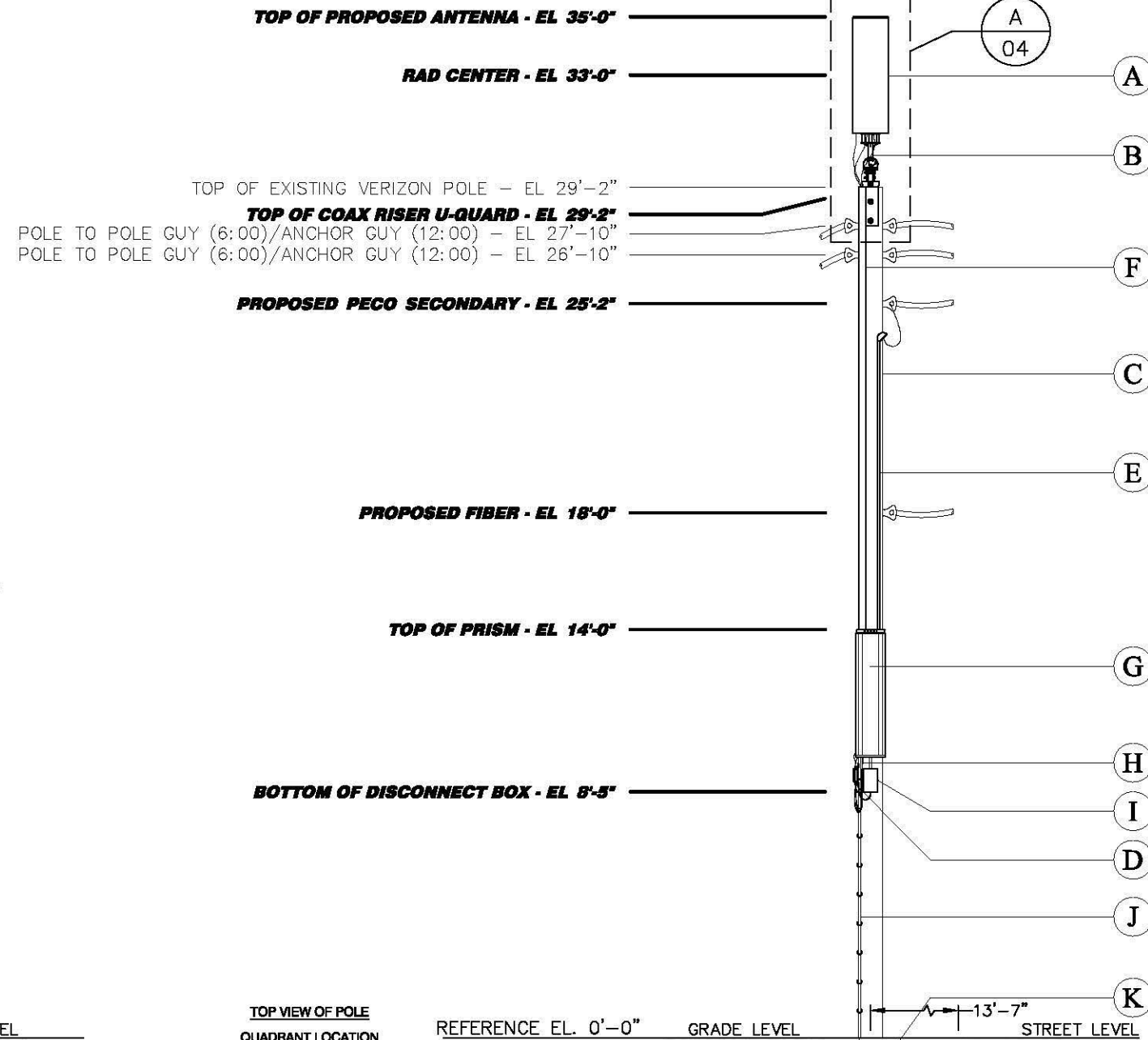
Crown Castle NG East LLC
PROPOSED POLE CONFIGURATION

NODE:
EMP-039

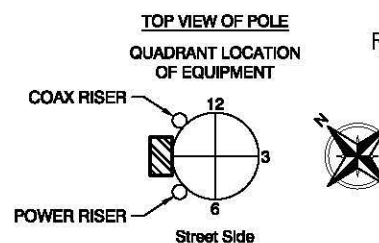
Antenna Azimuth		
Antenna #1	Antenna #2	Antenna #3
0°	N/A°	N/A°



**PROPOSED POLE DETAIL
LOOKING NORTHEAST**



**PROPOSED POLE DETAIL
LOOKING SOUTHEAST**



- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" X 14.8" (HxDIA) - 52 lbs
GALTRONICS EXTENT - MODEL: C3-GT2x12-TB-6-F4
INSTALL (4) 4.3-10 DIN MALE ANTENNA CAPS
MODEL: 78211297
- (B) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
MODEL: 002M (WEIGHT - 26 lbs)
- (C) EXISTING POLE TO REMAIN
CLASS 2-35 HEIGHT 29'-2"
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND ON POLE
- (E) INSTALL 1/2" PVC CONDUIT WITH #6/C POWER CABLE
- (F) INSTALL 3" RISER GUARD WITH FIBER OPTIC CABLES, #4 SOL. CU COVERED SD, (2) COAXIAL CABLES FROM COMBINER TO ANTENNA WITH (4) 4.3-10 DIN MALE CONNECTORS
MODEL: UXP-4MT-12
- (G) INSTALL ADC FLEXWAVE 4-BAY PRISM REMOTE UNIT
52.4" x 12.2" x 11.2" (HxWxD) - 188 lbs
UTILIZE THRU-BOLT ASSEMBLY
- (H) INSTALL FIBER OPTIC CABLE(S)
INSTALL (4) JMA JUMPERS FROM PRISM TO COMBINER
MODEL: JMA-4MWNW-14F1-4
- (I) INSTALL SQUARE D MAIN DISCONNECT BOX
9.5" x 8" x 4" (HxWxD) - 5 lbs
INSTALL (1) SINGLE POLE 15A BREAKER
- (J) INSTALL #4 SOL. CU GROUND COVERED SD WIRE 1/2" ID x 8' LG. MOLDING. 1/2" x 2" STAPLE, GALV.
- (K) INSTALL 5/8" x 8' LG CU POINTED GROUND ROD AND CLAMP

ENGINEER:
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HBK ENGINEERING, LLC
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STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

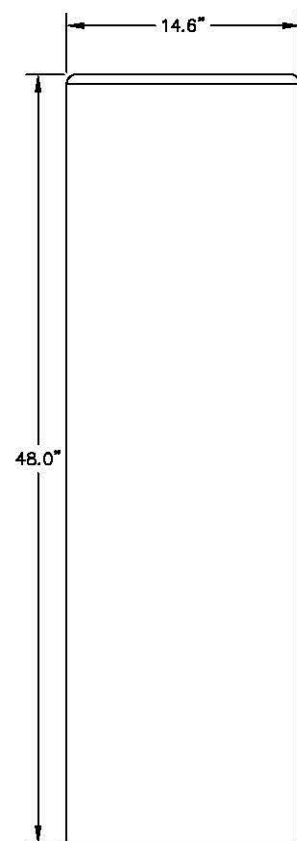
OWNER/DEVELOPER:
CROWN CASTLE

TITLE:
Crown Castle NG East LLC
401 Ellis Ln.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

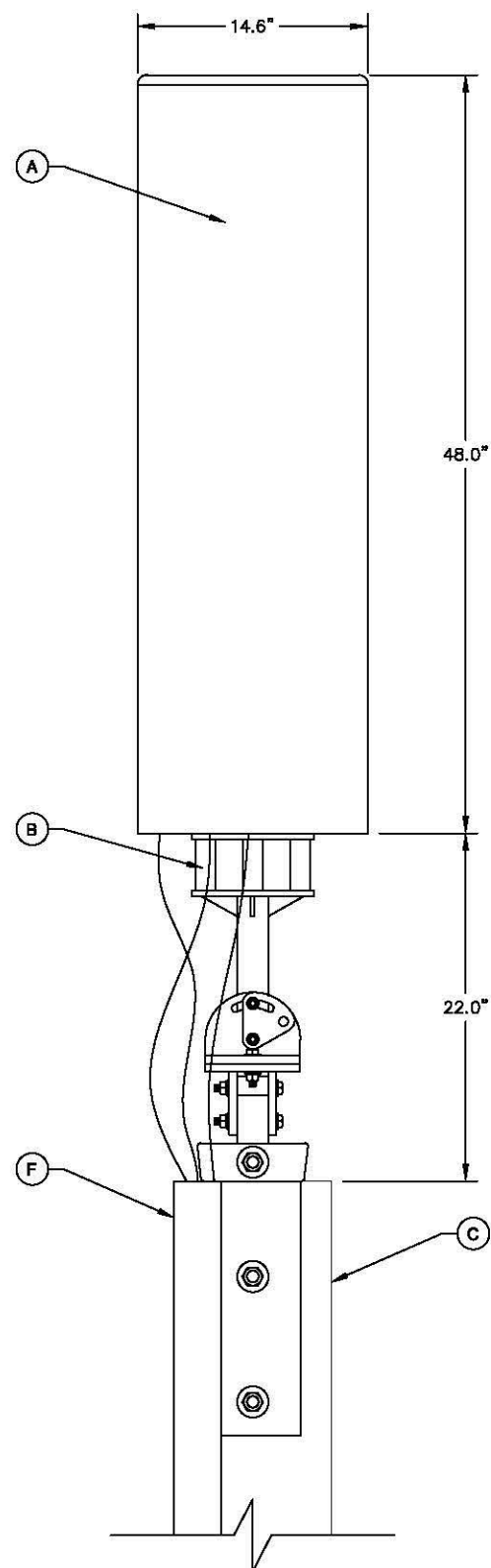
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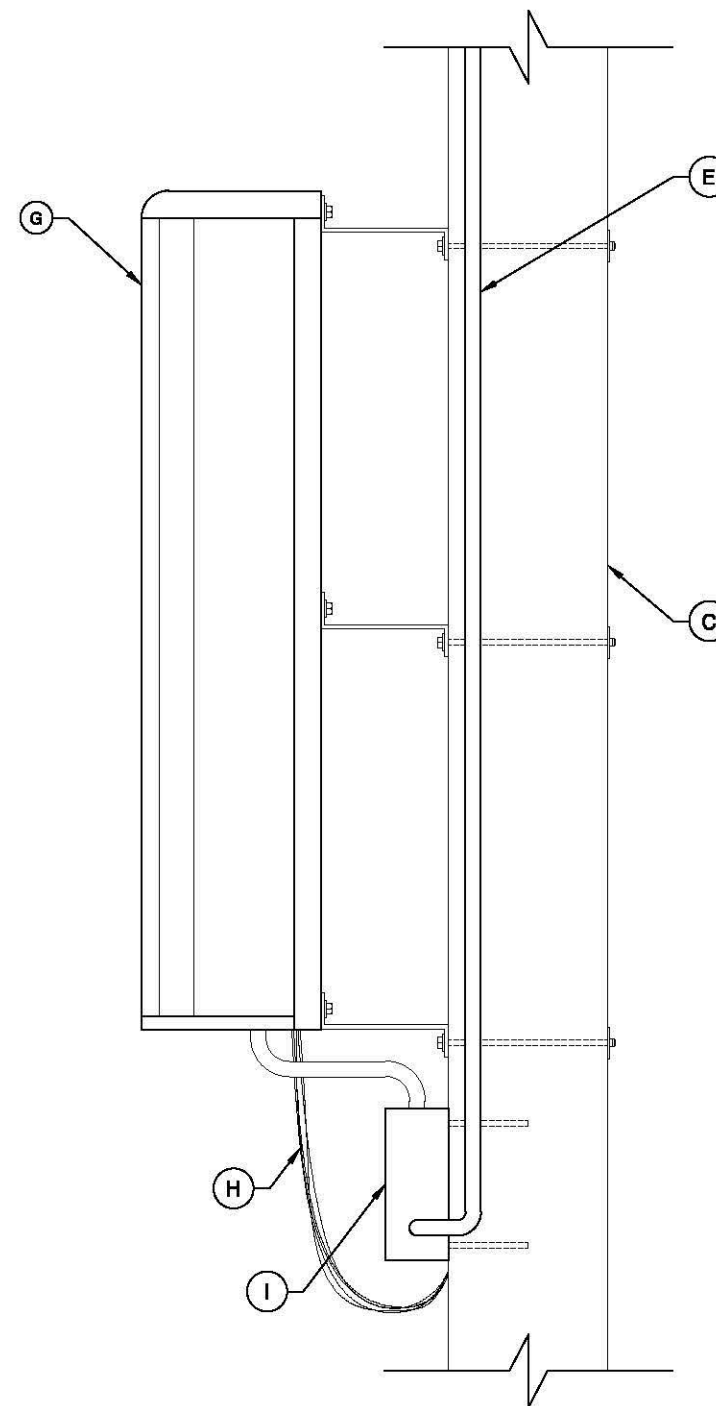
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DATE DRAWN:	04-03-17



**GALTRONICS EXTENT
OMNI ANTENNA
C3-GT2x12-T6-6-F4**



**DETAIL 'A'
ANTENNA(S) AND
MOUNTING KIT**



**DETAIL 'B'
REPEATER EQUIPMENT**

- (A) INSTALL (1) GALTRONICS EXTENT TRIPPLE BAND OMNI ANTENNA 48.0" X 14.6" (HxDIA) - 52 lbs
GALTRONICS EXTENT - MODEL: C3-GT2x12-T6-6-F4
INSTALL (4) 4.3-10 DIN MALE ANTENNA CAPS
MODEL: 78211297
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CLASS 2-35 HEIGHT 29'-2"
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OWNER/DEVELOPER:

CROWN CASTLE

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West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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JJL	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-039
DATE DRAWN:	04-03-17

SHEET:



EXISTING CONDITION



EXISTING CONDITION

ENGINEER:



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PCS/AWS-WCS Diplexer Filter, BK-745E

PCS/GSM 1900 Band and AWS-1 + AWS-3 + WCS Dual Diplexer
1850 - 1990/1695 - 1780 & 2110 - 2360 MHz
Rev. 3

Preliminary Specification

\$ Saver Product Line

- ◆ Dual Diplexer - Compact Design
- ◆ Integrates PCS/GSM 1900 with AWS-1 + AWS-3 + WCS Bands
- ◆ 40 dB Input Isolation
- ◆ Minimal RF Insertion Loss
- ◆ Includes Mounting Bracket
- ◆ Low PIM Guaranteed
- ◆ Up to 100 W/port Avg. Power
- ◆ Rugged, High Reliability
- ◆ RoHS compliant



Model Number	Body Type	Connector Type	Power Avg.	Weight, nom. lb. (kg)
BK-745E	Dual	4.3-10 (f)	100W	TBD

Microlab BK-745E is a dual Diplexer which allows combination and separation of the signals in the PCS band 1850 - 1990 MHz with the AWS-WCS bands 1695 - 1780 MHz and 2110 - 2360 MHz. To minimize band inter-reaction, the inputs are well isolated and have minimal insertion loss over their respective frequency bands.

The Diplexer has been designed using passive, proprietary techniques which minimizes cost and size. At the same time it ensures minimal loss and very high reliability at input powers up to 100W per input. Mounting brackets are included.

Frequency Bands:	Port 1/4 - COM1/2: 1695-1780 & 2110-2360 MHz Port 2/3 - COM1/2: 1850 - 1990 MHz
Group Delay:	15 ns max.
Isolation:	>40 dB, in each band
Return Loss:	>20 dB
Passband Loss:	<0.35 dB
PIM (Intermod):	<-155 dBc (test with 2 +43dBm tones)
DC Path:	All paths
Impedance:	50Ω nominal
Environment:	-40°C to +65°C, IP67
Ground Lug:	M6 Screw
Finish: Connectors:	Triplate
Housing:	Grey color coating

Note: Specifications are subject to change without prior notification.

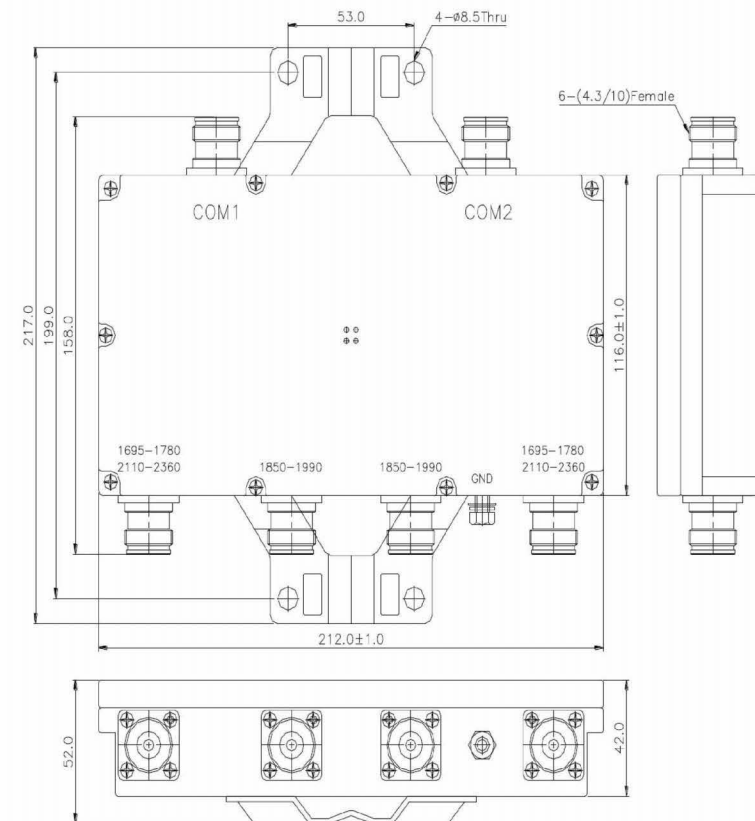
13Sep2016

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191



PCS/AWS-WCS Diplexer Filter, BK-745E

Outline
BK-745E



Dimensions in mm

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191

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West Chester, Pennsylvania
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PROJECT NUMBER:	17-0089
FILE NAME:	EMP-039
DATE DRAWN:	05-22-17

SHEET:



694-960 / 1695-2700 MHz, 2xHB+LB Column Pseudo Omni Canister Antenna



14" x 48" Outdoor 2xHB+LB Column Pseudo Omni Canister Antenna
EXTENT™ P5913
[694-960 / 1695-2700 MHz]



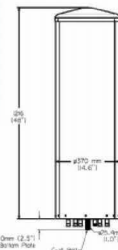
Description:
Dual column high band, single column low band broadband pseudo-omni outdoor antenna for small cell applications and outdoor distributed antenna systems (DAS).

Electrical Specifications:

Frequency [MHz]	694-790	790-894	894-960	1695-1880	1850-1990	1920-2180	2180-2360	2360-2500	2500-2700
Polarization	Dual Slant 45° (+/-45°)								
Sector Orientation	Pseudo Omni (360°)								
Input	6x 4.3-10(f) DIN or 7-16(f) DIN, Long Neck, Bottom Mount								
Impedance	50 Ω								
VSWR / Return Loss	< 1.5:1 / 14.0 dB								
Gain	7.0 dBi	7.2 dBi	7.5 dBi	9.5 dBi	9.7 dBi	10.0 dBi	10.0 dBi	10.0 dBi	10.0 dBi
Isolation	-22 dB								
Inter-Band Isolation	-30 dB								
Vertical Beamwidth	18°	17°	15°	8°	7.5°	7°	7°	6.5°	6.5°
Horizontal Beamwidth	360° (Omni)								
Downtilt	0° / 2° / 4° fixed								
USLS - First Lobe	10 dB								
CPR	10 dB			13 dB					
PIM @ 2 x 43 dBm	< -153 dBc								
Max Input Power / Port	250 W				200 W				

Mechanical Specifications:

Operating Temperature	-40° to 158° F -40° to +70° C
Antenna Weight	52 lbs (24 kg)
Antenna Diameter	14.57" (370mm)
Antenna Height (w/o conn)	48" (1219mm)
Radome Color	Gray or Brown
Wind Survival Rating / Load	125 mph (200 kph)
Ingress Protection	IP65
RoHS	Compliant



Mounting hardware includes 1" nut, lock and spring washer and cotter pin.

Part Numbers:

Part Number	Connector	Color
C3-GT2x12-T6-1	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1	7-16(f) DIN	Gray
C3-GT2x12-D6-6	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F2	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F2	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F2	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F2	7-16(f) DIN	Brown
C3-GT2x12-T6-1-F4	4.3-10(f) DIN	Gray
C3-GT2x12-T6-6-F4	4.3-10(f) DIN	Brown
C3-GT2x12-D6-1-F4	7-16(f) DIN	Gray
C3-GT2x12-D6-6-F4	7-16(f) DIN	Brown

Release Date: May 25, 2016; Revision: S-1; Patent Pending

ENGINEER:



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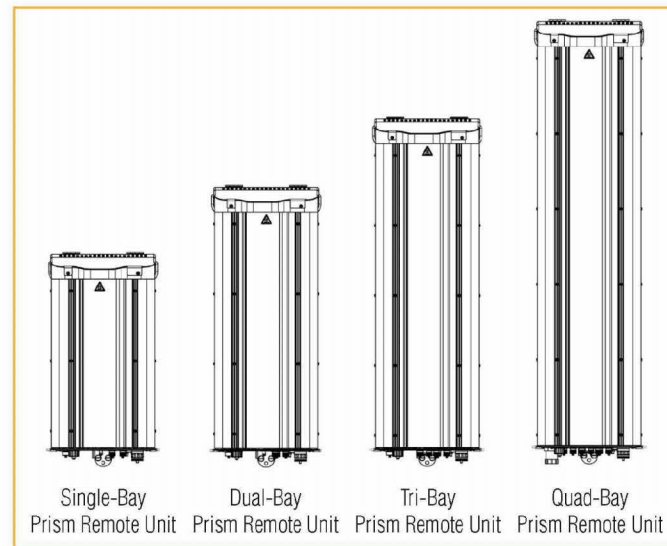
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FILE NAME:	EMP-039
DATE DRAWN:	05-22-17

SHEET:



**FlexWave
Prism Remote Unit**
Installation Guide

TECP-77-142 • Issue 6 • December 2014



This manual provides the information you need to install a TE Connectivity FlexWave Prism Remote Unit (PRU). FlexWave PRUs control RF emissions, interface with the FlexWave Prism Host Unit II and perform the optical to electrical conversion for transport to the antennas. The PRU is an environmentally-sealed unit designed for outdoor use that houses the electronic assemblies such as the DART board and the Power Amplifier, and seals out dirt and moisture. The PRU uses fans located on the top of each unit to cool its chassis. The antenna cable connectors, fiber connectors, AC or DC power connector, and the unit status indicator are located on the bottom of the unit.

A PRU supports or provides the following basic functions:

- Receives on the forward path the digitized spectrum from the Host Unit and converts the spectrum back into an RF signal to be distributed via an externally mounted antenna system. On the reverse path, the PRU digitizes the designated RF spectrum and digitally transports it over single mode fiber. Millimeter Wave product can be used in place of fiber optic cable.
- Provides RF interface (antenna port) for the antennas.
- Accepts either AC or DC power input.

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The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

Table 2. Prism Remote Unit Enclosure Dimensions ⁽¹⁾

PRU Model		Height	Width ⁽²⁾	Depth
Single-Bay	Inches	25.2	12.2	11.2
	Centimeters	64	30.99	28.45
Dual-Bay	Inches	33.2	12.2	11.2
	Centimeters	84.3	30.99	28.45
Tri-Bay	Inches	41.2	12.2	11.2
	Centimeters	104.6	30.99	28.45
Quad-Bay	Inches	52.4	12.2	11.2
	Centimeters	133.10	30.99	28.45

- (1) To have adequate clearance to open the PRU chassis door, allow a minimum of 7 inches at the left, right and front of each PRU.
(2) Dimension for width includes the mounting brackets.

Table 3. Prism Remote Unit Weights ⁽¹⁾

PRU Model		Unpopulated	Populated
Single-Bay	Pounds	65	83
	Kilograms	29	38
Dual-Bay	Pounds	81	117
	Kilograms	37	53
Tri-Bay	Pounds	97	151
	Kilograms	44	68
Quad-Bay	Pounds	116	188
	Kilograms	53	85

- (1) "Unpopulated" weight includes the Solar shields, which are always present. "Populated" weight is the weight of the chassis that has the SeRF Module and RF Modules installed.

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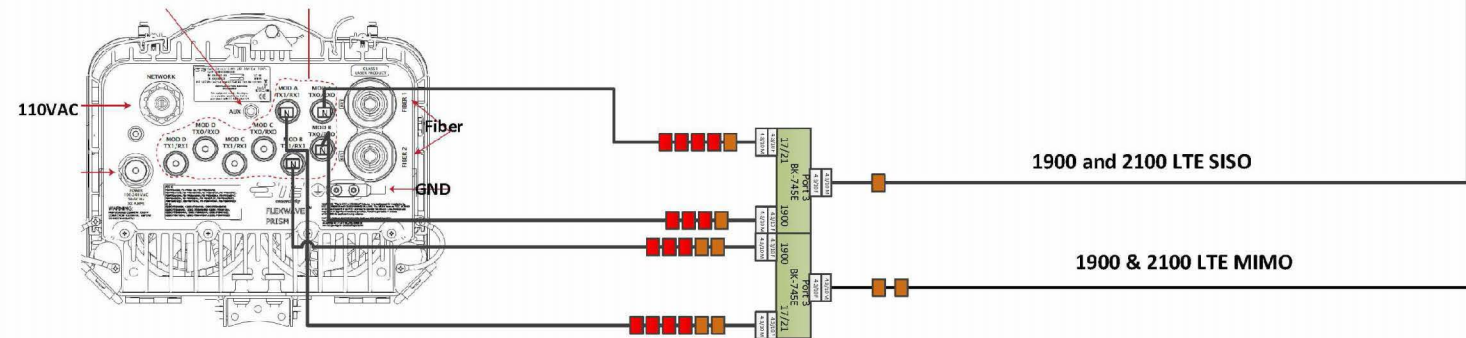
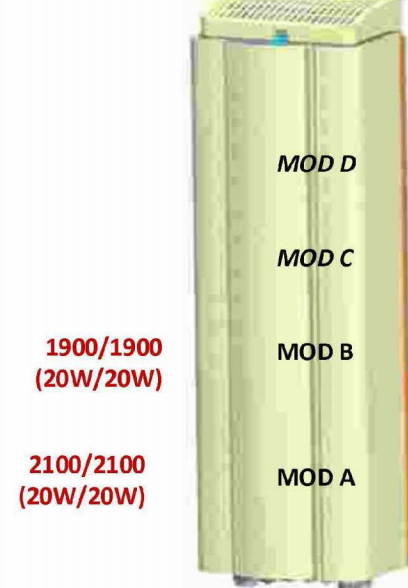
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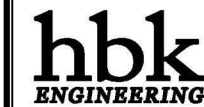
Wiring Diagram Scenario 1 (Omni)

TE Connectivity Prism 4-Bay Chassis with
2x20W 1900 & 2x20W 2100 HDMs



Carrier	Band (MHz)	Band Color		SISO Path	MIMO Path	Comments
		Color	Description			
Verizon	700		1x Red	Brown	Brown/Brown	
	850		2x Red	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Red	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Red	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
AT&T	700		1x Blue	Brown	Brown/Brown	
	850		2x Blue	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Blue	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Blue	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
	2300		5x Blue	Brown	Brown/Brown	Alternatively named WCS Band
T-Mobile	700		1x Green	Brown	Brown/Brown	
	1900		3x Green	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Green	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
Metro	2100		1x Yellow	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
	700		1x Yellow	Brown	Brown/Brown	
Sprint	800		2x Yellow	Brown	Brown/Brown	Alternatively named 800 SMR
	1900		3x Yellow	Brown	Brown/Brown	Alternatively named PCS Band
	2500		4x Yellow	Brown	Brown/Brown	Alternatively named 2.5
	700		1x Yellow	Brown	Brown/Brown	

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PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-24-17
DATE



Crown Castle NG East LLC
West Chester, Pennsylvania

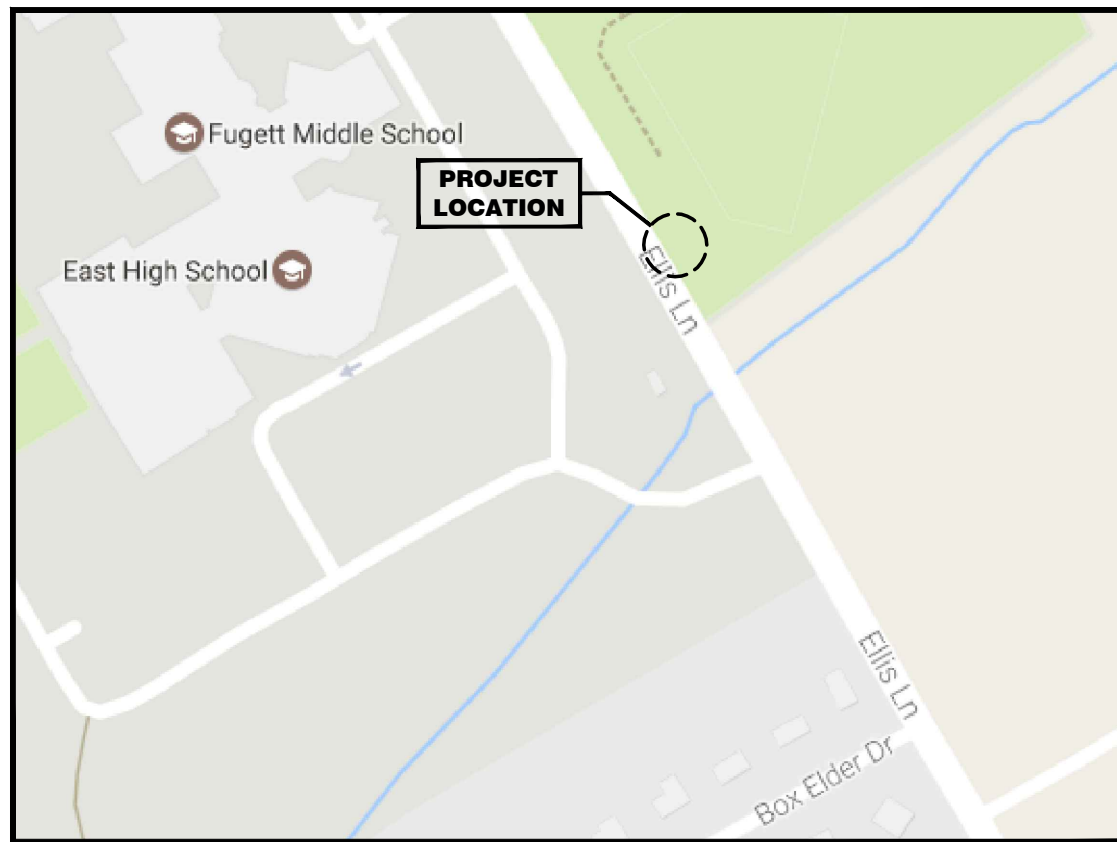
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Proposed Distributed Antenna System (DAS) Node Installation

INDEX TO SHEETS

1. TITLE, LOCATION MAP, NODE PLACEMENT
2. PROPOSED POLE CONFIGURATION
3. PROPOSED EQUIPMENT DETAILS
4. EXISTING PHOTO
5. PROPOSED EQUIPMENT CUT SHEET
6. PROPOSED EQUIPMENT CUT SHEET
7. PROPOSED EQUIPMENT CUT SHEET
8. WIRING DIAGRAM

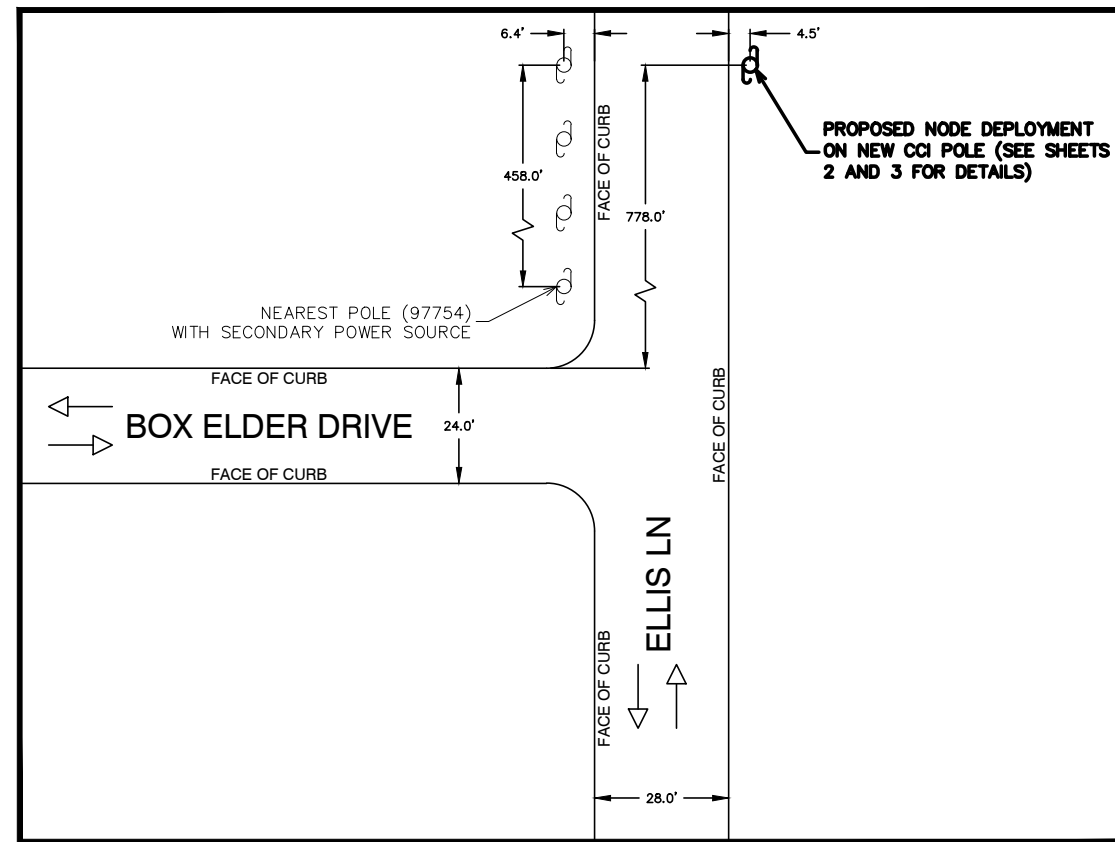
BILL OF MATERIALS : SEE SHEETS 2, AND 3.



