

**PRELIMINARY LAND DEVELOPMENT SUBMISSION
FOR
LANCASTER AVENUE HOUSING**



Villanova University

**SITUATED IN
RADNOR TOWNSHIP,
DELAWARE COUNTY, PENNSYLVANIA**

Villanova University
Lancaster Avenue Housing
Lancaster and Ithan Avenues
Villanova PA 19085

**VMA
RAMSA**

ARCHITECT-OF-RECORD
Volth & Mactavish Architects LLP
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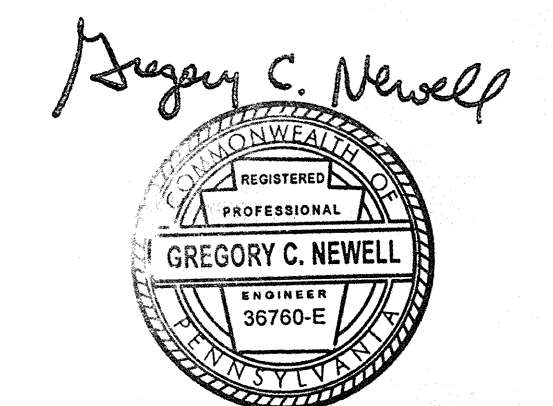
LANDSCAPE ARCHITECT
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Haddonfield, NJ 08033
phone: 856-433-6381
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ELEVATOR CONSULTANT
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phone: 610-667-1717
fax: 610-667-0216

OWNER / APPLICANT

VILLANOVA UNIVERSITY
800 E LANCASTER AVE
VILLANOVA, PA 19085
610-519-4500



**PRELIM. LAND DEVELOPMENT
SUBMISSION**

Revision #1 March 6, 2015
Date December 5, 2014
Title Title Sheet

Scale As Noted
Drawn By MMB

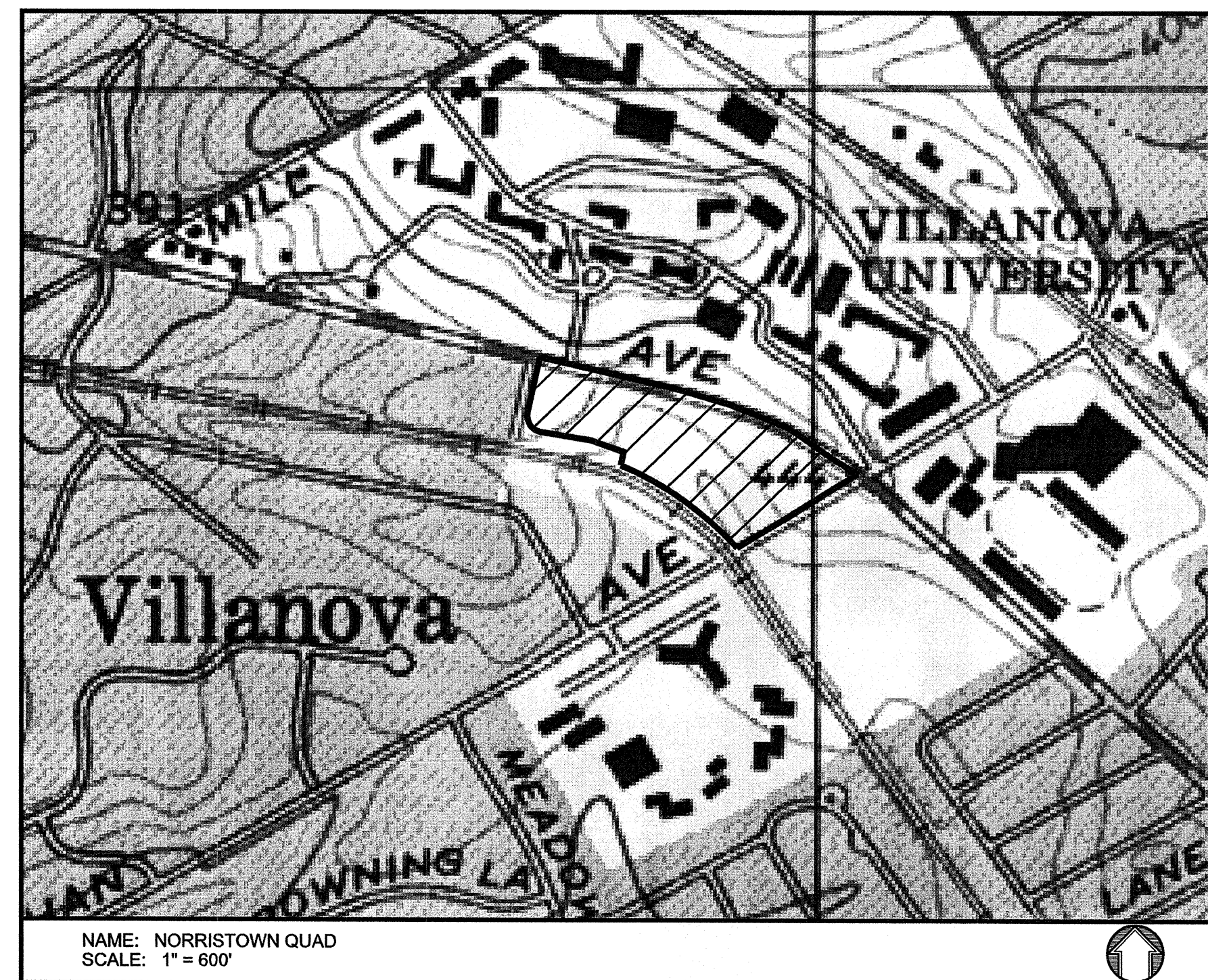
C0.0

Sheet No. 1 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

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**CERTIFICATE OF OWNERSHIP
AND ACKNOWLEDGEMENT OF PLAN**

ON THIS, THE _____ DAY OF _____, 20____, BEFORE ME, THE
UNDERSIGNED OFFICER, PERSONALLY APPEARED _____

(NAME OF OWNER)
WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER
AND/OR EQUITABLE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, AND THAT HE/SHE
ACKNOWLEDGES THE SAME TO BE HIS/HER ACT AND PLAN AND DESIRES THE SAME BE RECORDED
AS SUCH ACCORDING TO LAW.

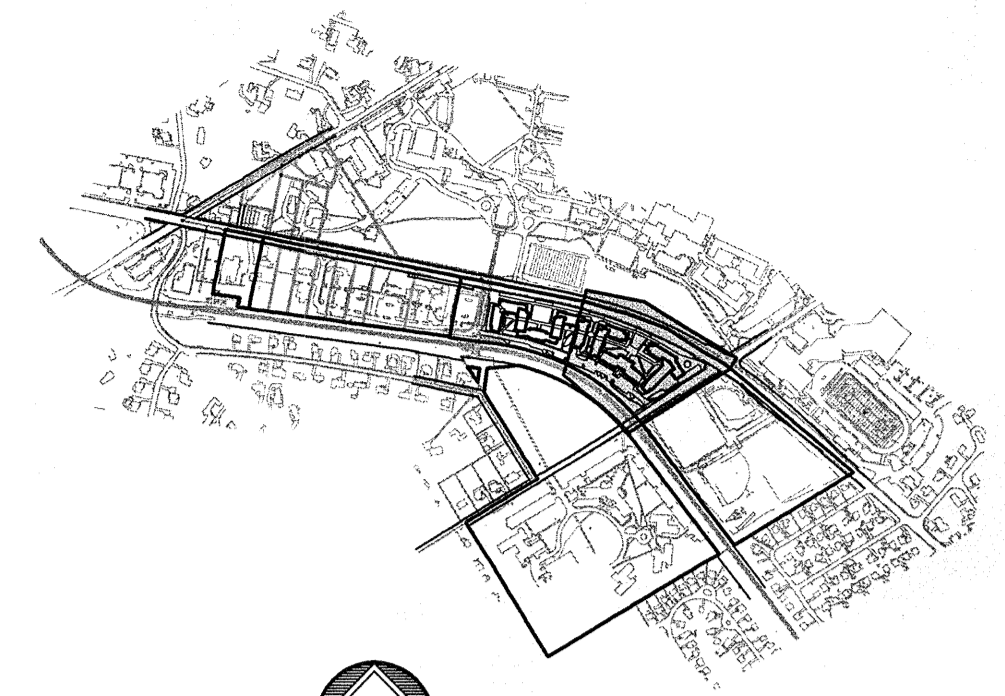
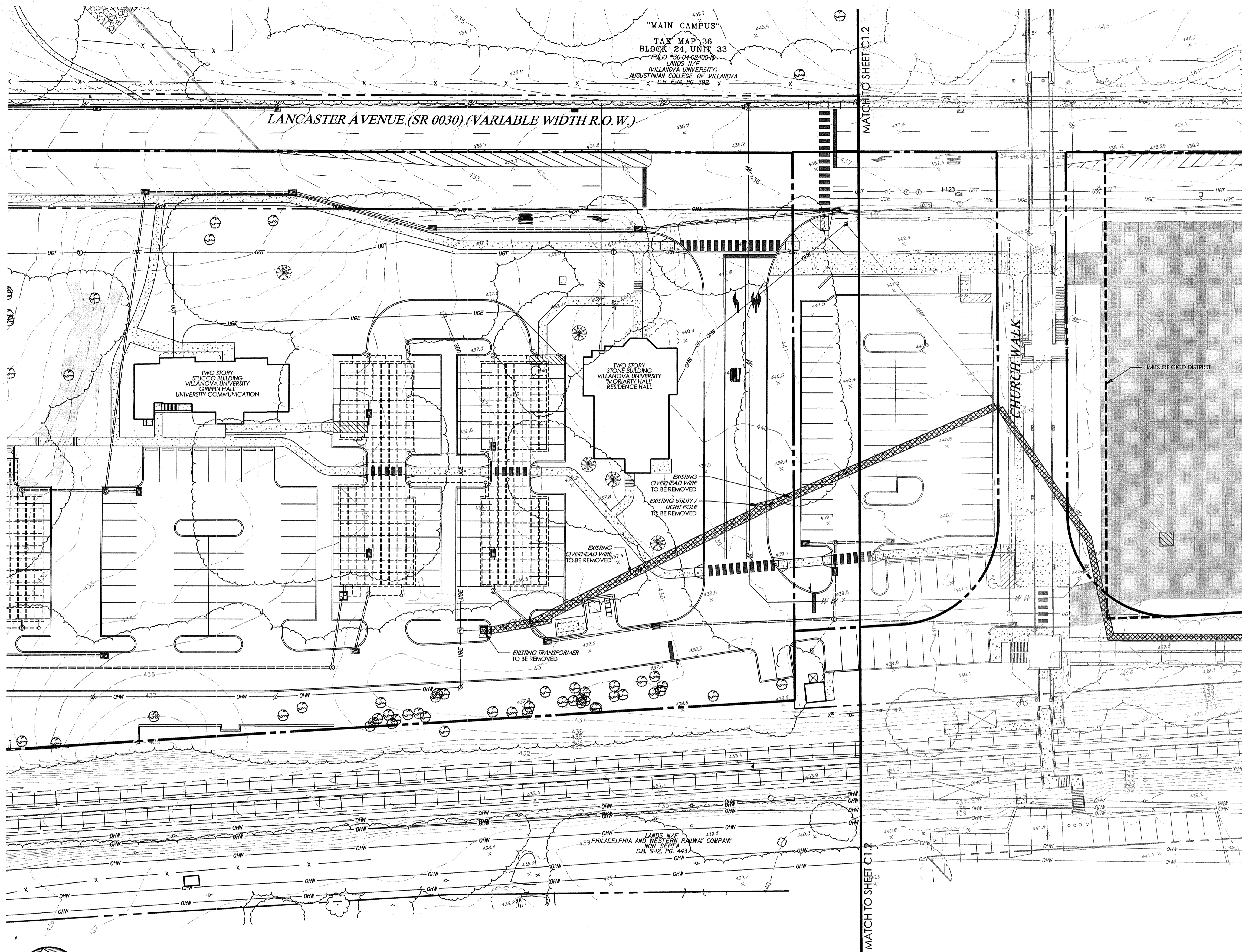
WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN.