LOCATION MAP

Latitude: 39.97965°N
Longitude: -75.56345°W

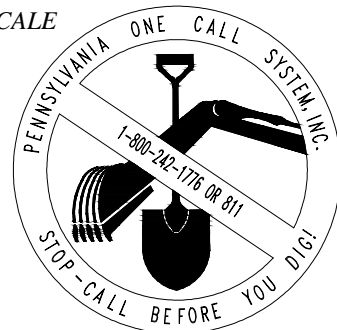
NOT TO SCALE



NODE PLACEMENT

401 Ellis Ln.
New CCI wood pole to be planted
On the East side of Ellis Ln. North of Box Elder Dr.
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

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02	05-05-17	PER CC COMMENTS	TLP
03	05-24-17	FOR PERMIT	TLP

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TLP	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-040
DATE DRAWN:	03-20-17

Crown Castle NG East LLC
PROPOSED POLE CONFIGURATION

NODE: **EMP-040**

Antenna Azimuth		
Antenna #1	Antenna #2	Antenna #3
270°	N/A°	N/A°

- (A) INSTALL (1) SWEDCOM PANEL ANTENNA
17.5" x 6.5" x 6.5" (HxWxD) - 10 lbs
MODEL: SACP 2x5512
- (B) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
- (C) INSTALL NEW 47'-6" AGL (55'-0") CCI WOOD POLE
CLASS 2 OR BETTER
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND
ON POLE
- (E) INSTALL 1/2" PVC CONDUIT WITH #6/C POWER CABLE
- (F) INSTALL 3" RISER GUARD WITH FIBER OPTIC CABLES, #4 SOL
CU COVERED SD, (2) COAXIAL CABLES FROM COMBINER TO
ANTENNA WITH (2) 7/16 DIN MALE CONNECTORS AND (2)
4.3-10 DIN MALE CONNECTORS
MODEL: UXP-4MT-12
- (G) INSTALL ADC FLEXWAVE 4-BAY PRISM REMOTE UNIT
52.4" x 12.2" x 11.2" (HxWxD) - 188 lbs
UTILIZE THRU-BOLT ASSEMBLY
- (H) INSTALL FIBER OPTIC CABLE(S)
INSTALL (4) JMA JUMPERS FROM PRISM TO COMBINER
MODEL: JMA-4MWNMW-14F1-4
- (I) INSTALL SQUARE D MAIN DISCONNECT BOX
9.5" x 6" x 4" (HxWxD) - 5 lbs
INSTALL (1) SINGLE POLE 15A BREAKER
- (J) INSTALL #4 SOL. CU GROUND COVERED SD WIRE 1/2" ID x 8'
LG. MOLDING. 1/2" x 2" STAPLE, GALV.
- (K) INSTALL 5/8" x 8" LG CU POINTED GROUND ROD AND CLAMP

ENGINEER:
hbk ENGINEERING
HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-9076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:
CROWN CASTLE

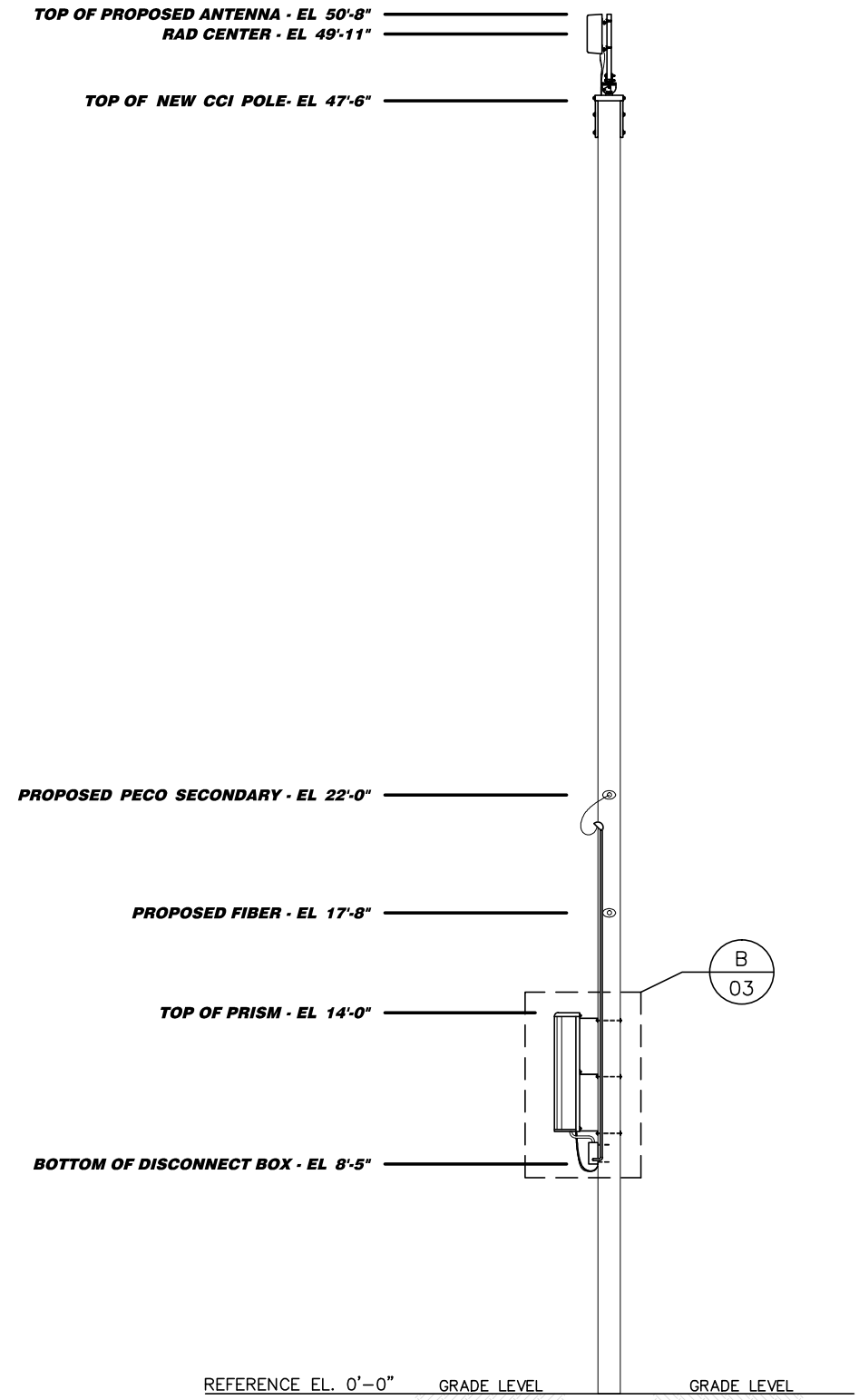
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Crown Castle NG East LLC
401 Ellis Ln.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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01	03-31-17	PER CC COMMENTS	TLP
02	05-05-17	PER CC COMMENTS	TLP
03	05-24-17	FOR PERMIT	TLP

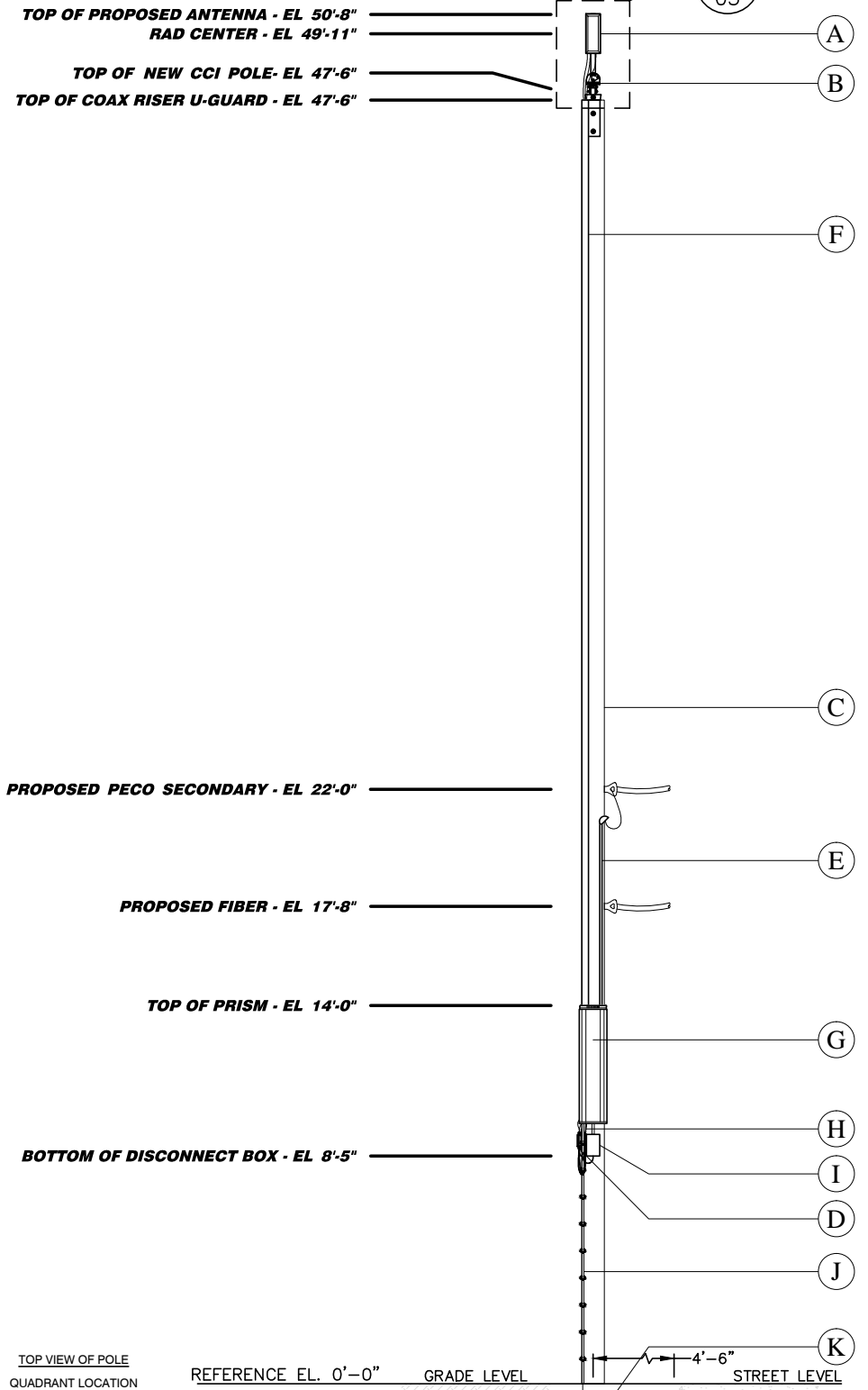
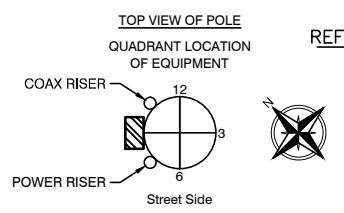
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FILE NAME:	EMP-040
DATE DRAWN:	03-20-17

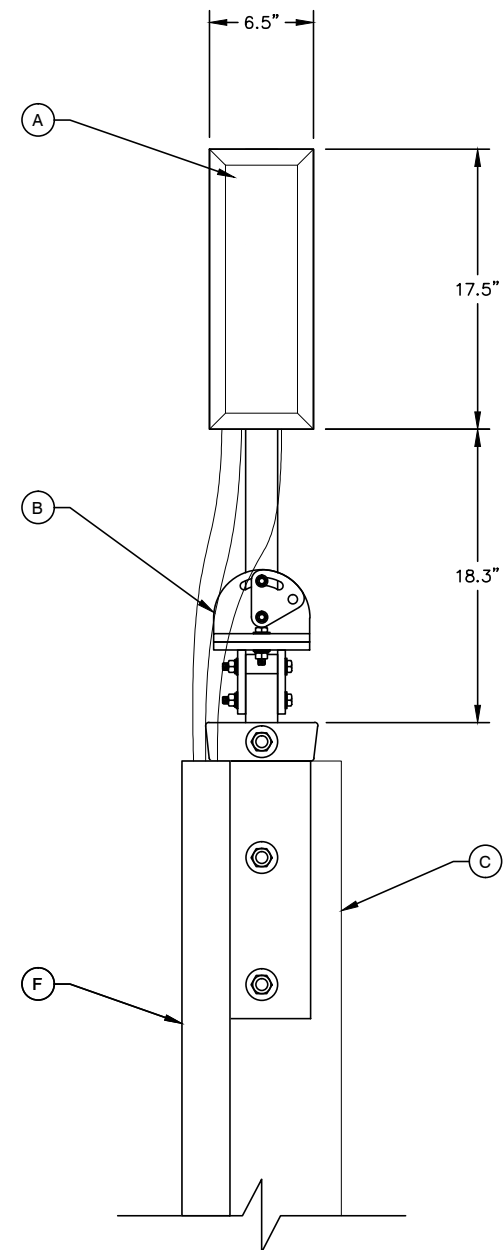
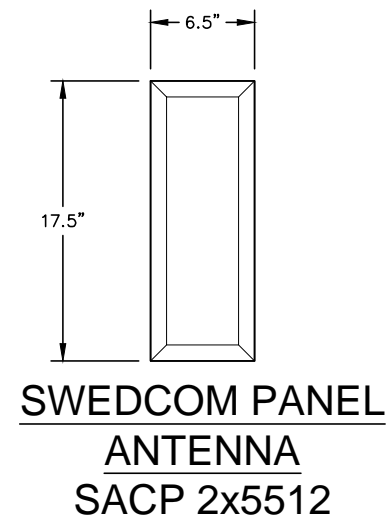
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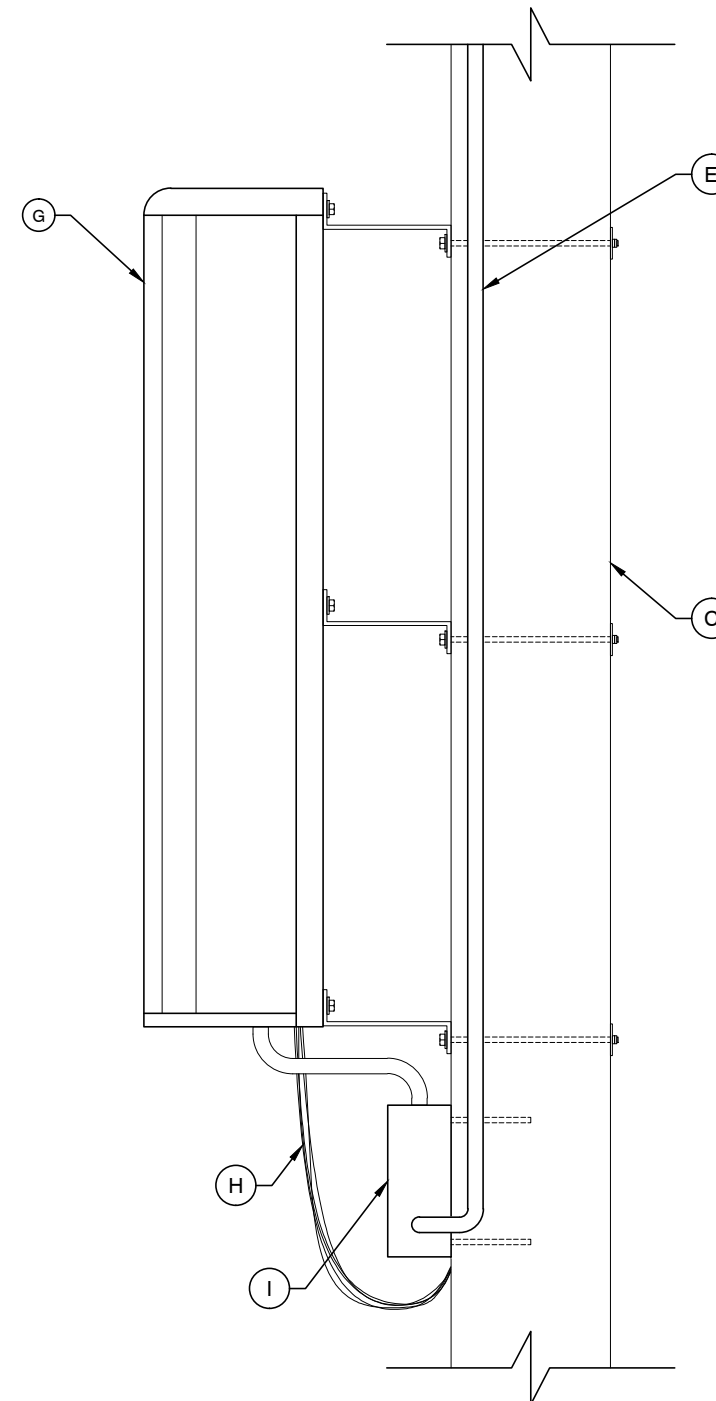
**PROPOSED POLE DETAIL
LOOKING NORTHEAST**



**PROPOSED POLE DETAIL
LOOKING SOUTHEAST**



DETAIL 'A'
ANTENNA(S) AND
MOUNTING KIT



DETAIL 'B'
REPEATER EQUIPMENT

- (A) INSTALL (1) SWEDCOM PANEL ANTENNA
17.5" x 6.5" x 6.5" (HxWxD) - 10 lbs
MODEL: SACP 2x5512
- (B) INSTALL HP COMMUNICATIONS POLE MOUNTING BRACKET
MODEL: 002C (WEIGHT - 42 lbs)
- (C) INSTALL NEW 47'-6" AGL (55'-0") CCI WOOD POLE
CLASS 2 OR BETTER
- (D) INSTALL (1) MIRCOLAB PCS/AWS-WCS DIPLEXER COMBINER
MODEL: BK-745E (WEIGHT - TBD lbs)
INSTALL #6 GROUND FROM GROUND LUG TO #4 GROUND
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PHONE: (312) 432-9076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:

CC CROWN CASTLE

TITLE:
Crown Castle NG East LLC
401 Ellis Ln.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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EXISTING CONDITION



EXISTING CONDITION

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DATE DRAWN:	05-24-17



PCS/AWS-WCS Diplexer Filter, BK-745E
PCS/GSM 1900 Band and AWS-1 + AWS-3 + WCS Dual Diplexer
1850 - 1990/1695 - 1780 & 2110 - 2360 MHz
Rev. 3

Preliminary Specification

\$ Saver Product Line

- ◆ Dual Diplexer - Compact Design
- ◆ Integrates PCS/GSM 1900 with AWS-1 + AWS-3 + WCS Bands
- ◆ 40 dB Input Isolation
- ◆ Minimal RF Insertion Loss
- ◆ Includes Mounting Bracket
- ◆ Low PIM Guaranteed
- ◆ Up to 100 W/port Avg. Power
- ◆ Rugged, High Reliability
- ◆ RoHS compliant



Model Number	Body Type	Connector Type	Power Avg.	Weight, nom. lb. (kg)
BK-745E	Dual	4.3-10 (f)	100W	TBD

Microlab BK-745 is a dual Diplexer which allows combination and separation of the signals in the PCS band 1850 - 1990 MHz with the AWS-WCS bands 1695 - 1780 MHz and 2110 - 2360 MHz. To minimize band inter-reaction, the inputs are well isolated and have minimal insertion loss over their respective frequency bands.
The Diplexer has been designed using passive, proprietary techniques which minimizes cost and size. At the same time it ensures minimal loss and very high reliability at input powers up to 100W per input.
Mounting brackets are included.

Frequency Bands:
Port 1/4 - COM1/2: 1695-1780 & 2110-2360 MHz
Port 2/3 - COM1/2: 1850 - 1990 MHz
Group Delay: 15 ns max.
Isolation: >40 dB, in each band
Return Loss: >20 dB
Passband Loss: <0.35 dB
PIM (Intermod): <-155 dBc (test with 2 +43dBm tones)
DC Path: All paths
Impedance: 50Ω nominal
Environment: -40°C to +65°C, IP67
Ground Lug: M6 Screw
Finish: Connectors: Triplate
Housing: Grey color coating

Note: Specifications are subject to change without prior notification.

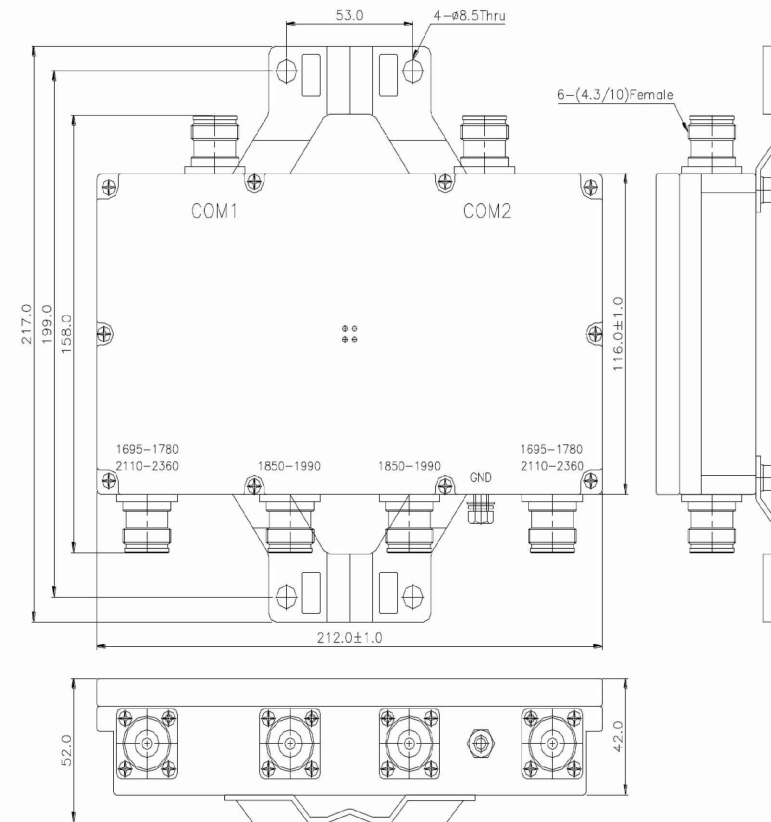
13Sep2016

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191



PCS/AWS-WCS Diplexer Filter, BK-745E

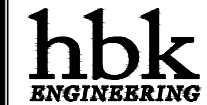
Outline
BK-745E



Dimensions in mm

Microlab, A Wireless Telecom Group Company, 25 Eastmans Road, Parsippany, NJ 07054
Tel: (973) 386-9696 • sales@microlab.fxr.com • www.microlab.fxr.com • Fax: (973) 386-9191

ENGINEER:



HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-0076 FAX: (312) 432-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:



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Crown Castle NG East LLC
401 Ellis Ln.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

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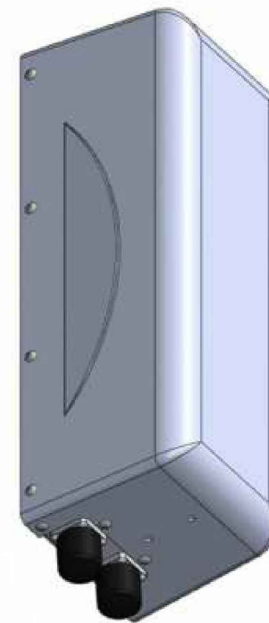
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FILE NAME:	EMP-040
DATE DRAWN:	05-24-17

SHEET:

SACP 2x5512

1710 -2180 MHz Dual (2x) CP log-periodic antenna

Swedcom



Features

- Transmit Diversity Gain
- Can be configured to combine space & polarization diversity
- Outstanding performance over the entire band (1710 - 2180 MHz)
- Excellent Axial Ratio
- Optimized for 4G & 3G systems
- Low intermodulation
- Improved Side-to-side rejection
- Fading reduction
- Excellent isolation between ports

Electrical specifications

Frequency range:	1710-2170 MHz
Impedance:	50 ohm
Connector type:	7/16 Din
Return loss:	18 dB
Polarization:	Circular
Gain ea. port [Circular]:	2x12 dBdL
Gain ea. port [Linear]:	2x9 dBdL
Axial Ratio:	2 dB
Isolation between ports (TX band):	28 dB
Front-to-back ratio:	30 dB
Intermodulation (2x20W):	IM3 153 dB
	IM5 160 dB
	IM7/9 170 dB
Power rating:	2x 150 W
H-plane (-3 dB point):	2x 55°
V-plane (-3 dB point):	2x 17°
Lightning protection:	DC grounded

Mechanical specifications

Overall height:	17.5 in	[445 mm]
Width:	6.5 in	[165 mm]
Depth:	6.5 in	[165 mm]
Weight (excluding brackets):	10 lbs	[4.5Kg]
Wind load measured up to:	150 mph	[240 Km/h]
Wind area (front of antenna):	0.79 sq. ft.	[0.073 sq.m]
Lateral thrust at 113 mph/ 180 Km/h (worst case):	40 lbs	[180 N]

Materials

Radiating Elements:	Silver plated brass
Transformer (Power distribution)	Ceramic PCB
Chassis:	Aluminum
Radome:	Grey Fiberglass/PVC
Mounting:	

The SACP 2x5512 is made in the U.S.A.

ENGINEER:

hbk
ENGINEERING

HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 432-0076 FAX:(312) 432-0231
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OWNER/DEVELOPER:

CC CROWN
CASTLE

TITLE:

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West Chester, Pennsylvania
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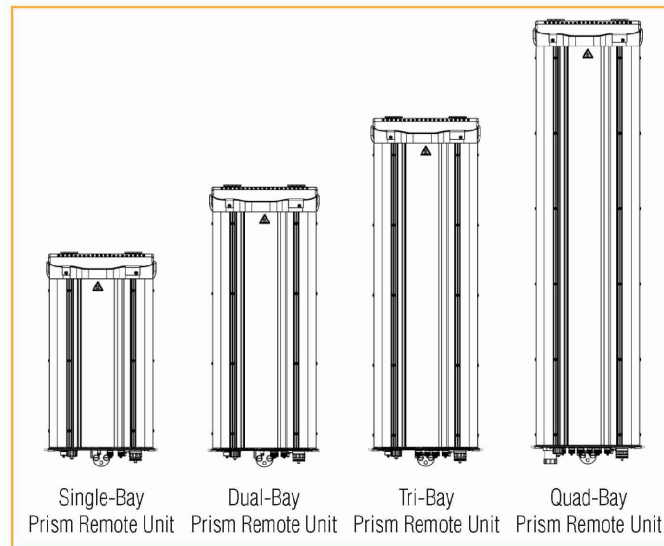
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6 OF: 8



FlexWave
Prism Remote Unit
Installation Guide

TECP-77-142 • Issue 6 • December 2014



This manual provides the information you need to install a TE Connectivity FlexWave Prism Remote Unit (PRU). FlexWave PRUs control RF emissions, interface with the FlexWave Prism Host Unit II and perform the optical to electrical conversion for transport to the antennas. The PRU is an environmentally-sealed unit designed for outdoor use that houses the electronic assemblies such as the DART board and the Power Amplifier, and seals out dirt and moisture. The PRU uses fans located on the top of each unit to cool its chassis. The antenna cable connectors, fiber connectors, AC or DC power connector, and the unit status indicator are located on the bottom of the unit.

A PRU supports or provides the following basic functions:

- Receives on the forward path the digitized spectrum from the Host Unit and converts the spectrum back into an RF signal to be distributed via an externally mounted antenna system. On the reverse path, the PRU digitizes the designated RF spectrum and digitally transports it over single mode fiber. Millimeter Wave product can be used in place of fiber optic cable.
- Provides RF interface (antenna port) for the antennas.
- Accepts either AC or DC power input.

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All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

Table 2. Prism Remote Unit Enclosure Dimensions ⁽¹⁾

PRU Model		Height	Width ⁽²⁾	Depth
Single-Bay	Inches	25.2	12.2	11.2
	Centimeters	64	30.99	28.45
Dual-Bay	Inches	33.2	12.2	11.2
	Centimeters	84.3	30.99	28.45
Tri-Bay	Inches	41.2	12.2	11.2
	Centimeters	104.6	30.99	28.45
Quad-Bay	Inches	52.4	12.2	11.2
	Centimeters	133.10	30.99	28.45

(1) To have adequate clearance to open the PRU chassis door, allow a minimum of 7 inches at the left, right and front of each PRU.

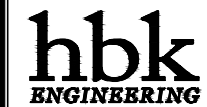
(2) Dimension for width includes the mounting brackets.

Table 3. Prism Remote Unit Weights ⁽¹⁾

PRU Model		Unpopulated	Populated
Single-Bay	Pounds	65	83
	Kilograms	29	38
Dual-Bay	Pounds	81	117
	Kilograms	37	53
Tri-Bay	Pounds	97	151
	Kilograms	44	68
Quad-Bay	Pounds	116	188
	Kilograms	53	85

(1) "Unpopulated" weight includes the Solar shields, which are always present. "Populated" weight is the weight of the chassis that has the SeRF Module and RF Modules installed.

ENGINEER:



HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
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STATE OF ILLINOIS DEPARTMENT
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LICENSE NO. 184-002308

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Crown Castle NG East LLC
401 Ellis Ln.
West Chester, Pennsylvania
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REVISIONS

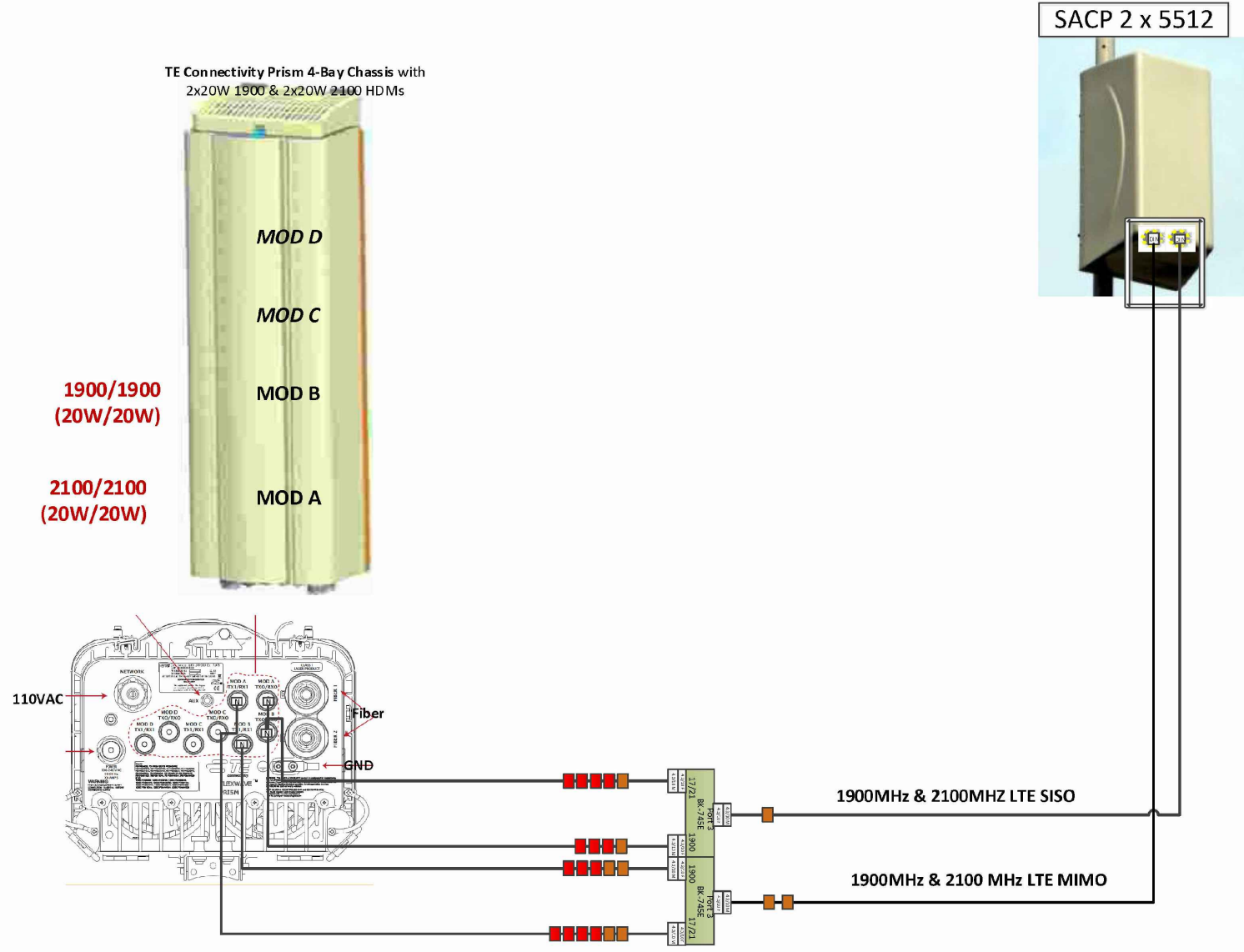
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TLP	AMW	BMM

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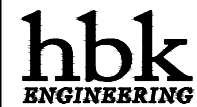
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Wiring Diagram Scenario 2 (1 Panel)



Carrier	Band (MHz)	Band Color		Description	SISO Path	MIMO Path	Comments
		Color	Description				
Verizon	700	Red	1x Red	Brown	Brown/Brown		
	850	Red	2x Red	Brown	Brown/Brown	Alternately named Cellular Band	
	1900	Red	3x Red	Brown	Brown/Brown	Alternately named PCS Band	
	2100	Red	4x Red	Brown	Brown/Brown	Alternately named AWS or 1700 Band	
AT&T	700	Blue	1x Blue	Brown	Brown/Brown		
	850	Blue	2x Blue	Brown	Brown/Brown	Alternately named Cellular Band	
	1900	Blue	3x Blue	Brown	Brown/Brown	Alternately named PCS Band	
	2100	Blue	4x Blue	Brown	Brown/Brown	Alternately named AWS or 1700 Band	
T-Mobile	700	Green	1x Green	Brown	Brown/Brown		
	1900	Green	3x Green	Brown	Brown/Brown	Alternately named PCS Band	
	2100	Green	4x Green	Brown	Brown/Brown	Alternately named AWS or 1700 Band	
	2300	Green	5x Blue	Brown	Brown/Brown	Alternately named WCS Band	
Metro	700	Yellow	1x Yellow	Brown	Brown/Brown	Alternately named AWS or 1700 Band	
Sprint	700	Yellow	1x Yellow	Brown	Brown/Brown		
	800	Yellow	2x Yellow	Brown	Brown/Brown	Alternately named 800 SMR	
	1900	Yellow	3x Yellow	Brown	Brown/Brown	Alternately named PCS Band	
	2500	Yellow	4x Yellow	Brown	Brown/Brown	Alternately named 2.5	

ENGINEER:



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PROJECT NUMBER:	17-0089
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DATE DRAWN:	05-24-17

Memorandum

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380
Voice: 610-692-7171
Fax: 610-692-8950
E-mail: mgordon@eastgoshen.org

Date: 7/27/2017
To: Board of Supervisors
From: Mark Gordon, Township Zoning Officer
Re: Crown Castle CU Plan

Dear Board Members,

The Township has received a Conditional Use application for 6 DAS Antenna Sites in the Township. Each facility will be located either on an existing utility pole, on a new wood pole or on a new metal pole within a street right of way (ROW). These facilities are Distributed Antenna System (DAS) Node installations which will enhance the existing wireless communication network.

You may recall the Board recently amended zoning ordinance to regulate facilities within street rights-of-way and also approved a ROW Agreement with Crown Castle in July.

The six new Wireless Communication Facilities proposed will be located in the following locations:

- 1. 1304 Wilson Drive, (EMP-030) within Township ROW:** One new wood pole with an antenna. Finished height of the pole and antenna will be 48'10" tall. The pole will be erected on the south side of Wilson Dr., 1,056' east of the Airport Rd. intersection.
- 2. 1361 Boot Rd., (EMP-031) Within PennDOT ROW:** One new wood pole with an antenna. Finished height of the pole and antenna will be 48', 10". The pole will be erected on the north side of Boot Rd., 202' west of the Jaclyn Dr. intersection.
- 3. 1375 Boot Rd., (EMP-032) Within PennDOT ROW:** One new antenna on an existing utility guy pole. Finished height of pole and antenna will be 32', 7". The pole is located on the north side of Boot Rd., 172' west of the Village Square Dr. intersection.

4. **1303 Goshen Parkway, (EMP-034) Within Township ROW:** One new metal pole with an antenna. Finished height of pole and antenna will be 35', 4". The pole will be erected on the north side of Goshen Parkway., 400' east of the Airport Rd. intersection.
5. **401 Ellis Ln., (EMP-039) Within Township ROW:** One new antenna on an existing utility pole. Finished height of pole and antenna will be 35'. The pole is located on the east side of Ellis Ln., 113' south of the Paoli Pike intersection.
6. **401 Ellis Ln.(EMP-040) Within Township ROW:** One new wood pole with an antenna. Finished height of pole and antenna will be 50', 8". The pole will be erected on the east side of Ellis Ln., 778' north of the Box Elder Dr. intersection.

Recommendation:

The planning commission voted unanimously in favor of the application and the Staff has no issues with this application. The application is very complete and compliant with the amended ordinance covering these facilities.

Draft Motion:

Mr. Chairman, I recommend that we approve the Crown Castle Conditional Use Application for the six new Wireless Communication Facilities outlined in their application pursuant to the Zoning Ordinance with the following conditions:

1. Aerial utilities shall not be used for the following facility locations:
 - a. EMP-030, Wilson Drive
 - b. EMP-034, Goshen Parkway
2. When and where feasible, underground utilities shall be used.
3. For the metal pole, (EMP-034), a black matte color shall be used.

EAST GOSHEN TOWNSHIP
PLANNING COMMISSION
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

FILE

July 27, 2016

East Goshen Township
Board of Supervisors
1580 Paoli Pike
West Chester, Pa. 19380

Re: Crown Castle Distributive Antenna System Project

Dear Board Members:

At their meeting on July 12, 2017 the Planning Commission voted unanimously in favor of the following motion:

Mr. Chairman, I move that we recommend that the Board of Supervisors approve the Conditional Use Application for the six new Wireless Communication facilities outlined in the Crown Castle Wireless Communications application pursuant to the Zoning Ordinance with the following condition(s):

1. No aerial utilities shall be permitted at the following facility locations:
 - a. EMP-030, Wilson Drive
 - b. EMP-034, Goshen Parkway
2. When and where feasible, underground utilities shall be used.
3. For the metal pole, (EMP-034), a black matte color shall be used.

Sincerely,



Mark A. Gordon
Township Zoning Officer

East Goshen Township

To: Township Zoning Officer

Name of Applicant: Crown Castle NG East LLC

Applicant Address: 3200 Horizon Drive, Suite 150, King of Prussia, PA 19406
c/o John Shive

Telephone Number: (610) 635-3218 Fax: _____

Email Address: john.shive@crowncastle.com

Property Address: N/A. See attached A&E plans. All locations are to be located in the Public Right-of-Way.


Tax Parcel Number: N/A Zoning District: N/A Acreage: N/A

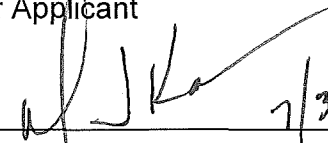
Description of proposed use:

Crown Castle is proposing to install six ("6") Distributed Antenna System ("DAS") Node Facilities in East Goshen Township. The DAS infrastructure will enhance the existing mobile network which cannot handle the traffic of today's mobile users. The current network is overburdened due to the high bandwidth content demand. In practical terms, when the closest tower is at or over capacity, it may appear as though the mobile user has five-bars on their phone, but the capacity is fully exhausted. Our DAS infrastructure is closer to mobile handsets and other smart devices and this helps consumers use their devices without having to compete for space. In addition, this DAS network will also help to improve public safety because each DAS location provides advanced e911 locations, making it easier to find someone in an emergency.

Conditional Use is provided in Zoning Ordinance Section: See attached Exhibit A

We hereby acknowledge that we have read this application and state that the above is correct and agree to comply with all provisions of the East Goshen Township Zoning Ordinance applicable to this project and property.

 7/3/17
Signature of Applicant Date

Attest:  7/3/17

*** Review the formal Planning Commission review procedure on page three.**

Conditional Use Application and Checklist

Township Administration use only:

This checklist outlines the steps and items needed to insure completeness of the application and to insure the application follows the process and conforms to the timeframe outlined by the state of Pennsylvania and East Goshen Township. This checklist is broken into two parts, the Application process and the Review Process. The application process must be completed in its entirety prior to the applications advancement into the Review Process.

Application Checklist:

<u>Item</u>	<u>Date Complete</u>
1. Completed Township Application Form:	<u>7-3-17</u>
2. All related materials submitted:	<u>7-3-17</u>
3. Township application and review fees paid:	<u>7-3-17</u>

Application accepted as complete on 7/3/2017 by MARK GOEDON

Official Signature:  Title: TWP. ZONING OFFICER

Review Process Checklist

<u>Item</u>	<u>Date</u>
1. Start date:	<u>7-3-17</u>
2. Date of first formal Planning Commission Meeting following Submission of complete application:	<u>7-12-17</u>
3. Sent to Twp. Engineer:	<u>—</u>
4. Date presented to Planning Commission:	<u>7-12-17</u>
5. Abutting Property Letter sent:	<u>7-5-17</u>
6. Date sent to CB:	<u>"</u>
7. Date sent To MA:	<u>"</u>
8. Date sent to HC:	<u>"</u>
9. Date sent to PRB:	<u>"</u>
10. Date sent to TAB:	<u>"</u>
11. Date by which the PC must act:	<u>8-2-17</u>
12. Date by which Board of Supervisors must act:	<u>8-22-17</u>
13. Drop Dead Date; (Day 60):	<u>8-31-17</u>
14. Conditional Use Hearing Date:	<u>8-15-17</u>
15. Dates of hearing advertisement:..... &	<u>8-4-17</u>
16. Property Posted:	<u>8-4-17</u>

Exhibit A:

List of Six Locations

1. **EMP-030 – 1304 Wilson Drive, New CCI 50' Wood Pole (Township ROW)**
– Proposed antenna height is 48'10"
[\(ZO Provisions of Section 240-31.C.\(3\)\(h\)\[5\] apply\)](#)
2. **EMP-031 – 1361 Boot Road, New CCI 50' Wood Pole (PennDOT ROW)**
– Proposed antenna height is 48'10"
[\(ZO Provisions of Section 240-31.C.\(3\)\(h\)\[5\] apply\)](#)
3. **EMP-032 – 1375 Boot Road, Existing Verizon 26'9" Wood Pole to Remain (PennDOT ROW)**
– Proposed antenna height is 32'7"
[\(ZO Provisions of Section 240-31.C.\(3\)\(h\)\[4\] apply\)](#)
4. **EMP-034 – 1303 Goshen Parkway, New 30' CCI Dark Brown/Black Opts Metal Pole (Township ROW)**
– Proposed antenna height is 35'4"
[\(ZO Provisions of Section 240-31.C.\(3\)\(h\)\[5\] apply\)](#)
5. **EMP-039 – 401 Ellis Lane, Existing Verizon 29'2" Wood Pole to Remain (Township ROW)**
– Proposed antenna height is 35'
[\(ZO Provisions of Section 240-31.C.\(3\)\(h\)\[4\] apply\)](#)
6. **EMP-040 – 401 Ellis Lane, New CCI 55' Wood Pole on the East side of Ellis Lane, North of Box Elder Drive (Township ROW)**
– Proposed antenna height is 50'8"
[\(ZO Provisions of Section 240-31.C.\(3\)\(h\)\[5\] apply\)](#)

**East
Whiteland Township**

**West
Whiteland Township**

East Goshen Township
Chester County, Pennsylvania


Existing DAS Nodes (10)

- ◆ Township Nodes (4)
- PennDOT Nodes (6)

Proposed DAS Nodes (6)

- ◆ Township Nodes (4)
- PennDOT Nodes (2)

0 700 1,400 2,800 Feet



Proposed Nodes



**East
Goshen Township**

**West
Goshen Township**





PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE

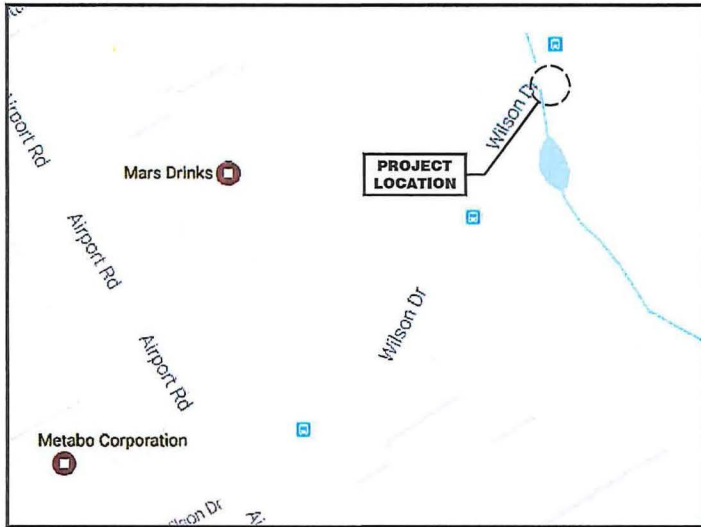


Crown Castle NG East LLC
West Chester, Pennsylvania
Jurisdiction: East Goshen Township
Proposed Distributed Antenna System (DAS) Node Installation

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6. PROPOSED EQUIPMENT CUT SHEET
7. PROPOSED EQUIPMENT CUT SHEET
8. WIRING DIAGRAM

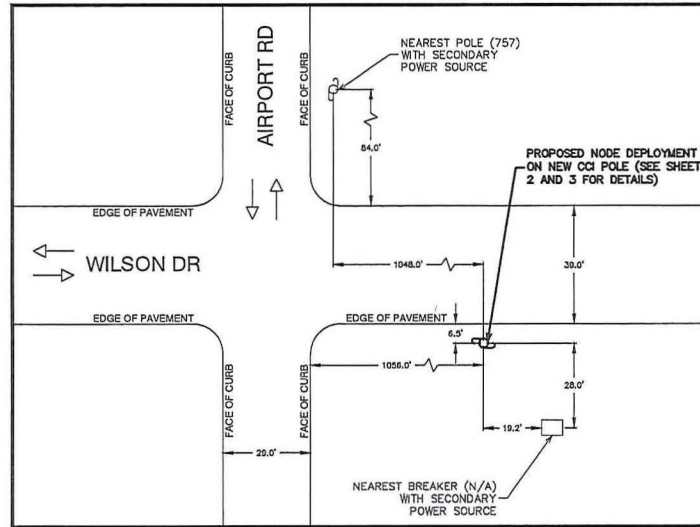
BILL OF MATERIALS: SEE SHEETS 2, AND 3.



LOCATION MAP

Latitude: 39.99834°N
Longitude: -75.57674°W

NOT TO SCALE



NODE PLACEMENT

1304 Wilson Dr.
New CCI wood pole to be planted
On South side of Wilson Dr. East of Airport Rd.
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

ENGINEER:



HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 426-9076 FAX: (312) 472-0231
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 151-001308

OWNER/DEVELOPER:



TITLE:

Crown Castle NG East LLC
1304 Wilson Dr.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

REVISIONS

REV	DATE	DESCRIPTION	BY
00	04-26-17	FOR CC REVIEW	TLP
01	05-22-17	FOR PERMIT	TLP

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJL	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-030
DATE DRAWN:	03-31-17

SHEET:



Existing



Proposed



Site # EMP- 030

1304 Wilson Drive
West Chester, CA



PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE



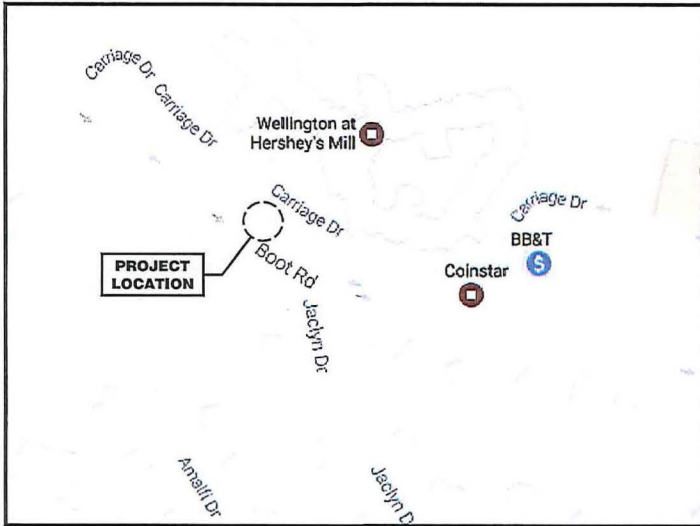
Crown Castle NG East LLC
West Chester, Pennsylvania

Jurisdiction: East Goshen Township / PennDOT

Proposed Distributed Antenna System (DAS) Node Installation

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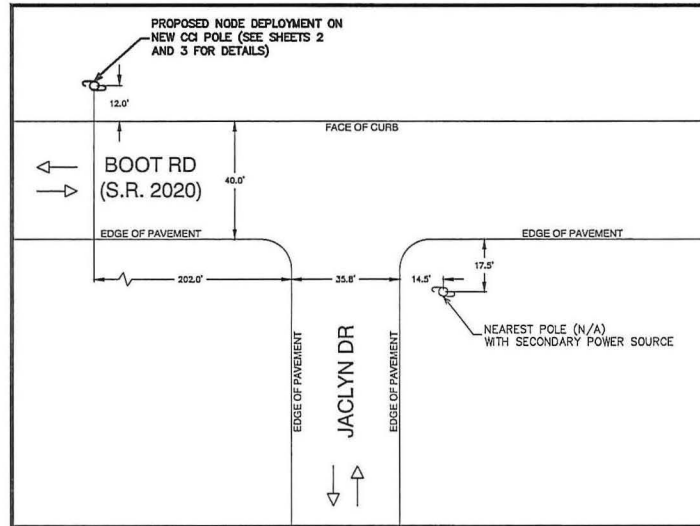
1. TITLE, LOCATION MAP, NODE PLACEMENT
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5. PROPOSED EQUIPMENT CUT SHEET
6. PROPOSED EQUIPMENT CUT SHEET
7. PROPOSED EQUIPMENT CUT SHEET
8. WIRING DIAGRAM



LOCATION MAP

Latitude: 39.99867°N
Longitude: -75.57148°W

NOT TO SCALE



NODE PLACEMENT

1361 Boot Rd. (S.R. 2020)
New CCI wood pole to be planted
On the North side of Boot Rd. West of Jaclyn Dr.
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

ENGINEER: **hbk ENGINEERING**
IIBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 110
CHICAGO, IL 60607
PHONE: (312) 432-6076 FAX: (312) 432-0331
STATE OF ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION LICENSE NO. 181-002368

OWNER/DEVELOPER: **CROWN CASTLE**

TITLE: Crown Castle NG East LLC
1361 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
Jurisdiction: East Goshen Township / PennDOT

REVISIONS			
REV	DATE	DESCRIPTION	BY
00	03-31-17	FOR CC REVIEW	TLP
01	05-05-17	PER CC COMMENTS	TLP
02	05-23-17	FOR PERMIT	TLP

DRAWN BY:	CHECKED BY:	APPROVED BY:
TLP	AMW	BMM

PROJECT NUMBER: 17-0089
FILE NAME: EMP-031
DATE DRAWN: 03-31-17

SHEET: 1 OF 8



Existing



Proposed

Crown Castle NG East LLC
335585

NODE:
EMP-032



PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE



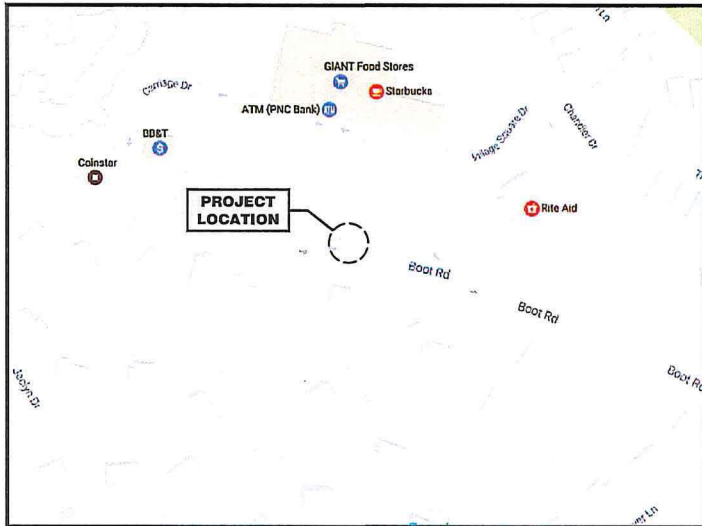
Crown Castle NG East LLC
West Chester, Pennsylvania

Jurisdiction: East Goshen Township / PennDOT

Proposed Distributed Antenna System (DAS) Node Installation

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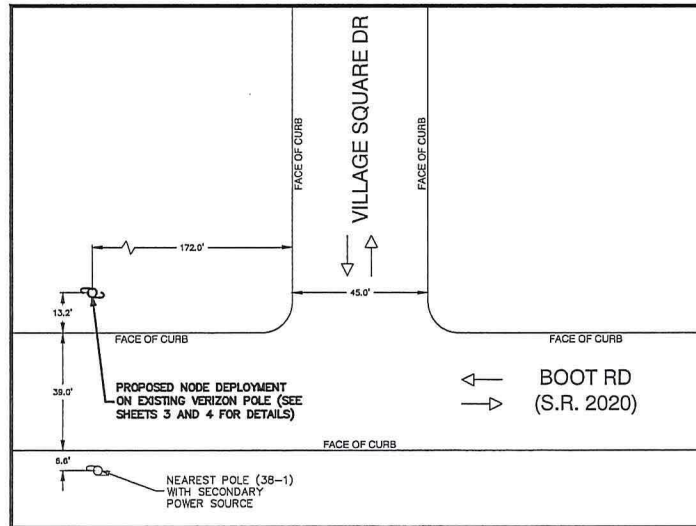
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LOCATION MAP

Latitude: 39.99779°N
Longitude: -75.56768°W

NOT TO SCALE



NODE PLACEMENT

1375 Boot Rd. (S.R. 2020)
Existing Verizon wood pole to remain
On the North side of Boot Rd. West of Village Square Dr.
Pole ID: 38-2

NOT TO SCALE



PENNSYLVANIA ACT 267 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

BILL OF MATERIALS: SEE SHEETS 3, AND 4.

ENGINEER:



HBK ENGINEERING, LLC
921 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 433-6076 FAX: (312) 433-4233
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002108

OWNER/DEVELOPER:



TITLE: Crown Castle NG East LLC
1375 Boot Rd. (S.R. 2020)
West Chester, Pennsylvania
Jurisdiction: East Goshen Township / PennDOT

REVISIONS

REV	DATE	DESCRIPTION	BY
00	03-31-17	FOR CC REVIEW	JJL
01	04-28-17	PER CC COMMENTS	TLP
02	05-22-17	FOR PERMIT	TLP

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJL	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-032
DATE DRAWN:	03-31-17

SHEET: 1 OF 9



Existing



Proposed

Crown Castle NG East LLC
335585

NODE: **EMP-034**



PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE

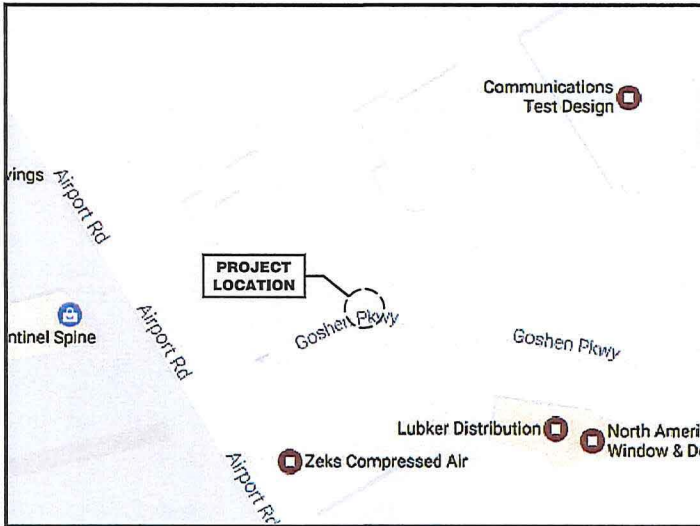


Crown Castle NG East LLC
West Chester, Pennsylvania
Jurisdiction: East Goshen Township
Proposed Distributed Antenna System (DAS) Node Installation

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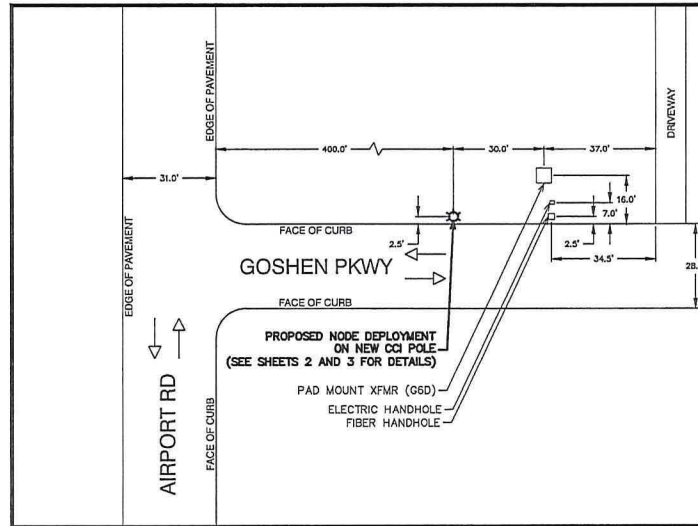
BILL OF MATERIALS : SEE SHEETS 2, AND 3.



LOCATION MAP

Latitude: 39.99195°N
Longitude: -75.57454°W

NOT TO SCALE



NODE PLACEMENT

1303 Goshen Pkwy.
New CCI metal pole to be planted
On the North side of Goshen Pkwy. East of Airport Rd.
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH

ENGINEER:
hbk ENGINEERING
HKB ENGINEERING, LLC
321 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 434-0076 FAX: (312) 434-4231
STATE OF ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION
LICENSE NO. 184402308

OWNER/DEVELOPER:
CROWN CASTLE

TITLE:
Crown Castle NG East LLC
1303 Goshen Pkwy.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

REVISIONS			
REV	DATE	DESCRIPTION	BY
00	04-03-17	FOR CC REVIEW	TLP
01	04-28-17	PER CC COMMENTS	TLP
02	05-22-17	FOR PERMIT	TLP

DRAWN BY:	CHECKED BY:	APPROVED BY:
TLP	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-034
DATE DRAWN:	04-03-17

SHEET: 1 OF 8



Existing



Proposed



PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-22-17
DATE



Crown Castle NG East LLC
West Chester, Pennsylvania

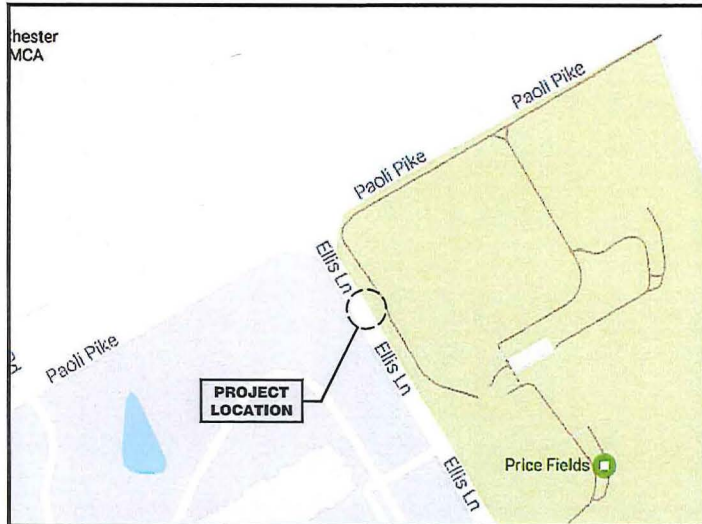
Jurisdiction: East Goshen Township

Proposed Distributed Antenna System (DAS) Node Installation

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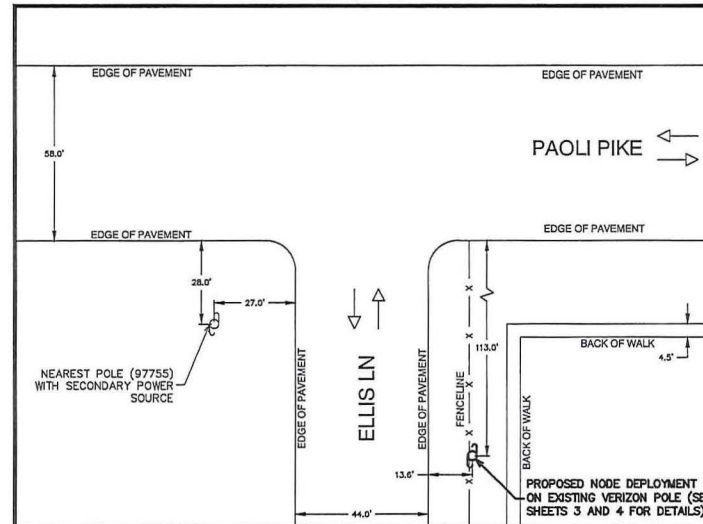
BILL OF MATERIALS : SEE SHEETS 3, AND 4.



LOCATION MAP

Latitude: 39.98234°N
Longitude: -75.56542°W

NOT TO SCALE



NODE PLACEMENT

401 Ellis Ln.
Existing Verizon wood pole to remain
On the East side of Ellis Ln. South of Paoli Pike
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH!

ENGINEER:
hbk ENGINEERING
HKB ENGINEERING, LLC
921 WEST VAN DYKE, SUITE 100
CHICAGO, IL 60667
PHONE: (312) 434-6100 FAX: (312) 434-6211
STATE OF ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION LICENSE NO. 184-00236

OWNER/DEVELOPER:
CROWN CASTLE

TITLE:
Crown Castle NG East LLC
401 Ellis Ln.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

REVISIONS		
REV	DATE	DESCRIPTION
00	04-29-17	FOR CC REVIEW
01	05-22-17	FOR PERMIT

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJL	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-039
DATE DRAWN:	04-03-17

SHEET:
1 OF 9



Existing



Proposed

Crown Castle NG East LLC
335585

NODE:

EMP-040



PROFESSIONAL ENGINEER
EXPIRES 09-30-2017

Brian M. Mulligan
SIGNATURE

05-24-17
DATE



Crown Castle NG East LLC
West Chester, Pennsylvania

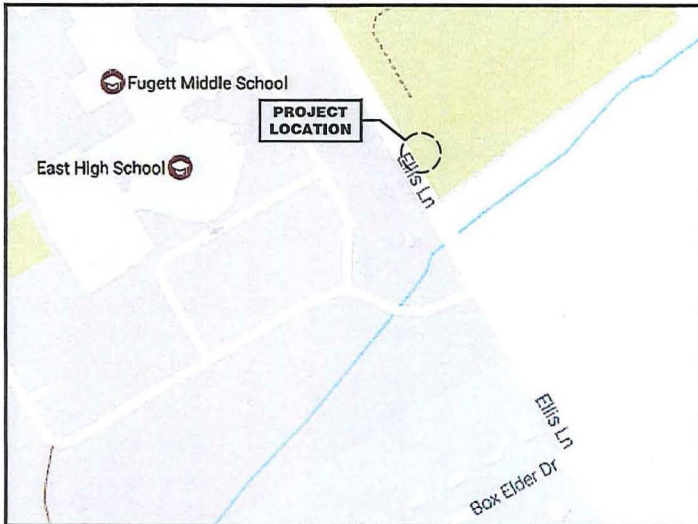
Jurisdiction: East Goshen Township

Proposed Distributed Antenna System (DAS) Node Installation

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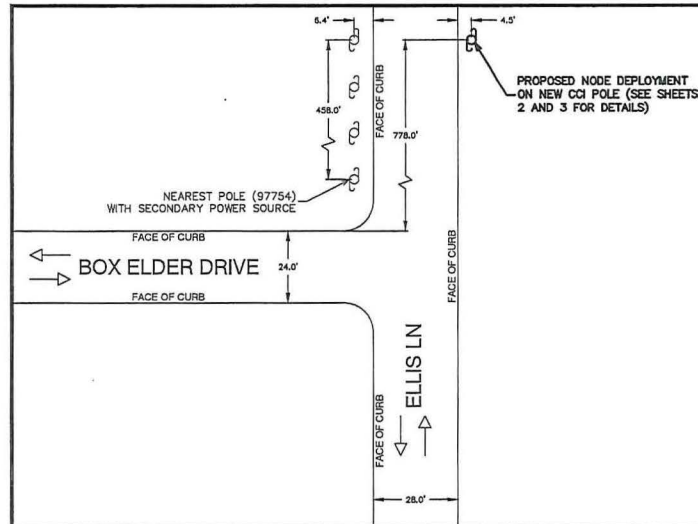
BILL OF MATERIALS: SEE SHEETS 2, AND 3.



LOCATION MAP

Latitude: 39.97965°N
Longitude: -75.56345°W

NOT TO SCALE



NODE PLACEMENT

401 Ellis Ln.
New CCI wood pole to be planted
On the East side of Ellis Ln. North of Box Elder Dr.
Pole ID: N/A

NOT TO SCALE



PENNSYLVANIA ACT 287 REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

ENGINEER:



HBK ENGINEERING, LLC
211 WEST VAN BUREN, SUITE 100
CHICAGO, IL 60607
PHONE: (312) 434-9979 FAX: (312) 434-9921
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 121-040338

OWNER/DEVELOPER:



TITLE: Crown Castle NG East LLC
401 Ellis Ln.
West Chester, Pennsylvania
Jurisdiction: East Goshen Township

REVISIONS

REV	DATE	DESCRIPTION	BY
00	03-20-17	FOR CC REVIEW	TLP
01	03-31-17	PER CC COMMENTS	TLP
02	05-05-17	PER CC COMMENTS	TLP
03	05-24-17	FOR PERMIT	TLP

DRAWN BY:	CHECKED BY:	APPROVED BY:
TLP	AMW	BMM

PROJECT NUMBER:	17-0089
FILE NAME:	EMP-040
DATE DRAWN:	03-20-17

SHEET: 1 OF 8



Memo

To: Board of Supervisors
From: Jon Altshul
Re: July 2017 Financial Report and 2017 Year-End Projections
Date: August 9, 2017

Net of pass-through accounts, as of July 31st, the general fund had revenues of \$6,860,323 and expenses of \$6,098,565 for a year-to-date surplus of \$761,758. Compared to the YTD budget, revenues were \$675,291 over budget and expenses were \$83,915 over budget for a favorable budget variance of \$591,376. As of July 31st, the general fund balance was \$5,764,943.

On the expense side, Public Works was \$70,784 over-budget due to an early start to the paving season and under-budgeting for vehicle maintenance and repairs. These overruns were partially offset by substantial savings for snow removal and lower than expected costs for storm water. Administration was \$63,457 over-budget due primarily to building repairs in the Public Works Annex over the winter. Codes was \$20,085 over budget due to lower than projected permit revenue and engineering costs associated with enforcement of the noise ordinance. Parks and Recreation was \$34,381 over-budget due to higher than expected Park Maintenance activities. Emergency Services was \$2,041 under-budget.

On the revenue side, Real Estate Transfer Tax is now \$559,736 over budget due to the sale of a large commercial building in March and strong residential sales in June; Earned Income Tax continues to have a strong year and is now \$197,023 over budget.

Other funds

- The **State Liquid Fuels Fund** had \$525,577 revenues and \$0 expenses. The fund balance was \$525,879.
- The **Sinking Fund** had \$213,477 in revenues and \$741,805 in expenses. The fund balance is \$5,550,947.
- The **Transportation Fund** had \$3,877 in revenues and \$2,583 in expenses. The fund balance is \$1,076,154.
- The **Sewer Operating Fund** had \$2,189,079 in revenues and \$1,780,699 in expenses. The fund balance is \$960,555.
- The **Refuse Fund** had \$640,670 in revenues and \$611,189 in expenses. The fund balance is \$646,388.
- The **Sewer Sinking Fund** had \$7,149 in revenues and \$109,820 in expenses. The fund balance is \$1,981,194.
- The **Operating Reserve Fund** had \$2,726 in revenues and no expenses. The fund balance is \$2,493,330.
- The **Events Fund** had \$10 in revenues and no expenses. The fund balance is \$60,037.

2017 Year-End Projections

I have made a handful of changes to the year-end projections for the general fund, the sinking fund and the sewer operating fund since last month. On the General Fund side, I have increased the year-end transfer to the Sinking Fund to reflect higher-than-budgeted costs for the Public Works Vehicle Wash Bay, which is a new asset and therefore directly increases this transfer. This increase is partially offset by further increases to the year-end projection for Earned Income Tax and Real Estate Transfer Tax. As a

result, I am now projecting that the General Fund finishes the year with a very small surplus of \$2,339. On the flip side, this additional transfer-in is now reflected as a revenue in the Sinking Fund.

Year-end projections for the sewer fund are slightly improved as well, as a result of lower than anticipated invoices for operating costs at the West Goshen Sewer Treatment Plant.

Year-end projections for all funds are attached to this memo.

Series 2017 Bond Update

The closing on the Series 2017 Bond Update is scheduled for August 15th (i.e the day of the BOS meeting). After the funds are wired to the bond fund, I will reimburse the sinking fund for costs already incurred, per last year's reimbursement resolution. Future capital expenses for which there is no offsetting grant award will be paid directly from the bond fund. Future capital expenses for which there is an offsetting grant award will be paid from the sinking fund until the grant is closed out, after which point the bond fund will reimburse the sinking fund for the local match. For our share of sewer capital costs incurred in West Goshen, I will first draw down the balance of the 2013 DelVal notes before using the proceeds of the 2017 bonds.

Beginning next month, I will provide the Board with a detailed drawdown schedule, so that you can see how much available funding is remaining for each individual project.

Budget Schedule

I have begun work on the 2018 budget and would recommend that the proposed budget be presented on November 14th (no meeting on November 7th) and that the budget be adopted on December 5th, with December 19th as a contingency date. Please advise if this schedule is acceptable.