MY COMMISSION EXPIRES: _____

(NOTARY PUBLIC OR OTHER OFFICER)

20112071855
20112071859
20112071867
20112071937
20112071937
PROJECT SERIAL NO. 20112071937
CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING
DAYS IN DESIGN STAGE - STOP CALL
Pennsylvania One Call System, Inc.
1-800-242-1776

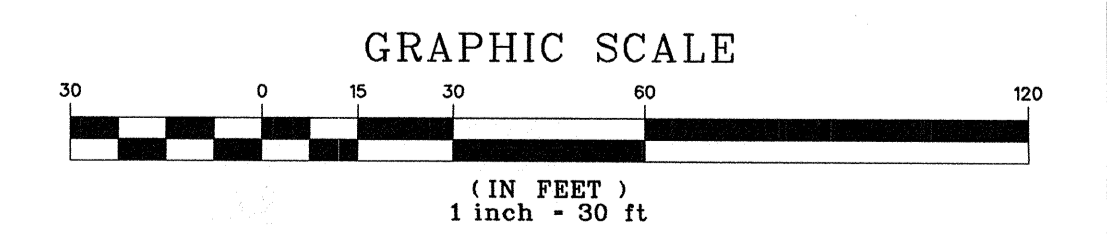




KEY MAP
SCALE: 1" = 1,000'

LEGEND

| | |
|--|--|
| | ZONING LINE |
| | PROPERTY LINE |
| | BUILDING SETBACK LINE |
| | PARKING SETBACK LINE |
| | LEGAL RIGHT-OF-WAY LINE |
| | EXISTING CURB |
| | EXISTING EDGE OF PAVEMENT |
| | EXISTING BUILDING |
| | EXISTING FENCE |
| | EXISTING RETAINING WALL |
| | EXISTING SIGN |
| | EXISTING TRELENE |
| | EXISTING TREE |
| | EXISTING RAILROAD TRACKS |
| | EXISTING WETLANDS |
| | EXISTING MAJOR CONTOUR |
| | EXISTING MINOR CONTOUR |
| | EXISTING SPOT ELEVATION |
| | EXISTING STORM SEWER WITH MANHOLE |
| | EXISTING STORM INLET |
| | EXISTING WATER SERVICE WITH MANHOLE |
| | EXISTING WATER VALVE |
| | EXISTING FIRE HYDRANT |
| | EXISTING GAS VALVE |
| | EXISTING UTILITY POLE WITH GUY WIRE |
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| | EXISTING ELECTRIC METER |
| | EXISTING TRANSFORMER |
| | EXISTING CABLE SERVICE WITH CABLE BOX |
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| | EXISTING TELEPHONE METER |
| | EXISTING LIGHT STANDARDS |
| | EXISTING TRAFFIC SIGNAL MAST ARM |
| | SOIL'S BOUNDARY LINE |
| | EXISTING SLOPES 14% - 20% |
| | EXISTING SLOPES GREATER THAN 20% |
| | EXISTING CURB, RETAINING WALL OR FENCE TO BE REMOVED |
| | EXISTING BUILDING / STRUCTURE TO BE REMOVED |
| | EXISTING IMPERVIOUS AREA TO BE REMOVED |
| | EXISTING UTILITY TO BE REMOVED |
| | EXISTING TREE TO BE REMOVED |



20112071855
20112071809
20112071807
20112071937
20112071932
20112071931
CALL BEFORE YOU DIG!
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3 WORKING DAYS NOTICE FOR
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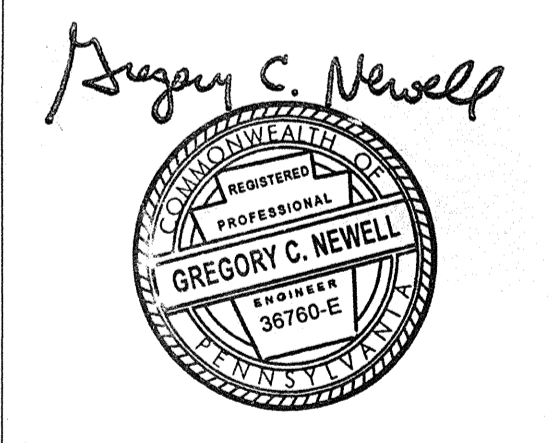
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PRELIM. LAND DEVELOPMENT
SUBMISSION

Revision
Date March 6, 2015
Title Existing Features /
Demolition Plan
Scale 1" = 30'
Drawn By DWN

C1.1
Sheet No. 2 of 35

Contractor to verify all dimensions in field and inform
Architect of any discrepancies before starting work.

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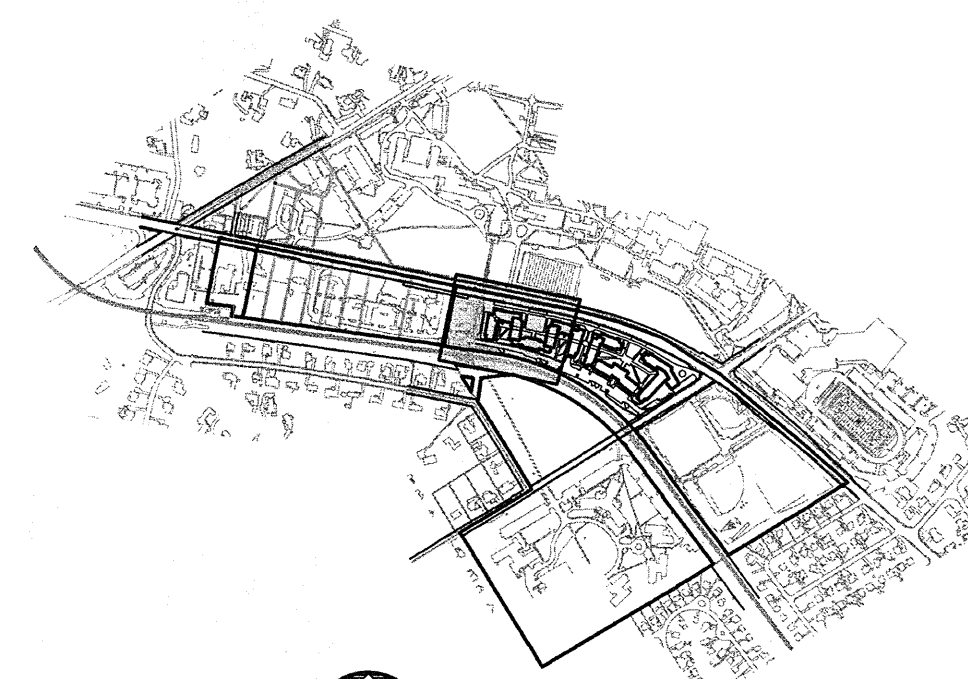
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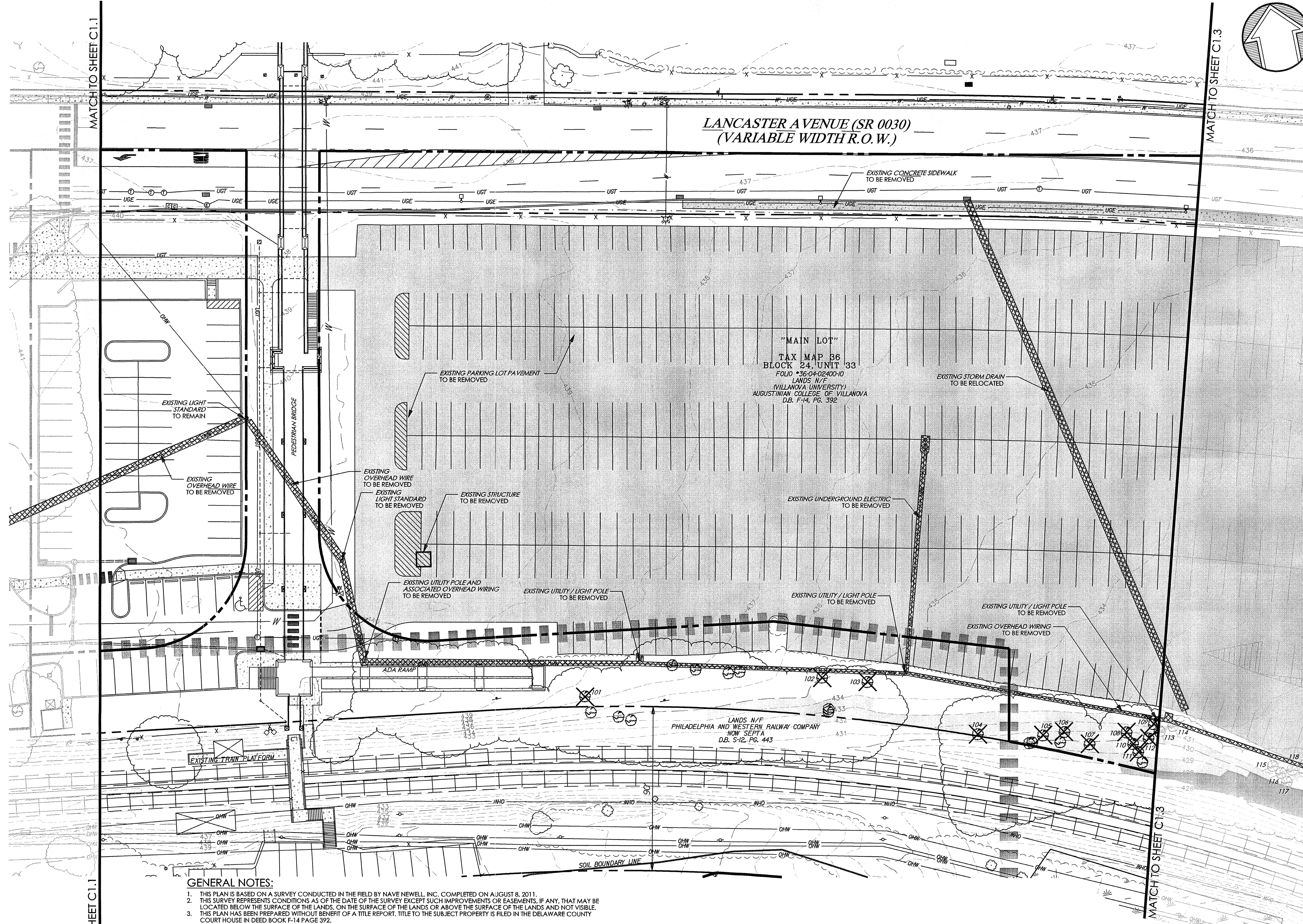
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| | EXISTING FENCE |
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| | EXISTING SIGN |
| | EXISTING TREE |
| | EXISTING RAILROAD TRACKS |
| | EXISTING WETLANDS |
| | EXISTING MAJOR CONTOUR |
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| | EXISTING SPOT ELEVATION |
| | EXISTING STORM SEWER WITH MANHOLE |
| | EXISTING STORM INLET |
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| | EXISTING IMPERVIOUS AREA TO BE REMOVED |
| | EXISTING UTILITY TO BE REMOVED |
| | EXISTING TREE TO BE REMOVED |

GENERAL NOTES:

- THIS PLAN IS BASED ON A SURVEY CONDUCTED IN THE FIELD BY NAVE NEWELL INC. COMPLETED ON AUGUST 8, 2011.
- THIS SURVEY REPRESENTS CONDITIONS AS OF THE DATE OF THE SURVEY EXCEPT SUCH IMPROVEMENTS OR EASEMENTS, IF ANY, THAT MAY BE LOCATED BELOW THE SURFACE OF THE LANDS, ON THE SURFACE OF THE LANDS OR ABOVE THE SURFACE OF THE LANDS AND NOT VISIBLE.
- THIS PLAN HAS BEEN PREPARED WITHOUT BENEFIT OF A TITLE REPORT. TITLE TO THE SUBJECT PROPERTY IS FILED IN THE DELAWARE COUNTY COURT HOUSE IN DEED BOOK F-14 PAGE 392.
- BEARING BASIS FOR THE SURVEY AS SHOWN ARE PER DEED, BEARINGS NOTED NAD 83 REFERENCE THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE AS DERIVED FROM GPS OBSERVATIONS. THE BEARING BASIS IS ROTATED 0°48'53" COUNTERCLOCKWISE FROM THE DEED BEARING. VERTICAL DATUM IS NAVD 88.
- PROPERTY AS SHOWN IS IN NON-FLOOD PRONE COMMUNITY AS DEPICTED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM FLOOD INSURANCE RATE MAP COMMUNITY PANEL #42045C INDDA, MAP REVISED NOVEMBER 18, 2009.
- LOCATIONS OF EXISTING UTILITIES AS SHOWN HEREIN HAVE BEEN DEVELOPED FROM A SORTING SUBSURFACE UTILITY MARKOUT COMPLETED ON JULY 14, 2011 - PROJECT NO. 11620. EXISTING UTILITY RECORDS, PLANS BY OTHERS AND/OR ABOVE GROUND EXAMINATION OF SITE, THE COMPLETENESS OR ACCURACIES OF THE LOCATIONS ARE NOT GUARANTEED. SHOULD ANY NEW CONSTRUCTION BE PROPOSED, THE CONTRACTOR MUST VERIFY LOCATIONS AND DEPTHS OF ALL UTILITIES BEFORE START OF WORK.
- PURSUANT TO ACT 199 "PENNSYLVANIA ONE CALL INC." WAS PLACED ON JULY 26, 2011 AND ASSIGNED SERIAL NUMBERS 20112071855, 20112071869, 20112071907, 20112071937 AND 20112071972. INFORMATION THEREBY OBTAINED WAS USED TO ILLUSTRATE EXISTING UTILITIES.
- NO REVIEW OF THE PROPERTY REGARDING THE PRESENCE OF WETLANDS WAS ACCOMPLISHED AS A PART OF THIS SURVEY.
- NO REVIEW OF THE PROPERTY REGARDING THE PRESENCE OF HAZARDOUS MATERIAL WAS ACCOMPLISHED AS A PART OF THIS SURVEY.
- UNIT AND BLOCK NUMBERS REFER TO THE OFFICIAL TAX MAPS OF THE TOWNSHIP OF RADNOR, DELAWARE COUNTY, PENNSYLVANIA.
- BASE PLANIMETRICS AND TOPOGRAPHY COMPILED PHOTOGRAMMETRICALLY BY AXIS GEOSPATIAL LLC, DATE OF FLIGHT JUNE 19, 2011. THE TOPOGRAPHY AS SHOWN HAS BEEN PRODUCED TO MEET INDUSTRY ACCEPTED STANDARDS FOR NATIONAL MAP ACCURACY (NMAS). AT 30 SCALE MAPPING, ACCURACY OF CONTOURS IN AREAS WHERE THE GROUND IS OCCURED AND IS NOT GUARANTEED AND MUST BE FIELD VERIFIED PRIOR TO BEING USED FOR DESIGN OR ENGINEERING PURPOSES.
- PLAN AND SURVEY HAS BEEN PREPARED IN ACCORDANCE WITH THE ACT OF MAY 23, 1945 (P.L. 913, NO. 367) KNOWN AS THE PROFESSIONAL ENGINEERS' REGISTRATION LAW.
- ALL SOILS ON SITE ARE M6 - MADE LAND, SCHIST AND GNEISS MATERIALS, HSG-B.
- SITE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE DISCONNECTION, ABANDONMENT, RELOCATION AND/OR REMOVAL OF ALL APPLICABLE ON-SITE UTILITIES, IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS AS WELL AS ANY REQUIREMENTS FROM THE RELEVANT UTILITY COMPANY.
- ALL DEMOLITION SHALL BE PERFORMED BY A QUALIFIED, LICENSED CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- THIS PLAN IS NOT INTENDED TO DEPICT ALL FACETS AND ITEMS TO BE ADDRESSED DURING THE COURSE OF DEMOLITION ACTIVITIES. THIS PLAN IS INTENDED TO REPRESENT ON THE READY VISIBLE, EXISTING IMPROVEMENTS ON-SITE. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE CONDITION PRIOR TO FINALIZING HIS BID AND PROVIDE ALL NECESSARY DEMOLITION SERVICES REQUIRED TO COMPLETE THE SCOPE OF WORK OUTLINED ON THESE DRAWINGS. UPON INITIATION OF DEMOLITION, CONTRACTOR SHALL ADVISE THE ENGINEER OF RECORD IMMEDIATELY, SHOULD CONFLICTS ARISE IN THE FIELD.
- ANY UTILITIES, TO REMAIN, DAMAGED DURING DEMOLITION AND/OR CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED IN KIND BY THE CONTRACTOR AT HIS OWN EXPENSE.
- SITE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISCONNECTION OF ALL UTILITIES ON SITE THAT ARE TO BE REMOVED.
- LOCATION OF ALL UTILITIES ARE APPROXIMATE AND BASED ON INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES AND PROPERTY OWNER. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE AND VERIFY EXISTING SITE CONDITIONS TO HIS SATISFACTION.
- CONTRACTOR TO MEET WITH THE OWNER(S) ON JOB SITE TO IDENTIFY EQUIPMENT, SIGNS, AND ITEMS TO BE REMOVED OR RETAINED PRIOR TO THE START OF DEMOLITION.
- ALL UTILITIES AND STRUCTURES WITHIN PUBLIC RIGHTS-OF-WAY SHALL REMAIN UNLESS OTHERWISE NOTED.
- ANY UTILITIES DAMAGED DURING DEMOLITION AND CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED IN KIND BY THE CONTRACTOR AT HIS OWN EXPENSE. UTILITY REMOVAL, ABANDONMENT, AND/OR RELOCATION SHALL BE IN ACCORDANCE WITH REQUIREMENTS FROM THE RELEVANT UTILITY COMPANY.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION/DEMOLITION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER AND SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.
- ALL SLOPES IN EXCESS OF 14% WITHIN THE PROJECT LIMITS WERE CREATED BY MAN-MADE ACTIVITIES.