EAST GOSHEN TOWNSHIP
General Fund Summary Core Function
As of July 31, 2017

Account Title	Annual Budget	YTD Budget	YTD Actual	Variance
EMERGENCY SERVICES EXPENSES	4,520,632	3,207,431	3,213,664	(6,233)
PUBLIC WORKS EXPENSES	2,615,463	1,152,785	1,179,022	(26,237)
ADMINISTRATION EXPENSES	1,883,346	923,415	940,867	(17,452)
CODES EXPENSES	413,748	238,835	246,500	(7,665)
PARK AND RECREATION EXPENSES	682,542	415,336	441,659	(26,323)
TOTAL CORE FUNCTION EXPENSES	10,115,731	5,937,802	6,021,712	(83,910)
EMERGENCY SERVICES REVENUES	61,480	46,571	54,845	8,274
PUBLIC WORKS REVENUES	1,005,147	245,089	200,542	(44,547)
ADMINISTRATION REVENUES	377,720	196,426	150,420	(46,006)
CODES REVENUES	279,875	178,039	165,619	(12,420)
PARK AND RECREATION REVENUES	272,435	78,449	70,391	(8,058)
TOTAL CORE FUNCTION REVENUES	1,996,657	744,574	641,817	(102,757)
NET EMERGENCY SERVICES	4,459,152	3,160,860	3,158,819	2,041
NET PUBLIC WORKS	1,610,316	907,696	978,480	(70,784)
NET ADMINISTRATION	1,505,626	726,989	790,446	(63,457)
NET CODES	133,873	60,796	80,881	(20,085)
NET PARK AND RECREATION	410,107	336,887	371,268	(34,381)
CORE FUNCTION NET SUBTOTAL	8,119,074	5,193,228	5,379,895	(186,667)
DEBT - PRINCIPAL	520,999	0	0	0
DEBT - INTEREST	129,198	76,848	76,853	(5)
TOTAL DEBT	650,197	76,848	76,853	(5)
TOTAL CORE FUNCTION NET	8,769,271	5,270,076	5,456,747	(186,671)
NON-CORE FUNCTION REVENUE				
REAL ESTATE PROPERTY TAX	2,027,128	1,995,352	2,002,500	7,148
OTHER INCOME	40,341	18,308	33,339	15,031
CABLE TELEVIS.FRANCHISE	473,690	236,844	240,456	3,612
REAL ESTATE TRANSFER TAX	525,000	312,500	872,236	559,736
EARNED INCOME TAX	4,916,400	2,693,629	2,890,652	197,023
LOCAL SERVICES TAX	348,000	183,825	179,323	(4,502)
				0
TOTAL NON CORE FUNCTION REVENUE	8,330,559	5,440,458	6,218,505	778,047
NET RESULT	(438,712)	170,382	761,758	591,376

SUMMARY OF FUNDS REPORT (AKA "JOE REPORT")

ALL FUNDS JULY 2017

* NOTE: GENERAL FUND INCLUDES PASS-THROUGH ACCOUNTS

	GENERAL FUND*	LIQUID FUELS STATE FUND	SINKING FUND	TRANSPORT. FUND	SEWER OP. FUND	REFUSE FUND	SEWER SINK FUND	OPERATING RESERVE	EVENTS FUND	TOWNSHIP FUNDS	MUNICIPAL AUTHORITY
01/01/17 BEGINNING BALANCE	\$5,099,106	\$302	6,079,275	1,074,859	552,175	616,907	\$2,083,864	\$2,490,604	\$60,027	\$18,057,119	\$1,415,651
RECEIPTS											
310 TAXES	\$6,227,151	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,227,151	\$0
320 LICENSES & PERMITS	\$16,033	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,033	\$0
330 FINES & FORFEITS	\$27,448	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$27,448	\$0
340 INTERESTS & RENTS	\$94,996	\$66	\$22,473	\$3,085	\$470	\$2,715	\$7,149	\$2,726	\$10	\$133,690	\$5,377
350 INTERGOVERNMENTAL	\$50	\$525,511	\$191,005	\$0	\$0	\$0	\$0	\$0	\$0	\$716,566	\$0
360 CHARGES FOR SERVICES	\$261,061	\$0	\$0	\$0	\$2,176,735	\$637,956	\$0	\$0	\$0	\$3,075,751	\$5,692
380 MISCELLANEOUS REVENUES	\$719,729	\$0	\$0	\$793	\$11,874	\$0	\$0	\$0	\$0	\$732,395	\$0
390 OTHER FINANCING SOURCES	\$170,645	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$170,645	\$70,000
	\$7,517,112	\$525,577	\$213,477	\$3,877	\$2,189,079	\$640,670	\$7,149	\$2,726	\$10	\$11,099,679	\$81,069
EXPENDITURES											
400 GENERAL GOVERNMENT	\$779,724	\$0	\$261,121	\$0	\$0	\$0	\$109,820	\$0	\$0	\$1,150,664	\$0
410 PUBLIC SAFETY	\$4,083,087	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,083,087	\$0
420 HEALTH & WELFARE	\$0	\$0	\$0	\$0	\$1,166,870	\$0	\$0	\$0	\$0	\$1,166,870	\$0
426 SANITATION & REFUSE	\$63,692	\$0	\$0	\$0	\$0	\$611,189	\$0	\$0	\$0	\$674,881	\$314,652
430 HIGHWAYS,ROADS & STREETS	\$973,918	\$0	\$155,519	\$2,583	\$0	\$0	\$0	\$0	\$0	\$1,132,019	\$0
450 CULTURE-RECREATION	\$394,704	\$0	\$133,897	\$0	\$0	\$0	\$0	\$0	\$0	\$528,601	\$0
460 CONSERVATION & DEVELOPMENT	\$2,199	\$0	\$191,269	\$0	\$0	\$0	\$0	\$0	\$0	\$193,468	\$0
470 DEBT SERVICE	\$98,276	\$0	\$0	\$0	\$543,830	\$0	\$0	\$0	\$0	\$642,106	\$0
480 MISCELLANEOUS EXPENDITURES	\$450,546	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$450,546	\$0
490 OTHER FINANCING USES	\$0	\$0	\$0	\$0	\$70,000	\$0	\$0	\$0	\$0	\$70,000	\$0
	\$6,846,145	\$0	\$741,805	\$2,583	\$1,780,699	\$611,189	\$109,820	\$0	\$0	\$10,092,242	\$314,652
2017 SURPLUS/(DEFICIT)*	670,967	\$525,577	(\$528,328)	\$1,295	\$408,380	\$29,481	(\$102,670)	\$2,726	\$10	\$1,007,438	(\$233,583)
CLEARING ACCOUNT ADJUSTMENTS	(\$5,130)										
7/31/2017 ENDING BALANCE	\$5,764,943	\$525,879	\$5,550,947	\$1,076,154	\$960,555	\$646,388	\$1,981,194	\$2,493,330	\$60,037	\$19,059,426	\$1,182,067

EAST GOSHEN TOWNSHIP
2017 YEAR-END PROJECTION SUMMARY
July 31, 2017

Account Title	2017 Budget	2017 Y/E Projection (July)	Projected Variance
GENERAL FUND			
EMERGENCY SERVICES EXPENSES	4,520,632	4,524,132	3,500
PUBLIC WORKS EXPENSES	2,615,463	2,576,073	(39,390)
ADMINISTRATION EXPENSES	1,883,346	2,187,185	303,839
ZONING/PERMITS/CODES EXPENSES	413,748	423,677	9,929
PARK AND RECREATION EXPENSES	682,542	684,909	2,367
TOTAL CORE FUNCTION EXPENSES	10,115,731	10,395,975	280,244
-			
EMERGENCY SERVICES REVENUES	61,480	149,646	88,166
PUBLIC WORKS REVENUES	1,005,147	1,018,534	13,387
ADMINISTRATION REVENUES	377,720	371,563	(6,157)
ZONING/PERMITS/CODES REVENUES	279,875	258,653	(21,222)
PARK AND RECREATION REVENUES	272,435	226,126	(46,309)
TOTAL CORE FUNCTION REVENUES	1,996,657	2,024,522	27,865
-			
NET EMERGENCY SERVICES EXPENSES	4,459,152	4,374,486	(84,666)
NET PUBLIC WORKS EXPENSES	1,610,316	1,557,539	(52,777)
NET ADMINISTRATION EXPENSES	1,505,626	1,815,621	309,995
NET ZONING/PERMITS/CODES EXPENSES	133,873	165,024	31,151
NET PARK AND RECREATION EXPENSES	410,107	458,783	48,676
CORE FUNCTION NET SUBTOTAL	8,119,074	8,371,453	252,379
-			
DEBT - PRINCIPAL	520,999	520,999	0
DEBT - INTEREST	129,198	147,386	18,188
TOTAL DEBT	650,197	668,385	18,188
-			
TOTAL CORE FUNCTION NET	8,769,271	9,039,838	270,567
-			
NON-CORE FUNCTION REVENUE			
EARNED INCOME TAX	4,916,400	5,080,000	163,600
REAL ESTATE PROPERTY TAX	2,027,128	2,019,935	(7,193)
REAL ESTATE TRANSFER TAX	525,000	1,055,000	530,000
CABLE TV FRANCHISE TAX	473,690	480,000	6,310
LOCAL SERVICES TAX	348,000	344,900	(3,100)
OTHER INCOME	40,341	62,341	22,000
-			
TOTAL NON CORE FUNCTION REVENUE	8,330,559	9,042,176	711,617
-			
NET RESULT	(438,712)	2,339	

JULY 2017--2017 YEAR-END PROJECTIONS
ALL FUNDS JULY 2017

* NOTE: GENERAL FUND INCLUDES PASS-THROUGH ACCOUNTS

	GENERAL FUND*	LIQUID FUELS STATE FUND	SINKING FUND	TRANSPORT. FUND	SEWER OP. FUND	REFUSE FUND	SEWER SINK FUND	TWP BOND FUND (NEW)	SEWER BOND FUND (NEW)	OPERATING RESERVE	EVENTS FUND	TOWNSHIP FUNDS	MUNICIPAL AUTHORITY
01/01/17 BEGINNING BALANCE	\$5,099,106	\$302	6,079,275	1,074,859	552,175	616,907	\$2,083,864	\$0	\$0	\$2,490,604	\$60,027	\$18,057,119	\$1,415,651
RECEIPTS													
310 TAXES	\$9,049,935	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,049,935	\$0
320 LICENSES & PERMITS	\$30,725	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30,725	\$0
330 FINES & FORFEITS	\$122,249	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$122,249	\$0
340 INTERESTS & RENTS	\$159,727	\$5,203	\$37,000	\$4,000	\$600	\$4,900	\$247,000	\$0	\$0	\$15,500	\$12	\$473,942	\$6,500
350 INTERGOVERNMENTAL	\$142,586	\$525,511	\$541,005	\$257,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,466,602	\$0
360 CHARGES FOR SERVICES	\$764,000	\$0	\$0	\$0	\$3,631,506	\$1,047,000	\$0	\$0	\$0	\$0	\$0	\$5,442,507	\$16,000
380 MISCELLANEOUS REVENUES	\$1,434,425	\$0	\$0	\$793	\$11,874	\$0	\$0	\$0	\$0	\$0	\$0	\$1,447,091	\$0
390 OTHER FINANCING SOURCES	\$1,043,666	\$0	\$1,223,688	\$0	\$0	\$0	\$0	\$5,310,000	\$2,840,000	\$0	\$0	\$10,417,354	\$100,755
	\$12,747,314	\$530,713	\$1,801,693	\$262,293	\$3,643,980	\$1,051,900	\$247,000	\$5,310,000	\$2,840,000	\$15,500	\$12	\$28,450,405	\$123,255
EXPENDITURES													
400 GENERAL GOVERNMENT	\$1,843,490	\$0	\$714,751	\$0	\$0	\$0	\$110,000	\$0	\$0	\$0	\$0	\$2,668,241	\$0
410 PUBLIC SAFETY	\$6,321,127	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,321,127	\$0
420 HEALTH & WELFARE	\$112,585	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$112,585	\$0
426 SANITATION & REFUSE	\$0	\$0	\$0	\$0	\$2,510,397	\$1,072,825	\$0	\$0	\$0	\$0	\$0	\$3,583,222	\$600,000
430 HIGHWAYS,ROADS & STREETS	\$2,237,891	\$530,713	\$276,557	\$515,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,560,161	\$0
450 CULTURE-RECREATION	\$642,114	\$0	\$714,000	\$0	\$0	\$0	\$0	\$438,785	\$0	\$0	\$0	\$1,794,899	\$0
460 CONSERVATION & DEVELOPMENT	\$4,485	\$0	\$245,000	\$0	\$0	\$0	\$0	\$1,178,183	\$0	\$0	\$0	\$1,427,668	\$0
470 DEBT SERVICE	\$689,500	\$0	\$0	\$0	\$893,055	\$0	\$0	\$0	\$0	\$0	\$0	\$1,582,555	\$0
480 MISCELLANEOUS EXPENDITURES	\$893,785	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$893,785	\$0
490 OTHER FINANCING USES	\$0	\$0	\$0	\$0	\$100,755	\$0	\$0	\$0	\$0	\$0	\$60,039	\$160,794	\$0
	\$12,744,975	\$530,713	\$1,950,308	\$515,000	\$3,504,207	\$1,072,825	\$110,000	\$1,616,968	\$0	\$0	\$60,039	\$22,105,035	\$600,000
2017 SURPLUS/(DEFICIT)*	2,339	\$0	(\$148,615)	(\$252,708)	\$139,773	(\$20,925)	\$137,000	\$3,693,032	\$2,840,000	\$15,500	(\$60,027)	\$6,345,369	(\$476,745)
5/31/2017 ENDING BALANCE	\$5,101,445	\$302	\$5,930,660	\$822,152	\$691,948	\$595,982	\$2,220,864	\$3,693,032	\$2,840,000	\$2,506,104	\$0	\$24,402,487	\$938,906

Memo

East Goshen Township

Date: August 7, 2017
To: Board of Supervisors
From: Rick Smith, Township Manager
Re: Vibration Ordinance

At your meetings on July 18 and August 1, the Board has several questions about a vibration ordinance.

I contacted Warwick Township about their vibration ordinance. They are located in Bucks County, and their Director of Planning & Zoning believes it was included in the Code as part of a general update and they have not had to enforce this ordinance. There are also Warwick Townships in Lancaster and Bucks County.

With respect to state regulations for vibrations, the PA DEP has established a peak particle velocity (PPV) limit of 2 in/sec at 100 Hz for blasting operations. This standard is based on a study conducted by the U.S. Bureau of Mines, Office of Surface Mining (OSM). According to the Citizens Guide to Explosives Regulations in Pennsylvania Explosives, vibrations at this level will not damage structures.

Comment - We acquired a copy of The Construction Vibration Damage Guide written by John Zeigler Ph.D. and he notes that blasting is a singular event in which an explosive is detonated, and a structure vibrates for a very short period of time. During a construction project the vibrations typically occur at a much lower PPV, but occur over an extend period of time. According to Ziegler, it is inappropriate to use a construction vibration standard based on the OSM study.

As for what the PPV limit should be for construction vibration, Ziegler notes that Federal Transit Administration Standard and the "Swiss standard" are the commonly cited in ordinances. However, he suggest that when developing the "standard" the municipality needs to obtain information about factors that can effect vibration propagation such as soil types, rock layers, etc.

As for vibration issues in other townships of the six townships I contacted only two have received complaints about vibrations and none of them indicated they were considering an ordinance at this time.

The other question regards the enforceability of a vibration ordinance given that Sunoco is public utility regulated by the PA PUC. I discussed this issue with the Township Solicitor and I contacted the PA PUC.

Essentially the Township's ability to regulate a public utility is governed by the **Title 15 - Corporations and Unincorporated Associations**.

Section 1511 (e) Streets and other public places.--A public utility corporation shall have the right to enter upon and occupy streets, highways, waters and other public ways and places for one or more of the principal purposes specified in subsection (a) and ancillary purposes reasonably necessary or appropriate for the accomplishment of the principal purposes, including the placement, maintenance and removal of aerial, surface and subsurface public utility facilities thereon or therein. Before entering upon any street, highway or other public way, the public utility corporation shall obtain such permits as may be required by law and shall comply with the lawful and reasonable regulations of the governmental authority having responsibility for the maintenance thereof.

The operable word is "reasonable".

However this power is limited by **Title 66 - Public Utility Code, Section 1501 - Character of service and facilities**. -- Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employees, and the public. Such service also shall be reasonably continuous and without unreasonable interruptions or delay. Such service and facilities shall be in conformity with the regulations and orders of the commission. Subject to the provisions of this part and the regulations or orders of the commission, every public utility may have reasonable rules and regulations governing the conditions under which it shall be required to render service. Any public utility service being furnished or rendered by a municipal corporation beyond its corporate limits shall be subject to regulation and control by the commission as to service and extensions, with the same force and in like manner as if such service were rendered by a public utility. The commission shall have sole and exclusive jurisdiction to promulgate rules and regulations for the allocation of natural or artificial gas supply by a public utility.

The operable words are "sole and exclusive".

Based the various court decisions it would seem that the Township could adopt an ordinance regulating vibration during the installation of the pipeline. However, if the vibration limits were such that Sunoco could not use HDD to install the pipeline we would not prevail in court.

Attached is an excerpt from a 2007 Commonwealth Court Decision on this issue.

922 A.2d 996
Commonwealth Court of Pennsylvania.

PECO ENERGY COMPANY

v.

TOWNSHIP OF UPPER DUBLIN, Board
of Commissioners of the Township of
Upper Dublin and Shade Tree Commission
of the Township of Upper Dublin.
Appeal of: Upper Dublin Township
Board of Commissioners.

Argued March 5, 2007.

Decided May 1, 2007.

Synopsis

Background: Public electric utility filed action seeking mandamus, declaratory relief, or a permanent injunction and other equitable relief, alleging that a first class township, its board of commissioners, and shade tree commission (STC) lacked the authority to regulate the public utility's vegetation management practices on public right-of-ways. The Court of Common Pleas, Montgomery County, No. 06-03896, O'Neill, J., entered judgment for the public utility, and held the township's shade tree ordinances void as applied to public utilities. Township, its board, and the STC appealed.

Holdings: The Commonwealth Court, No. 1625 C.D. 2006, Robert Simpson, J., held, as issues of apparent first impression, that:

[1] the Public Utility Code preempted the field of public utility regulation such that township's shade tree ordinance did not control the public utility's vegetation management practices, even as to public right-of-ways within the township;

[2] the First Class Township Code (FCTC) did not provide township with authority to regulate how the utility trimmed shade trees in public right-of-ways;

[3] general municipal statute did not serve as an exception to the regulatory powers of the Public Utility Commission (PUC) over public utility services;

[4] statutory provision setting forth additional corporate powers of public utility companies did not apply to allow township to regulate how public utility managed vegetation; and

[5] the township's property rights to trees within its public right-of-ways did not provide it with authority to regulate how the utility trimmed the trees.

Affirmed.

West Headnotes (18)

[1] **Public Utilities**

⇌ Regulation

A third class city may not prescribe regulations related to a public utility's business, facilities, or service.

Cases that cite this headnote

[2] **Public Utilities**

⇌ Constitutional and Statutory Provisions

Public Utility Code is intended to be the supreme law of the commonwealth in the regulation and supervision of public utilities; this being so, it follows as a necessary sequence that all laws inconsistent with the powers conferred by the Code must be held to be repealed. 66 Pa.C.S.A. §§ 101-3316.

Cases that cite this headnote

[3] **Public Utilities**

⇌ Powers and Functions

The Pennsylvania Public Utility Commission's (PUC) jurisdiction under the Public Utility Code covers matters including rates, service, rules of service, hazards to public safety due to the use of utility facilities, installation of utility facilities, and location of utility facilities. 66 Pa.C.S.A. § 1501.

Cases that cite this headnote

system for the government and regulation of townships of the first class, except as to the several matters enumerated in section 103 of this act [53 P.S. § 55103]. *This act shall not repeal or modify any of the provisions of the Public Utility [Code]*

*1001 Noting the FCTC does not repeal or modify any provisions of the Public Utility Code, the trial court thus concluded “the Public Utility Code preempts the FCTC with respect to the regulation of public utility companies.” Tr. Ct. Slip. Op. at 7.

[1] [2] In addition, the trial court reviewed a line of appellate decisions addressing local government attempts to regulate public utilities. A third class city may not prescribe regulations related to a public utility's business, facilities or service. *York Water Co. v. City of York*, 250 Pa. 115, 95 A. 396 (1915). Like its statutory precursors, the Public Utility Code is intended to be the supreme law of the Commonwealth in the regulation and supervision of public utilities. *Newton Twp. v. Phila. Elec. Co.*, 140 Pa. Cmwlth. 635, 594 A.2d 834 (1991). “[T]his being so, it follows as a necessary sequence that all laws inconsistent with the powers thus conferred must be held to be repealed...” *Id.* at 836.

[3] The trial court also cited the following language in *County of Chester v. Philadelphia Electric Company*, 420 Pa. 422, 425–26, 218 A.2d 331, 333 (1966), confirming the PUC's role as sole regulator of public utilities:

The necessity for conformity in the regulation and control of public utilities is as apparent as the electric lines which one views traversing the Commonwealth. If each county were to pronounce its own regulation and control over electric wires, pipe lines and oil lines, the conveyors of power and fuel could become so twisted as to affect adversely the welfare of the entire state. It is for that reason that the Legislature has vested in the [PUC] exclusive authority over the complex and technical service and engineering questions arising in the location, construction and

maintenance of all public utilities facilities.

The PUC's jurisdiction covers matters including rates, service, rules of service, hazards to public safety due to the use of utility facilities, installation of utility facilities, and location of utility facilities. *Id.*

Specific to the FCTC and the power of first class townships to regulate public utilities, the trial court cited *Duquesne Light Company v. Upper St. Clair Township*, 377 Pa. 323, 105 A.2d 287 (1954), where the Supreme Court held an electric public utility is not subject to local zoning ordinance regulation of uses and structures. In *Duquesne Light*, the Court stated:

We therefore conclude that the policy of the Commonwealth in entrusting to the [PUC] the regulation and supervision of public utilities has excluded townships from the same field, and that no power in townships to enter that area can be read into the [FCTC] by implication. Unless the legislature has given an express grant of power to townships, the Commonwealth's own expressed policy on the subject is undiminished and supreme.... The Public Utility Code demonstrates without question that the Legislature of the Commonwealth of Pennsylvania has therein expressed its policy to commit the regulation of utilities to the [PUC] and to impose a duty upon utilities to render efficient service.

Id. at 334–35, 105 A.2d at 292–93 (emphasis in original). Applying the rationale in *Duquesne Light*, the trial court held nothing in the FCTC expressly or impliedly authorizes Appellants to regulate PECO or other public utilities in the area of vegetation management.

The trial court also rejected Appellants' argument that other legislation concerning the placement or maintenance of utility facilities on, under, or over public streets, authorizes Appellants to regulate public *1002 utilities' vegetation management practices. In particular, the trial

Memo

East Goshen Township

E-mail rsmith@eastgoshen.org

Date: July 17, 2017

To: Daily Local News

From: Rick Smith, Township Manager

Re: Meeting Notice

Please publish on July 27, 2017 and send the invoice and proof of publication to East Goshen Township. Thanks

Rick

**EAST GOSHEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA**

Notice is hereby given that beginning July 28, 2017, the Board of Supervisors of East Goshen Township, Chester County, will accept written comments on the Pollutant Reduction Plan (PRP) associated with the NPDES Stormwater Discharges for the Small Municipal Separate Storm Sewer Systems (MS4) permit application.

Interested parties can review the plan at the Township Building during normal business hours. The plan is also available for review on the Township web site at www.eastgoshen.org.

All comments shall be submitted in writing, addressed to the Township Manager prior to September 6, 2017. The Board will also accept public comment on the plan at their regularly scheduled meeting on Tuesday, August 15, 2017 at 7:00 PM at the Township Building, 1580 Paoli Pike, West Chester, PA 19380.

Louis F. Smith, Jr.
Township Manager

POLLUTANT REDUCTION PLAN EAST GOSHEN TOWNSHIP MS4



Submitted To:

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380
610-692-8950

Submitted By:

Nathan M. Cline, PE
Township Engineer
Pennoni
One South Church Street
2nd Floor
West Chester, PA 19382

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APPENDICES

- A. Storm Sewershed Map
- B. Pollutant Loading Calculations
- C. Stormwater BMP Concept Plans
- D. Public Comment and Responses



1. EXECUTIVE SUMMARY

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 and the Pennsylvania Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq., East Goshen Township has developed the following Pollutant Reduction Plan to maintain authorization to discharge from a small municipal separate storm sewer system (MS4) to regulated waters of the commonwealth under the National Pollutant Discharge Elimination System (NPDES) Individual Permit.

The requirements call for a reduction in sediment loading within the Township's watersheds by the year 2023. The following table indicates the baseline sediment loading for each watershed and the required reduction of 10% over the five (5) year permit period:

	Baseline Sediment Loading (lbs/yr)	Required Reduction (lbs/yr)
Ridley Creek	319,538	31,954
East Branch Chester Creek	219,093	21,909
Total	538,631	53,863

East Goshen Township proposes to decommission two (2) dams located in the Township (Hershey's Mill Dam and Milltown Dam) and reconstruct and restore the impoundments by utilizing a variety of BMP improvements including wet pond creation, stream restoration, tree planting, forest buffering and filter strip runoff reduction. These improvements are estimated to cost a total of \$1,704,715. State and local grant funding will be pursued to financially assist the various projects. The Township will continue to own and maintain the effected properties planned for BMP improvements. Stormwater BMPs will be appropriately maintained by the Township Public Works Department in accordance with the guidelines and standard practices provided in the *Pennsylvania Stormwater BMP Manual*, the Township Stormwater Management Ordinance, and any maintenance guidelines developed for the projects.

2. INTRODUCTION

The 2018 NPDES Individual Permit for small MS4's requires East Goshen Township to implement a Pollutant Reduction Plan (PRP) to address stormwater discharges to impaired waters within the Township. A PRP is a planning document intended to guide the selection and implementation of specific Best Management Practices (BMPs) to reduce pollutant loading to surface waters. The ultimate objective of the PRP is to eventually attain the water quality standards and designated/existing uses in accordance with PA Chapter 93- Water Quality Standards. According to the Pennsylvania Department of Environmental Protection's (DEP) "Municipal MS4 Requirements Table" last revised May 9, 2017, the Township's streams are impaired for siltation. Therefore, a PRP in accordance with Appendix E of the Individual Permit is required to demonstrate a strategy to achieve a 10% reduction in sediment loading by 2023 in each impaired watershed, including Hunters Run, Ridley Creek, and the East Branch of Chester Creek.

The following Pollutant Loading Analysis and Reduction Plan provides in detail the steps utilized to estimate baseline pollutant loads and develop planned BMPs and pollutant control measures necessary to achieve and exceed the required water quality improvements.

3. POLLUTANT LOADING ANALYSIS AND REDUCTION PLAN

Baseline sediment loading calculations were determined utilizing DEP's "Simplified Method" as demonstrated in Attachment D of the PRP Instructions. Storm sewersheds were delineated for individual outfalls, portions of the Township not draining through the municipal storm sewer system, and State highways maintained by PennDOT. GIS software was utilized to determine land cover for each outfall sewershed using the 2011 National Land Cover Database (NLCD) layer for land cover characteristics. Per DEP guidance, the following percentages of impervious coverage were applied to the corresponding land cover:

- Developed Open Space - 19% Impervious
- Low Intensity Impervious - 49% Impervious
- Medium Intensity Impervious - 79% Impervious
- High Intensity Impervious - 100% Impervious

East Goshen Township is outside of the Chesapeake Bay watershed; therefore, the developed land loading rates set forth in Attachment B of the PRP instructions for "Chester County" were utilized to determine the baseline loading rate for sediment (1,504.78 pounds/acre/year for impervious areas and 185.12 pounds/acre/year for pervious areas).

BMP selection was determined for each impaired watershed based on the HUC-12 level of stream classification. HUC-12 streams within East Goshen Township include Ridley Creek and the East Branch of Chester Creek. Impaired streams within each of the HUC-12 watersheds are indicated on the map included in Appendix A.

3.1 Land Cover Analysis

RIDLEY CREEK

Ridley Creek, including tributaries within East Goshen Township, is a designated high quality-trout stocking/migratory fishes (HQ-TSF/MF) waterway draining the eastern portion of the municipality. The Ridley Creek sub-watershed within the municipality is an urbanized area encompassing approximately 842 acres and containing the following impaired streams:

- Ridley Creek
- Hunters Run

DEP has not approved a TMDL for these waters, however the impaired status requires the identification and control of pollutant loadings for sediment.

An analysis of existing land cover within the Ridley Creek watershed is required to estimate impervious and pervious area. The Ridley Creek watershed area was adjusted by parsing land area associated with PennDOT roadways and other land areas, for which stormwater runoff does not enter the MS4 (See Appendix A for Storm Sewershed areas). Land areas, where stormwater runoff is managed by an existing BMP, designed and permitted in accordance with Chapter 102 were removed from the watershed. The total and adjusted watershed areas for Ridley Creek are:

Watershed Area:	1226	acres
Parsed Area:	384	acres
Chapter 102 BMPs:	0	acres
Adjusted Watershed Area:	842	acres

The following table provides a summary of the land cover and impervious area characteristics for the adjusted Ridley watershed:

LAND USE	AREA [ACRE]	IMPERVIOUS [%]	IMPERVIOUS AREA [ACRE]	PERVIOUS AREA [ACRE]
Open Space	1	19%	0	1
Low Intensity Development	216	49%	106	110
Medium Intensity Development	21	79%	17	4
High Intensity Development	1	100%	1	0
Shrub Scrub	85	0%	0	85
Deciduous Forest	320	0%	0	320
Woody Wetlands	41	0%	0	41
Hay Pasture	92	0%	0	92
Evergreen Forest	9	0%	0	9
Mixed Forest	27	0%	0	27
Herbaceous	5	0%	0	5
Cultivated Crops	24	0%	0	24
TOTAL	842	-	124	718

EAST BRANCH OF CHESTER CREEK

The East Branch of Chester Creek within East Goshen Township is a designated trout stocked/ migratory fishes (TSF/MF) waterway draining the western portion of the municipality. The East Branch Chester of Creek watershed within the municipality is an urbanized area encompassing approximately 439 acres.

DEP has not approved a TMDL for these waters, however the impaired status requires the identification and control of pollutant loadings for sediment.

An analysis of existing land cover within the East Branch of Chester Creek watershed is required to estimate impervious and pervious area. The East Branch of Chester Creek watershed area was adjusted by parsing land area associated with PennDOT roadways and other land areas, which stormwater runoff does not enter the MS4 (See Appendix A for Storm Sewershed areas). Land areas, where stormwater runoff is managed by an existing BMP, designed and permitted in accordance with Chapter 102 were removed from the watershed. The total and adjusted watershed areas for East Branch of Chester Creek are:

Watershed Area:	511	acres
Parsed Area:	72	acres
Chapter 102 BMPs:	0	acres
Adjusted Watershed Area:	439	acres

The following table provides a summary of the land cover and impervious area characteristics for the adjusted East Branch of Chester Creek watershed:

LAND USE	AREA [ACRE]	IMPERVIOUS [%]	IMPERVIOUS AREA [ACRE]	PERVIOUS AREA [ACRE]
Open Space	12	19%	2	10
Low Intensity Development	125	49%	62	63
Medium Intensity Development	36	79%	29	8
High Intensity Development	12	100%	12	0
Shrub Scrub	29	0%	0	29
Deciduous Forest	136	0%	0	136
Woody Wetlands	13	0%	0	13
Hay Pasture	27	0%	0	27
Evergreen Forest	11	0%	0	11
Mixed Forest	19	0%	0	19
Herbaceous	2	0%	0	2
Cultivated Crops	17	0%	0	17
Open Water	0	0%	0	0
TOTAL	439	-	104	335

3.2 Pollutant Loading Summary

A baseline sediment loading rate was calculated using a developed loading rate of 1,504.78 pounds/acre/year (lb/ac/yr) for impervious areas and 185.12 lb/ac/yr for pervious areas (See Appendix B for detailed calculations).

RIDLEY CREEK

Based on the estimated amount of pervious and impervious areas within the adjusted watershed, the baseline sediment loading and required reduction for Ridley Creek is:

	[ACRES]	[LB/AC/YR]	[LB/YR]
Impervious Land Cover	124	1,505	186,711
Pervious Land Cover	718	185	132,827
Total	842	-	319,538
Required Reduction	-	-	31,954

In accordance with DEP requirements, a Pollutant Reduction Plan is required for Ridley Creek to reduce sediment load by 10%, or 31,954 lb/yr, by the end of the 2023 permit year.

EAST BRANCH OF CHESTER CREEK

Based on the estimated amount of pervious and impervious areas within the adjusted watershed, the baseline sediment loading for the East Branch of Chester Creek is:

	[ACRES]	[LB/AC/YR]	[LB/YR]
Impervious Land Cover	104	1,505	157,159
Pervious Land Cover	335	185	61,934
Total	439	-	219,093
Required Reduction	-	-	21,909

In accordance with DEP requirements, a Pollutant Reduction Plan is required for the East Branch of Chester Creek to reduce sediment load by 10%, or 21,909 lb/yr, by the end of the 2023 permit year.

3.3 Pollutant Control Measures

The following stormwater BMPs and other pollutant control measures (PCM) are required to reduce sediment loading by 10% within the next five years. Descriptions and conceptual designs for stormwater BMPs are provided in Appendix C.

STORMWATER BMP	DESCRIPTION	SEDIMENT EFFECTIVENESS VALUE
Stormwater Management Basin Retrofit - Wet Pond	A structure that intercepts stormwater runoff and releases to an open water system. A permanent pool is maintained within the structure, having retention times sufficient to allow settlement of sediments.	60%

STORMWATER BMP	DESCRIPTION	SEDIMENT EFFECTIVENESS VALUE
Stormwater Management Basin Retrofit - Extended Detention	A water impoundment, designed to temporarily store and slowly release stormwater runoff to surface waters or groundwater. Extended detention basins return to a completely dry condition between storm events to maintain treatment capacity.	60%
Filter Strip Runoff Reduction	Stable areas with vegetated cover on flat or gently sloping land. Runoff entering the filter strip must be in the form of sheet-flow and must enter at a non-erosive rate for the site-specific soil conditions.	56%
Bioswale	A swale with gently sloped sides, filled with vegetation, compost or rip rap, designed to function as a bioretention area.	80%
Infiltration Practices	A depression or trench designed to trap sediment and allow water to infiltrate into the soil.	95%
Bioretention/Rain Gardens	A shallow basin or depression backfilled with engineered media, topsoil, mulch and vegetation, used to temporarily store and treat stormwater runoff by filtering through plant and soil medias.	55% - 90%
Stream Restoration	Practices that prevent channel or bank erosions that otherwise would be delivered downstream from an actively enlarging or incising urban stream.	44.88 lbs/ft/yr
Riparian Buffers	An area of trees at least 35 feet wide on one side of a stream, accompanied by trees, shrubs and vegetation adjacent to a body of water. Forested or riparian buffers reduce sediment by filtering stormwater runoff before entering a waterbody.	50%

STORMWATER BMP	DESCRIPTION	SEDIMENT EFFECTIVENESS VALUE
Storm Sewer Filters	The collection or capture and proper disposal of solid material within the storm sewer system, preventing discharge to surface waters.	80% (max)
Street Sweeping	Routine roadside maintenance to remove sediment and debris, completed a minimum of 25 times per year.	9%

3.4 Pollutant Reduction Summary

A summary of the areas managed by stormwater BMPs and other PCMs and estimated sediment removal for each watershed follow.

RIDLEY CREEK

To address sediment reduction in Ridley Creek, East Goshen Township proposes to decommission the existing Hershey's Mill Dam and construct a wet pond in its place with associated stream restoration, forest buffering and tree plantings. Additional info for the proposed BMPs is provided in Appendix C.

Project 1	Stormwater BMP/PCM	Sediment Removal
	Hershey's Mill Dam	[LB/YR]
	Wet Pond (drainage area to pond - 284 acres)	42,712
	Stream Restoration (150 linear feet)	6,732
	Forest Buffer (drainage area to buffer - 2.26 acres)	381
	Tree Planting (33 trees)	12
	Total Reduction	49,837
	Min. Reduction Required	31,954

Based on the required sediment loading reduction of 31,954 lbs/yr, the planned combination of BMPs achieves an expected sediment loading in excess of the required 10%.

EAST BRANCH OF CHESTER CREEK

To address sediment reduction within the East Branch of Chester Creek watershed, East Goshen Township proposes to decommission the existing Milltown Dam and reduce the height of the dam to create a low hazard dam structure. This construction will include stream restoration, filter strip runoff reduction and tree plantings. Additional information for the proposed BMPs is provided in Appendix C.

Project 2	Stormwater BMP/PCM	Sediment Removal
	Milltown Dam	[LB/YR]
	Stream Restoration (1010 linear feet)	45,329
	Filter Strip Runoff Reduction (drainage area to filter strip - 10.5 acres)	4,562
	Tree Planting (105 trees)	39
	Total Reduction	49,930
	Min. Reduction Required	21,909

Based on the required sediment loading reduction of 21,909 lb/yr, the planned combination of BMPs and pollutant control measures achieves an expected sediment loading in excess of the required 10%.

4. IMPLEMENTATION PLAN

4.1 Funding

The following BMPs will be funded by East Goshen Township. State and local grant funding will be pursued to financially assist BMP projects.

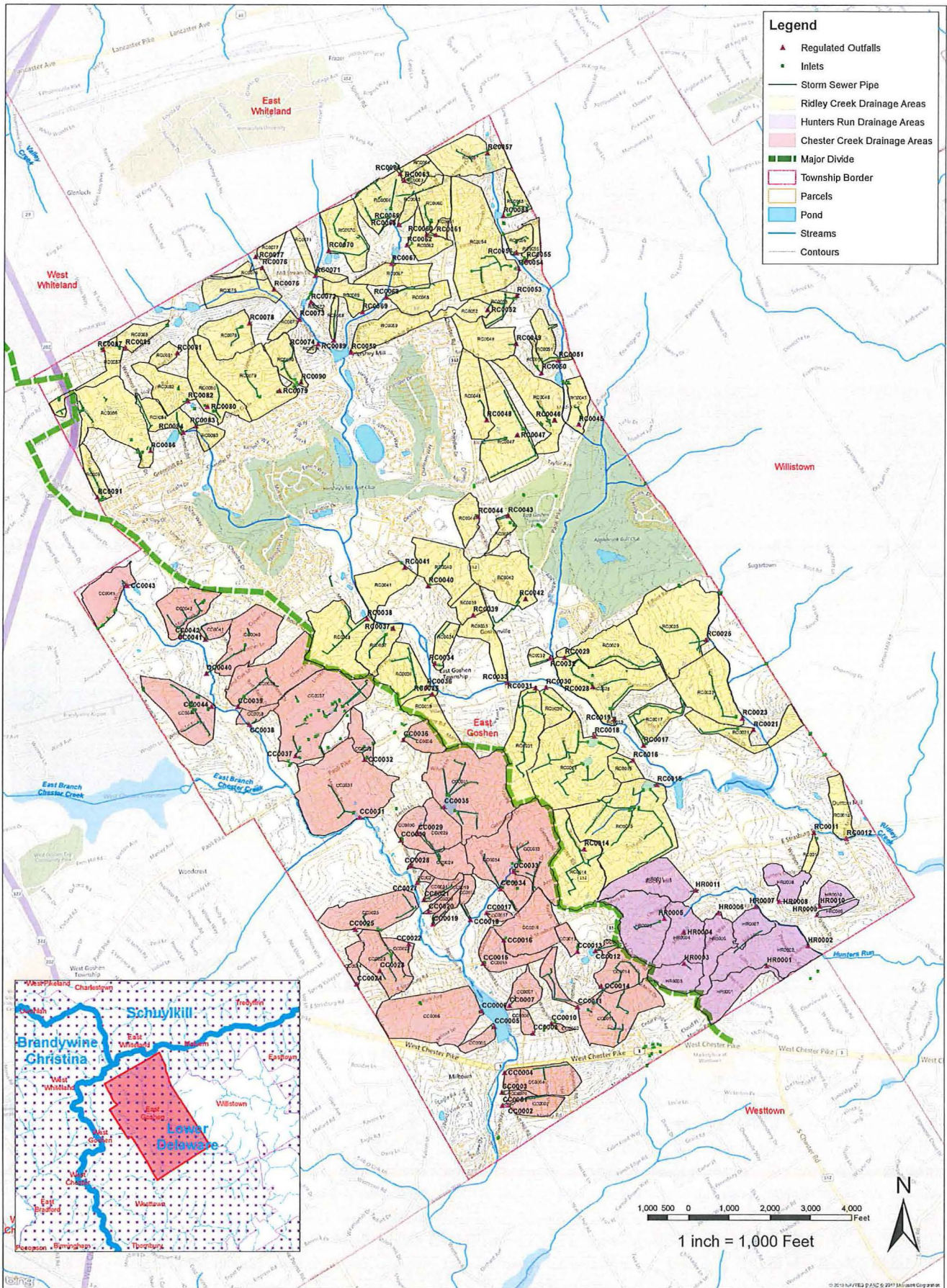
Project	Stormwater BMP/PCM	Property Owner	Estimated Cost (Design & Construction)
1	Hershey's Mill Dam Wet Pond Stream Restoration Forest Buffer Tree Plantings	East Goshen Township	\$241,666
2	Milltown Dam Stream Restoration Filter Strip Runoff Reduction Tree Plantings	East Goshen Township	\$1,391,280
		Total	\$1,704,715

4.2 Ownership and Maintenance

East Goshen Township currently and will continue to own and maintain the effected properties planned for BMP improvements. Stormwater BMPs will be appropriately maintained by the Township Public Works Department in accordance with the guidelines and standard practices provided in the *Pennsylvania Stormwater BMP Manual* and the Township Stormwater Management Ordinance, and any maintenance guidelines developed for the projects.

APPENDIX A

Storm Sewershed Map



SK-1

EAST GOSHEN TOWNSHIP, CHESTER COUNTY, PA
EGOS 0601
EAST GOSHEN
TOWNSHIP MS4 SYSTEM



*Credits source Page:
*Credits: Source entry link to source (layers or information used in map)

APPENDIX B

Pollutant Loading Calculations

Chester County Loading Rates	
Impervious Developed (lbs/ac/yr)	1504.78
Pervious Developed (lbs/ac/yr)	185.12

INPUT
OUTPUT

BMP Description	Wet Pond			
Location	Hershey's Mill - Project 1			
Watershed	Ridley Creek			
Impervious Reduction (lbs/yr)				
Area (ac)	Loading Rate	BMP Name	BMP Effectiveness Value	Reduction (lbs/yr)
14.14	1504.78	Wet Ponds and Wetlands	60%	12,766.55
Pervious Reduction (lbs/yr)				
Area (ac)	Loading Rate	BMP Name	BMP Effectiveness Value	Reduction (lbs/yr)
269.6	185.12	Wet Ponds and Wetlands	60%	29,945.01
Sediment Load Reduction (lbs/yr)				42,711.56

Chester County Loading Rates	
Impervious Developed (lbs/ac/yr)	1504.78
Pervious Developed (lbs/ac/yr)	185.12

INPUT
OUTPUT

BMP Description	Stream Restoration		
Location	Hershey's Mill - Project 1		
Watershed	Ridley Creek		
Length (ft)	Loading Rate	BMP Name	Effectiveness Value (lb/acre/yr)
150	N/A	Stream Restoration	44.88
Sediment Load Reduction (lbs/yr)			6,732.00

Chester County Loading Rates	
Impervious Developed (lbs/ac/yr)	1504.78
Pervious Developed (lbs/ac/yr)	185.12

INPUT
OUTPUT

BMP Description	Forest Buffer				
Location	Hershey's Mill - Project 1				
Watershed	Ridley Creek				
Impervious Reduction (lbs/yr)					
Area (ac)	0.26	1504.78	Forest Buffers	50%	195.62
Pervious Reduction (lbs/yr)					
Area (ac)	2	185.12	Forest Buffers	50%	185.12
Sediment Load Reduction (lbs/yr)					380.74

Chester County Loading Rates	
Impervious Developed (lbs/ac/yr)	1504.78
Pervious Developed (lbs/ac/yr)	185.12

INPUT

OUTPUT

BMP Description	Tree Planting			
Location	Hershey's Mill - Project 1			
Watershed	Ridley Creek			
Number of Trees Planted	Loading Rate	BMP Name	BMP Effectiveness Value	Reduction (lbs/yr)
33	185.12	Tree Planting	20%	12.22
Sediment Load Reduction (lbs/yr)				12.22

Chester County Loading Rates	
Impervious Developed (lbs/ac/yr)	1504.78
Pervious Developed (lbs/ac/yr)	185.12

INPUT
OUTPUT

BMP Description	Stream Restoration		
Location	Milltown Dam - Project 2		
Watershed	East Branch of Chester Creek		
Length (ft)	Loading Rate	BMP Name	BMP Effectiveness Value
1010	N/A	Stream Restoration	44.88
Sediment Load Reduction (lbs/yr)			45,328.80

Chester County Loading Rates	
Impervious Developed (lbs/ac/yr)	1504.78
Pervious Developed (lbs/ac/yr)	185.12

INPUT
OUTPUT

BMP Description	Filter Strip Runoff Reduction			
Location	Milltown Dam - Project 2			
Watershed	East Branch of Chester Creek			
Impervious Reduction (lbs/yr)				
Area (ac)	Loading Rate	BMP Name	BMP Effectiveness Value	Reduction (lbs/yr)
4.7	1504.78	Filter Strip Runoff Reduction	56%	3,960.58
Pervious Reduction (lbs/yr)				
Area (ac)	Loading Rate	BMP Name	BMP Effectiveness Value	Reduction (lbs/yr)
5.8	185.12	Filter Strip Runoff Reduction	56%	601.27
Sediment Load Reduction (lbs/yr)				4,561.85

Chester County Loading Rates	
Impervious Developed (lbs/ac/yr)	1504.78
Pervious Developed (lbs/ac/yr)	185.12

INPUT
OUTPUT

BMP Description	Tree Planting			
Location	Milltown Dam - Project 2			
Watershed	East Branch of Chester Creek			
Number of Trees Planted	Loading Rate	BMP Name	BMP Effectiveness Value	Reduction (lbs/yr)
105	185.12	Tree Planting	20%	38.88
Sediment Load Reduction (lbs/yr)				38.88

Outfall Loading Analysis Data

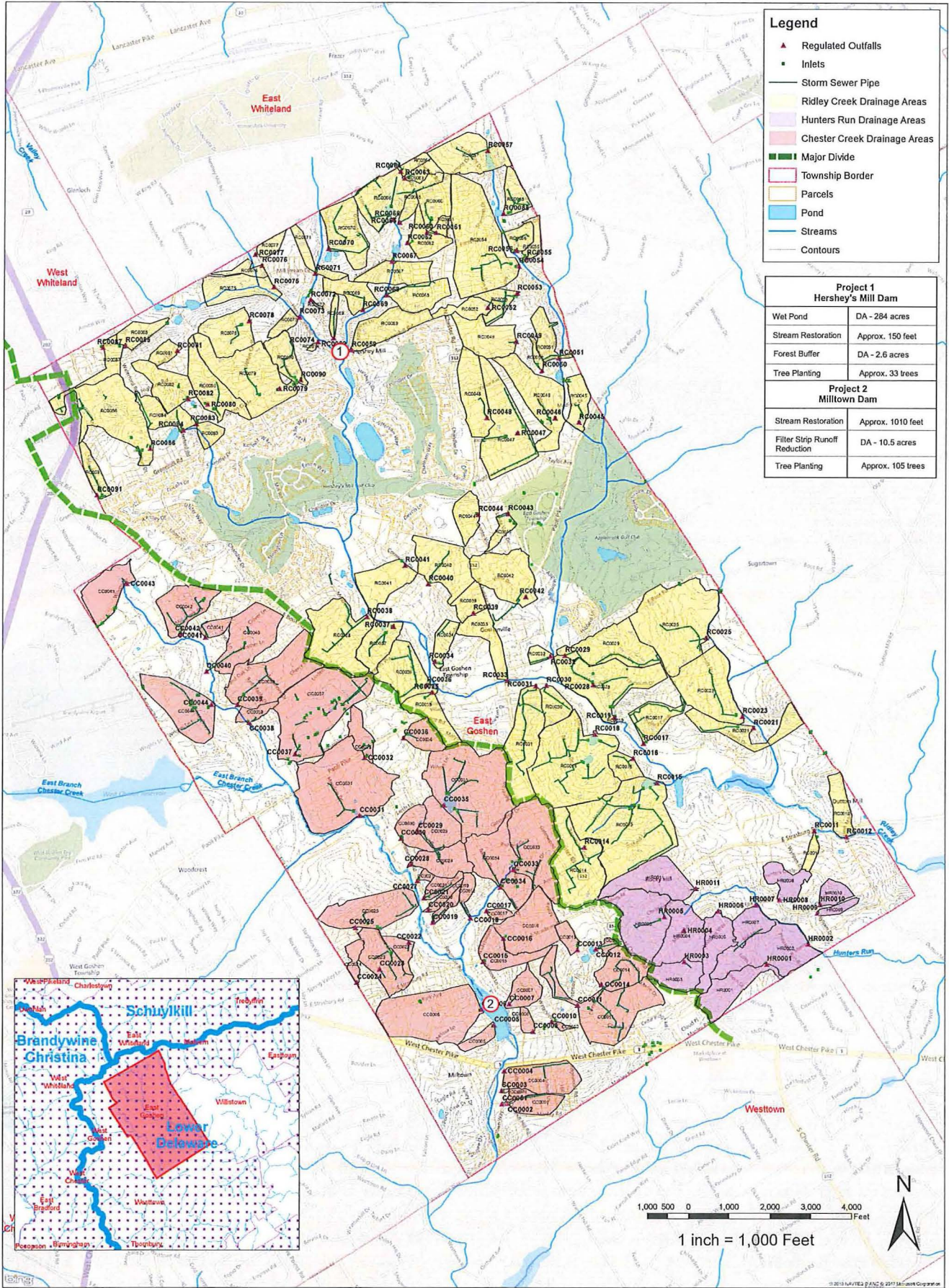
Area (acres)							
	Developed, Open Space	Developed, Low Intensity	Developed, Medium Intensity	Developed High Intensity	Other	Impervious Area	Pervious Area
CC0001	0.00	0.00	0.00	0.00	0.87	0.00	0.87
CC0002	0.00	0.87	0.00	0.00	1.60	0.43	2.04
CC0003	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC0004	0.29	4.50	3.34	0.29	5.51	5.19	8.75
CC0005	0.00	0.44	0.00	0.00	1.02	0.21	1.24
CC0006	0.15	9.00	4.79	0.15	6.68	8.37	12.39
CC0007	0.00	0.15	0.00	0.00	5.08	0.07	5.15
CC0008	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC0010	0.00	0.00	0.00	0.00	0.87	0.00	0.87
CC0011	0.00	14.80	0.00	0.00	7.98	7.25	15.53
CC0012	0.00	0.58	0.00	0.00	0.00	0.28	0.30
CC0013	0.00	0.15	0.00	0.00	0.44	0.07	0.51
CC0014	0.00	4.21	0.00	0.00	4.06	2.06	6.21
CC0015	0.00	1.60	0.00	0.00	7.26	0.78	8.07
CC0016	0.00	1.74	0.00	0.00	5.66	0.85	6.55
CC0017	0.00	0.15	0.00	0.00	1.74	0.07	1.82
CC0018	0.00	0.00	0.00	0.00	3.63	0.00	3.63
CC0019	0.00	0.15	0.00	0.00	2.18	0.07	2.25
CC0020	0.00	0.58	0.00	0.00	1.16	0.28	1.46
CC0021	0.00	0.00	0.00	0.00	4.93	0.00	4.93
CC0022	0.00	1.16	0.00	0.00	4.93	0.57	5.53
CC0023	0.00	3.05	0.00	0.00	5.37	1.49	6.92
CC0024	0.00	0.58	0.00	0.00	4.06	0.28	4.36
CC0025	0.00	2.03	0.00	0.00	20.03	1.00	21.06
CC0027	0.00	0.00	0.00	0.00	1.45	0.00	1.45
CC0028	0.00	0.15	0.00	0.00	12.34	0.07	12.41
CC0029	0.00	0.87	0.00	0.00	18.00	0.43	18.44
CC0030	0.00	0.44	0.00	0.00	8.71	0.21	8.93
CC0031	1.45	7.40	1.16	1.45	42.23	6.27	47.43
CC0032	0.00	4.21	2.18	0.00	0.00	3.78	2.60
CC0033	0.00	6.82	0.00	0.00	1.60	3.34	5.08
CC0034	0.00	5.22	0.00	0.00	11.03	2.56	13.69
CC0035	0.00	11.32	0.00	0.00	32.94	5.55	38.72
CC0036	0.00	3.77	0.15	0.00	0.00	1.96	1.95
CC0037	3.19	18.43	11.17	3.19	2.76	21.66	17.09
CC0038	0.00	0.00	0.29	0.00	0.00	0.23	0.06
CC0039	0.00	2.32	0.00	0.00	5.66	1.14	6.84
CC0040	0.00	0.29	0.00	0.00	7.11	0.14	7.26
CC0041	0.00	0.73	0.00	0.00	0.44	0.36	0.81
CC0042	0.00	2.47	0.00	0.00	8.42	1.21	9.68
CC0043	3.92	5.37	6.82	3.92	2.32	12.68	9.67
CC0044	3.34	8.85	6.53	3.34	2.32	13.47	10.91
HR0001	0.00	2.03	0.00	0.00	3.48	1.00	4.52
HR0002	0.00	0.29	0.00	0.00	28.74	0.14	28.88
HR0003	0.00	2.61	0.00	0.00	1.16	1.28	2.49
HR0004	0.00	0.73	0.00	0.00	15.38	0.36	15.75
HR0005	0.00	0.87	0.73	0.00	14.08	1.00	14.67
HR0006	0.00	1.60	0.00	0.00	4.93	0.78	5.75

HR0007	0.00	0.00	0.00	0.00	12.63	0.00	12.63
HR0008	0.00	0.00	0.00	0.00	10.59	0.00	10.59
HR0009	0.00	0.00	0.00	0.00	3.05	0.00	3.05
HR0010	0.00	0.00	0.00	0.00	6.53	0.00	6.53
HR0011	0.00	3.92	0.00	0.00	9.29	1.92	11.29
RC0011	0.00	0.00	0.00	0.00	3.05	0.00	3.05
RC0012	0.00	0.00	0.00	0.00	11.17	0.00	11.17
RC0014	0.00	5.81	0.00	0.00	1.16	2.84	4.12
RC0015	0.00	11.47	0.00	0.00	27.28	5.62	33.13
RC0016	0.00	1.74	0.00	0.00	0.73	0.85	1.61
RC0017	0.00	12.63	0.87	0.00	0.29	6.87	6.91
RC0018	0.00	19.01	0.00	0.00	5.22	9.32	14.92
RC0019	0.00	0.00	0.00	0.00	0.15	0.00	0.15
RC0021	0.00	4.93	0.00	0.00	9.58	2.42	12.09
RC0023	0.00	3.63	0.00	0.00	5.37	1.78	7.22
RC0025	0.00	3.05	0.44	0.00	28.15	1.84	29.80
RC0028	0.00	13.79	0.87	0.00	13.50	7.44	20.71
RC0029	0.00	7.69	0.15	0.00	10.30	3.88	14.26
RC0030	0.00	3.92	0.00	0.00	0.58	1.92	2.58
RC0031	0.00	7.98	0.29	0.00	7.98	4.14	12.11
RC0032	0.00	3.19	0.87	0.00	0.00	2.25	1.81
RC0033	0.29	4.64	3.92	0.29	0.87	5.72	4.30
RC0034	0.00	0.00	0.00	0.00	2.47	0.00	2.47
RC0035	0.87	6.53	3.77	0.87	0.44	7.22	5.26
RC0036	0.00	6.68	0.00	0.00	2.47	3.27	5.87
RC0037	0.00	2.47	0.00	0.00	3.92	1.21	5.18
RC0038	0.00	0.73	0.00	0.00	11.47	0.36	11.84
RC0039	0.00	0.15	0.00	0.00	1.60	0.07	1.67
RC0040	0.00	1.45	0.29	0.00	16.54	0.94	17.35
RC0041	0.00	0.00	0.00	0.00	20.75	0.00	20.75
RC0042	0.00	0.73	0.00	0.00	6.53	0.36	6.90
RC0043	0.00	0.15	0.00	0.00	2.47	0.07	2.54
RC0044	0.00	1.89	0.00	0.00	0.44	0.92	1.40
RC0045	0.00	2.61	0.00	0.00	6.39	1.28	7.72
RC0046	0.00	1.16	0.00	0.00	22.35	0.57	22.94
RC0047	0.00	2.47	0.00	0.00	18.14	1.21	19.40
RC0048	0.00	0.87	0.00	0.00	13.50	0.43	13.94
RC0049	0.00	2.18	0.00	0.00	14.51	1.07	15.62
RC0050	0.00	0.00	0.00	0.00	0.73	0.00	0.73
RC0051	0.00	0.00	0.00	0.00	9.14	0.00	9.14
RC0052	0.00	0.29	0.00	0.00	8.13	0.14	8.28
RC0053	0.00	5.66	0.00	0.00	1.60	2.77	4.48
RC0054	0.00	15.53	1.02	0.00	19.88	8.41	28.02
RC0055	0.00	1.16	1.45	0.00	1.16	1.72	2.06
RC0056	0.00	1.89	0.15	0.00	3.77	1.04	4.77
RC0057	0.00	1.74	0.15	0.00	6.24	0.97	7.16
RC0059	0.00	2.61	0.00	0.00	12.77	1.28	14.10
RC0060	0.00	2.18	0.00	0.00	1.89	1.07	3.00
RC0061	0.00	0.87	0.15	0.00	0.00	0.54	0.47
RC0062	0.00	1.45	0.00	0.00	5.22	0.71	5.96
RC0063	0.00	0.73	0.00	0.00	0.44	0.36	0.81
RC0064	0.00	0.29	0.00	0.00	0.58	0.14	0.73
RC0065	0.00	0.44	0.00	0.00	0.00	0.21	0.22
RC0066	0.00	6.39	0.29	0.00	4.50	3.36	7.82
RC0067	0.00	0.44	0.00	0.00	14.08	0.21	14.30

RC0068	0.00	1.89	0.00	0.00	7.69	0.92	8.65
RC0069	0.00	0.44	0.00	0.00	9.87	0.21	10.09
RC0070	0.00	5.66	0.00	0.00	4.64	2.77	7.53
RC0071	0.00	0.00	0.00	0.00	5.81	0.00	5.81
RC0072	0.00	0.29	0.00	0.00	0.00	0.14	0.15
RC0073	0.00	0.15	0.00	0.00	5.08	0.07	5.15
RC0074	0.00	0.00	0.00	0.00	0.58	0.00	0.58
RC0075	0.00	0.00	0.00	0.00	21.62	0.00	21.62
RC0076	0.00	0.00	0.00	0.00	3.92	0.00	3.92
RC0077	0.00	0.00	0.00	0.00	4.35	0.00	4.35
RC0078	0.00	0.58	0.00	0.00	4.93	0.28	5.23
RC0079	0.00	1.60	0.00	0.00	8.27	0.78	9.09
RC0080	0.00	2.03	0.00	0.00	2.32	1.00	3.36
RC0081	0.00	0.00	0.00	0.00	5.22	0.00	5.22
RC0082	0.00	0.87	0.00	0.00	1.89	0.43	2.33
RC0083	0.00	0.00	0.00	0.00	3.63	0.00	3.63
RC0084	0.00	0.44	0.00	0.00	1.31	0.21	1.53
RC0085	0.00	0.00	0.00	0.00	8.71	0.00	8.71
RC0086	0.00	4.21	1.02	0.00	17.56	2.86	19.92
RC0087	0.00	0.15	0.00	0.00	3.63	0.07	3.70
RC0088	0.00	0.58	0.00	0.00	7.55	0.28	7.84
RC0089	0.00	0.73	0.00	0.00	0.87	0.36	1.24
RC0090	0.00	5.22	4.79	0.00	0.29	6.34	3.96
RC0091	0.00	4.21	0.00	0.00	2.76	2.06	4.90

APPENDIX C
Stormwater BMP Concept Plans





SK-1	EAST GOSHEN TOWNSHIP, CHESTER COUNTY, PA EGOS 0601		<small>*Credits source Page *Credits Source entry, link to source (layers or information used in map)</small>
	EAST GOSHEN TOWNSHIP MS4 SYSTEM		



Aerial image of Hershey's Mill Dam and surrounding residential neighborhoods, taken in 2010.

Final Plan

The final plan maintains the unique character of the site while making it accessible to the general public; open water views are created and the creek will pass through a new man-made waterfall rather than passing over the old dam spillway. More diverse and dynamic habitats will be established for flora and fauna. The site will still provide neighborhood residents with an impressive yet unique aesthetic feature while also supporting some limited passive recreation activities such as fishing, wildlife and bird observation, and walking.

The development of the park will offer several solutions to help enhance the water quality of the Ridley Creek through the creation of stormwater Best Management Practices (BMPs) that may include soil amendments; native tree planting; bio-swales and rain gardens; and other techniques designed to capture pollutants before they enter the creek.

The use of native plants will help to create low maintenance landscapes that will foster ecological sustainability. The planting design will include canopy and understory trees, shrub and herbaceous plant understory; and wet meadow reestablishment.

Construction Timeline and Cost

Dam de-construction is scheduled for the summer of 2018. Detailed park improvements may proceed at that time or may be delayed a year or more if funding is not yet available.

Phasing and Cost

The dam deconstruction will cost approximately \$430,000 and the park component is estimated to cost approximately \$242,000. The Township will likely build the park in two phases, based on funding. Funding will be sought from DCNR, DCED, DEP, and other local and state funding programs.



Constructed stream step pools can be used to prevent stream head cutting after a dam removal.

EXECUTIVE SUMMARY



Project Purpose

The Hershey's Mill Dam Park and Open Space Master Plan will create meaningful landscape and ecological value in the site of the former reservoir impoundment.

The park will also offer ways to help the Township comply with its MS4 requirements for the Ridley Creek watershed.

The goal of the Hershey's Mill Dam Park and Open Space Plan is to retain and if possible enhance the value that the former reservoir and historic and scenic mill dam waterfall provided to both area residents and passers-by.

The Hershey's Mill Dam site is located in the northcentral portion of East Goshen Township, Chester County, Pennsylvania, and is bound by Greenhill Road, Hershey Mill Road, and private residences on Burning Bush Lane and Foxglove Lane. The land uses surrounding the site are residential. The dam has existed possibly as far back as 1796 as a grist mill. The stone-faced spillway wall became the most prominent feature of the dam and was a symbol of area history. The existing site contains wetlands, the dam embankment and spillway, and open land. Access onto and within the site can be difficult as portions of the land are heavily wooded, steeply sloped, wet or accessed only through easements that pass through homeowner association lands from Hershey's Mill Estates.

Park Open Space Master Site Plan

Recent inspections by the Pennsylvania Department of Environmental Protection (PA DEP) and ever more stringent dam regulations led to the classification of Hershey's Mill Dam as a "hazard" due to the deficiencies including:

- Inadequate spillway capacity;
- Woody vegetation growth on embankments;
- Steep embankment slopes and narrow top width;
- Falling masonry / stone retaining walls;
- Cracking / Undermining of spillway slab; and
- Private development impacting embankment cross section

Project Process

After considering several options in 2009, the Township decided to proceed with the plan of a full decommissioning of the dam at the existing spillway. The reservoir was drained to mitigate any potential flooding danger to nearby residents.

In 2016 the Township retained Simone Collins Landscape Architecture (SC) and Princeton Hydro (PH) to develop a master plan for the new park. A total of eight meetings were held by the Township to discuss and develop the plans. Residents participated in the planning process over a 8 month period. There were three online public opinion surveys which allowed people to comment on the plans. Approximately 420 residents responded to the surveys.



Legend

- Hershey's Mill Dam Site
- Roads
- Parcels
- 1' Site Contour Lines
- 5' Contour Lines
- Existing Sewer Line
- Wetlands
- Existing 100 Year Floodplain
- Proposed 100 Year Floodplain
- Proposed Stream Control Structure
- Proposed Streams
- Proposed Pond
- Proposed Wet Meadow
- Proposed Engineered Bank Stabilization Planting
- Proposed Tree Plantings
- Proposed ADA Asphalt Path
- Proposed Foot Path

Phase 1 Estimated Costs of Development	
Work Item	Total Cost
<i>Demolition and Site Preparation</i>	\$ 80,895
Phase 1 Site Improvements	\$ 80,895
General Project Cost (Mobilization, E&S, Construction Surveying)	\$ 5,663
Construction Contingency (15%)	\$ 12,134
Design and Engineering (15%)	\$ 12,134
Phase 1 Project Costs	\$ 110,826
Phase 2 Estimated Costs of Development	
Work Item	Total Cost
<i>Mulch Pathways</i>	\$ 7,592
<i>Optional Mulch Pathways</i>	\$ 2,083
<i>ADA Asphalt Walkway</i>	\$ 5,224
<i>Hershey Mill Road ADA Parking Area</i>	\$ 21,525
<i>Planting</i>	\$ 59,080
Phase 2 Site Improvements	\$ 95,504
General Project Cost (Mobilization, E&S, Construction Surveying)	\$ 6,685
Construction Contingency (15%)	\$ 14,326
Design and Engineering (15%)	\$ 14,326
Phase 2 Project Costs	\$ 130,840
Total Costs of Development	\$ 241,666



Aerial image of the existing conditions of Milltown Dam, taken in 2010

Final Plan

The final plan maintains the character of the site while making it very accessible to the general public; open water views are maintained, and new and more dynamic habitats have been established for flora and fauna. The site will be an oasis for neighborhood residents. The park will support passive recreation activities such as fishing, wildlife and bird observation, and walking.

The park will be a destination point on the Central Chester County Trail network that runs along Reservoir Road. The development of the park will also offer several solutions to help enhance the water quality of the Chester Creek through the creation of stormwater Best Management Practices (BMPs) that include soil amendments; native tree planting; bio-swales and rain gardens; and other techniques designed to capture pollutants before they enter the creek.

The use of native plants will help to create low maintenance landscapes that will foster ecological sustainability. The planting design will include canopy and understory trees, shrub and herbaceous plant understory; and wet meadow reestablishment.

Construction Timeline and Cost.

The reservoir was drawn down in stages over the summer of 2017 to allow the muddy banks to naturally

re-seed and stabilize and to prevent sediments from moving downstream. Dam de-construction is scheduled for the summer of 2018, and park improvements are planned for the late summer and fall of 2018, with final site work that could carry over into spring of 2019. Park opening is anticipated for summer of 2019.

Phasing and Cost

The dam deconstruction will cost approximately \$700,000 and the park component is estimated to cost approximately \$1,390,000. The Township hopes to build the park in one phase. However, based on success with funding, the park may need to be built in two or more phases. Funding will be sought from DCNR, DCED, DEP, and other local and state funding programs.



Example upland meadow with various grass species, and supplemented with seasonal flowering perennials.

EXECUTIVE SUMMARY



Milltown Dam
Park Open Space Master Site Plan

Project Purpose

The Milltown Dam Park and Open Space Master Plan connects people and wildlife in a semi-aquatic, natural park setting that enhances the ecological systems of Chester Creek.

The goal of the Milltown Dam Park and Open Space Plan is to retain and if possible enhance the value that the former reservoir provided while making the site accessible to a wider cross section of area residents.

The Milltown Dam site is located in the southwestern portion of East Goshen Township, Chester County, Pennsylvania, and is bound by Reservoir Road, East Strasburg Road, and private residences on Lochwood Lane. The land uses surrounding the site are primarily residential. Since 1920 when the dam was built as a water supply, water views became one of the most prominent features of the Reservoir. The existing site contains open water, wetlands, the dam, and about 7 acres of open land. Access onto and within the site can be difficult as portions of the land are heavily wooded, and the small parking area only has a 2 to 3 car capacity.

Recent inspections by the Pennsylvania Department of Environment (PA DEP) and ever more stringent dam regulations led to the classification of Milltown Dam as a "hazard" due to the deficiencies including:

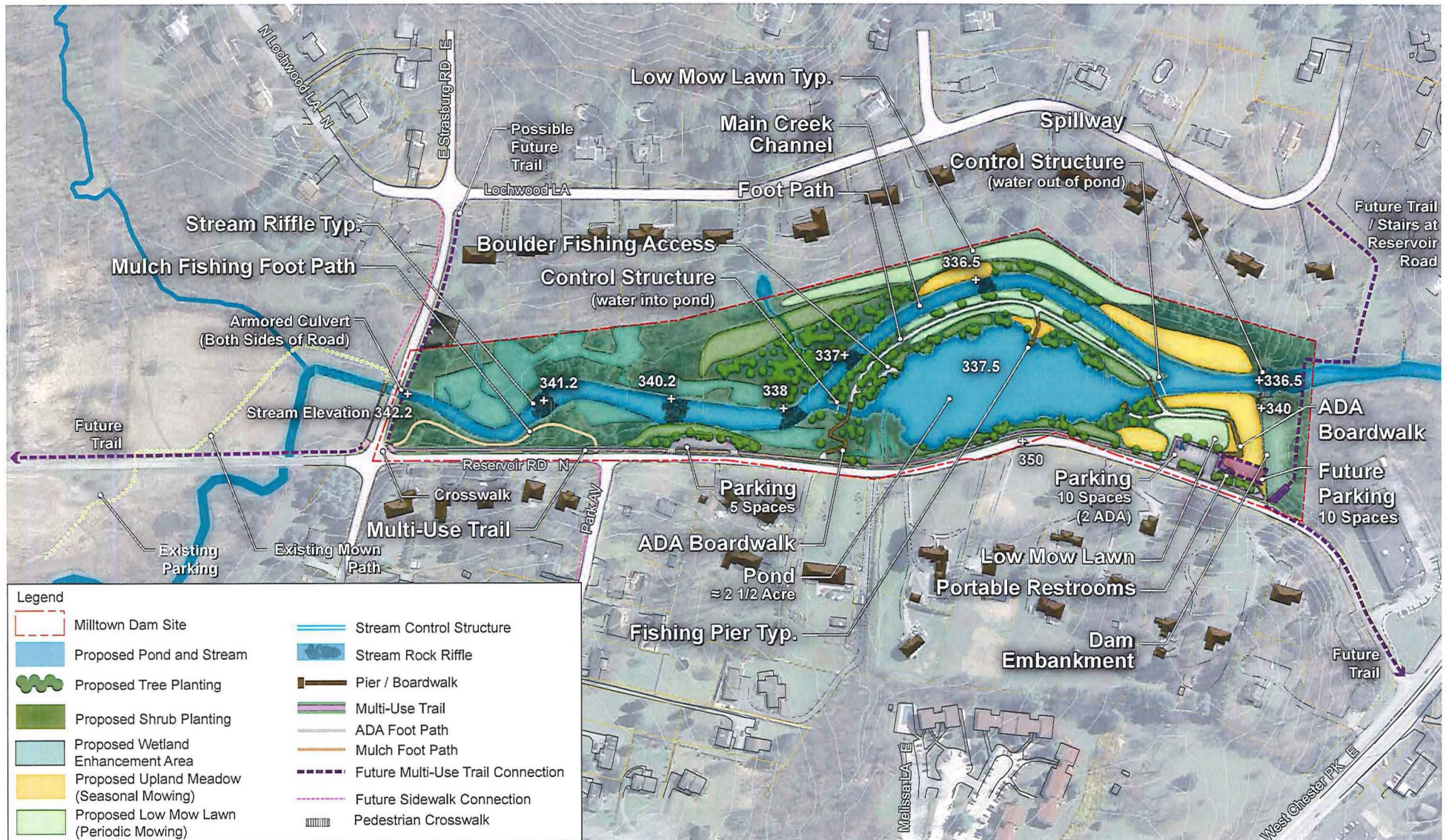
- Inadequate spillway capacity;
- Embankment stability;

- Limited capacity in reservoir;
- Spillway concrete spalling damage;
- Cracking / Undermining of spillway slab;
- Limited dam access; and
- Inadequate public safety features.

Project Process

After considering ten options, the Township decided to proceed with the plan of a partial decommissioning of the dam. The dam height will be reduced by several feet to create a safe, low hazard dam structure.

In 2016 the Township retained Simone Collins Landscape Architecture (SC) and Princeton Hydro (PH) to develop a master plan for the new park. A total of eight meetings were held by the Township to discuss and develop the plans. Residents participated in the planning process over an 8 month period. There were three online public opinion surveys which allowed people to comment on the plans. Approximately 230 residents responded to the surveys.



Legend	
	Milltown Dam Site
	Proposed Pond and Stream
	Proposed Tree Planting
	Proposed Shrub Planting
	Proposed Wetland Enhancement Area
	Proposed Upland Meadow (Seasonal Mowing)
	Proposed Low Mow Lawn (Periodic Mowing)
	Stream Control Structure
	Stream Rock Riffle
	Pier / Boardwalk
	Multi-Use Trail
	ADA Foot Path
	Mulch Foot Path
	Future Multi-Use Trail Connection
	Future Sidewalk Connection
	Pedestrian Crosswalk

Phase 1 Estimated Costs of Development	
Work Item	Total Cost
<i>Demolition and Site Preparation</i>	\$ 496,649
<i>Reservoir Road Mixed-Use Trail (South)</i>	\$ 49,890
<i>Reservoir Road Parking Area, 10 Spaces (South)</i>	\$ 26,170
<i>ADA Asphalt Walkway</i>	\$ 2,461
<i>Stone Dust Foot Paths, 4"Depth</i>	\$ 12,863
<i>Structures- Bridges & Boardwalks</i>	\$ 131,200
Phase 1	\$ 719,232
General Project Cost (Mobilization, E&S, Construction Surveying)	\$ 50,346
Construction Contingency (15%)	\$ 107,885
Design and Engineering (12%)	\$ 86,308
Phase 1 Project Costs	\$ 963,771
Phase 2 Estimated Costs of Development	
<i>Structures- Fishing Piers</i>	\$ 78,400
<i>Planting</i>	\$ 183,201
Phase 2	\$ 261,601
General Project Cost (Mobilization, E&S, Construction Surveying)	\$ 18,312
Construction Contingency (15%)	\$ 39,240
Design and Engineering (12%)	\$ 31,392
Phase 2 Project Costs	\$ 350,546
Phase 3 Estimated Costs of Development	
<i>Reservoir Road Parking Area, 5 Spaces (North)</i>	\$ 17,472
<i>Reservoir Road Mixed-Use Trail (North)</i>	\$ 38,436
<i>Wood Chip Foot Paths, 5' Wide</i>	\$ 1,528
Phase 3	\$ 57,436
General Project Cost (Mobilization, E&S, Construction Surveying)	\$ 4,020
Construction Contingency (15%)	\$ 8,615
Design and Engineering (12%)	\$ 6,892
Phase 3 Project Costs	\$ 76,964
Total Costs of Development \$ 1,391,280	

APPENDIX D

Public Comment and Responses

Memorandum

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

Voice: 610-692-7171
Fax: 610-692-8950
E-mail: mgordon@eastgoshen.org

Date: 8/3/2017
To: Board of Supervisors
From: Mark Gordon, Township Zoning Officer *mlg*
Re: 1506 Meadowbrook Dr. / Zoning Variance Application

Dear Board Members,

The application for zoning variances before you is for 1506 Meadowbrook Dr., a 1.99 acre flag lot created in 1963 and reaffirmed in 1977 as a result of a 4 lot subdivision. Flag lots were not defined or specifically regulated in 1963 or 1977.

In my research I found the following:

- No minimum street frontage was identified in this zoning district at that time. This parcel is a legal non-conforming lot.
- This flag lot is a parent parcel so it may be subdivided so long as all Zoning Ordinances can be met or variances are granted.
- The Zoning ordinance did not specify a Minimum Lot width at street line until 1965.
- Hemlock Hill Ln. aka. Laurel Lane was identified on the initial subdivision plan which created Meadowbrook Lane in 1948.

The applicant is requesting the following variances:

1. **Min. lot width at street line, §240-9(G) (Required 60' minimum)**
 - a. Lot 2 - Proposed 0 (zero) linear feet of street frontage
2. **Street Frontage, §240-23(B)(2)(a) (Street frontage required)**
 - a. Lot 2 - Proposed 0 (zero) linear feet of street frontage
3. **Flag pole portion of the flag lot, §240-23(B)(2)(b)[2][e] (Required - 40' wide minimum)**
 - a. Lot 1 - Proposed 25' width for the flag pole portion of the lot.