EXISTING TREE REMOVAL CHART

| NUMBER | TYPE | SIZE (IN) |
|--------|------|-----------|
| 101 | WAL | 10 |
| 102 | SYC | 12 |
| 103 | WAL | 15 |
| 104 | CHR | 18 |
| 105 | SYC | 24 |
| 106 | SYC | 24 |
| 107 | SYC | 15 |
| 108 | SYC | 18 |
| 109 | SYC | 20 |
| 110 | SYC | 15 |
| 111 | MAP | 8 |
| 112 | SYC | 15 |
| 113 | MAP | 10 |
| 114 | SYC | 18 |
| 115 | SYC | 15 |
| 116 | SYC | 15 |
| 117 | SYC | 15 |
| 118 | SYC | 15 |
| 119 | SYC | 15 |
| 120 | MAP | 10 |
| 139 | GN | 14 |
| 140 | GN | 18 |
| 141 | GN | 14 |

RADNOR TOWNSHIP UTILITY LIST:

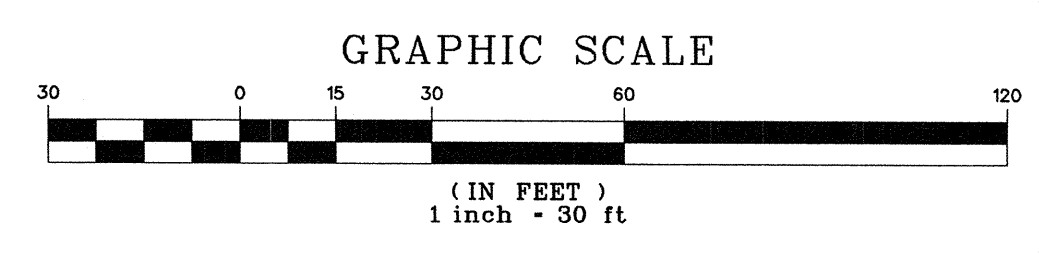
| | |
|---|---|
| A T & T LOCAL SERVICES ADDRESS: 2315 SALEM RD F11 CONYERS, GA. 33013 CONTACT: NANCY SPENCE EMAIL: nspence@ems.att.com | RADNOR TOWNSHIP ADDRESS: 301 IVEN AVENUE WAYNE, PA 19087 CONTACT: WILLIAM R. HAGEN EMAIL: whagen@radnor.org |
| AQUA PENNSYLVANIA ADDRESS: 762 LANCASTER AVENUE BRYN MAWR, PA. 19010 CONTACT: STEVE PIZZI | FIBER TECHNOLOGIES NETWORK ADDRESS: 300 MERIDIAN CENTRE ROCHESTER, NY 14618 CONTACT: ROBERT FREED |
| COMCAST CABLE COMMUNICATIONS ADDRESS: 110 SPRINGBROOKE BLVD ASTON, PA 19014 CONTACT: PAUL DABALDO EMAIL: paul_dabaldo@cable.comcast.com | PECO ENERGY ADDRESS: C/O STS LLC 1004 W. 8TH AVE KING OF PRUSSIA, PA. 19406 CONTACT: WAYNE VINCENT EMAIL: wvincent@sts.net |
| ABOVENET COMMUNICATIONS INC. ADDRESS: 337 CIRCLE OF PROGRESS DR POTTSWOWN, PA. 19464 CONTACT: CHRIS RICCIUTI EMAIL: chris.ricciuti@above.net | LEVEL 3 COMMUNICATIONS ADDRESS: 1025 ELDORADO BLVD BLDG BROOMFIELD, CO 80021 CONTACT: LEVEL 3 OPERATOR EMAIL: level3networrelocations@level3.com |
| VERIZON PENNSYLVANIA INC. ADDRESS: 900 RACE STREET, 6TH FLOOR PHILADELPHIA, PA. 19107 CONTACT: SUZETTE WALKER EMAIL: suzette.a.walker@verizon.com | SOUTHEAST PA TRANSPORTATION AUTHORITY ADDRESS: 123 MARKET ST, 12TH FLOOR PHILADELPHIA, PA. 19107 CONTACT: DAVID MONTVYDAS EMAIL: dmontvydas@septa.org |

SOILS DATA

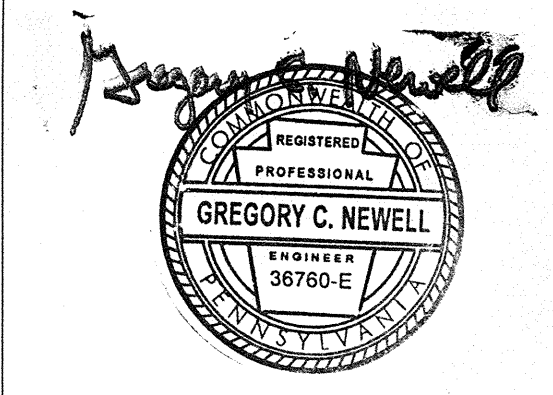
SOILS INFORMATION OBTAINED FROM THE USDA-NRCS WEB SOIL SURVEY, VERSION 6, WITH A DATE OF SURVEY AREA DATA OF FEBRUARY 24, 2009. THE FOLLOWING SITE SPECIFIC SOIL CLASSIFICATIONS ARE NOT LISTED AS HYDRIC SOILS.

M6* MADE LAND, SCHIST AND GNEISS MATERIALS

*WHOLE SITE LIES WITHIN THIS SOILS CLASSIFICATION



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PRELIM. LAND DEVELOPMENT SUBMISSION

Revision #1 March 6, 2015
Date December 5, 2014
Title Existing Features / Demolition Plan
Scale 1" = 30'
Drawn By DWN

C1.2
Sheet No. 3 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

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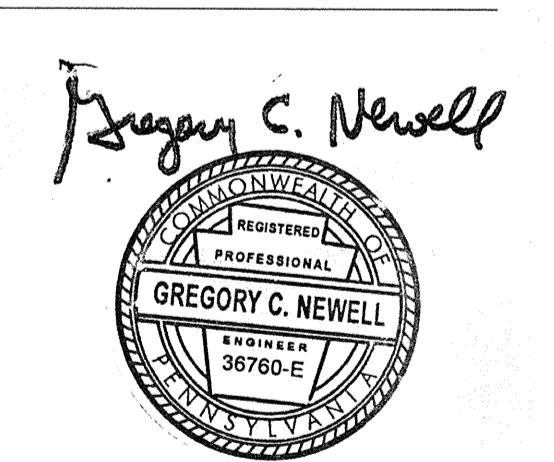
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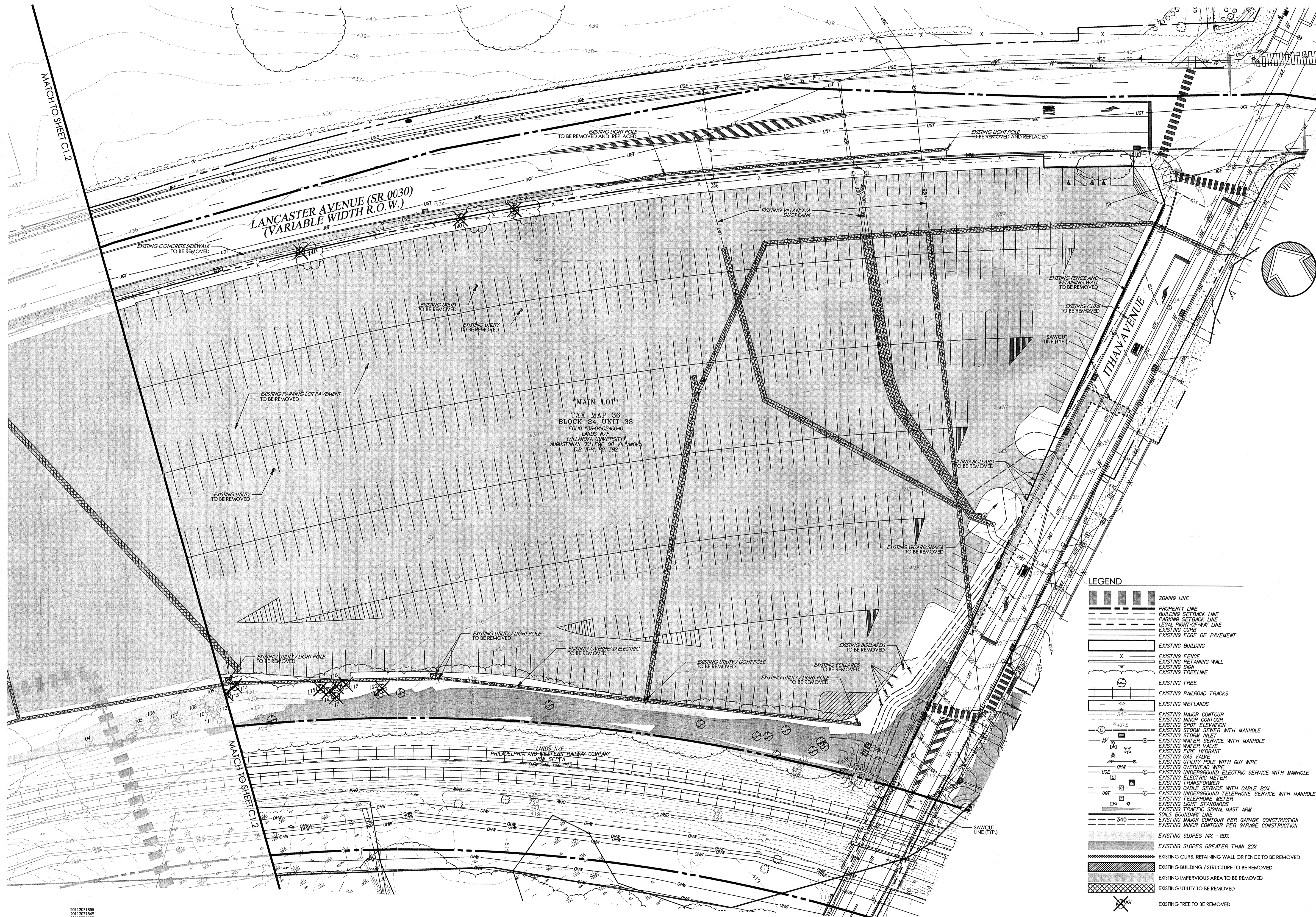
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 SUBMISSION**

Revision #1 March 6, 2015
 Date December 5, 2014
 Title Existing Features /
 Demolition Plan
 Scale 1" = 30'
 Drawn By DWN