Staff Recommendation:

In regard to the variances requested Staff has the following comments in order as presented above:

1. This condition essentially exists today on lot two. Basically lot two will continue to have the same lot width as it does today and technically does not have any real lot frontage to a public street today. This relief would not alter how lot 2 exists today.
2. This is a repeat of number one. The exiting single family use on lot two currently experiences this condition today. Essentially lot two does not have any street frontage except for the flag pole and the flag pole is encumbered with a shared driveway for four additional single family uses today.
3. This condition exists today. The flag pole portion of the lot provides, via a private lane, access to five single family homes.

The applicant has incorporated all the Planning Commissions suggestions and included them in their Subdivision Sketch Plan dated 8/1/2017. The applicant has provided the Township evidence that the neighboring property owner has agreed to sell them adequate land area too provide a minimum of 2 acres clear. The applicant has agreed and shown on their plan how they propose to improve the driveway access.

Draft Motion:

Mr. Chairman, I move that the Board of Supervisors support the support the application of Stephen and Denise Legenstein for the requested dimensional variance relief for 1506 Meadowbrook Drive. Should the Zoning Hearing Board grant the requested variances the Board of Supervisors' recommend that the following conditions be imposed:

1. The applicant shall create the greatest sight distance triangle possible at the top of the driveway near the new home in order to improve safety.
2. The applicant shall provide a complete evergreen landscape screening buffer for adjacent properties on Nathaniel Dr.
3. The applicant shall provide a large vehicle pull off area along the driveway to ensure safety for pedestrians and motorists.

**EAST GOSHEN TOWNSHIP
ZONING HEARING BOARD APPLICATION**

1580 PAOLI PIKE WEST CHESTER, PA 19380-6199
PHONE (610)-692-7171 FAX (610)-692-8950

Name of Applicant: Mr. & Mrs. Stephen Legenstein
Applicant Address: 1506 Meadowbrook Ln.
West Chester, PA.
Telephone Number: 610-823-5842 Fax Number: _____
Email Address: _____
Property Address: # 1506 Meadowbrook Ln.
Tax Parcel Number: 53-4-23 Zoning District: _____ Acreage: 2.0

Purpose of Application (check one)

- Variance (Type: Use Variance Dimensional Variance)
 Special Exception
 Appeal determination of the Zoning Officer
 Other _____

Sections of Zoning Ordinance in which relief is sought:

Refer to sketch plan

Description of the Zoning Relief requested and the future use of the property:

Refer to sketch plan

single family home

We hereby acknowledge that we have read this application and state that the above is correct and agree to comply with all provisions of the East Goshen Township Zoning Ordinance applicable to this project and property.


Signature of Applicant

6-14-17
Date

***Please review the formal application and review procedures on page three.**



Guy Engineering Associates, Inc.

Civil/ Environmental Engineering

3508 Goshen Road Newtown Square, PA 19073

Tel: (610) 355-0862 Fax: (610) 355-0863 email: sg.guyeng@verizon.net

July 10, 2017

Mr. Mark Gordon - Zoning Officer
East Goshen Township
1580 Paoli Pike
West Chester, PA 19380-6199
email: mgordon@eastgoshen.org

Re: **Proposed Residential Minor Subdivision - Sketch Plan Presentation**
1506 Meadowbrook Lane, West Chester, PA 19380
East Goshen Township, Chester County, PA

Dear Mr. Gordon,

The owners of 1506 Meadowbrook Lane, Mrs. and Mr. Legenstein, are proposing to subdivide their property into 2 residential lots. The property is located on the south side of Meadowbrook Lane, and is a flag lot, having a gross area of 2.009 ac and a net area of 1.999 ac, after deduction of the public right-of-way of Meadowbrook Lane. Access to the parcel is via the "flag pole", which is 25' wide, and which is joined and partially overlapped by a private street, Hemlock Hill Lane that provided access to 4 additional residential lots along its length. A joint use and service agreement exists between all 5 property owners for the use and maintenance of Hemlock Hill Lane. The property is zoned R-2 Low-Density Residential District. Its Tax Map Parcel No. is 53-4-23.

The property owners are requesting to subdivide the existing property into 2 residential properties, as shown on the Sketch Plan marked "Option 2 - Lot 2 Access Via Lot 1 Easement". This sketch plan shows the parcel divided into 2 lots, where proposed Lot # 1 covers the front portion of the existing parcel, having a net area of 43,582 sf. Proposed Lot # 2 is behind Lot # 1. In order to achieve the minimum required 1 acre of net area for Lot # 2, the Applicant proposes to purchase a narrow strip of land from the adjacent property to its west, TMP#53-4-7, owned by Ms. Gable, who is willing to sell this piece of land to the Applicant. As a result, Lot # 2's net area will exceed 1 acre. Access to Lot # 2 will be provided via an easement through Lot # 1 from the existing driveway currently leading to the existing property and to the proposed Lot # 1.

In order to be able to perform the subdivision as shown, the Applicant is requesting the following 3 variances:

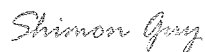
1. From Section 240-9.G - Minimum Lot Width at the Street Line:
The Code requires a minimum width of 60 ft. The existing width of the "flag pole" at the street line is 25.05 ft, which is already non-conforming. As proposed Lot # 2 will not have a direct access to the public street, The Applicant is requesting approval of a 0 (zero) width at the street line for Lot # 2.
2. From Section 240-23.B(2)(a) - Street Frontage:
This variance is related to the previous one. Proposed Lot # 2 will have access through Lot # 1. The Applicant is requesting to approve no public street frontage for Lot # 2.
3. From Section 240-23.B(2)(b)[2][e] - Minimum Pole Width:
The Code requires a minimum width of 40 ft of the flag pole. The existing flag pole width that provided access to the existing parcel is 25 ft, and will remain the same for the access to proposed Lot # 1.

The East Goshen Township Municipal Authority issued the Applicants' parents and predecessors in title to the property, Anthony and Doris D'Ambrosio, a sewer connection for two individual single family dwellings, one for the existing dwelling and one for a second dwelling when the lot was subdivided. Correspondence from the Municipal Authority dated June 8, 1995, an Installment Note, and Permit Application are attached hereto as evidence of such reserved connection to the Township sewer system for the proposed lot.

We believe that the proposed minor subdivision as shown will be compatible with the neighborhood and will even be beneficial to the existing properties along Hemlock Hill Lane, as it will add another participant to the maintenance agreement.

Please contact me if you have any questions. Thank you.

Sincerely,



Shimon Guy
President

EAST GOSHEN MUNICIPAL AUTHORITY
EAST GOSHEN TOWNSHIP

1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

June 8, 1995

Mr. Anthony D'Ambrosio
1506 Meadowbrook Lane
West Chester, PA 19380

Dear Mr. D'Ambrosio:

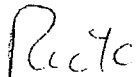
It has been brought to my attention that you have paid for one sewer connection which is for the existing house on your property. The Sewer Connection Agreement that you executed also obligates you to pay for a connection for a future lot.

I spoke to Mike Tyson of Total Construction about your connection and he advised me that you were planning to subdivide your property in the future. We discussed the routing of the lateral for your house and the proposed lateral for the new lot. We concluded that at this time it would make sense to install the extra pipe under your driveway only. This would avoid your having to dig up the driveway when you installed the lateral for the new lot. I then conveyed this information to you in our conversation on Wednesday.

I do not recall discussing any aspect of the Sewer Connection Agreement in our conversation on Wednesday. The Sewer Connection Agreement is between you and the Municipal Authority and I do not have the power to modify it. You should be aware that under the terms of this agreement you are obligated to pay for the additional lot by June 28, 1995.

If you have any questions please give me a call at 692-7171.

Sincerely,



Louis F. Smith, Jr.
Township Manager

lfs

\\rick\mcdamb

Contractor Total Construction

swrpermit 1991; rev.1992;10-11-93; 4/19/95
TOWNSHIP OF EAST GOSHEN, 1580 PAOLI PIKE
WEST CHESTER, CHESTER COUNTY, PENNSYLVANIA 19380
PUBLIC SEWER CONNECTION PERMIT APPLICATION

APPLICATION NO. _____ DATE 6/8/95

The undersigned hereby makes application for permission to construct house sewer lateral(s) to, and to connect the herein designated property at 1506 MEADOWBROOK LANE with the Sewer System of East Goshen Municipal Authority:

Owner's Name and Address:

Anthony and Doris D'Ambrosio
1506 Meadowbrook Lane
West Chester, Pa 19380

The following number of customer classifications will be connected to the house sewer lateral serving the above described property: NUMBER OF CONNECTIONS: two (2)

In consideration of the granting of this application, the undersigned agrees to abide by all the Rules and Regulations of the Authority or the Township and the applicable Ordinances, Resolutions, Rules and Regulations which may be adopted by the said Township or the said Authority in the future concerning the Sewer System.

Signed [Signature] OWNER
3556 3602

TAPPING FEE REC'D ON 6/8/95 \$60 INSPECTION FEE REC'D ON 6/8/95

RECEIVED BY: Jocelyn Morgan # 2,148

NOTE: For each sewer connection please have two (2) checks or money orders: one payable to the TOWNSHIP OF EAST GOSHEN in the amount of \$60 and one payable to EAST GOSHEN MUNICIPAL AUTHORITY in the amount of \$7,148 per connection or if financing, the down payment of \$2,148.

LATERAL INSPECTION COMPLETED BY: _____ ON: _____

PERMIT ISSUED: _____

Pd 6-21-95
Second connection
\$2,148. CR# 3602
RLB

EAST GOSHEN TOWNSHIP
PLANNING COMMISSION

1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

August 3, 2017

East Goshen Township
Board of Supervisors
1580 Paoli Pike
West Chester, Pa. 19380

Re: 1506 Meadowbrook Drive / Dimensional Variance Requests

Dear Board Members:

At their meeting on August 2, 2017 the Planning Commission voted unanimously in favor of the following motion:

Mr. Chairman, I move that the Planning Commission recommend that the Board of Supervisors support the application for the requested dimensional variance relief for 1506 Meadowbrook Drive, with the following conditions:

1. Create the greatest sight distance triangle possible at the top of the driveway near the new home.
2. Provide a complete evergreen landscape screening buffer for the adjacent properties on Nathaniel Dr.
3. Provide a large vehicle pull off area along the driveway to ensure safety for pedestrians and motorists using the private driveway.

Sincerely,



Mark A. Gordon
Township Zoning Officer

Memorandum

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380
Voice: 610-692-7171
Fax: 610-692-8950
E-mail: mgordon@eastgoshen.org

Date: 8/3/2017
To: Board of Supervisors
From: Mark Gordon, Township Zoning Officer *mlg*
Re: 1506 Meadowbrook Dr. / Zoning Variance Application

Dear Board Members,

The application for zoning variances before you is for 1506 Meadowbrook Dr., a 1.99 acre flag lot created in 1963 and reaffirmed in 1977 as a result of a 4 lot subdivision. Flag lots were not defined or specifically regulated in 1963 or 1977.

In my research I found the following:

- No minimum street frontage was identified in this zoning district at that time. This parcel is a legal non-conforming lot.
- This flag lot is a parent parcel so it may be subdivided so long as all Zoning Ordinances can be met or variances are granted.
- The Zoning ordinance did not specify a Minimum Lot width at street line until 1965.
- Hemlock Hill Ln. aka. Laurel Lane was identified on the initial subdivision plan which created Meadowbrook Lane in 1948.

The applicant is requesting the following variances:

1. **Min. lot width at street line, §240-9(G) (Required 60' minimum)**
 - a. Lot 2 - Proposed 0 (zero) linear feet of street frontage
2. **Street Frontage, §240-23(B)(2)(a) (Street frontage required)**
 - a. Lot 2 - Proposed 0 (zero) linear feet of street frontage
3. **Flag pole portion of the flag lot, §240-23(B)(2)(b)[2][e] (Required - 40' wide minimum)**
 - a. Lot 1 - Proposed 25' width for the flag pole portion of the lot.

Staff Recommendation:

In regard to the variances requested Staff has the following comments in order as presented above:

1. This condition essentially exists today on lot two. Basically lot two will continue to have the same lot width as it does today and technically does not have any real lot frontage to a public street today. This relief would not alter how lot 2 exists today.
2. This is a repeat of number one. The exiting single family use on lot two currently experiences this condition today. Essentially lot two does not have any street frontage except for the flag pole and the flag pole is encumbered with a shared driveway for four additional single family uses today.
3. This condition exists today. The flag pole portion of the lot provides, via a private lane, access to five single family homes.

The applicant has incorporated all the Planning Commissions suggestions and included them in their Subdivision Sketch Plan dated 8/1/2017. The applicant has provided the Township evidence that the neighboring property owner has agreed to sell them adequate land area too provide a minimum of 2 acres clear. The applicant has agreed and shown on their plan how they propose to improve the driveway access.

Draft Motion:

Mr. Chairman, I move that the Board of Supervisors support the support the application of Stephen and Denise Legenstein for the requested dimensional variance relief for 1506 Meadowbrook Drive. Should the Zoning Hearing Board grant the requested variances the Board of Supervisors' recommend that the following conditions be imposed:

1. The applicant shall create the greatest sight distance triangle possible at the top of the driveway near the new home in order to improve safety.
2. The applicant shall provide a complete evergreen landscape screening buffer for adjacent properties on Nathaniel Dr.
3. The applicant shall provide a large vehicle pull off area along the driveway to ensure safety for pedestrians and motorists.

EAST GOSHEN TOWNSHIP
PLANNING COMMISSION
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

August 3, 2017

East Goshen Township
Board of Supervisors
1580 Paoli Pike
West Chester, Pa. 19380

Re: 1506 Meadowbrook Drive / Dimensional Variance Requests

Dear Board Members:

At their meeting on August 2, 2017 the Planning Commission voted unanimously in favor of the following motion:

Mr. Chairman, I move that the Planning Commission recommend that the Board of Supervisors support the application for the requested dimensional variance relief for 1506 Meadowbrook Drive, with the following conditions:

1. Create the greatest sight distance triangle possible at the top of the driveway near the new home.
2. Provide a complete evergreen landscape screening buffer for the adjacent properties on Nathaniel Dr.
3. Provide a large vehicle pull off area along the driveway to ensure safety for pedestrians and motorists using the private driveway.

Sincerely,



Mark A. Gordon
Township Zoning Officer

July 18, 2017

East Goshen Township Planning Commission
c/o Mark Gordon – Township Zoning Officer

I would like to express to the Planning Commission that I am opposed to the requested variances to the zoning code which would allow the subdivision of 1506 Meadowbrook Lane and construction of an additional house on the lot. Unfortunately, I cannot attend the July 19th Planning Commission meeting due to a business trip and ask instead that this letter be read into the record.

When my wife and I bought our house at 919 Nathaniel Drive seven years ago, the zoning code did not allow further development of the lot immediately behind ours. Granting an exception to the code now and allowing the subdivision is an unanticipated and unwelcome surprise that will have negative effects on us as a family and property owner.

I respectfully ask the commission to consider that at least three of the five conditions required for a zoning variance are not met. First, from Section 240-58, Part B(2), the variance must be necessary to enable reasonable use of the property. Since the owners of 1506 Meadowbrook Drive currently have a house and reside on the property, reasonable use of the property already exists.

Second, from 240-58, B(3), a hardship cannot have been created by the appellant. The current situation was created by the previous subdivision of the larger property done by Mr. Anthony D'Ambrosio who since passed the property to his daughter, the present appellant. Moreover, the inability to further subdivide without additional variances was confirmed to Mr. D'Ambrosio in a Sept 20th 1999 letter from the township in response to a similar subdivision proposal.

Third, from 240-58, B(4) the variance is not to impair the use of adjacent property. Concerns like storm water runoff and access of emergency vehicles were raised in the May 3rd meeting by both the commission and public, these remain unanswered in the applicant's proposal. In addition, the close proximity of the proposed new house will dramatically impact the character of our property with loss of privacy, increased noise, and new light pollution from, for example, headlights shining into the back our house at night. Granting the exception to the zoning code to allow previously disallowed development, would radically change the conditions of the property that attracted us to move to our house in East Goshen in the first place.

For the above reasons, I again urge the Planning Commission to recommend against the variance application. Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Leo Kasehagen", with a long horizontal flourish extending to the right.

Leo Kasehagen
919 Nathaniel Drive
West Chester, PA 19380

**EAST GOSHEN TOWNSHIP
ZONING HEARING BOARD APPLICATION**

1580 PAOLI PIKE WEST CHESTER, PA 19380-6199
PHONE (610)-692-7171 FAX (610)-692-8950

Name of Applicant: Mr. & Mrs. Stephen Legenstein
Applicant Address: 1506 Meadowbrook Ln.
West Chester, PA.
Telephone Number: 610-823-5842 Fax Number: _____
Email Address: _____
Property Address: # 1506 Meadowbrook Ln.
Tax Parcel Number: 53-4-23 Zoning District: _____ Acreage: 2.0

Purpose of Application (check one)

- Variance (Type: Use Variance Dimensional Variance)
 Special Exception
 Appeal determination of the Zoning Officer
 Other _____

Sections of Zoning Ordinance in which relief is sought:

Refer to sketch plan

Description of the Zoning Relief requested and the future use of the property:

Refer to sketch plan
Single family home

We hereby acknowledge that we have read this application and state that the above is correct and agree to comply with all provisions of the East Goshen Township Zoning Ordinance applicable to this project and property.

[Signature]
Signature of Applicant

6-14-17
Date

***Please review the formal application and review procedures on page three.**



Guy Engineering Associates, Inc.

Civil/ Environmental Engineering

3508 Goshen Road Newtown Square, PA 19073

Tel: (610) 355-0862 Fax: (610) 355-0863 email: sg.guyeng@verizon.net

July 10, 2017

Mr. Mark Gordon - Zoning Officer
East Goshen Township
1580 Paoli Pike
West Chester, PA 19380-6199
email: mgordon@eastgoshen.org

Re: **Proposed Residential Minor Subdivision - Sketch Plan Presentation**
1506 Meadowbrook Lane, West Chester, PA 19380
East Goshen Township, Chester County, PA

Dear Mr. Gordon,

The owners of 1506 Meadowbrook Lane, Mrs. and Mr. Legenstein, are proposing to subdivide their property into 2 residential lots. The property is located on the south side of Meadowbrook Lane, and is a flag lot, having a gross area of 2.009 ac and a net area of 1.999 ac, after deduction of the public right-of-way of Meadowbrook Lane. Access to the parcel is via the "flag pole", which is 25' wide, and which is joined and partially overlapped by a private street, Hemlock Hill Lane that provided access to 4 additional residential lots along its length. A joint use and service agreement exists between all 5 property owners for the use and maintenance of Hemlock Hill Lane. The property is zoned R-2 Low-Density Residential District. Its Tax Map Parcel No. is 53-4-23.

The property owners are requesting to subdivide the existing property into 2 residential properties, as shown on the Sketch Plan marked "Option 2 - Lot 2 Access Via Lot 1 Easement". This sketch plan shows the parcel divided into 2 lots, where proposed Lot # 1 covers the front portion of the existing parcel, having a net area of 43,582 sf. Proposed Lot # 2 is behind Lot # 1. In order to achieve the minimum required 1 acre of net area for Lot # 2, the Applicant proposes to purchase a narrow strip of land from the adjacent property to its west, TMP#53-4-7, owned by Ms. Gable, who is willing to sell this piece of land to the Applicant. As a result, Lot # 2's net area will exceed 1 acre. Access to Lot # 2 will be provided via an easement through Lot # 1 from the existing driveway currently leading to the existing property and to the proposed Lot # 1.

In order to be able to perform the subdivision as shown, the Applicant is requesting the following 3 variances:

1. From Section 240-9.G - Minimum Lot Width at the Street Line:
The Code requires a minimum width of 60 ft. The existing width of the "flag pole" at the street line is 25.05 ft, which is already non-conforming. As proposed Lot # 2 will not have a direct access to the public street, The Applicant is requesting approval of a 0 (zero) width at the street line for Lot # 2.
2. From Section 240-23.B(2)(a) - Street Frontage:
This variance is related to the previous one. Proposed Lot # 2 will have access through Lot # 1. The Applicant is requesting to approve no public street frontage for Lot # 2.
3. From Section 240-23.B(2)(b)[2][e] - Minimum Pole Width:
The Code requires a minimum width of 40 ft of the flag pole. The existing flag pole width that provided access to the existing parcel is 25 ft, and will remain the same for the access to proposed Lot # 1.

The East Goshen Township Municipal Authority issued the Applicants' parents and predecessors in title to the property, Anthony and Doris D'Ambrosio, a sewer connection for two individual single family dwellings, one for the existing dwelling and one for a second dwelling when the lot was subdivided. Correspondence from the Municipal Authority dated June 8, 1995, an Installment Note, and Permit Application are attached hereto as evidence of such reserved connection to the Township sewer system for the proposed lot.

We believe that the proposed minor subdivision as shown will be compatible with the neighborhood and will even be beneficial to the existing properties along Hemlock Hill Lane, as it will add another participant to the maintenance agreement.

Please contact me if you have any questions. Thank you.

Sincerely,

Shimon Guy

Shimon Guy
President

**EAST GOSHEN MUNICIPAL AUTHORITY
EAST GOSHEN TOWNSHIP**

1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

June 8, 1995

Mr. Anthony D'Ambrosio
1506 Meadowbrook Lane
West Chester, PA 19380

Dear Mr. D'Ambrosio:


It has been brought to my attention that you have paid for one sewer connection which is for the existing house on your property. The Sewer Connection Agreement that you executed also obligates you to pay for a connection for a future lot.

I spoke to Mike Tyson of Total Construction about your connection and he advised me that you were planning to subdivide your property in the future. We discussed the routing of the lateral for your house and the proposed lateral for the new lot. We concluded that at this time it would make sense to install the extra pipe under your driveway only. This would avoid your having to dig up the driveway when you installed the lateral for the new lot. I then conveyed this information to you in our conversation on Wednesday.

I do not recall discussing any aspect of the Sewer Connection Agreement in our conversation on Wednesday. The Sewer Connection Agreement is between you and the Municipal Authority and I do not have the power to modify it. You should be aware that under the terms of this agreement you are obligated to pay for the additional lot by June 28, 1995.

If you have any questions please give me a call at 692-7171.

Sincerely,



Louis F. Smith, Jr.
Township Manager

lfs

\\rick\mcdamb

Contractor Total Construction

swrpermit 1991; rev.1992;10-11-93; 4/19/95
TOWNSHIP OF EAST GOSHEN, 1580 PAOLI PIKE
WEST CHESTER, CHESTER COUNTY, PENNSYLVANIA 19380
PUBLIC SEWER CONNECTION PERMIT APPLICATION

APPLICATION NO. _____ DATE 6/8/95

The undersigned hereby makes application for permission to construct house sewer lateral(s) to, and to connect the herein designated property at 1506 MEADOWBROOK LANE with the Sewer System of East Goshen Municipal Authority:

Owner's Name and Address:

Anthony and Doris D'Ambrosio
1506 Meadowbrook Lane
West Chester, Pa 19380

The following number of customer classifications will be connected to the house sewer lateral serving the above described property: NUMBER OF CONNECTIONS: two (2)

In consideration of the granting of this application, the undersigned agrees to abide by all the Rules and Regulations of the Authority or the Township and the applicable Ordinances, Resolutions, Rules and Regulations which may be adopted by the said Township or the said Authority in the future concerning the Sewer System.

Signed [Signature]
OWNER 3556 3602

TAPPING FEE REC'D ON 6/8/95 \$60 INSPECTION FEE REC'D ON 6/8/95

RECEIVED BY: Jocelyn Morgan # 2,148

NOTE: For each sewer connection please have two (2) checks or money orders: one payable to the TOWNSHIP OF EAST GOSHEN in the amount of \$60 and one payable to EAST GOSHEN MUNICIPAL AUTHORITY in the amount of \$7,148 per connection or if financing, the down payment of \$2,148.

LATERAL INSPECTION COMPLETED BY: _____ ON: _____

PERMIT ISSUED: _____

PJ 6-21-95
Second connection
\$2,148. OK# 3602
KLB

EAST GOSHEN MUNICIPAL AUTHORITY
INSTALLMENT NOTE

FOR VALUE RECEIVED, I/we, ANTHONY AND DORIS D'AMBROSIO jointly and severally, promise to pay to the order of EAST GOSHEN MUNICIPAL AUTHORITY, the sum of Ten Thousand Dollars (\$10,000), together with interest at the annual rate of six percent (6%) as payment of the balance of the Tapping Fee for the property at 1506 MEADOWBROOK LANE.

The principal and interest shall each be payable together in forty (40) equal successive quarterly installments of combined principal and interest in the aggregate amount of **Three Hundred Thirty-four Dollars and Twenty-seven Cents (\$334.27)** each. The first installment shall be paid on July 1, 1995, and subsequent installments shall be paid on the same day of each succeeding calendar quarter until all payments have been made. Each payment shall be credited first to the interest then due. The remainder of each payment shall then be credited to the outstanding principal and interest on the amount of principal credited shall cease to accrue. A late payment fee of Twenty-Five Dollars (\$25.00) shall be imposed for each quarterly payment not paid when due. The Owner shall have the right to pay the entire balance due at any time without penalty. The entire principal balance and accrued interest shall be payable in full upon any transfer or conveyance of my/our property being served by the East Goshen Township sewer system, the tapping fee for which is being financed by this note.

I/We do hereby empower any attorney of any court of record within the United States or elsewhere to appear for me/us and after one or more declarations filed, confess judgement against me/us as of any term for the above sum, with costs of suit and attorney's fees, for collection and release of all errors and without stay of execution and inquisition and extension upon any levy on real estate is hereby waived and condemnation agreed to, and the exemption of personal property from levy and sale on any execution hereon is also hereby expressly waived and no benefit of exemption be claimed under and by virtue of any exemption law now in force or which may be hereafter passed.

WITNESS, my/our hand(s) and seal(s) this 5th day of June, 1995.

WITNESS:

Joanne E. Morgan

[Signature] (SEAL)

Joanne E. Morgan

[Signature] (SEAL)

EAST GOSHEN MUNICIPAL AUTHORITY
INSTALLMENT PAYMENT OF TAPPING FEE
MEADOWBROOK/CORNWALLIS SEWER PROJECT

PAYMENT #1

NAME: Anthony L. Dambrosio
ADDRESS: 1506 Meadowbrook Lane
CITY/STATE West Chester, Pa. 19380

PROPERTY ADDRESS: SAME

PAYMENT DUE DATE - JULY 1, 1995

LATE AFTER - JULY 16, 1995

LATE CHARGE - \$25.00

PRINCIPAL	\$165.49
INTEREST (6%) 6/29/95 - 7/01/95	<u>\$1.64</u>
TOTAL DUE	\$167.14

PLEASE MAKE YOUR CHECK PAYABLE TO:

EAST GOSHEN MUNICIPAL AUTHORITY
1580 PAOLI PIKE
WEST CHESTER, PA 19380

Payment in full can be made at any time without penalty.
An amortization schedule is enclosed for your reference.

EAST GOSHEN MUNICIPAL AUTHORITY
1580 PAOLI PIKE
WEST CHESTER, PA 19380
(610) 692-7171

June 2, 1995

Re: Agreement to Finance Tapping Fee Costs
Meadowbrook/Cornwallis Sewer Project

Dear Resident:

We are in receipt of your tapping fee down payment and signed Installment Loan Agreement obligating you to pay the balance due in forty (40) quarterly installments over the next ten (10) years.

The first payment will be due on July 1, 1995 and will be in the amount of \$167.14. If a payment is received after July 16, 1995 late charge of \$25.00 will be added to the account balance. A copy of Authority Resolution #14 authorizing procedures for the collection of delinquent accounts is enclosed. Please remember that this loan payment is in addition to the quarterly sewer rental of \$54.00 which will be billed with your refuse bill.

Coupon books for making this payment have been ordered but are not available at this time. Therefore, please use the attached invoices for your first payments.

For your convenience in making payments after hours or on weekends, the Township has a mail slot located to the right of the front door.

Please contact me if you have any questions.

Very truly yours,

Suzanne K. Fish
Utility Administrator

skf
enclosure

file name: mcltr

file name: 5kamort

Revised Amortization Schedule

6/7/95

Amount \$5,000.00
% rate 6.00%
Quarters 40

Payment #	Begining Principal	Payment	Principal	Interest	Ending Principal	Penalty
1	\$5,000.00	\$167.14	\$165.49	\$1.64	\$4,834.51	
2	\$4,834.51	\$167.14	\$94.62	\$72.52	\$4,739.89	
3	\$4,739.89	\$167.14	\$96.04	\$71.10	\$4,643.85	
4	\$4,643.85	\$167.14	\$97.48	\$69.66	\$4,546.38	
5	\$4,546.38	\$167.14	\$98.94	\$68.20	\$4,447.44	
6	\$4,447.44	\$167.14	\$100.42	\$66.71	\$4,347.01	
7	\$4,347.01	\$167.14	\$101.93	\$65.21	\$4,245.08	
8	\$4,245.08	\$167.14	\$103.46	\$63.68	\$4,141.62	
9	\$4,141.62	\$167.14	\$105.01	\$62.12	\$4,036.61	
10	\$4,036.61	\$167.14	\$106.59	\$60.55	\$3,930.02	
11	\$3,930.02	\$167.14	\$108.19	\$58.95	\$3,821.84	
12	\$3,821.84	\$167.14	\$109.81	\$57.33	\$3,712.03	
13	\$3,712.03	\$167.14	\$111.46	\$55.68	\$3,600.58	
14	\$3,600.58	\$167.14	\$113.13	\$54.01	\$3,487.45	
15	\$3,487.45	\$167.14	\$114.82	\$52.31	\$3,372.63	
16	\$3,372.63	\$167.14	\$116.55	\$50.59	\$3,256.08	
17	\$3,256.08	\$167.14	\$118.29	\$48.84	\$3,137.79	
18	\$3,137.79	\$167.14	\$120.07	\$47.07	\$3,017.72	
19	\$3,017.72	\$167.14	\$121.87	\$45.27	\$2,895.85	
20	\$2,895.85	\$167.14	\$123.70	\$43.44	\$2,772.15	
21	\$2,772.15	\$167.14	\$125.55	\$41.58	\$2,646.60	
22	\$2,646.60	\$167.14	\$127.44	\$39.70	\$2,519.16	
23	\$2,519.16	\$167.14	\$129.35	\$37.79	\$2,389.81	
24	\$2,389.81	\$167.14	\$131.29	\$35.85	\$2,258.52	
25	\$2,258.52	\$167.14	\$133.26	\$33.88	\$2,125.27	
26	\$2,125.27	\$167.14	\$135.26	\$31.88	\$1,990.01	
27	\$1,990.01	\$167.14	\$137.29	\$29.85	\$1,852.72	
28	\$1,852.72	\$167.14	\$139.34	\$27.79	\$1,713.38	
29	\$1,713.38	\$167.14	\$141.43	\$25.70	\$1,571.94	
30	\$1,571.94	\$167.14	\$143.56	\$23.58	\$1,428.39	
31	\$1,428.39	\$167.14	\$145.71	\$21.43	\$1,282.68	
32	\$1,282.68	\$167.14	\$147.90	\$19.24	\$1,134.78	
33	\$1,134.78	\$167.14	\$150.11	\$17.02	\$984.67	
34	\$984.67	\$167.14	\$152.37	\$14.77	\$832.30	
35	\$832.30	\$167.14	\$154.65	\$12.48	\$677.65	
36	\$677.65	\$167.14	\$156.97	\$10.16	\$520.68	
37	\$520.68	\$167.14	\$159.33	\$7.81	\$361.36	
38	\$361.36	\$167.14	\$161.72	\$5.42	\$199.64	
39	\$199.64	\$167.14	\$164.14	\$2.99	\$35.50	
40	\$35.50	\$36.03	\$35.50	\$0.53	\$0.00	

EAST GOSHEN MUNICIPAL AUTHORITY
CHESTER COUNTY, PENNSYLVANIA
RESOLUTION NO. 14

BE IT AND IT IS HEREBY RESOLVED that the Municipal Authority of East Goshen Township, County of Chester, Commonwealth of Pennsylvania, authorizes the imposition of a late payment penalty and the following procedures to be utilized for the collection of delinquent financed sewer tapping fee payments from the residents of the Meadowbrook/Cornwallis Sewer Construction Project Area:

- 1) Each Meadowbrook/Cornwallis resident who has executed a Sewer Connection Agreement providing for payment of a sewer connection fee (tapping fee) in quarterly installments shall be required to execute a judgment note for the actual amount to be financed. The note shall identify the actual amount financed in each case, shall be payable in quarterly installments over a period of ten (10) years and shall bear interest at the rate of six percent (6%) per annum. Such note shall also provide for the imposition of a late payment penalty in accordance with the terms of this Resolution.
- 2) Promptly following the first (1st) quarter of non-payment, the Authority shall send a letter advising the delinquent property owner of the Authority's policy for collecting delinquent accounts; that the account balance is delinquent and that if payment is not received within thirty (30) days the account will be promptly forwarded to the Authority Solicitor for the filing of a municipal lien on the property.
- 3) The Authority shall send a copy of the lien, as filed, to the property owner and authorize a lien search on the property. The property owner and mortgage company shall be notified, by certified mail, that further legal action will be instituted if the lien remains unsatisfied for nine (9) months, including but not limited to procedures leading to Sheriff Sale of real estate. Additional legal measures available to the Authority shall include disconnection of public water, as authorized by public statute, entry of judgment by confession, Complaint filed in District Court against property owner seeking personal judgment against debtor, forced sale of personal property of the debtor by constable or sheriff or any other means allowed by law.

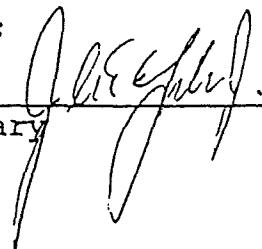
- 4) Promptly nine (9) months after the filing of the lien, the property owner will be notified, by certified mail, and regular mail, of the additional legal proceedings which will commence in one month if payment is not made. Provided, at a minimum,
 - a) The lien will be updated to reflect the current balance(s).
 - b) Prior to the sale of real estate, personal property or disconnection of public water the Municipal Authority will review the account and approve the specific legal action recommended.
5. All costs, exclusive of attorney's fees, will be added to the account balance(s) and lien(s) and must be satisfied before the lien can be removed and satisfied or any further legal action terminated.
6. The Municipal Authority authorizes the imposition of a late payment penalty in the amount of \$25.00 for every payment missed.

RESOLVED this 13th day of February, 1995.

EAST GOSHEN MUNICIPAL AUTHORITY



Joseph Kahn, Chairman

ATTEST:


Secretary

Memo

To: Board of Supervisors
From: Jon Altshul
Re: Consider Authorizing M&T Securities as Township Depository
Date: August 8, 2017

I have intentionally kept about 40% of the funds in our operating reserve fund in an account with M&T Bank that returns 0.20%, which is substantially lower than the returns we get on our other reserve and/or illiquid accounts through PLGIT, which currently yield over 1%.

I have inquired with M&T about higher-yielding accounts, and they have suggested that we invest in the Dreyfus Government Cash Management Fund (DAGXX). This fund is invested exclusively in securities permitted under the Second Class Township Code and Act 10 (and by extension the Township's Investment Policy Statement), primarily repurchase agreements¹ collateralized by U.S. Treasuries or cash and short-term agency "floaters".²

As of June 30th, the yield on the fund was 0.81% and the average weighted maturity was 22 days, which means that there is very little interest rate risk in this type of account.

In order to authorize this transaction, the Board will need to authorize M&T Securities, Inc (as opposed to M&T Bank) to be a Township depository.

A fact sheet about the fund is attached.

Recommended motion: Mr. Chairman, I move that we authorize M&T Securities, Inc as a Township depository and authorize staff to invest only in those securities that are permitted under the Second Class Township Code, Pennsylvania Act 10 and the Township's Investment Policy Statement.

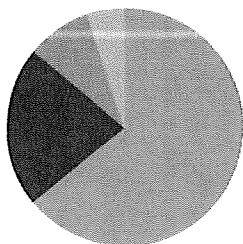
¹ A repurchase agreement is a form of short-term borrowing whereby a dealer sells a government security (e.g. a Treasury bond) to an investor and then buys it back a later date, often just a day later, but no more than 90 days later.

² An agency floater is debt issued by a government sponsored enterprise (e.g. Fannie Mae or Freddie Mac) with a "floating" or variable interest rate tied to an interest rate index.

Dreyfus Government Cash Management – Administrative Shares

June 30, 2017

Asset Allocation¹



- Repurchase Agreements 64.15%
- Government Agency Floaters 21.82%
- U.S. Other 8.82%
- U.S. Treasury 5.21%

The performance data quoted represents past performance, which is no guarantee of future results. Current performance may be lower or higher than the performance quoted. Go to Dreyfus.com for the fund's most recent month-end returns. Yield fluctuates. The yields quoted reflect the current absorption of certain expenses, without which, the 7-day yield would have been 0.75% and other returns would have been lower. As a measure of current income, 7-day yield most closely reflects the fund's current income-generating ability. 30-day yield is based upon dividends per share from net investment income during the past 30 days, divided by the period ended maximum offering price per share and annualized.

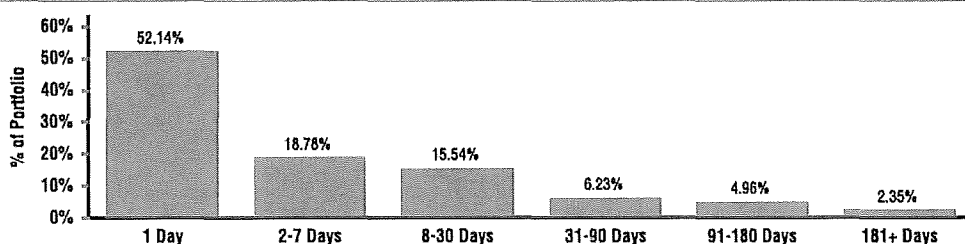
Historical Total Return Performance

2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
0.14%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.15%	2.19%	4.93%

Monthly Yield History⁷

06/17	05/17	04/17	03/17	02/17	01/17	12/16	11/16	10/16	09/16	08/16	07/16
0.73%	0.60%	0.57%	0.46%	0.37%	0.36%	0.26%	0.18%	0.18%	0.19%	0.17%	0.13%

Final Maturity^{1,4}



¹Portfolio composition is subject to change at any time.

²Please see the prospectus for expenses as of the fund's most recent fiscal year-end. Operating expenses may vary from month to month.

³Any order in proper form placed with Dreyfus by the Fund's trading deadline and for which Federal Funds are received by 6:00 PM ET will be effective on that date. Investors will earn the dividend declared on that day.

⁴Data reflects days until final maturity for individual portfolio securities.

⁵WAM is a measure of the average maturity of all of the underlying money market instruments in the fund, weighted to reflect the relative percentage ownership of each instrument, and taking into account applicable "maturity shortening" provisions provided by Rule 2a-7. Generally, for money market funds, WAM can be used primarily as a measure of relative sensitivity to interest rate changes.

⁶WAL is the WAM of the money market fund calculated without reference to the "maturity shortening" provisions of Rule 2a-7 permitted for purposes of calculating WAM. Because WAL does not reflect the rule's "maturity shortening" provisions, WAL will generally be higher than WAM.

⁷Monthly yield history is the annualized distribution rate that is based upon dividends per share from net investment income paid during the period, divided by the period ended maximum offering price per share, adjusted for capital gains (IF ANY) distributed during the period, and annualized based upon the number of days in the distribution period.

Average Annual Total Returns as of 6/30/17

1 yr	3 yr	5 yr	10 yr
0.35%	0.14%	0.09%	0.51%

Cumulative Total Returns as of 6/30/17

1mo	YTD	1yr	3yr	5yr	10yr
0.06%	0.26%	0.35%	0.41%	0.43%	5.21%

Current Yields as of 6/30/17

7-day yield	0.81%
30-day yield	0.73%

Credit Rating Agency Fund Ratings and Other Designations*

S&P	AAAm
Moody's	Aaa-mf
NAIC	DOFFC Approved

Investment Manager

The Dreyfus Corporation

Fund Facts

Nasdaq Symbol (Class) DAGXX

CUSIP Number (Class) 262006406

Inception Date (Class) 11/21/96

Total Net Assets (Fund) \$70,079,230,258

Number of Holdings 142

Dividend Policy Declare Daily Pay Monthly

Trading Deadline³ 5:00 p.m. ET

Minimum Initial Investment \$10,000,000

Weighted Average Maturity (WAM)⁵ 22 Days

Weighted Average Life to Maturity (WAL)⁶ 100 Days

12b-1 Fee 0.10%

Total Expenses² (as listed in Prospectus Fee Table) 0.31%

Please see other side for important information

Not FDIC-Insured, Not Bank-Guaranteed, May Lose Value.

Dreyfus | BNY MELLON

Dreyfus Government Cash Management – Administrative Shares

Fund Goal

The fund seeks as high a level of current income as is consistent with the preservation of capital and the maintenance of liquidity.

Investment Approach

The fund invests only in securities issued or guaranteed as to principal and interest by the U.S. government or its agencies or instrumentalities (including those with floating or variable rates of interest), repurchase agreements collateralized solely by cash and/or government securities, and cash.

Important Information

Investors should consider the investment objectives, risks, charges, and expenses of a mutual fund carefully before investing. To obtain a prospectus, or summary prospectus, if available, that contains this and other information about the fund, contact your financial advisor or visit dreyfus.com. Read the prospectus carefully before investing.

You could lose money by investing in a money market fund. Although the fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.

Although the fund's board has no current intention to impose a fee upon the sale of shares or temporarily suspend redemptions if the fund's liquidity falls below certain levels, the board reserves the ability to do so after providing at least 60 days' prior written notice to shareholders.

The fund's short-term corporate and asset-backed securities holdings involve credit and liquidity risks and risk of principal loss. Dividends, if any, are payable pursuant to the fund's stated policy.

*Fund ratings are statements of opinion, not statements of fact or recommendations to buy, sell or hold the shares of a fund. **Standard & Poor's (S&P)** believes that, with a Principal Stability Rating of AAAM, the fund has an extremely strong capacity to maintain principal and stability and to limit exposure to principal losses due to credit, market, and/or liquidity risks. For more information on rating methodology, visit www.standardandpoors.com. **Moody's Investors Service** rates money market mutual funds 'Aaa-mf' if, in Moody's opinion, a fund has a very strong ability to meet the dual objectives of providing liquidity and preserving capital. This rating, which is derived from a combination of Moody's assessment of a fund's Portfolio Credit Profile, Portfolio Stability Profile, and other qualitative factors, is not intended to consider prospective performance of a fund. For more information on rating methodology visit www.moody's.com. **National Association of Insurance Commissioners** approved mutual fund list; U.S. Direct Obligations/Full Faith and Credit Exempt list (DOFFC) are exempt from NAIC reserve requirements. NAIC listing is not a principal stability rating. Subject to annual review. For more information on rating methodology visit www.naic.org. NAIC designations are suitable for NAIC members' use in determining if a fund has met certain eligibility requirements for NAIC listing. NAIC designation should not be considered by non-members in their investment decision-making process. Rating agencies may revise or withdraw their ratings at any time, and ratings are not intended to guarantee a fund's performance, nor are they intended to signal the suitability of an investment.

The information being provided is general information about our firm and its products and services. It should not be construed as investment advice or a recommendation with respect to any product or service. Please consult a legal, tax or investment advisor in order to determine whether an investment product or service is appropriate for a particular situation.

The Dreyfus Corporation and MBSC Securities Corporation are affiliated with The Bank of New York Mellon Corporation.

BOARD OF SUPERVISORS
EAST GOSHEN TOWNSHIP

CHESTER COUNTY
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

August 11, 2017

To: Board of Supervisors

From: Mark Miller

RE: Escrow Release for 1420 E. Strasburg Road, Brackman Property

Gunnison Development Co., LLC has requested the escrow release of \$31,500.00. We approve the release of \$28,000.00 for the following:

Portions of the driveway entrance
Site work

Requested \$31,500.00
Recommended release \$28,000.00

Balance \$70,375.60 including the \$8,554.40 in contingency

August 10, 2017

EGOS 0118

Mark Miller
Director of Public Works
East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

**RE: 1420 E. Strasburg Road, Brackman Property
Escrow Release No. 1**

Dear Mark:

Gunnison Development Co., LLC has submitted the above escrow release request in the amount of \$31,500.00.

Approval to release \$28,000.00 of the requested \$31,500.00 is recommended.

The requested release includes portions of driveway entrance/site work.

Following approval of the recommended release, the total amount released will be \$28,000.00. The total amount remaining in escrow will be \$70,375.60 including \$8,554.40 in the contingency line item and \$4,277.20 in the inspection line item.

Should you have any further questions or comments, please contact me.

Sincerely,

PENNONI

A handwritten signature in blue ink, appearing to read "N. Cline", is written over the printed name of Nathan M. Cline.

Nathan M. Cline, PE
Township Engineer

cc: Rick Smith, Township Manager (via e-mail)
Mark Gordon, Director of Codes Enforcement/Zoning Officer
Gunnison Development Co., LLC (via e-mail)
Jim Brandolini
Victor Kelly, Jr., PE, Commonwealth Engineers, Inc. (via e-mail)

In accordance with the Township-Builders Escrow Agreement for public improvements for the above referenced project, we hereby request public monies to be released from escrow for the following items of work which have been completed:

Item Description of Work	Scheduled value	Previously approved	This period	Total completed	Balance to finish
1 Sediment & Erosion Controls					
a. Install/Remove Super Silt Fence	\$ 6,975.00	\$ -	\$ -	\$ -	\$ 6,975.00
b. Install/Remove Orange Construction Fence	\$ 1,200.00	\$ -	\$ -	\$ -	\$ 1,200.00
c. Install Rock Construction Entrances (One Time Each):					
1) Main Drive - If Needed	\$ 600.00	\$ -	\$ -	\$ -	\$ 600.00
2) Lot #2	\$ 600.00	\$ -	\$ -	\$ -	\$ 600.00
3) Lot #3	\$ 600.00	\$ -	\$ -	\$ -	\$ 600.00
Subtotal	\$ 9,975.00	\$ -	\$ -	\$ -	\$ 9,975.00
Combined Sediment & Erosion Controls This Period - Subtotal			\$ -		
2 Driveway Entrance/Site Work					
a. Strip Topsoil	\$ 256.00	\$ -	\$ -	\$ -	\$ 256.00
b. Dig Back Slope; Haul Fill On Site	\$ 3,480.00	\$ -	\$ -	\$ -	\$ 3,480.00
c. Cut, Box & Stone New Drive (304 SY)	\$ 3,192.00	\$ -	\$ -	\$ -	\$ 3,192.00
d. Replace Topsoil/Grade	\$ 640.00	\$ -	\$ -	\$ -	\$ 640.00
e. Install Mat on Slopes	\$ 1,250.00	\$ -	\$ -	\$ -	\$ 1,250.00
f. Install New Sewer Manhole for New Sewer Tie-In/Traffic control	\$ 5,800.00	\$ -	\$ 2,000.00	\$ 2,000.00	\$ 3,800.00
g. Install/Remove Rock Filter at End of Swale Along Drive Entrance	\$ 500.00	\$ -	\$ -	\$ -	\$ 500.00
h. Re-spread Topsoil-Fine Grad & Seed	\$ 1,500.00	\$ -	\$ -	\$ -	\$ 1,500.00
i. Sewer Boring into Existing Manhole					
1) Locate Utilities	\$ 1,000.00	\$ -	\$ 1,000.00	\$ 1,000.00	\$ -
2) Tie-In to Existing Manhole	\$ 4,500.00	\$ -	\$ 4,500.00	\$ 4,500.00	\$ -
3) 6" Main-Bore	\$ 20,900.00	\$ -	\$ 18,900.00	\$ 18,900.00	\$ 2,000.00
4) Manhole	\$ 5,800.00	\$ -	\$ -	\$ -	\$ 5,800.00
5) Install 3 Clean-Outs with Lateral	\$ 750.00	\$ -	\$ -	\$ -	\$ 750.00
6) Test Line	\$ 385.00	\$ -	\$ -	\$ -	\$ 385.00
7) Test Manhole	\$ 500.00	\$ -	\$ -	\$ -	\$ 500.00
j. Layout	\$ 2,800.00	\$ -	\$ 1,600.00	\$ 1,600.00	\$ 1,200.00
Subtotal	\$ 53,253.00	\$ -	\$ 28,000.00	\$ 28,000.00	\$ 25,253.00
Combined Driveway Entrance/Site Work This Period - Subtotal			\$ 28,000.00		
3 Lot No. 2					
a. Rain Garden	\$ 6,506.00	\$ -	\$ -	\$ -	\$ 6,506.00
1) Dig, Shape					
2) Install Outflow Pipe, Riser & Bubble Spreader					
3) Mat Spillway & Slopes					
4) Install Amended Soil (52 CY)					
5) Install Plants					
b. Foundation Planting	\$ 1,513.00	\$ -	\$ -	\$ -	\$ 1,513.00
c. Re-Spreading Topsoil, Fine Grade & Seed	\$ 2,160.00	\$ -	\$ -	\$ -	\$ 2,160.00
Subtotal	\$ 10,179.00	\$ -	\$ -	\$ -	\$ 10,179.00
Combined Lot No. 2 This Period - Subtotal			\$ -		
4 Lot No. 3					
a. Rain Garden	\$ 6,964.00	\$ -	\$ -	\$ -	\$ 6,964.00
1) Dig, Shape					
2) Install Outflow Pipe, Riser & Bubble Spreader					
3) Mat Spillway & Slopes					
4) Install Amended Soil (28 CY)					
5) Install Pipe From Downspout on Back of House to Basin					
6) Install Plants					
b. Foundation Planting	\$ 1,513.00	\$ -	\$ -	\$ -	\$ 1,513.00
c. Re-Spreading Topsoil, Fine Grade & Seed	\$ 2,160.00	\$ -	\$ -	\$ -	\$ 2,160.00
Subtotal	\$ 10,637.00	\$ -	\$ -	\$ -	\$ 10,637.00
Combined Lot No. 3 This Period - Subtotal			\$ -		
5 Miscellaneous					
a. Pin/As-Builts	\$ 1,500.00	\$ -	\$ -	\$ -	\$ 1,500.00
Subtotal	\$ 1,500.00	\$ -	\$ -	\$ -	\$ 1,500.00
Combined Miscellaneous This Period - Subtotal			\$ -		
SUBTOTAL (Items 1 through 5)	\$ 85,544.00	\$ -	\$ 28,000.00	\$ 28,000.00	\$ 57,544.00
10% CONTINGENCY	\$ 8,554.40	\$ -	\$ -	\$ -	\$ 8,554.40
5% TOWNSHIP CONSTRUCTION INSPECTION	\$ 4,277.20	\$ -	\$ -	\$ -	\$ 4,277.20
TOTAL	\$ 98,375.60	\$ -	\$ 28,000.00	\$ 28,000.00	\$ 70,375.60
APPROVED THIS RELEASE			\$ 28,000.00		

BOARD OF SUPERVISORS
EAST GOSHEN TOWNSHIP

CHESTER COUNTY
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

August 11, 2017

To: Board of Supervisors

From: Mark Miller

RE: Escrow Release for 943 & 943A Cornwallis Drive

T.R. Moser Land Developers, LP has requested the escrow release of \$39,074.40. We approve the release of \$33,126.70 for the following:

Erosion & sediment control
Storm water management system
Sanitary sewer connection
Right of way improvements
Miscellaneous
Inspection and administrative costs

Requested \$39,074.40

Recommended release \$33,126.70

Balance \$10,428.86 including the \$3,787.44 in contingency



One South Church Street
Second Floor
West Chester, PA 19382
T: 610-429-8907
F: 610-429-8918

www.pennoni.com

August 10, 2017

EGOS 0120

Mark Miller
Director of Public Works
East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

**RE: 943 & 943A Cornwallis Drive
Escrow Release No. 1**

Dear Mark:

T.R. Moser Land Developers, LP has submitted the above escrow release request in the amount of \$39,074.40.

Approval to release \$33,126.70 of the requested \$39,074.40 is recommended.

The requested release includes portions of erosion & sediment control, storm water management system, sanitary sewer connection, right of way improvements, miscellaneous, and inspection and administrative costs.

Following approval of the recommended release, the total amount released will be \$33,126.70. The total amount remaining in escrow will be \$10,428.86 including \$3,787.44 in the contingency line item and \$693.72 in the inspection line item.

Should you have any further questions or comments, please contact me.
Sincerely,

PENNONI

A handwritten signature in blue ink, appearing to read "N. Cline", is positioned below the Pennoni logo.

Nathan M. Cline, PE
Township Engineer

cc: Rick Smith, Township Manager (via e-mail)
Mark Gordon, Director of Codes Enforcement/Zoning Officer
T.R. Moser Land Developers, LP (via e-mail)
T.R. Moser

In accordance with the Township-Builders Escrow Agreement for public improvements for the above referenced project, we hereby request public monies to be released from escrow for the following items of work which have been completed:

Item	Description of Work	Scheduled value	Previously approved	This period	Total completed	Balance to finish
1	<u>Erosion & Sediment Controls</u>					
a.	Rock Construction Entrance	\$ 2,400.00	\$ -	\$ 2,400.00	\$ 2,400.00	\$ -
b.	Inlet Protection	\$ 180.00	\$ -	\$ -	\$ -	\$ 180.00
c.	18" Silt Fence	\$ 442.00	\$ -	\$ 221.00	\$ 221.00	\$ 221.00
d.	30" Silt Fence	\$ 593.40	\$ -	\$ 296.70	\$ 296.70	\$ 296.70
e.	Tree Protection Fence	\$ 1,344.00	\$ -	\$ 1,344.00	\$ 1,344.00	\$ -
	Subtotal	\$ 4,959.40	\$ -	\$ 4,261.70	\$ 4,261.70	\$ 697.70
	Combined Erosion & Sediment Controls This Period - Subtotal			\$ 4,261.70		
2	<u>Storm Water Management System</u>					
a.	Under Grounds System	\$ 16,000.00	\$ -	\$ 16,000.00	\$ 16,000.00	\$ -
b.	Yard Drains	\$ 300.00	\$ -	\$ 300.00	\$ 300.00	\$ -
c.	Piping to System	\$ 2,130.00	\$ -	\$ 2,130.00	\$ 2,130.00	\$ -
d.	Basin on 943	\$ 3,500.00	\$ -	\$ 3,500.00	\$ 3,500.00	\$ -
e.	Rain Garden Plantings	\$ 875.00	\$ -	\$ 875.00	\$ 875.00	\$ -
	Subtotal	\$ 22,805.00	\$ -	\$ 22,805.00	\$ 22,805.00	\$ -
	Combined Storm Water Management System This Period - Subtotal			\$ 22,805.00		
3	<u>Sanitary Sewer Connection</u>					
a.	Sanitary Sewer Connection	\$ 3,610.00	\$ -	\$ 3,610.00	\$ 3,610.00	\$ -
	Subtotal	\$ 3,610.00	\$ -	\$ 3,610.00	\$ 3,610.00	\$ -
	Combined Sanitary Sewer System This Period - Subtotal			\$ 3,610.00		
4	<u>Right of Way Improvements</u>					
a.	Tie in of Stormwater at 943A	\$ 1,000.00	\$ -	\$ -	\$ -	\$ 1,000.00
	Subtotal	\$ 1,000.00	\$ -	\$ -	\$ -	\$ 1,000.00
	Combined Right of Way Improvements This Period - Subtotal			\$ -		
5	<u>Engineering Stakeout/Project</u>					
a.	Monuments	\$ 1,000.00	\$ -	\$ -	\$ -	\$ 1,000.00
b.	As-Builts	\$ 2,000.00	\$ -	\$ -	\$ -	\$ 2,000.00
	Subtotal	\$ 3,000.00	\$ -	\$ -	\$ -	\$ 3,000.00
	Combined Engineering Stakeout/Project This Period - Subtotal			\$ -		
6	<u>Miscellaneous</u>					
a.	Final Stabilization	\$ 2,500.00	\$ -	\$ 1,250.00	\$ 1,250.00	\$ 1,250.00
	Subtotal	\$ 2,500.00	\$ -	\$ 1,250.00	\$ 1,250.00	\$ 1,250.00
	Combined Miscellaneous This Period - Subtotal			\$ 1,250.00		
	SUBTOTAL (Items 1 through 5)	\$ 37,874.40	\$ -	\$ 31,926.70	\$ 31,926.70	\$ 5,947.70
	10% CONTINGENCY	\$ 3,787.44	\$ -	\$ -	\$ -	\$ 3,787.44
	5% INSPECTION AND ADMIN. COSTS	\$ 1,893.72	\$ -	\$ 1,200.00	\$ 1,200.00	\$ 693.72
	TOTAL	\$ 43,555.56	\$ -	\$ 33,126.70	\$ 33,126.70	\$ 10,428.86
	APPROVED THIS RELEASE			\$ 33,126.70		

BOARD OF SUPERVISORS

EAST GOSHEN TOWNSHIP

CHESTER COUNTY

1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

August 11, 2017

To: Board of Supervisors

From: Mark Miller

Re: Truck Replacement

We are scheduled to replace the 2006 F350 Ford pick-up truck. \$47,600 was budgeted for this purpose in the 2017 Sinking Fund budget. The truck has over 103,000 miles on it and 17,000 engine hours. The truck has extensive rust and it also has seen its share of heavy snow plowing. I received pricing for a new 2017 F350 from two dealers through COSTARS.

Hoskins Ford:

Purchase Price:	\$48,300.00
Trade Allowance:	\$11,500.00
Net Price:	\$36,800.00
Snow Plow:	\$6,200.00
Lighting:	\$3,950.00
Total Cost:	\$46,950.00

New Holland Ford:

Purchase Price:	\$49,665.00
Trade Allowance:	\$8,500.00
Net Price:	\$41,165.00
Snow Plow:	\$6,200.00
Lighting:	\$3,950.00
Total Cost:	\$51,315.00

I would recommend that we purchase a 2017 Ford F350 through Hoskins Ford for \$46,950.00

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**EAST GOSHEN TOWNSHIP
BOARD OF SUPERVISORS MEETING
1580 PAOLI PIKE
TUESDAY, AUGUST 18, 2017
DRAFT MINUTES**

**THE BOARD MET IN EXECUTIVE SESSION AT 6:00PM FOR ABC INTERVIEWS
AND TO DISCUSS A LEGAL MATTER**

Present: Chairman Marty Shane; Vice Chairman Carmen Battavio; Supervisors Charles (Chuck) Proctor, Janet Emanuel; Michael Lynch; Township Manager Rick Smith; CFO Jon Altshul; Park & Recreation Director Jason Lang and Conservancy Board member Erich Meyer.

Call to Order & Pledge of Allegiance

Marty called the meeting to order at 7:00 p.m. and led the group in the pledge of allegiance

Moment of Silence

Carmen called for a moment of silence to honor the troops who defend our nation.

Recording

None

Chairman's Report/Announcements

Marty announced that the Board met in Executive Session immediately before tonight's meeting for an ABC interview and to discuss a legal matter. He also noted that the Township's MS4 Pollution Reduction Plan is available for review and public comment on the Township's website and at the Township building.

Consider Vibration Ordinance

In response to concerns from residents about the authority of municipalities to regulate vibrations caused by the pipeline drilling, Rick explained that Warwick Township had adopted a vibration ordinance with measurable standards, a copy of which was attached to the agenda.

Mike asked whether other municipalities in Chester County affected by the pipeline are considering vibration ordinances as well; what the impetus was Warwick's ordinance in the first place; whether there has been any enforcement action; whether the maximum particle velocities used in Warwick's ordinance were appropriate; and whether with the DEP or PUC regulate vibrations in any way. Carmen noted that he doesn't know what level of vibration the particle velocities outlined in Warwick's ordinance feel like and suggested that the Township Engineer provide recommendations on this issue that a layman can understand. Marty raised concern about whether a municipal vibration ordinance, if not carefully conceived, would hold up in court if challenged.

1
2 Mike stressed that the Board wants to do ensure that whatever vibration ordinance
3 is implemented can be enforceable and meaningful and that the Township is
4 committed to getting this issue handled correctly. He recommended that interested
5 residents visit www.vibrationdamage.com, a site that he found to be beneficial while
6 researching the matter. He also encouraged residents living along the pipeline route
7 impacted by vibrations to contact a home inspector to have their foundations
8 checked for cracks and other damage. Carmen added that residents should make
9 sure that any home inspector hired is licensed for this type of work.

10
11 John Hannafin, 1336 Troon Lane, asked whether there was a way for an inspector to
12 check foundation walls in a finished basement. Rick is not aware of any technology
13 that would do this. Lee Dastur, 1432 Quaker Ridge, noted that if there is shifting,
14 you'd see cracks in the drywall.

15
16 Chris Hannafin, 1336 Troon Lane, stated that she felt two large booms today.

17
18 Stan Wybranski, 1339 Troon Lane, asked if there was a correlation between
19 violations of the noise ordinance and strong vibrations. Rick observed that there
20 probably is a correlation.

21
22 Mike suggested that a representative from Sunoco visit one or more of the houses in
23 Quaker Ridge during periods of heavy vibrations to troubleshoot the issue and
24 develop strategies for mitigating vibration in the future. Ms. Dastur agreed with
25 Mike's suggestion.

26
27 Mr. Hannafin played an audio file of the sound of the drilling.

28
29 Dave Shuey, 1547 Millrace, noted that for \$50 the Township can purchase vibration
30 standards from the website Mike had referenced earlier that would likely withstand
31 a legal challenge.

32
33 Ms. Hannafin requested that another sound curtain be added at the Quaker Ridge
34 drill site. She added that in some parts of Exton the pipeline is being installed at a
35 depth of only 3 feet.

36
37 **Consider recommendation regarding a variance request for 1007 Taylor**
38 **Avenue**

39 Amanda Albanno, DL Howell and Associates representing Noah Kahn, the property
40 owner, provided an overview of her client's application for variance relief to
41 subdivide an existing non-conforming 1.08 acre lot with two dwellings on it in the R-
42 2 zoning district into a .87 acre lot with a new large garage and a .21 acre lot. She
43 noted that her client is requesting variances for minimum lot area; minimum side
44 yard setback; minimum front yard setback; minimum rear yard setback; and an
45 accessory building in the front yard setback. She noted that the Planning

1 Commission had recommended that the application be approved as the proposal
2 would not alter the character of the neighborhood.

3
4 Janet observed that she was pleased that the revised plan incorporated some of the
5 recommendations that the Planning Commission had made.

6
7 Carmen stated that the only hardship that he saw in this application was self-
8 imposed.

9
10 Mike raised concerns about the number of variances and that the smaller lot would
11 be substantially smaller than one acre. He stated that approving this application
12 would run counter to good land planning.

13
14 Mr. Kahn noted that he was making interior improvements to the properties.

15
16 Chuck stated that there are too many variances being requested.

17
18 Marty stated that the intention with a non-conforming lot is to eventually make it
19 conforming, not to make it more non-conforming, as this application proposes.

20
21 Carmen made a motion to oppose the application and to direct the Township
22 Solicitor to represent the Township before the Zoning Hearing Board. Mike
23 seconded. The motion passed 4-1, with Janet opposed.

24
25 **Consider Resolution Supporting Circuit Trails**

26 Mike Broennle, Hunters Circle, asked for the Board's support of a resolution to add
27 180 new miles of Circuit Trails to the existing 320 miles in the Philadelphia region
28 by 2025.

29
30 Carmen asked how much of the funding for these trails comes from grants. Natasha
31 Manbeck, McMahan Associates, stated it was difficult to calculate, but that probably
32 the majority of funding came from state and federal sources.

33
34 Carmen made a motion to adopt the resolution supporting Circuit Trails. Mike
35 seconded the motion.

36
37 Chuck asked what percentage of the circuit is for pedestrians versus pedestrians
38 and bicycles. Mike stated that all of the circuit is multi-use. Natasha added that while
39 sections of the Circuit are more narrow than recommended for pedestrians and
40 bicycles—e.g. parts of the Uwchlan Trail—bicycles are still permitted everywhere.

41
42 The motion passed 5-0.

43
44 **Consider Engineering Proposal for Paoli Pike Trail Segments A&B**

45 Natasha Manbeck provided an overview of the engineering proposal for Segments
46 A-B (Airport Road to Reservoir Road) at a cost of \$556,983. She noted that if only

1 Segment A is constructed with Transportation Alternatives Program (TAP) funds,
2 the price would fall by about \$24,000. Jon noted that McMahon's proposal was about
3 \$90,000 more than the Township had budgeted and borrowed for.

4
5 Carmen made a motion to approve the engineering proposal for Segments A&B of
6 the Paoli Pike Trail in the amount of \$556,983, subject to a review of the cost
7 estimates by the Township Engineer. Mike seconded the motion. The motion passed
8 5-0.

9
10 **Consider Proposal for Grant Assistance**

11 Natasha provided an overview of McMahon Associates grant assistance proposal for
12 Segments A&B at a cost of \$14,865, plus expenses.

13
14 Carmen made a motion to approve the grant assistance proposal from McMahon
15 Associates in the amount of \$14,865, plus expenses. Janet seconded. The motion
16 passed 5-0.

17
18 **Any Other Matter**

19 Mike made a motion to authorize the Chairman to execute the storm water
20 management operation and maintenance agreement for 1104 Jaclyn Drive. Carmen
21 seconded. The motion passed 5-0.

22
23 Carmen made a motion to appoint Kelly Bidegery to the Historical Commission.
24 Janet seconded. The motion passed 5-0.

25
26 **Approval of Minutes of July 18, 2017**

27 Carmen made a motion to approve the minutes of July 18, 2017 as amended. Janet
28 seconded. The motion passed 5-0.

29
30 **Treasurer's Report of July 27, 2017**

31 Carmen moved to graciously accept the Treasurer's Report and the Expenditure Register
32 Report as recommended by the Treasurer, to accept the receipts and to authorize payment
33 of the invoices just reviewed. Janet seconded. The motion passed 5-0.

34
35 **Adjournment**

36 There being no further business, Janet motioned to adjourn the meeting at 9:30 pm.
37 Mike seconded the motion. The motion passed 5-0.

38
39 Respectfully submitted,

40
41 *Jon Altshul*
42 *Recording Secretary*

43
44 Attachment: July 27, 2017 Treasurer's Report

TREASURER'S REPORT
2017 RECEIPTS AND BILLS

GENERAL FUND

Real Estate Tax	\$6,275.53	Accounts Payable	\$202,731.50
Earned Income Tax	\$66,500.00	<u>Electronic Pmts:</u>	
Local Service Tax	\$4,100.00	Credit Card	\$3,144.14
Transfer Tax	\$0.00	Postage	\$1,000.00
<i>General Fund Interest Earned</i>	\$0.00	Debt Service	\$11,287.49
Total Other Revenue	\$41,736.08	Payroll	\$116,988.72
Total Receipts:	<u>\$118,611.61</u>	Total Expenditures:	<u>\$335,151.85</u>

STATE LIQUID FUELS FUND

Receipts	\$0.00	Expenditures:	<u>\$0.00</u>
<i>Interest Earned</i>	\$0.00		
Total State Liquid Fuels:	<u>\$0.00</u>		

SINKING FUND

Receipts	\$0.00	Accounts Payable	\$8,045.78
<i>Interest Earned</i>	\$5,227.40	Credit Card	\$0.00
Total Sinking Fund:	<u>\$5,227.40</u>	Total Expenditures:	<u>\$8,045.78</u>

TRANSPORTATION FUND

Receipts	\$0.00	Expenditures:	<u>\$1,635.00</u>
<i>Interest Earned</i>	\$0.00		
Total Sinking Fund:	<u>\$0.00</u>		

SEWER OPERATING FUND

Receipts	\$89,066.02	Accounts Payable	\$119,254.57
<i>Interest Earned</i>	\$0.00	Debt Service	\$29,176.60
Total Sewer:	<u>\$89,066.02</u>	Credit Card	\$0.00
		Total Expenditures:	<u>\$148,431.17</u>

REFUSE FUND

Receipts	\$40,703.31	Expenditures:	<u>\$77,793.11</u>
<i>Interest Earned</i>	\$0.00		
Total Refuse:	<u>\$40,703.31</u>		

SEWER SINKING FUND

Receipts	\$0.00	Expenditures:	<u>\$14,063.00</u>
<i>Interest Earned</i>	\$0.00		
Total Sewer Sinking Fund:	<u>\$0.00</u>		

OPERATING RESERVE FUND

Receipts	\$0.00	Expenditures:	<u>\$0.00</u>
<i>Interest Earned</i>	\$0.00		
Total Operating Reserve Fund:	<u>\$0.00</u>		

Events Fund

Receipts	\$0.00	Expenditures:	<u>\$0.00</u>
<i>Interest Earned</i>	\$0.00		
Total Events Fund:	<u>\$0.00</u>		

August 10, 2017

**TREASURER'S REPORT
2017 RECEIPTS AND BILLS**

GENERAL FUND

Real Estate Tax	\$4,204.78
Earned Income Tax	\$787,747.14
Local Service Tax	\$16,464.15
Transfer Tax	\$0.00
<i>General Fund Interest Earned</i>	\$9,524.10
Total Other Revenue	\$47,506.49
Total Receipts:	<u>\$865,446.66</u>

Accounts Payable	\$448,678.76
<u>Electronic Pmts:</u>	
Credit Card	\$0.00
Postage	\$1,000.00
Debt Service	\$0.00
Payroll	\$54,488.71
Total Expenditures:	<u>\$504,167.47</u>

STATE LIQUID FUELS FUND

Receipts	\$0.00
<i>Interest Earned</i>	\$1.90
Total State Liquid Fuels:	<u>\$1.90</u>

Expenditures:	<u>\$0.00</u>
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SINKING FUND

Receipts	\$0.00
<i>Interest Earned</i>	\$13,483.02
Total Sinking Fund:	<u>\$13,483.02</u>

Accounts Payable	\$2,637.56
<i>Credit Card</i>	\$0.00
Total Expenditures:	<u>\$2,637.56</u>

TRANSPORTATION FUND

Receipts	\$0.00
<i>Interest Earned</i>	\$451.00
Total Sinking Fund:	<u>\$451.00</u>

Expenditures:	<u>\$0.00</u>
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SEWER OPERATING FUND

Receipts	\$277,291.50
<i>Interest Earned</i>	\$32.07
Total Sewer:	<u>\$277,323.57</u>

Accounts Payable	\$187,308.77
<i>Debt Service</i>	\$0.00
<i>Credit Card</i>	\$0.00
Total Expenditures:	<u>\$187,308.77</u>

REFUSE FUND

Receipts	\$57,167.28
<i>Interest Earned</i>	\$5.69
Total Refuse:	<u>\$57,172.97</u>

Expenditures:	<u>\$65,928.39</u>
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SEWER SINKING FUND

Receipts	\$0.00
<i>Interest Earned</i>	\$5,758.02
Total Sewer Sinking Fund:	<u>\$5,758.02</u>

Expenditures:	<u>\$0.00</u>
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OPERATING RESERVE FUND

Receipts	\$0.00
<i>Interest Earned</i>	\$392.68
Total Operating Reserve Fund:	<u>\$392.68</u>

Expenditures:	<u>\$0.00</u>
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Events Fund

Receipts	\$0.00
<i>Interest Earned</i>	\$2.04
Total Events Fund:	<u>\$2.04</u>

Expenditures:	<u>\$0.00</u>
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**EAST GOSHEN TOWNSHIP
MEMORANDUM**

TO: BOARD OF SUPERVISORS
FROM: BRIAN MCCOOL
SUBJECT: PROPOSED PAYMENTS OF BILLS
DATE: 08-10-2017

Please accept the attached Treasurer's Report and Expenditure Register Report for consideration by the Board of Supervisors. I recommend the Treasurer's Report and each register item be approved for payment.

General Fund expenses include \$241,633 for the August contribution to WEGO, \$90,183 for paving work on Reservoir Road, \$35,121 for health insurance, \$10,410 for tree removal, and \$7,596 for professional services for the Paoli Pike Corridor Master Plan.

Earned Income Tax revenue is well above average due to remittances of 2nd quarter payments. The General, Sinking, and Sewer Capital Reserve Funds all had CDs that matured in July so interest for these funds is also well above average.

Sewer Fund expenses include a payment to West Goshen Township in the amount of \$159,450 for 2nd quarter sewer operating costs.

Please advise if the Board decides to make any changes or if the reports are acceptable as drafted.