C1.3

Sheet No. 4 of 35

Contractor to verify all dimensions in field and inform
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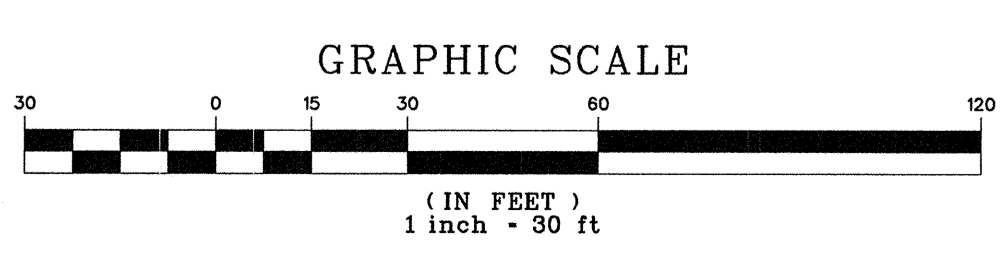
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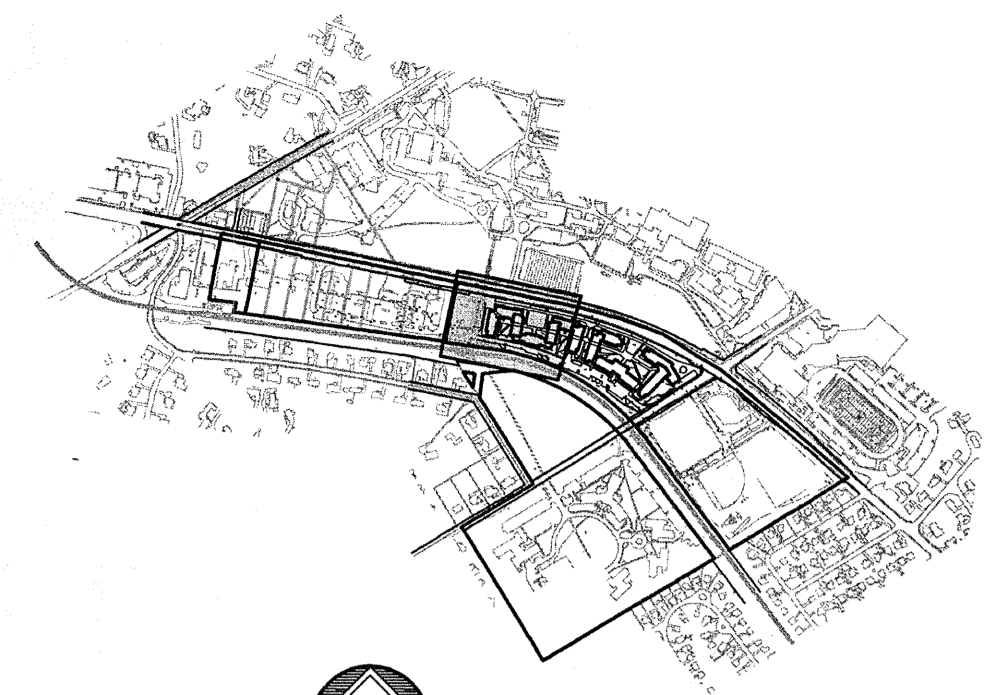
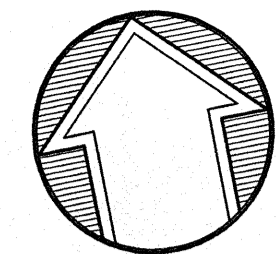
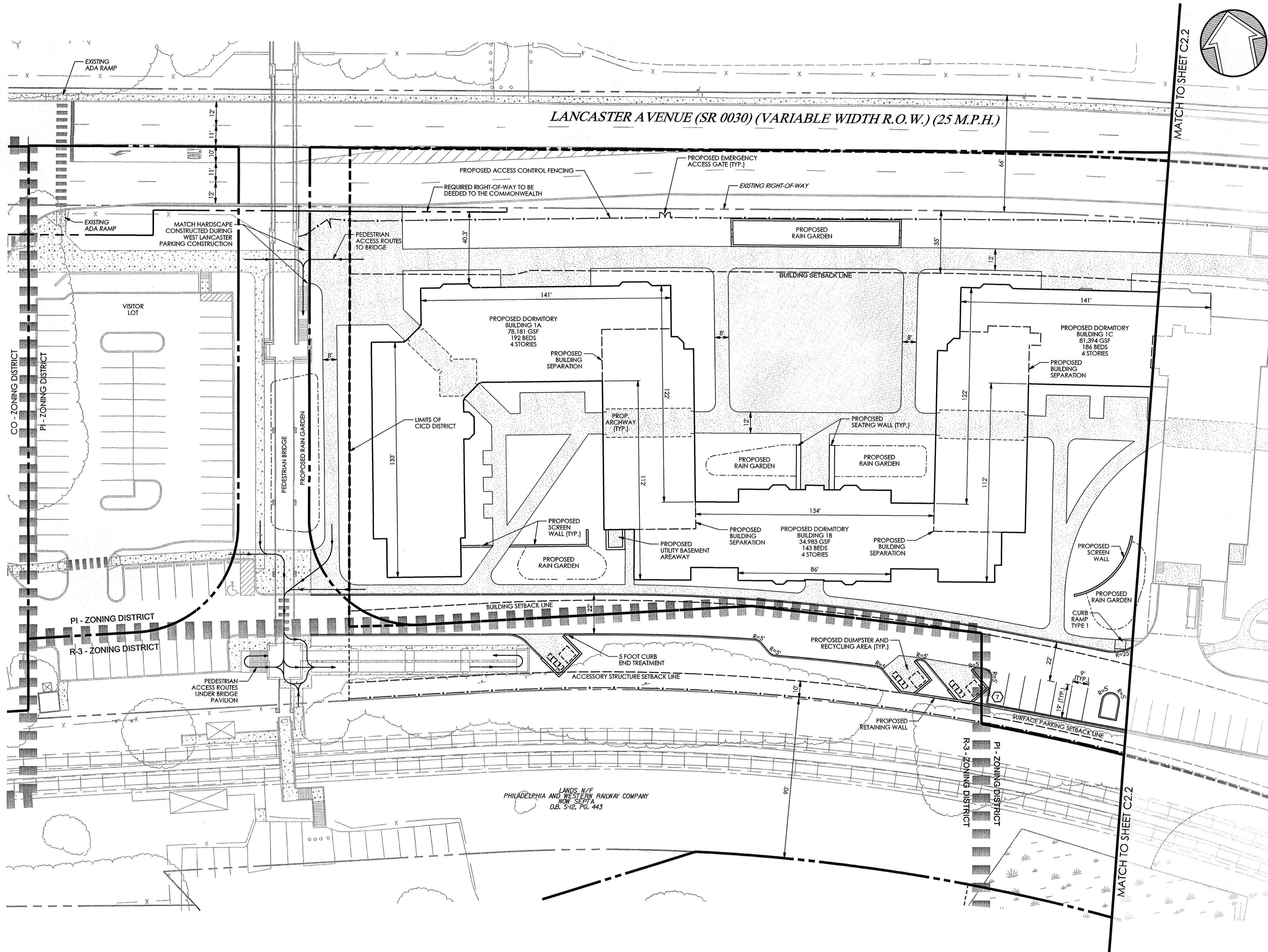
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| [Symbol] | BUILDING SETBACK LINE |
| [Symbol] | PARKING SETBACK LINE |
| [Symbol] | LEGAL RIGHT-OF-WAY LINE |
| [Symbol] | EXISTING CURB |
| [Symbol] | EXISTING EDGE OF PAVEMENT |
| [Symbol] | EXISTING BUILDING |
| [Symbol] | EXISTING FENCE |
| [Symbol] | EXISTING RETAINING WALL |
| [Symbol] | EXISTING SIGN |
| [Symbol] | EXISTING TREE |
| [Symbol] | EXISTING RAILROAD TRACKS |
| [Symbol] | EXISTING WETLANDS |
| [Symbol] | EXISTING MAJOR CONTOUR |
| [Symbol] | EXISTING MINOR CONTOUR |
| [Symbol] | EXISTING SPOT ELEVATION |
| [Symbol] | EXISTING STORM SEWER WITH MANHOLE |
| [Symbol] | EXISTING STORM INLET |
| [Symbol] | EXISTING WATER SERVICE WITH MANHOLE |
| [Symbol] | EXISTING WATER VALVE |
| [Symbol] | EXISTING FIRE HYDRANT |
| [Symbol] | EXISTING GAS VALVE |
| [Symbol] | EXISTING UTILITY POLE WITH GUY WIRE |
| [Symbol] | EXISTING OVERHEAD WIRE |
| [Symbol] | EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE |
| [Symbol] | EXISTING ELECTRIC METER |
| [Symbol] | EXISTING TRANSFORMER |
| [Symbol] | EXISTING CABLE SERVICE WITH CABLE BOX |
| [Symbol] | EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE |
| [Symbol] | EXISTING TELEPHONE METER |
| [Symbol] | EXISTING LIGHT STANDARDS |
| [Symbol] | EXISTING TRAFFIC SIGNAL MAST ARM |
| [Symbol] | SOILS BOUNDARY LINE |
| [Symbol] | EXISTING MAJOR CONTOUR PER GARAGE CONSTRUCTION |
| [Symbol] | EXISTING MINOR CONTOUR PER GARAGE CONSTRUCTION |
| [Symbol] | EXISTING SLOPES 1% - 20% |
| [Symbol] | EXISTING SLOPES GREATER THAN 20% |
| [Symbol] | EXISTING CURB, RETAINING WALL OR FENCE TO BE REMOVED |
| [Symbol] | EXISTING BUILDING / STRUCTURE TO BE REMOVED |
| [Symbol] | EXISTING IMPERVIOUS AREA TO BE REMOVED |
| [Symbol] | EXISTING UTILITY TO BE REMOVED |
| [Symbol] | EXISTING TREE TO BE REMOVED |

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 Me* MADE LAND, SCHIST AND GNEISS MATERIALS
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NOTE:
 1. REFER TO SHEET C1.2 FOR TREE REMOVAL CHART

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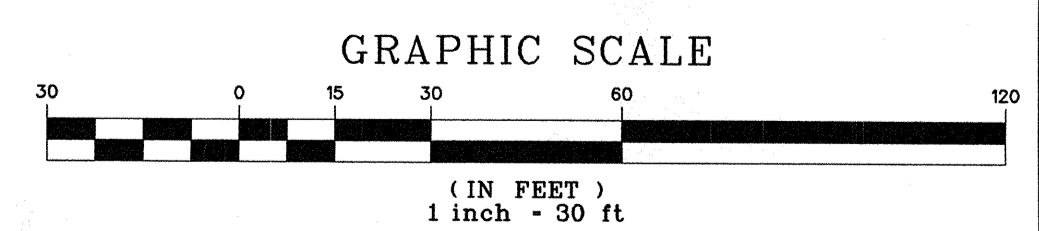
KEY MAP
SCALE: 1" = 1,000'

BEDROOM AREA PER OCCUPANT CHART

| UNIT TYPE | OCC./RM | AREA / RM | AREA / BED | REQ'D. AREA / BED |
|-------------|---------|-----------|------------|-------------------|
| A | 2 | 172 SF | 86.5 SF | 50 SF |
| B | 1 | 114 SF | 114 SF | 70 SF |
| C | 2 | 174 SF | 87 SF | 50 SF |
| D1 BED RM 1 | 2 | 133 SF | 66.5 SF | 50 SF |
| BED RM 2 | 1 | 127 SF | 127 SF | 70 SF |
| D2 BED RM 1 | 2 | 143 SF | 71.5 SF | 50 SF |
| BED RM 2 | 1 | 100 SF | 100 SF | 70 SF |
| E | 1 | 126 SF | 126 SF | 70 SF |
| F | 1 | 115 SF | 115 SF | 70 SF |

LEGEND

- ZONING LINE
- PROPERTY LINE
- BUILDING SETBACK LINE
- PARKING SETBACK LINE
- LEGAL RIGHT-OF-WAY LINE
- EXISTING CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING BUILDING
- EXISTING CONC. SIDEWALK OR PAD
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING SIGN
- EXISTING RAILROAD TRACKS
- EXISTING WETLANDS
- EXISTING LIGHT STANDARDS
- EXISTING TRAFFIC SIGNAL MAST ARM
- LIMITS OF CICD DISTRICT
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BUILDING
- PROPOSED CONCRETE SIDEWALK OR PAD
- PROPOSED DECORATIVE FENCE
- PROPOSED RETAINING WALL
- PROPOSED SIGN
- PROPOSED ADA PARKING SPACE
- PROPOSED DUMPSTER ENCLOSURE WITH DUMPSTER, RECYCLING BINS, SCREEN WALLS AND SCREEN GATE
- PROPOSED STORMWATER MANAGEMENT AREA (SWM)



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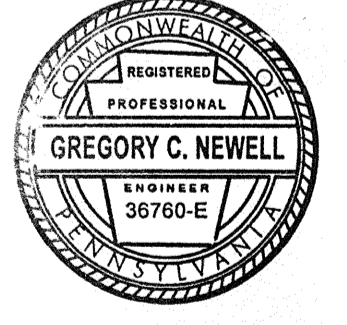
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PRELIM. LAND DEVELOPMENT
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Revision #1 March 6, 2015
Date December 5, 2014
Title Site Plan

Scale 1" = 30'
Drawn By MMB

C2.1

Sheet No. 6 of 35

REFER TO SHEET C2.0 FOR NOTES.

2011/2017/18/55
2011/2017/18/59
2011/2017/18/67
2011/2017/18/72
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2011/2017/18/99
2011/2017/18/100

PROJ. 627 APRIL 03 - 2011/2017/18/72
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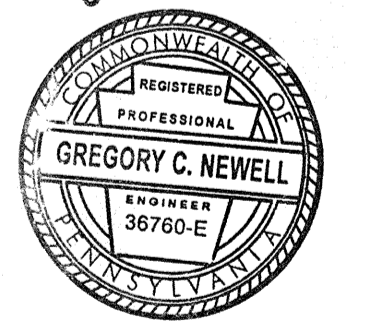
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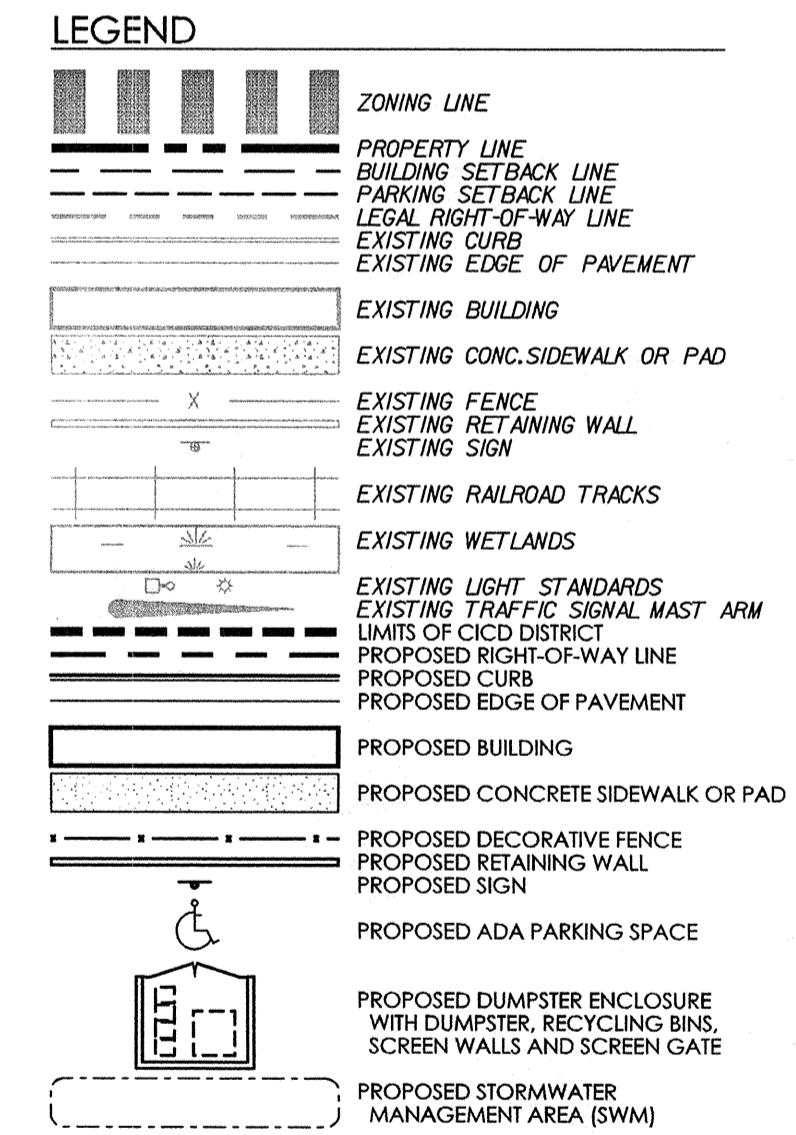
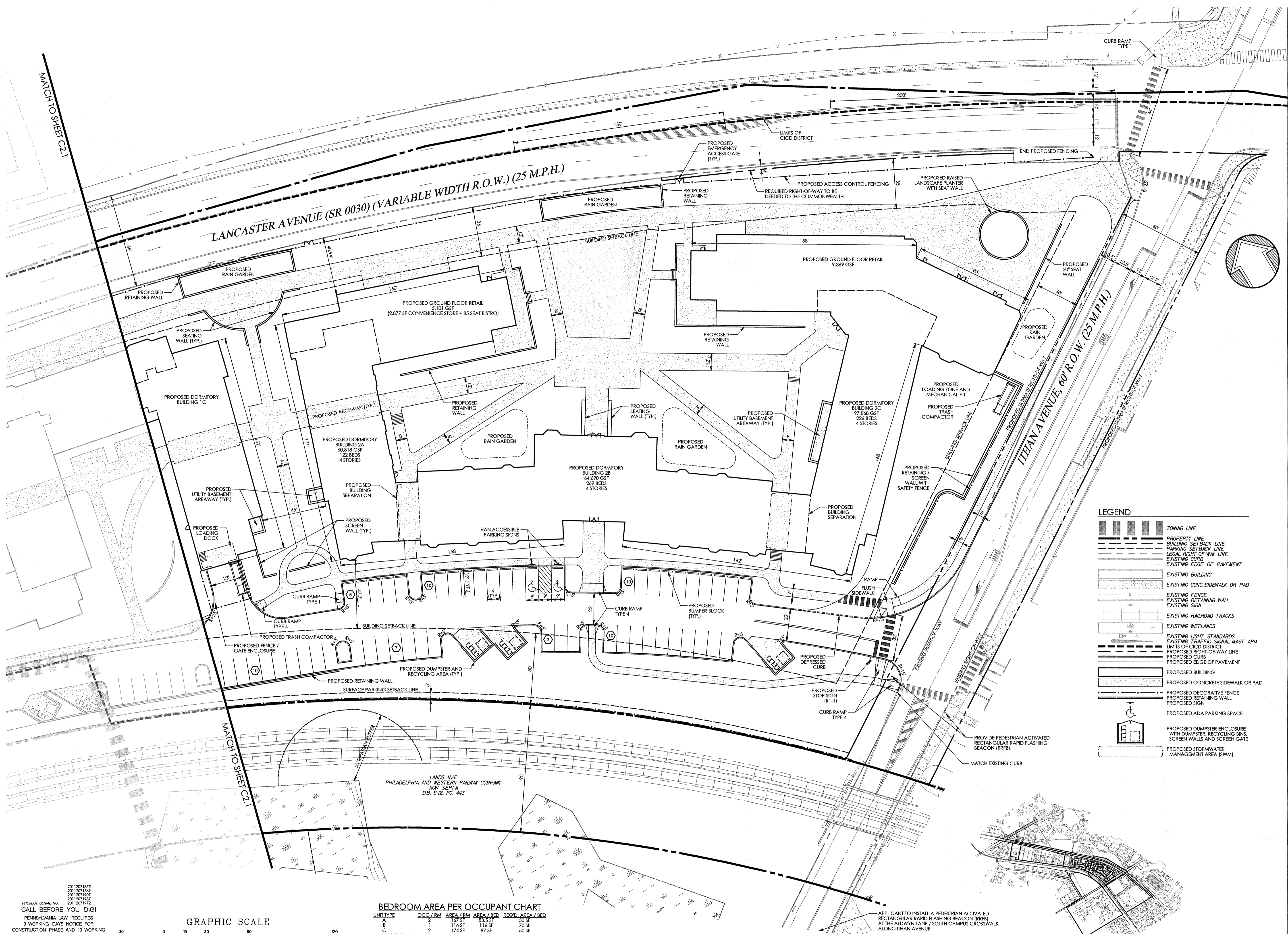
Revision #1 March 6, 2015
 Date December 5, 2014
 Title Site Plan

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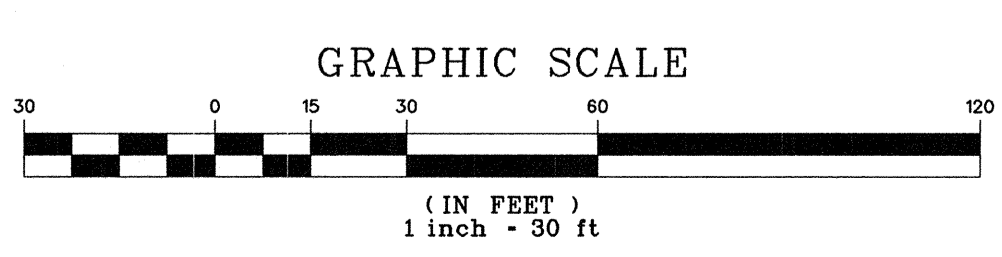
Sheet No. 7 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



BEDROOM AREA PER OCCUPANT CHART

| UNIT TYPE | OCC./RM | AREA / RM | AREA / BED | REQ'D. AREA / BED |
|-------------|---------|-----------|------------|-------------------|
| A | 2 | 167 SF | 83.5 SF | 50 SF |
| B | 1 | 116 SF | 116 SF | 70 SF |
| C | 2 | 174 SF | 87 SF | 50 SF |
| D1 BED RM 1 | 2 | 133 SF | 66.5 SF | 50 SF |
| BED RM 2 | 1 | 127 SF | 127 SF | 70 SF |
| D2 BED RM 1 | 2 | 143 SF | 71.5 SF | 50 SF |
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 AT THE ALDWINY LANE / SOUTH CAMPUS CROSSWALK
 ALONG ITHAN AVENUE.



REFER TO SHEET C2.0 FOR NOTES.

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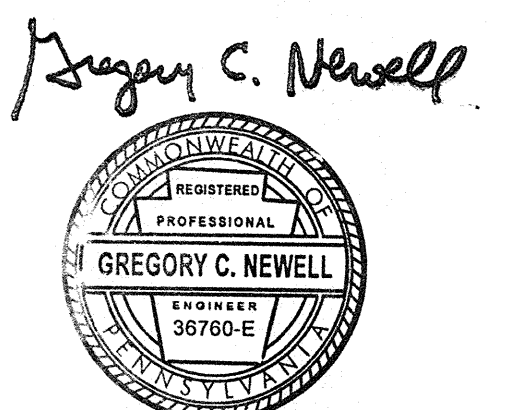
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Revision #1 March 6, 2015
 Date January 23, 2015
 Title Project Phasing Plan

Scale 1" = 400'
 Drawn By MMB

C2.3

Sheet No. 8 of 35

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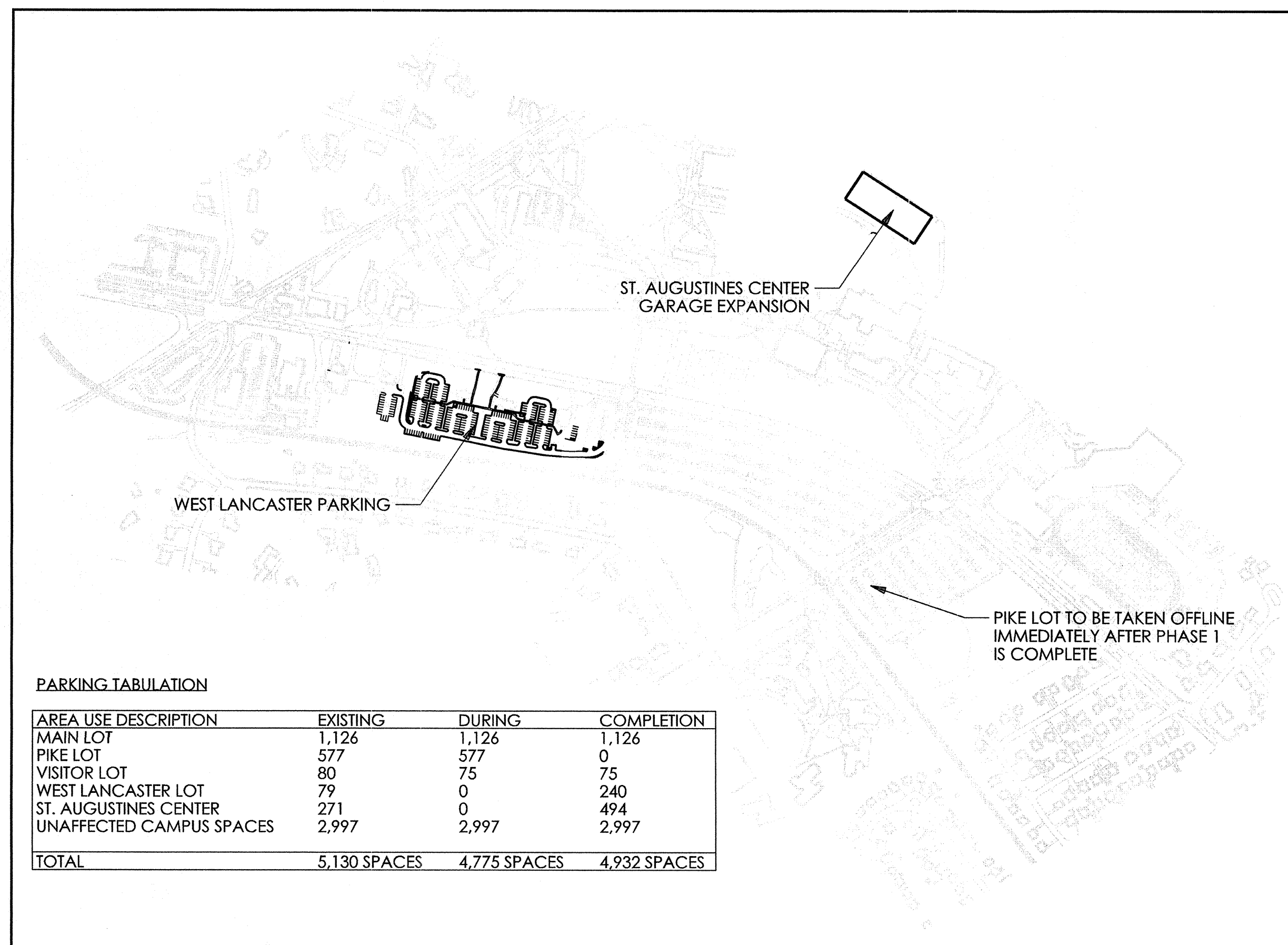
PHASING NARRATIVE

PHASE 1: PRIOR TO THE CLOSURE OF THE PIKE PARKING LOT, THE APPLICANT WILL CONSTRUCT THE TWO LEVEL SAC GARAGE EXPANSION AND THE WEST LANCASTER PARKING VIA TWO INDEPENDENT GRADING PERMIT APPLICATIONS.