Report Date 08/02/17

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
01		GENERAL FUND								
1471				WESTTOWN-EAST GOSHEN POLICE						
	52079	1	01410 5300	POLICE GEN. EXPENSE	080117	08/02/17	08/01/17	08/02/17	13841 p	241,632.93
				AUGUST 2017 CONTRIBUTION						
										241,632.93
										241,632.93
										1 Prepaids, totaling 241,632.93
										0 Printed, totaling 0.00

FUND SUMMARY

Fund	Bank Account	Amount	Description
01	01	241,632.93	GENERAL FUND
		241,632.93	

PERIOD SUMMARY

Period	Amount
1708	241,632.93
	241,632.93

Report Date 08/08/17

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MARP05 run by BARBARA 3 : 02 PM

Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
01	GENERAL FUND									
2226				21ST CENT.MEDIA NEWS #884433						
	52087	1	01401 3400	ADVERTISING - PRINTING	1390034			08/08/17		193.67
				LEGAL NOTICE - POLUTANT REDUCTION						
	52087	2	01401 3400	ADVERTISING - PRINTING	1392177			08/08/17		89.21
				NOTICE - EGMA MEETING 8/7						
-----										282.88
1941				AG-INDUSTRIAL INC						
	52088	1	01430 2330	VEHICLE MAINT AND REPAIR	IN28648	08/08/17		08/08/17		2,996.26
				TOP-TN LINK, TIE-ROD, PINS, WASHERS & LIFT ARMS						
-----										2,996.26
1903				ALTHOUSE, GARY						
	52090	1	01414 3000	CODE BOOKS/OTHER	080117	08/08/17		08/08/17		95.00
				RENEWAL OF TWO CERTIFICATIONS						
-----										95.00
68				AMS APPLIED MICRO SYSTEMS LTD.						
	52091	1	01401 3120	CONSULTING SERVICES	63651	08/08/17		08/08/17		1,097.00
				JULY 2017						
	52091	2	01414 5001	ZONING IT CONSULTING	63651	08/08/17		08/08/17		28.00
				JULY 2017 - GEO PLAN						
-----										1,125.00
1657				AQUA PA						
	52093	1	01409 3600	TWP. BLDG. - FUEL, LIGHT, WATER	072117 FR	08/08/17		08/08/17		192.00
				000309820 0309820 6/20-7/19/17 FR						
	52094	1	01409 3600	TWP. BLDG. - FUEL, LIGHT, WATER	072617 BS	08/08/17		08/08/17		17.00
				000309801 0309801 6/23-7/24/17 BS						
	52095	1	01409 3600	TWP. BLDG. - FUEL, LIGHT, WATER	072117 TB	08/08/17		08/08/17		189.90
				000309828 0309828 6/20-7/19/17 TB						
	52096	1	01409 3605	PW BLDG - FUEL,LIGHT,SEWER & WATER	072117 PW	08/08/17		08/08/17		179.90
				000496917 0309798 6/20-7/19/17 PW						
-----										578.80
2898				AQUASCAPES UNLIMITED						
	52102	1	01454 3711	POND TREATMENT	2081	08/08/17		08/08/17		589.13
				POND SERV. 7/18 PIN OAK & BOW TREE						
-----										589.13

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
102	52103	1	01401 3120	B&D COMPUTER SOLUTIONS CONSULTING SERVICES JULY 2017	00003116	08/08/17		08/08/17		2,000.00
										2,000.00
176	52105	1	01433 2500	BRITE STRIPE MAINT. REPAIRS.TRAFF.SIG. PAINT STOP BARS - RESERVOIR RD. & PAINT WHITE LINE & BIKE STENCILS - GOSHEN CORP.PARK	EG1703	08/08/17		08/08/17		1,654.00
										1,654.00
3891	52111	1	01487 4600	CHESTER COUNTY DES TRAINING & SEMINARS-EMPLY ICS COMMAND TRAINING - M.HOLMES	5255	08/08/17		08/08/17		125.00
										125.00
3488	52107	1	01487 1910	CINTAS CORPORATION #287 UNIFORMS	287773690	08/08/17		08/08/17		156.90
52108	1	01409 3740		TWP. BLDG. - MAINT & REPAIRS WEEK END 7/26/17 CLEAN MATS	287773689	08/08/17		08/08/17		78.49
52108	2	01487 1910		UNIFORMS WEEK END 7/26/17 CLEAN UNIFORMS	287773689	08/08/17		08/08/17		361.39
52109	1	01487 1910		UNIFORMS CARGO SHORTS	28777012	08/08/17		08/08/17		156.90
52110	1	01409 3740		TWP. BLDG. - MAINT & REPAIRS WEEK END 8/2/17 CLEAN MATS	287777011	08/08/17		08/08/17		78.49
52110	2	01487 1910		UNIFORMS WEEK END 8/2/17 CLEAN UNIFORMS	287777011	08/08/17		08/08/17		463.16
										1,295.33
296	52112	1	01401 3210	COMCAST 8499-10-109-0028306 COMMUNICATION EXPENSE 0028306 AUGUST 2017	072217	08/08/17		08/08/17		79.50
										79.50
3613	52114	1	01486 1560	DELAWARE VALLEY HEALTH TRUST HEALTH,ACCID. & LIFE AUGUST 2017 PREMIUM - MED & RX	13307	08/08/17		08/08/17		34,234.70
52114	2	01213 1000		DENTAL INSURANCE W/H AUGUST 2017 PREMIUM - DENTAL	13307	08/08/17		08/08/17		885.94
										35,120.64

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
01		GENERAL FUND								
3872				EAGLE TERMITE & PEST CONTROL						
	52117	1	01409 3740	TWP. BLDG. - MAINT & REPAIRS EXTERM. SERVICE JULY 2017 -TWP.	132729	08/08/17		08/08/17		105.00
	52118	1	01409 3745	PW BUILDING - MAINT REPAIRS EXTERM. SERVICE JULY 2017 -PW	132701	08/08/17		08/08/17		45.00
	52119	1	01409 3840	DISTRICT COURT EXPENSES EXTERM. SERVICE JULY 2017 - DIST.CT	132728	08/08/17		08/08/17		50.00
-----										200.00
430				EAST GOSHEN TWP - SEWER						
	52120	1	01409 3600	TWP. BLDG. - FUEL, LIGHT, WATER QTR.3 2017 SEWER PYMT. - TWP.	070117-T	08/08/17		08/08/17		111.06
	52121	1	01409 3605	PW BLDG - FUEL,LIGHT,SEWER & WATER QTR.3 2017 SEWER PYMT. - PW	070117-P	08/08/17		08/08/17		245.14
-----										356.20
439				EDWARDS AUTOMOTIVE REPAIR						
	52122	1	01430 2330	VEHICLE MAINT AND REPAIR PA EMISSION TEST - FORD EXPLORER	5933	08/08/17		08/08/17		50.00
-----										50.00
3892				ELI TRANSPORT INC.						
	52123	1	01438 2450	MATERIALS & SUPPLIES-HIGHWAYS FREIGHT 7/14 - NEW ENTERPRISE STONE	3023112	08/08/17		08/08/17		974.88
-----										974.88
473				FASTSIGNS						
	52124	1	01409 3740	TWP. BLDG. - MAINT & REPAIRS VINYL STICKERS - RE: SURVEILLANCE	368-49322	08/08/17		08/08/17		291.21
-----										291.21
2271				FOX ROTHCHILD LLP						
	52126	1	01404 3140	LEGAL - ADMIN LEGAL SERVICE THRU 6/30/17 EMPLOYMT ADVICE	2073113	08/08/17		08/08/17		286.00
-----										286.00

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
2958	52125	1	01430 2330	FREIGHTLINER OF LANCASTER VEHICLE MAINT AND REPAIR 2 LAMPS (RB3E)	261022DE	08/08/17		08/08/17		78.82
										78.82
563	52127	1	01413 3000	GRAINGER GENERAL EXPENSE SMOKE DETECTOR TESTER CANS	9500030284	08/08/17		08/08/17		106.26
										106.26
2631	52128	1	01401 2100	GRAPHIC IMPRESSIONS OF AMERICA INC. MATERIALS & SUPPLIES BOS ENVELOPES	17-8390	08/08/17		08/08/17		132.00
										132.00
3131	52129	1	01401 3840	GREAT AMERICA FINANCIAL SERVICES RENTAL OF EQUIP. -OFFICE AUGUST 2017 LANIER MP C5503 COPIER	21027679	08/08/17		08/08/17		335.50
										335.50
627	52132	1	01438 2455	HIGHWAY MATERIALS INC. MATER. & SUPPLY-RESURFAC. 112.56 TONS 19mm, 0.3<3, B,PG64,WM	25503	08/08/17		08/08/17		4,913.24
52133	1	01438 2455	MATER. & SUPPLY-RESURFAC. 193.04 TONS 19mm, 0.3<3, B,PG64,WM	25443	08/08/17		08/08/17		8,426.19	
52134	1	01438 2455	MATER. & SUPPLY-RESURFAC. 659.29 TONS 19mm, 0.3<3, H,PG64,WM RESERVOIR RD.	25519	08/08/17		08/08/17		30,788.82	
52135	1	01438 2455	MATER. & SUPPLY-RESURFAC. 398.60 TONS 19mm, 0.3<3, H,PG64,WM RESERVOIR RD.	26030	08/08/17		08/08/17		18,614.63	
52135	2	01438 2455	MATER. & SUPPLY-RESURFAC. 68.00 TONS 19mm, 0.3<3, B,PG64,WM RESERVOIR RD.	26030	08/08/17		08/08/17		2,968.21	
52136	1	01438 2455	MATER. & SUPPLY-RESURFAC. 522.54 TONS 19mm, 0.3<3, H,PG64,WM RESERVOIR RD.	25535	08/08/17		08/08/17		24,402.60	
										90,113.69
2680	52137	1	01437 2460	HOTSY EQUIPMENT COMPANY GENERAL EXPENSE - SHOP NOZZLES	50-48246	08/08/17		08/08/17		47.20
										47.20

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
01		GENERAL FUND								
719				KEEN COMPRESSED GAS COMPANY						
	52138	1	01437 2460	GENERAL EXPENSE - SHOP	83145644	08/08/17		08/08/17		56.61
				VARIOUS GAS CYLINDERS						
										56.61
3838				KNIGHT BROS. INC.						
	52139	1	01438 2460	TREE REMOVAL	12041	08/08/17		08/08/17		820.00
				TREE REMOVAL - 17 HILL ST.						
	52140	1	01438 2460	TREE REMOVAL	12042	08/08/17		08/08/17		1,880.00
				TREE REMOVAL - THISTLE LANE						
	52141	1	01438 2460	TREE REMOVAL	12047	08/08/17		08/08/17		1,350.00
				TREE REMOVAL - MISACK DRIVE						
	52142	1	01438 2460	TREE REMOVAL	12048	08/08/17		08/08/17		4,240.00
				TREE REMOVAL - GRAND OAK LANE						
	52143	1	01438 2460	TREE REMOVAL	12060	08/08/17		08/08/17		2,120.00
				TREE REMOVAL - TALMADGE DR.						
										10,410.00
739				KNOX EQUIPMENT RENTALS INC.						
	52144	1	01438 3840	EQUIPMENT RENTAL	19213.1.2	08/08/17		08/08/17		250.25
				LOADER, AUGER POWER HEAD & AUGER						
				RENTAL 7/26/17						
										250.25
1631				KRAPF'S COACHES						
	52145	1	01452 3020	TRIPS	19697- 12/9/17	08/08/17		08/08/17		200.00
				DEPOSIT - NYC TRIP 12/9/17						
										200.00
3308				LANG, JASON						
	52146	1	01452 2000	SUMMER PROGRAM SUPPLIES	080317	08/08/17		08/08/17		345.30
				REIMBURSEMNT - SUMMER CAMP SUPPLIES						
										345.30
2861				LITTLE INC., ROBERT E.						
	52147	1	01430 2330	VEHICLE MAINT AND REPAIR	03-487941	08/08/17		08/08/17		275.89
				SHROUD, REWIND STARTER, TRIMMER KIT						
				AND CHAIN LOOPS						
										275.89

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
787	52149	1	01409 3740	LOW-RISE ELEVATOR CO. INC TWP. BLDG. - MAINT & REPAIRS BASIC MAINTENANCE - JULY 2017	71997	08/08/17		08/08/17		40.00
										40.00
1817	52148	1	01433 2450	LOWES BUSINESS ACCOUNT/GECF MATERIALS & SUPPLIES - SIGNS MORTAR MIX	071717	08/08/17		08/08/17		319.79
	52148	2	01437 2460	GENERAL EXPENSE - SHOP BARE WRENCH SET, DRIVE ADAPTOR & BOTTLED WATER	071717	08/08/17		08/08/17		384.36
										704.15
800	52150	1	01438 3845	MACANGA INC. EQUIP. RENTAL -RESURFAC. LABOR 7/22/17 - 4 HRS.	072517	08/08/17		08/08/17		1,200.00
	52150	2	01438 2455	MATER. & SUPPLY-RESURFAC. HOT TAR	072517	08/08/17		08/08/17		300.00
										1,500.00
2245	52152	1	01409 3740	MARCO PROTECTION SYSTEMS LLC TWP. BLDG. - MAINT & REPAIRS ANNUAL WET & DRY SPRINKER INSPECTS	10542	08/08/17		08/08/17		242.67
	52152	2	01409 3745	PW BUILDING - MAINT REPAIRS ANNUAL WET & DRY SPRINKER INSPECTS	10542	08/08/17		08/08/17		242.67
	52152	3	01409 3840	DISTRICT COURT EXPENSES ANNUAL WET & DRY SPRINKER INSPECTS	10542	08/08/17		08/08/17		242.66
	52152	4	01409 3745	PW BUILDING - MAINT REPAIRS CREDIT FROM PREV.INVOICE	10542	08/08/17		08/08/17		-13.60
										714.40
3551	52153	1	01401 3120	MCMAHON ASSOCIATES INC. CONSULTING SERVICES PROF. SERVICE JUNE 2017 PAOLI PK CORRIDOR MASTER PLAN	154441	08/08/17		08/08/17		7,595.88
										7,595.88
1641	52154	1	01430 2330	NAPA AUTO PARTS VEHICLE MAINT AND REPAIR AIR FILTERS, FUEL & OIL FILTER	2-709421	08/08/17		08/08/17		107.44
										107.44

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
827				NEW ENTERPRISE STONE & LIME INC.						
	52156	1	01438 2450	MATERIALS & SUPPLIES-HIGHWAYS 48.61 TONS STONE 2A	6626998	08/08/17		08/08/17		337.84
	52156	2	01438 2450	MATERIALS & SUPPLIES-HIGHWAYS 73.10 TONS STONE 2RC	6626998	08/08/17		08/08/17		456.88
										794.72
2759				NEW HOLLAND GROUP						
	52155	1	01430 2330	VEHICLE MAINT AND REPAIR LAMP AND WIRE ASSEMBLIES	1226673	08/08/17		08/08/17		227.82
										227.82
1554				OFFICE DEPOT						
	52157	1	01401 2100	MATERIALS & SUPPLIES DESKTOP CALCULATOR, POST-IT NOTES, ENVELOPES & POCKETS	944636559001	08/08/17		08/08/17		71.55
	52158	1	01401 2100	MATERIALS & SUPPLIES FILE CABINET RAILS	94436675001	08/08/17		08/08/17		32.99
	52159	1	01401 2100	MATERIALS & SUPPLIES ADDING MACH.PAPER & ADDRESS LABELS	944636676001	08/08/17		08/08/17		25.32
	52160	1	01401 2100	MATERIALS & SUPPLIES ADDRESS LABELS	945078184001	08/08/17		08/08/17		21.93
										151.79
3153				PECO - 01360-05046						
	52161	1	01409 7505	BOOT & PAOLI LED SIGN 01360-05046 6/28-7/30/17 BOOT LED	080217	08/08/17		08/08/17		58.11
										58.11
1555				PECO - 45168-01609						
	52164	1	01409 3840	DISTRICT COURT EXPENSES 45168-01609 6/23-7/25/17	072717	08/08/17		08/08/17		28.38
	52164	2	01409 3605	PW BLDG - FUEL,LIGHT,SEWER & WATER 45168-01609 6/23-7/25/17	072717	08/08/17		08/08/17		810.08
										838.46
2592				PECO - 45951-30004						
	52162	1	01454 3600	UTILITIES 45951-30004 6/20-7/20/17 RESTROOMS	072417	08/08/17		08/08/17		45.62
										45.62

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
2591	52163	1	01454 3600	PECO - 59500-35010 UTILITIES 59500-35010 6/23 -7/25/17 POND PUMP	072717	08/08/17		08/08/17		37.20
										37.20
2986	52165	1	01487 4600	PENNBC REGION 1 TRAINING & SEMINARS-EMPLY PENNBC TRAINING 9/7/17 G.ALTHOUSE	080217	08/08/17		08/08/17		50.00
	52165	2	01487 4600	TRAINING & SEMINARS-EMPLY PENNBC TRAINING 9/7/17 V.DIMARTINI	080217	08/08/17		08/08/17		50.00
										100.00
1785	52166	1	01401 3000	PENNSYLVANIA STATE POLICE GENERAL EXPENSE BACKGROUND CK. R18466832 ZALDIVAR	080217	08/08/17		08/08/17		8.00
										8.00
1065	52167	1	01401 3000	PETTY CASH GENERAL EXPENSE	073117			08/08/17		110.80
	52167	2	01452 3601	TABLE SKIRTS - BOS MTG., DONUTS & BAGELS - INR MTG. & TABLE CLOTHS-BOS MISCELLANEOUS EVENTS	073117			08/08/17		7.99
	52167	3	01437 2460	GENERAL EXPENSE - SHOP OTTERBOX PHONE CASES	073117			08/08/17		47.98
	52167	4	01487 1910	UNIFORMS CLEANERS BILL - SHIRTS	073117			08/08/17		6.00
	52167	5	01430 2330	VEHICLE MAINT AND REPAIR REIMB. E.KILGORE - CDL LICENSE	073117			08/08/17		90.50
										263.27
1876	52168	1	01438 3840	RANSOME RENTAL COMPANY LP EQUIPMENT RENTAL SKID STEER & HAMMER RENTAL 7/17- 7/24/17	K2261401	08/08/17		08/08/17		511.00
										511.00
1161	52169	1	01430 2320	REILLY & SONS INC VEHICLE OPERATION - FUEL 514.3 GALS. DIESEL	126386	08/08/17		08/08/17		890.25
										890.25

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2673				RYERSON & SON INC., J.T.						
	52170	1	01430 2330	VEHICLE MAINT AND REPAIR CARB BARS	9300974624	08/08/17		08/08/17		273.90
	52171	1	01430 2330	VEHICLE MAINT AND REPAIR 5 PC CF SQ BAR	9300974625	08/08/17		08/08/17		100.00
										373.90
1783				STATE WORKERS INSURANCE FUND						
	52173	1	01411 6000	VOLUNTEER FIREFIGHTER WORKERS COMP POLICY 05918452 INSTALLMT. 9 OF 11	080117	08/08/17		08/08/17		4,777.00
										4,777.00
3120				STTC SERVICE TIRE TRUCK CTRS INC.						
	52174	1	01430 2330	VEHICLE MAINT AND REPAIR TWO TIRES - BOOM MOWER	W75778-17	08/08/17		08/08/17		265.14
										265.14
2829				VERIZON - TWP.FIOS 0001-74						
	52177	1	01401 3210	COMMUNICATION EXPENSE 7/28-8/27/17 FIOS -TWP	0001-74 72717	08/08/17		08/08/17		89.99
										89.99
2942				VERIZON WIRELESS 16809-00001						
	52180	1	01401 3210	COMMUNICATION EXPENSE JUNE 21 -JULY 20, 2017	9789570152	08/08/17		08/08/17		742.84
										742.84
3791				VERIZON WIRELESS 16809-00002						
	52179	1	01401 3210	COMMUNICATION EXPENSE JUNE 21 -JULY 20, 2017	9789570153	08/08/17		08/08/17		142.60
										142.60
2516				WEST CHESTER UNIVERSITY						
	52181	1	01487 4600	TRAINING & SEMINARS-EMPLY 2017 TUITION B.MCCOOL 0593337	0593337-F17	08/08/17		08/08/17		1,881.00
										1,881.00

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03				SINKING FUND						
317				CONTRACTOR'S CHOICE						
	52113	1	03454 7450	CAPITAL PURCHASE - PARK & REC ORANGE BARRIER FENCING- NEW TOT LOT	00214332	08/08/17		08/08/17		902.21
										902.21
2257				THOMAS COMMITTA ASSOCIATES INC.						
	52175	1	03454 7450	CAPITAL PURCHASE - PARK & REC ARCHITECTURAL SERV.- JULY 2017 PARK PLAYGROUND	072717	08/08/17		08/08/17		1,135.35
										1,135.35

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05				SEWER OPERATING						
2918	52089	1	05422 4500	ALS ENVIRONMENTAL R.C. STP-CONTRACTED SERV. LAB TESTING RCSPT - 7/18/17	40-2180963	08/08/17		08/08/17		222.00
										222.00
1658	52097	1	05420 3602	AQUA PA C.C. COLLECTION -UTILITIES 000300141 0300141 6/20-7/19/17 GH	072117 GH	08/08/17		08/08/17		16.00
	52098	1	05420 3602	C.C. COLLECTION -UTILITIES 000363541 0357724 6/20-7/19/17 BK	072117 BK	08/08/17		08/08/17		16.00
	52099	1	05420 3602	C.C. COLLECTION -UTILITIES 000309826 0309826 6/23-7/24/17 TH	072617 TH	08/08/17		08/08/17		18.00
	52100	1	05420 3602	C.C. COLLECTION -UTILITIES 000305003 0305003 6/26-7/25/17 WW	072717 WW	08/08/17		08/08/17		27.50
	52101	1	05422 3601	R.C. COLLEC.-UTILITIES 001533998 1087842 6/23-7/24/17 TWN	072617 TWN	08/08/17		08/08/17		59.70
										137.20
151	52104	1	05422 4502	BLOENSKI DISPOSAL CO, CHARLES R.C. SLUDGE-LAND CHESTER SWITCH 20 YDS WITH LINER 7/17	15082	08/08/17		08/08/17		181.00
	52104	2	05422 4502	R.C. SLUDGE-LAND CHESTER SWITCH 20 YDS WITH LINER 7/24	15083	08/08/17		08/08/17		181.00
										362.00
241	52106	2	05422 4502	C.C. SOLID WASTE AUTHORITY R.C. SLUDGE-LAND CHESTER WEEK 7/24/17 - 7/31/17	47940	08/08/17		08/08/17		928.62
										928.62
3872	52115	1	05420 3702	EAGLE TERMITE & PEST CONTROL C.C. COLLEC.-MAINT. & REPR. EXTERM. SERVICE JULY 2017 -ASHBRDG	132738	08/08/17		08/08/17		25.00
	52116	1	05422 3700	R.C. STP-MAINT. & REPAIRS EXTERM. SERVICE JULY 2017 -RCSTP	132700	08/08/17		08/08/17		45.00
										70.00
627	52130	1	05420 3702	HIGHWAY MATERIALS INC. C.C. COLLEC.-MAINT. & REPR. 3.01 TONS 19mm, 0.3<3, B, PG64, WM	26469	08/08/17		08/08/17		131.39
	52131	1	05420 3702	C.C. COLLEC.-MAINT. & REPR. 3.97 TONS 19mm, 0.3<3, B, PG64, WM	26486	08/08/17		08/08/17		173.29
										304.68

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05				SEWER OPERATING						
3043				MAIN POOL & CHEMICAL COMP. INC.						
	52151	1	05422 2441	R.C. COLLEC.-CHEMICALS 1640 GALS ALUMINUM SULFATE SOLUTION	1762356	08/08/17		08/08/17		1,918.80
	52151	2	05422 2441	R.C. COLLEC.-CHEMICALS 196 50LB BAGS SODIUM CARBONATE LITE	1762356	08/08/17		08/08/17		2,940.00
										4,858.80
2673				RYERSON & SON INC., J.T.						
	52172	1	05422 3700	R.C. STP-MAINT.& REPAIRS WELD PIPE	9300974626	08/08/17		08/08/17		330.00
										330.00
3529				VERIZON - MODEMS						
	52178	1	05420 3601	C.C. INTERCEPTOR-UTILITIES JUNE 26 -JULY 25, 2017 MODEMS	9789911711	08/08/17		08/08/17		85.32
										85.32
2773				VERIZON - PW FIOS 0001-15						
	52176	1	05422 3601	R.C. COLLEC.-UTILITIES 7/28-8/27/17 FIOS PW	0001-15 72717	08/08/17		08/08/17		89.99
										89.99
1431				WEST GOSHEN TOWNSHIP						
	52183	1	05420 3850	C.C. WEST GOSHEN OPER/MAINT 2ND QTR. 2017 OPERATIONS & MGMT.	072017	08/08/17		08/08/17		159,449.63
										159,449.63

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06				REFUSE						
2762	52092	1	06427 4500	AJB A.J. BLOSENSKI INC. CONTRACTED SERV. AUGUST 2017 RESIDENTIAL PICKUP	78100147	08/08/17		08/08/17		57,910.03
										57,910.03
241	52106	1	06427 4502	C.C. SOLID WASTE AUTHORITY LANDFILL FEES WEEK 7/24/17 - 7/31/17	47940	08/08/17		08/08/17		8,018.36
										8,018.36
										408,116.12
										0 Printed, totaling 408,116.12

FUND SUMMARY

Fund	Bank Account	Amount	Description
01	01	173,311.93	GENERAL FUND
03	03	2,037.56	SINKING FUND
05	05	166,838.24	SEWER OPERATING
06	06	65,928.39	REFUSE
		408,116.12	

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Period	Amount
1708	408,116.12
	408,116.12

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01		GENERAL FUND								
3140				ACE DISPOSAL CORP						
	52190	1	01454 2000	MAINTENANCE SUPPLIES	122133	08/10/17		08/10/17		300.00
				HANDI-CAP PORTABLE TOILET						
	52191	1	01438 2450	MATERIALS & SUPPLIES-HIGHWAYS	122134	08/10/17		08/10/17		110.00
				PORTABLE TOILETS 8/31/17 CONSTRUCT. SITE						
										410.00
1941				AG-INDUSTRIAL INC						
	52193	1	01430 2330	VEHICLE MAINT AND REPAIR	IN28568	08/10/17		08/10/17		232.44
				MOWER BLADES FOR TRACTORS						
										232.44
1657				AQUA PA						
	52196	1	01411 3630	HYDRANT & WATER SERVICE	080117 HY6	08/10/17		08/10/17		137.52
				000309987 0309987 6/30-7/31/17 HY6						
	52197	1	01411 3630	HYDRANT & WATER SERVICE	080117 279	08/10/17		08/10/17		4,696.50
				000310033 0310033 6/30-7/31/17 186						
	52197	2	01411 3631	HYDRANTS - RECHARGE EXPENSE	080117 279	08/10/17		08/10/17		2,348.25
				000310033 0310033 6/30-7/31/17 93						
										7,182.27
2898				AQUASCAPES UNLIMITED						
	52198	1	01454 3711	POND TREATMENT	2109	08/10/17		08/10/17		531.13
				POND SERVICE - PIN OAK & BOW TREE						
										531.13
2074				ASPHALT CARE EQUIPMENT AND SUPPLIES						
	52199	1	01437 2460	GENERAL EXPENSE - SHOP	75058	08/10/17		08/10/17		84.00
				SCRAPER HEAD & BROM HANDLE						
										84.00
3370				CC&T INC.						
	52201	1	01438 3845	EQUIP. RENTAL -RESURFAC.	RF03529	08/10/17		08/10/17		7,000.00
				COLD PLANER RENTAL 7/31-8/6/17						
										7,000.00

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3488				CINTAS CORPORATION #287						
	52202	1	01409 3740	TWP. BLDG. - MAINT & REPAIRS	287763539	08/10/17		08/10/17		78.49
				WEEK END 7/5/17 CLEAN MATS						
	52202	2	01487 1910	UNIFORMS	287763539	08/10/17		08/10/17		361.39
				WEEK END 7/5/17 CLEAN UNIFORMS						
										439.88
2996				CNS CLEANING COMPANY						
	52203	1	01409 3740	TWP. BLDG. - MAINT & REPAIRS	50554	08/10/17		08/10/17		870.00
				JANITORIAL SERVICE TOWNSHIP						
				JANITORIAL SERVICE AUGUST 2017						
	52203	2	01409 3840	DISTRICT COURT EXPENSES	50554	08/10/17		08/10/17		255.00
				JANITORIAL SERVICE DISTRICT COURT						
				JANITORIAL SERVICE AUGUST 2017						
										1,125.00
3894				DUELING PIANOS						
	52204	1	01452 3601	MISCELLANEOUS EVENTS	080817	08/10/17		08/10/17		500.00
				ENTERTAINMENT - FOOD MUSIC FESTIVAL						
										500.00
627				HIGHWAY MATERIALS INC.						
	52206	1	01438 2455	MATER. & SUPPLY-RESURFAC.	27102	08/10/17		08/10/17		69.12
				1.48 TONS 9.5mm 0.3<3, H, PG64 WM						
										69.12
719				KEEN COMPRESSED GAS COMPANY						
	52207	1	01437 2460	GENERAL EXPENSE - SHOP	304000078	08/10/17		08/10/17		43.00
				AIR SHORE CYLINDERS						
	52208	1	01430 2330	VEHICLE MAINT AND REPAIR	72020978	08/10/17		08/10/17		60.00
				ARGON CYLINDER LEASE						
										103.00
2442				KENT AUTOMOTIVE						
	52209	1	01430 2330	VEHICLE MAINT AND REPAIR	9305114399	08/10/17		08/10/17		859.57
				FITTINGS, NIPPLES & ADAPTERS						
										859.57
1529				KRAPF JR. & SONS INC., GEORGE						
	52211	1	01452 2010	SUMMER PROGRAM FIELD TRIPS	SB0817013091	08/10/17		08/10/17		1,665.84
				SIX SUMMER FIELD TRIPS 7/6-7/27/17						
										1,665.84

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01		GENERAL FUND								
756	52212	1	01436 2450	LANE ENTERPRISES INC. STORMWATER MATERIALS & SUPPLIES SPIRAL CORRUGATED PIPE & REROLL BAND	418277	08/10/17		08/10/17		5,768.00
										5,768.00
765	52213	1	01409 3745	LENNI ELECTRIC CORPORATION PW BUILDING - MAINT REPAIRS REPAIR FIXTURE OUTAGES - PW	170731	08/10/17		08/10/17		352.30
										352.30
909	52214	1	01430 2600	MES - PENNSYLVANIA MINOR EQUIP. PURCHASE FLAT BASE (12)	IN1116364	08/10/17		08/10/17		1,245.51
										1,245.51
3679	52215	1	01401 3210	NETCARRIER TELECOM INC. 67846 COMMUNICATION EXPENSE 8/1/17 - 8/31/17	463315	08/10/17		08/10/17		365.28
										365.28
3680	52220	1	01401 3210	NETCARRIER TELECOM INC. 67891 COMMUNICATION EXPENSE 8/1/17 - 8/31/17	463322	08/10/17		08/10/17		135.80
										135.80
1554	52222	1	01401 2100	OFFICE DEPOT MATERIALS & SUPPLIES MONEY/RECEIPT BOOKS	949332405001	08/10/17		08/10/17		7.74
	52223	1	01401 2100	MATERIALS & SUPPLIES BATTERIES & TONER	949332404001	08/10/17		08/10/17		145.01
	52224	1	01401 2100	MATERIALS & SUPPLIES DAILY PLANNER	949332005001	08/10/17		08/10/17		15.99
	52225	1	01401 2100	MATERIALS & SUPPLIES LABELER TAPE	947682883001	08/10/17		08/10/17		6.72
	52226	1	01401 2100	MATERIALS & SUPPLIES MANILLA FOLDERS	947681494001	08/10/17		08/10/17		13.59
	52227	1	01401 2100	MATERIALS & SUPPLIES MARBLE PORTFOLIO	947278260001	08/10/17		08/10/17		47.69
	52228	1	01401 2100	MATERIALS & SUPPLIES LABELER & INDEX MAKER	947116405001	08/10/17		08/10/17		96.69
										333.43

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
01		GENERAL FUND								
1022	52230	1	01454 3740	PATTERSON, MICHAEL J. EQUIPMENT MAINT. & REPAIR REPLACE DECK BOARDS - WETLAND WALK	080917	08/10/17		08/10/17		1,080.00
										1,080.00
2593	52231	1	01454 3600	PECO - 18510-39089 UTILITIES 18510-39089 7/3-8/2/17 BOW TR.PUMP	080417	08/10/17		08/10/17		79.02
										79.02
1005	52232	1	01438 3840	PENNSYLVANIA ONE CALL SYSTEM EQUIPMENT RENTAL MONTHLY ACTIVITY JULY 2017	0000735451	08/10/17		08/10/17		71.74
										71.74
1876	52234	1	01430 2330	RANSOME RENTAL COMPANY LP VEHICLE MAINT AND REPAIR LATCHES, RETAINER, NUT & BUMPER	PC040036000	08/10/17		08/10/17		104.47
	52235	1	01438 3840	EQUIPMENT RENTAL EXCAVATOR, BUCKET & COUPLER RENTAL 7/20-7/27/17	K2265001	08/10/17		08/10/17		2,098.50
										2,202.97
2109	52237	1	01433 2450	TRAFFIC SAFETY STORE, THE MATERIALS & SUPPLIES - SIGNS "MILLING BEGINS THIS WEEK"& "PAVING BEGINS THIS WEEK" ROLL UP SIGNS	INV000509793	08/10/17		08/10/17		1,561.60
										1,561.60
2050	52238	1	01487 1550	VILLAGE MEDICAL DRUG & ALCOHOL TESTING DRUG SCREENING - W.MINAHAN	00143147-00	08/10/17		08/10/17		95.00
	52238	2	01487 1500	MISC. EMPLOYEE BENEFITS HEP B & A TITRES & TETANUS/ DIPHTHER SHOTS	00143147-00	08/10/17		08/10/17		141.00
										236.00

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3895				WC EAST FOOTBALL AD CAMPAIGN						
	52239	1	01452 3000	GENERAL EXPENSE	081017	08/10/17		08/10/17		100.00
				HALF PAGE AD - FOOTBALL PROGRAM						
										100.00

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03				SINKING FUND						
2762				AJB A.J. BLOSENSKI INC.						
	52194	1	03454 7400	CAPITAL REPLACEMENT - PARK & REC 30 YD ROLLOFFS HAULING - TENNIS CTS	77Q01477	08/10/17		08/10/17		400.00
	52195	1	03454 7400	CAPITAL REPLACEMENT - PARK & REC 30 YD ROLLOFF HAULING - TENNIS CTS	77R01680	08/10/17		08/10/17		200.00
										600.00

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3678	52217	1 05420	3602	NETCARRIER TELECOM INC. 67888 C.C. COLLECTION -UTILITIES 8/1/17 - 8/31/17	463319	08/10/17		08/10/17		49.50
										49.50
3725	52221	1 05420	3702	NETCARRIER TELECOM INC. 68255 C.C. COLLEC.-MAINT.& REPR. 8/1/17 - 8/31/17	463524	08/10/17		08/10/17		50.47
										50.47
1022	52229	1 05422	3701	PATTERSON, MICHAEL J. R.C. COLLEC.-MAINT.& REPR REPLACE FENCING HUNT COUNTRY PUMP STATION	081017-1	08/10/17		08/10/17		575.00
										575.00
1005	52232	2 05422	3701	PENNSYLVANIA ONE CALL SYSTEM R.C. COLLEC.-MAINT.& REPR MONTHLY ACTIVITY JULY 2017	0000735451	08/10/17		08/10/17		71.74
	52232	3 05420	3702	C.C. COLLEC.-MAINT.& REPR. MONTHLY ACTIVITY JULY 2017	0000735451	08/10/17		08/10/17		71.74
										143.48
1087	52233	1 05420	3702	PIPE XPRESS INC. C.C. COLLEC.-MAINT.& REPR. PVC CAPS, DUCT TAPE, TAPE MEASURE, GREEN SEWER LINE TAPE, TEFLON TAPE & NUT DRIVER	86973	08/10/17		08/10/17		143.35
										143.35
2914	52236	1 05422	4500	TOWLER, SCOTT A. R.C. STP-CONTRACTED SERV. SERVICE RE: RCSTP JULY 2017	17-070131-2	08/10/17		08/10/17		14,588.33
										14,588.33
										54,804.43
										0 Printed, totaling 54,804.43

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Vendor	Req #	Budget#	Sub#	Description	Invoice Number	Req Date	Check Dte	Recpt Dte	Check#	Amount
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FUND SUMMARY

Fund	Bank Account	Amount	Description
01	01	33,733.90	GENERAL FUND
03	03	600.00	SINKING FUND
05	05	20,470.53	SEWER OPERATING
		54,804.43	

PERIOD SUMMARY

Period	Amount
1708	54,804.43
	54,804.43