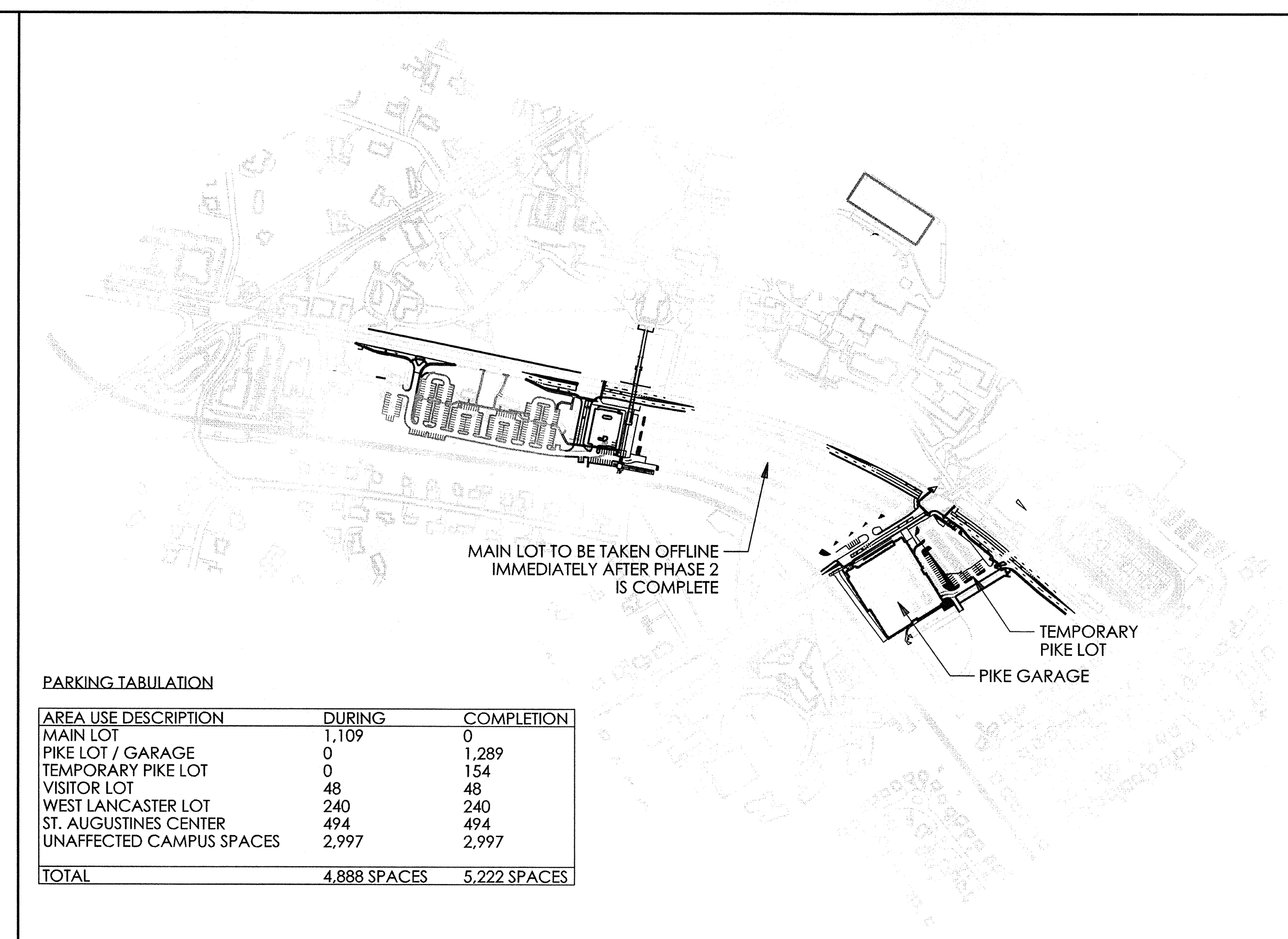
PHASE 2: UPON COMPLETION OF PHASE 1, PARKING GARAGE CONSTRUCTION WILL BEGIN ON PIKE LOT. CONCURRENT WITH THAT CONSTRUCTION, THE WIDENING OF ITHAN AVENUE AND LANCASTER AVENUE IMPROVEMENTS WILL OCCUR. DEPENDENT ON PENNDOT PERMITTING, THE CONSTRUCTION OF THE PEDESTRIAN BRIDGE AND CHURCH WALK IMPROVEMENTS WILL ALSO COMMENCE.

PHASE 3: UPON COMPLETION OF THE PIKE GARAGE CONSTRUCTION, CONSTRUCTION OF STUDENT HOUSING COMPLEXES 1 AND 2 WILL OCCUR. THE UNDISTURBED PORTIONS OF PIKE PARKING LOT TO THE NORTH OF THE GARAGE WILL BE MAINTAINED UNTIL CONSTRUCTION OF THE PERFORMING ARTS CENTER.

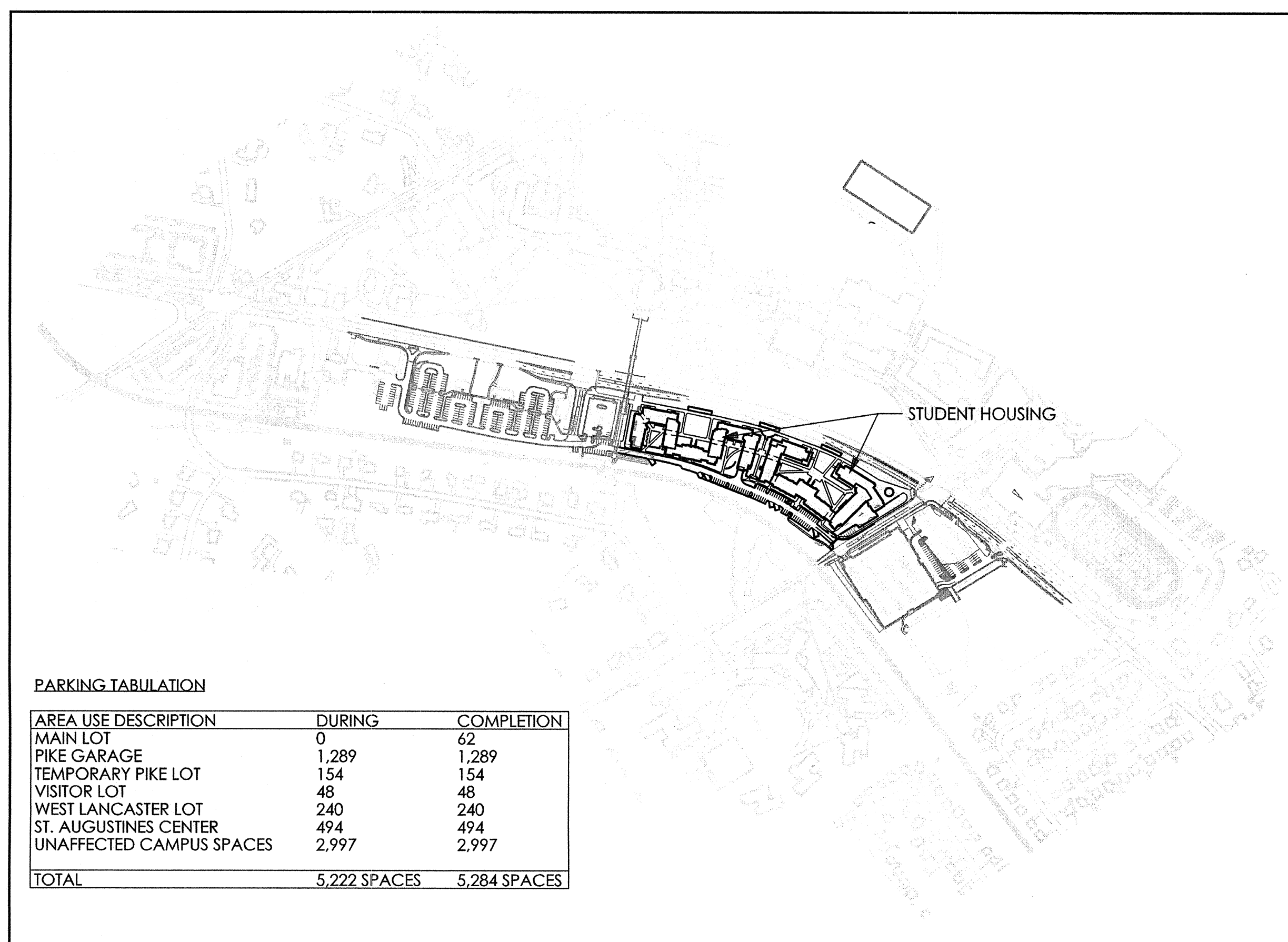
PHASE 4: UPON RECEIPT OF DONOR FUNDING, THE PERFORMING ARTS CENTER WILL BE CONSTRUCTED NORTH OF THE PIKE GARAGE.



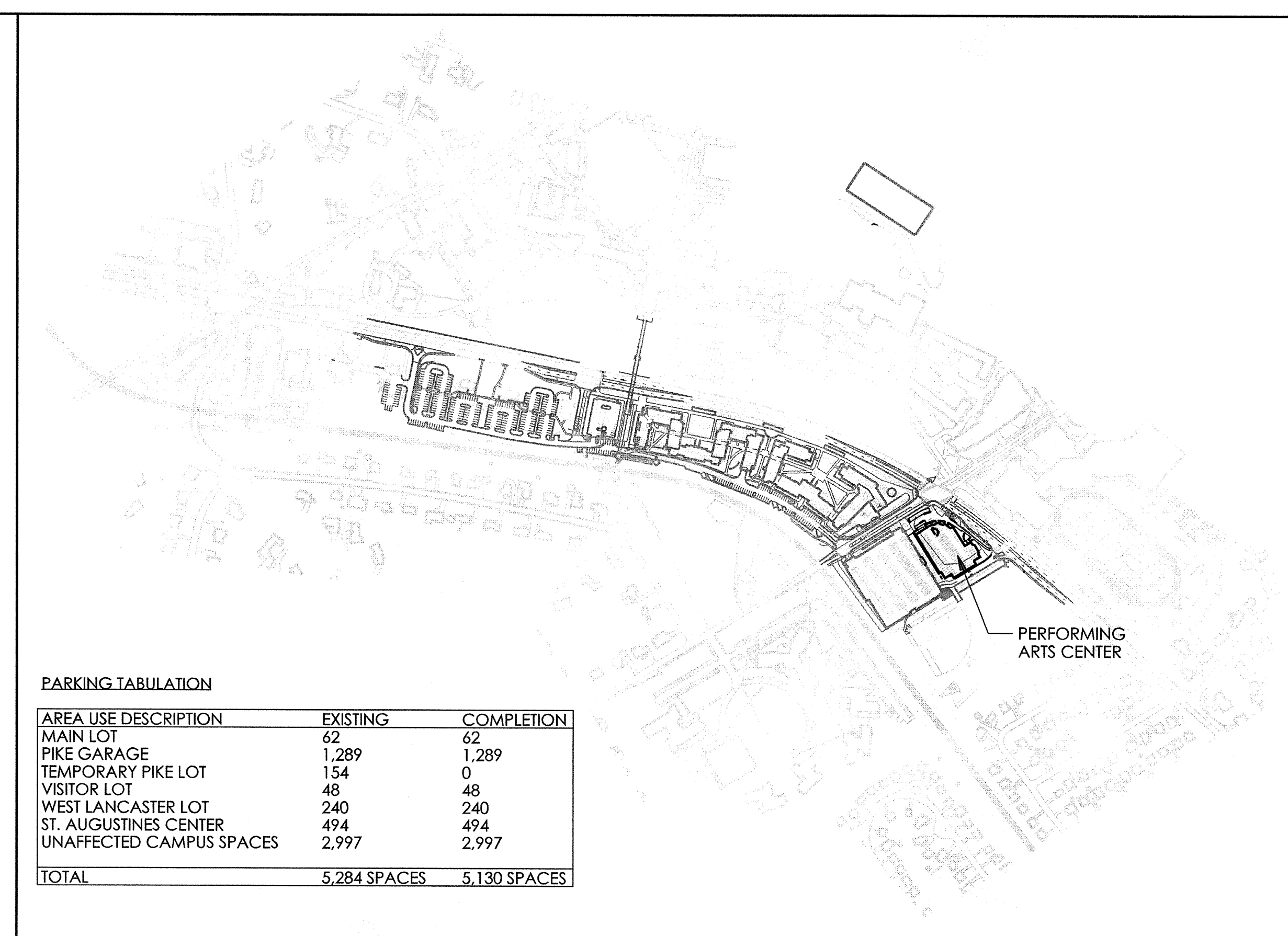
PHASE 1:
 CONSTRUCT WEST LANCASTER AVENUE PARKING AND
 ST. AUGUSTINE CENTER GARAGE EXPANSION



PHASE 2:
 CONSTRUCT PIKE FIELD GARAGE, LANCASTER AVENUE / ITHAN AVENUE WORK
 AND PEDESTRIAN BRIDGE OVER LANCASTER AVENUE



PHASE 3:
 CONSTRUCT LANCASTER AVENUE HOUSING



PHASE 4:
 CONSTRUCT PERFORMING ARTS CENTER

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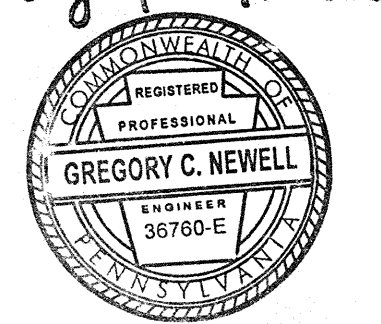
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Revision #1 March 6, 2015
 Date December 5, 2014
 Title Truck Turning Plan

Scale 1" = 30'
 Drawn By OGY

C2.4

Sheet No. 9 of 35

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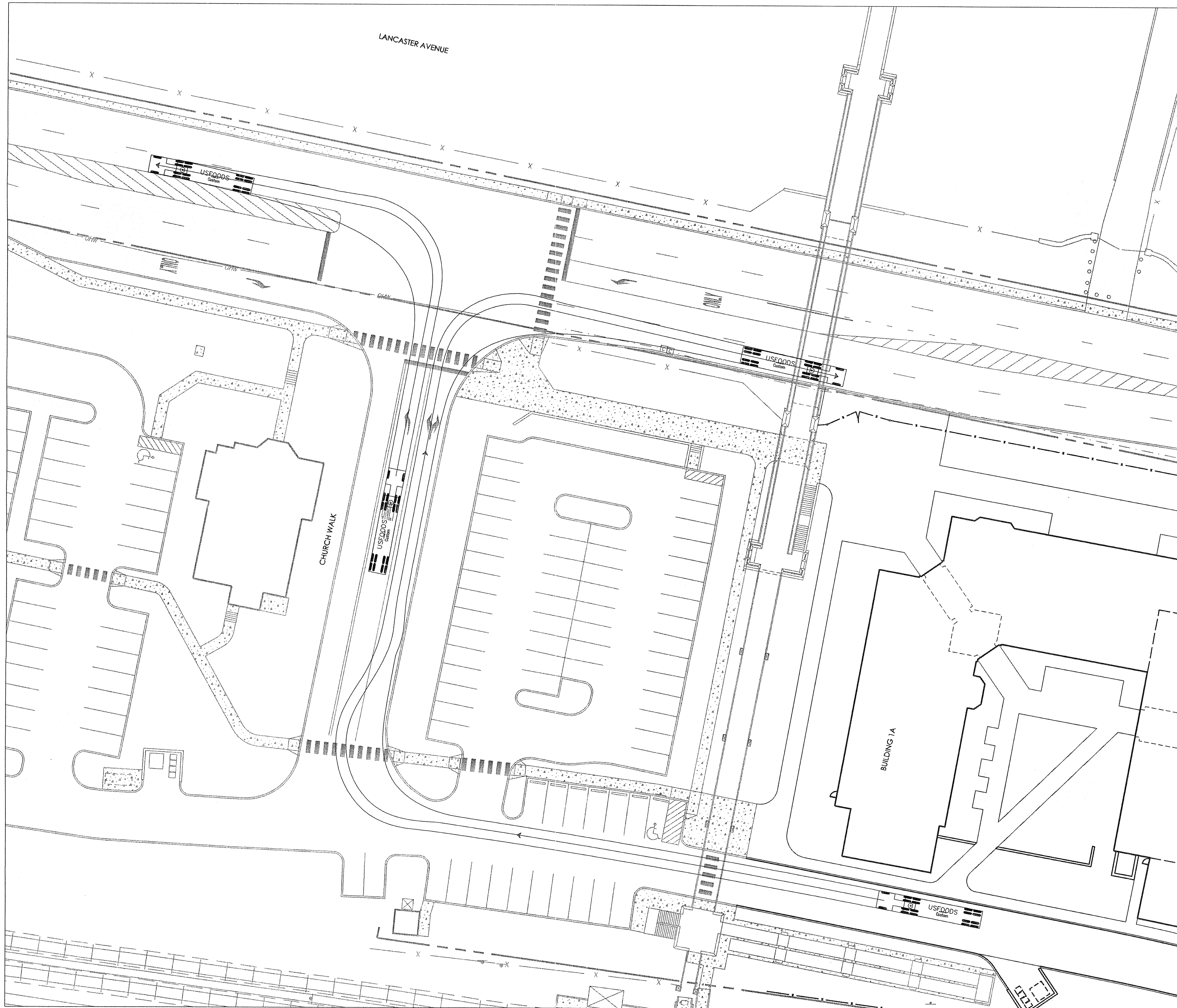


EXHIBIT 1: CHURCH WALK TO LANCASTER AVENUE - RIGHT AND LEFT TURN, AND SITE TO CHURCH WALK (US FOODS)

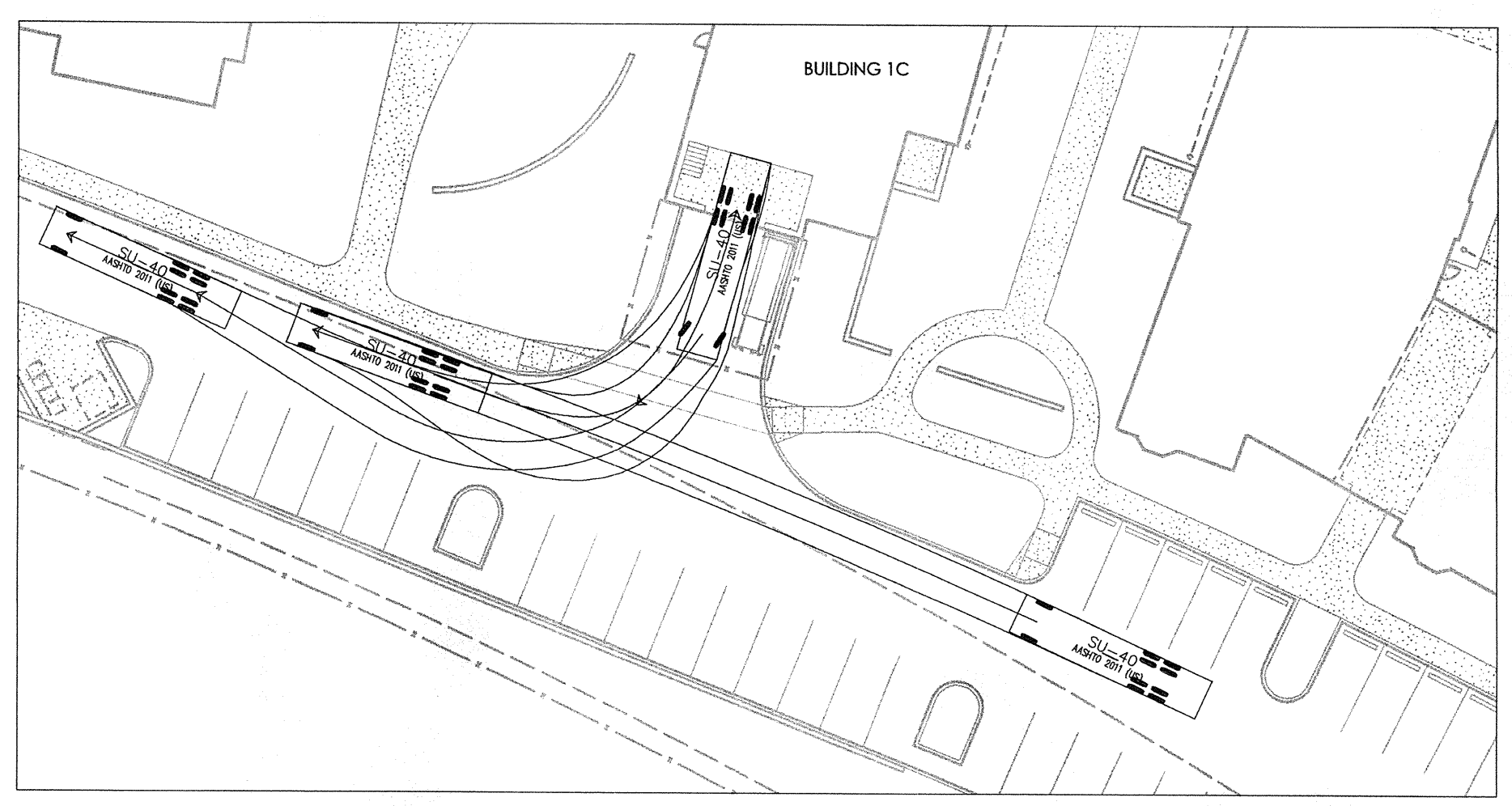


EXHIBIT 2: BUILDING 1C LOADING DOCK (BOX TRUCK)

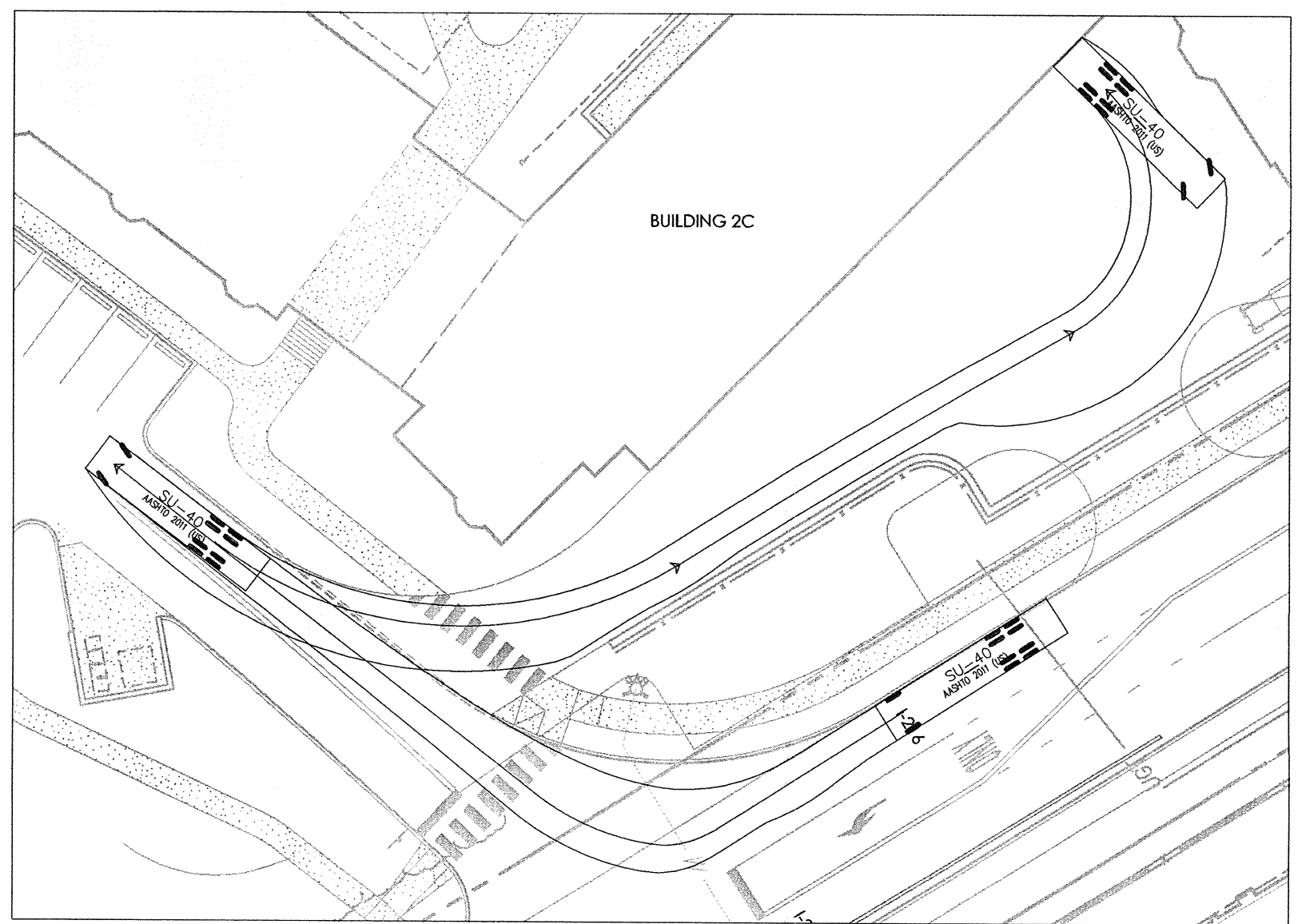


EXHIBIT 3: BUILDING 2C CENTRAL UTILITY PLANT ACCESS (BOX TRUCK)

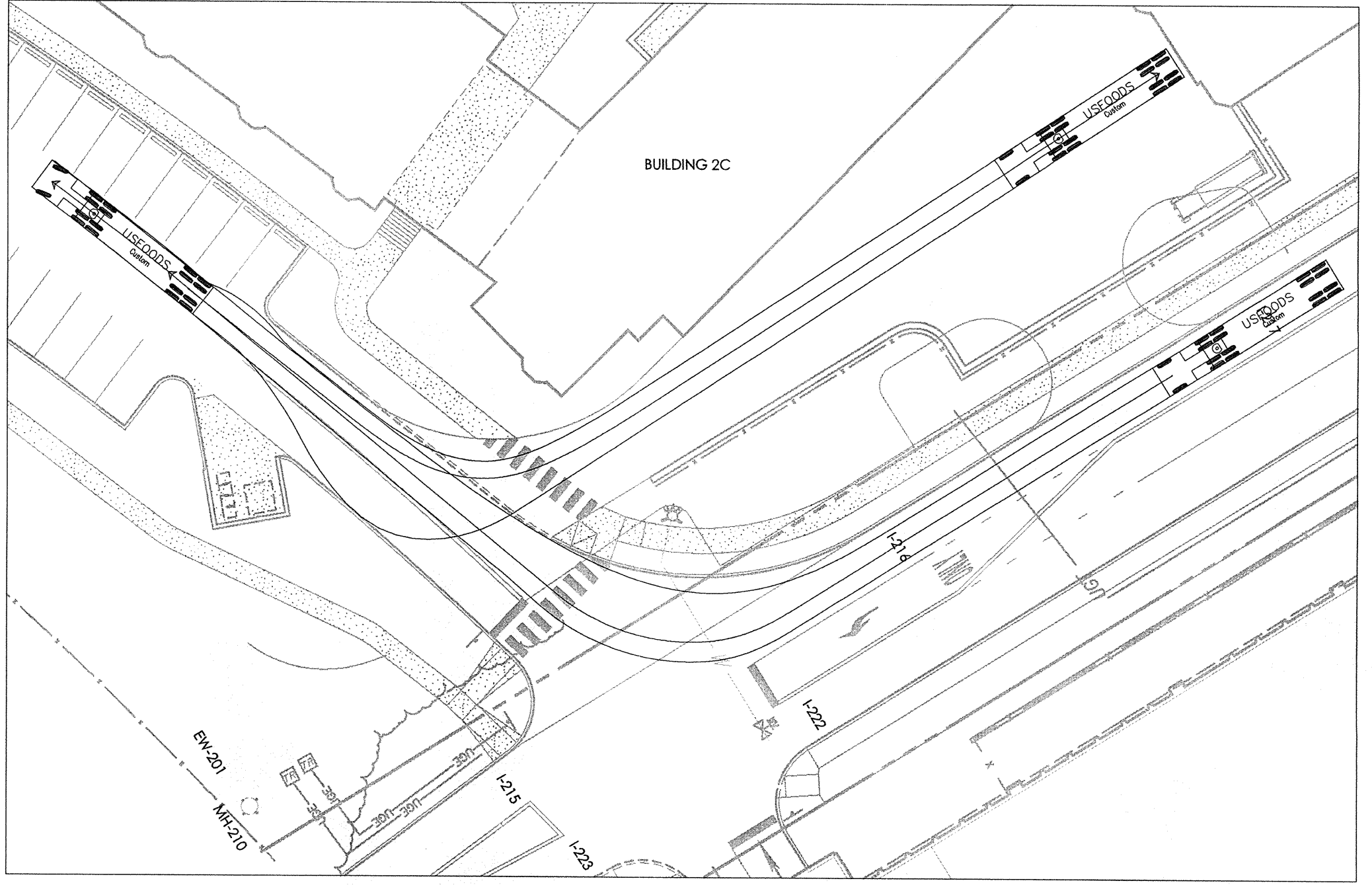
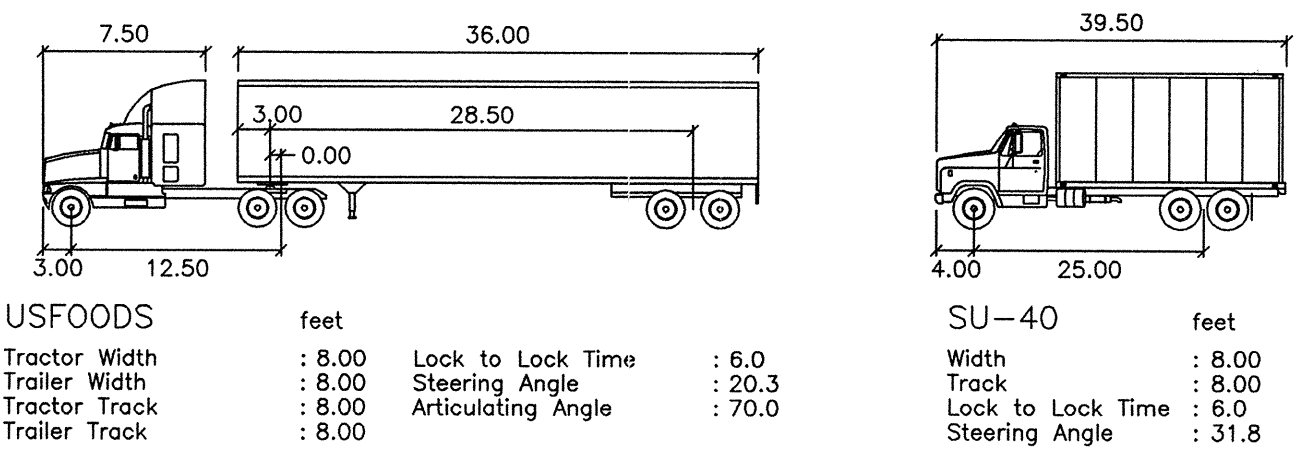


EXHIBIT 7: BUILDING 2C LOADING DOCK ACCESS (US FOODS)



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PROJECT SERIAL NO. 20112071972

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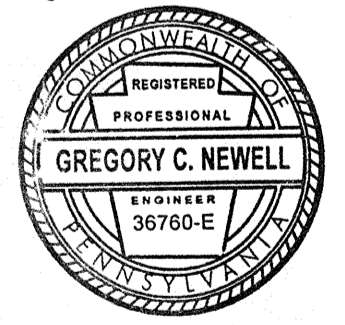
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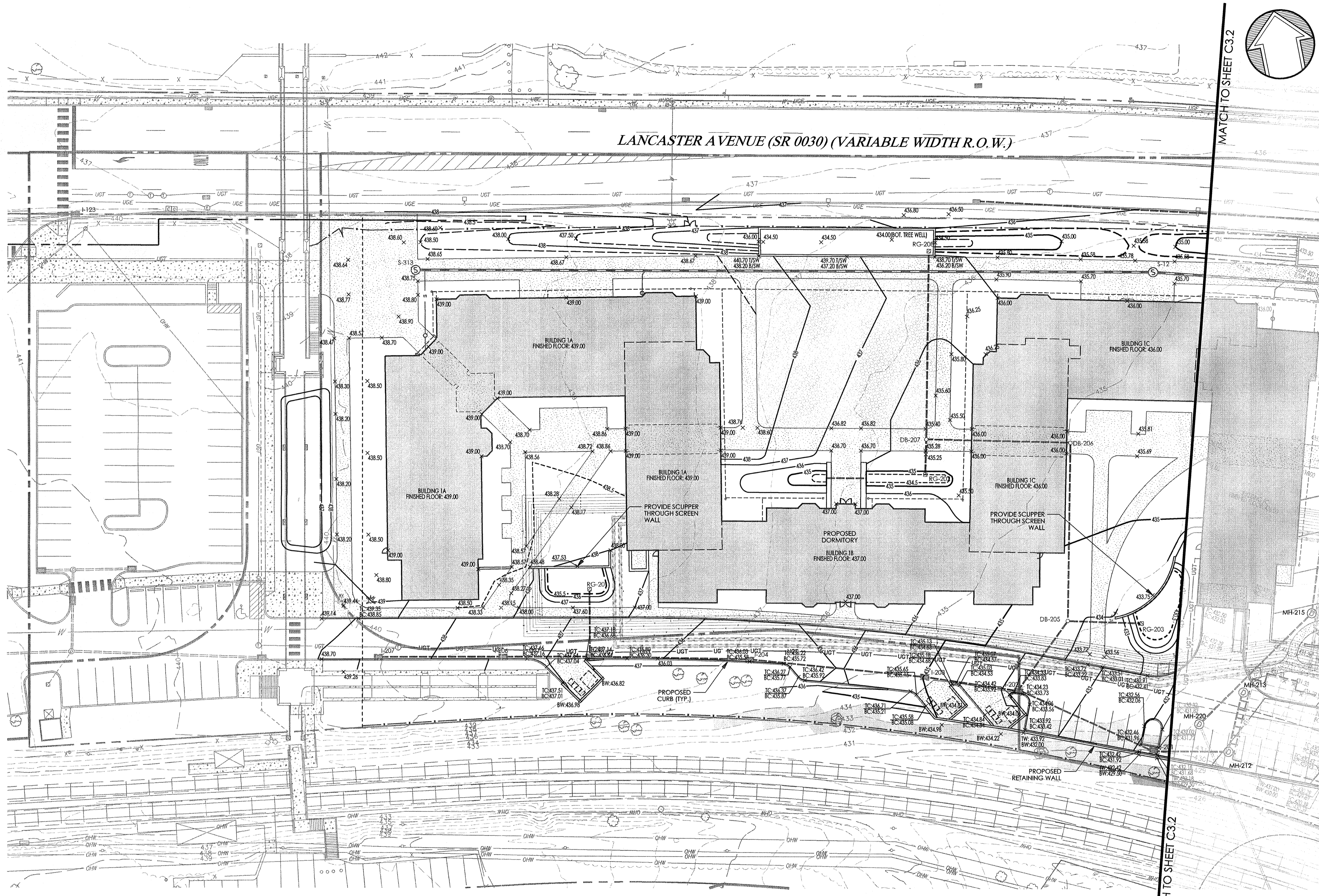
Revision #1 March 6, 2015
 Date December 5, 2014
 Title Grading Plan

Scale 1" = 30'
 Drawn By DCH

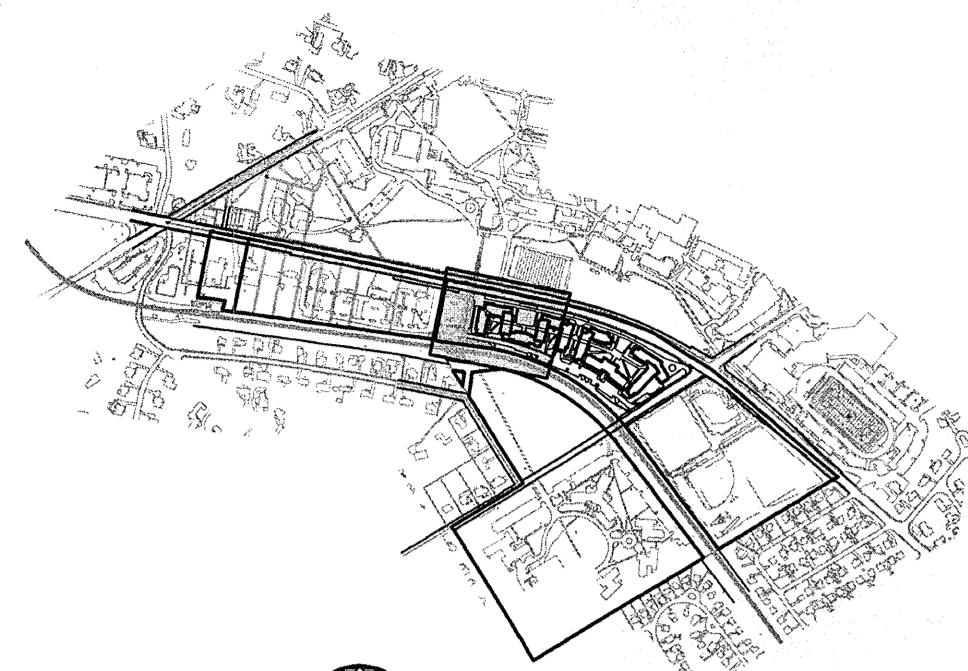
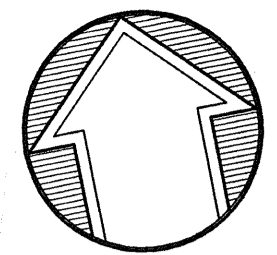
C3.1

Sheet No. 10 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



MATCH TO SHEET C3.2



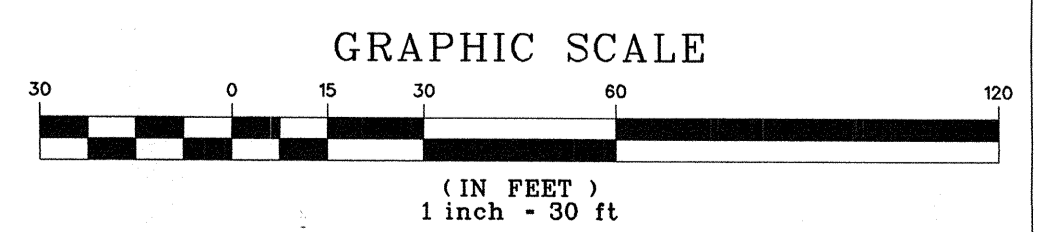
KEY MAP
 SCALE: 1" = 1,000'

LEGEND

- PROPERTY LINE
- LEGAL RIGHT-OF-WAY LINE
- EXISTING CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING SIGN
- EXISTING TREELINE
- EXISTING TREE
- EXISTING RAILROAD TRACKS
- EXISTING WETLANDS
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER WITH MANHOLE
- EXISTING WATER SERVICE WITH MANHOLE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING GAS VALVE
- EXISTING UTILITY POLE WITH GUY WIRE
- EXISTING OVERHEAD WIRE
- EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE
- EXISTING ELECTRIC METER
- EXISTING TRANSFORMER
- EXISTING CABLE SERVICE WITH CABLE BOX
- EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE
- EXISTING TELEPHONE METER
- EXISTING LIGHT STANDARDS
- EXISTING TRAFFIC SIGNAL WEST ARM
- SOILS BOUNDARY LINE
- EXISTING SLOPES 14% - 20%
- EXISTING SLOPES GREATER THAN 20%
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BUILDING
- PROPOSED CONCRETE SIDEWALK OR PAD
- PROPOSED DECORATIVE FENCE
- PROPOSED RETAINING WALL
- PROPOSED SIGN
- PROPOSED ADA PARKING SPACE
- PROPOSED DUMPSTER ENCLOSURE WITH DUMPSTER, RECYCLING BINS, SCREEN WALLS AND SCREEN GATE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED TOP OF WALL
- PROPOSED BOTTOM OF WALL
- PROPOSED TOP OF CURB
- PROPOSED BOTTOM OF CURB
- PROPOSED FLUSHED CURB
- PROPOSED SANITARY MAIN
- PROPOSED SANITARY LATERAL
- PROPOSED STORM PIPE
- PROPOSED INLET / YARD DRAIN
- PROPOSED UNDERDRAIN / ROOF DRAIN
- PROPOSED FIRE SERVICE
- PROPOSED WATER SERVICE
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND TELECOM
- PROPOSED GAS LINE

- ### GRADING NOTES:
- REFER TO SITE PLAN FOR ADDITIONAL NOTES.
 - IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERSEDE IN ALL CASES. NOTIFY ENGINEER OF RECORD OF ANY CONFLICT.
 - SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557. MOISTURE CONTENT AT THE TIME OF PLACEMENT SHALL BE NO MORE THAN 2% ABOVE OR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT, PREPARED BY A QUALIFIED SOILS ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.
 - SUBBASE MATERIAL FOR SIDEWALKS, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DESIGNATED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL AND COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
 - CONTRACTOR TO UTILIZE APPROPRIATE CONSTRUCTION TECHNIQUES TO PROTECT THE PROPOSED INFILTRATION PRACTICE OF THE STORMWATER BASIN. UNDER NO CIRCUMSTANCES IS THE INFILTRATION AREA TO BE COMPACTED, ROLLED, OR HAVE HEAVY EQUIPMENT OPERATING WITHIN THE EXCAVATED PERIMETER.
 - PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION AND/OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
 - SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, ETC.
 - ALL EXCAVATED UNSUITABLE MATERIAL MUST BE TRANSPORTED TO AN APPROVED DISPOSAL LOCATION.
 - CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
 - CONTRACTOR SHALL ADHERE TO ALL SAFETY REGULATIONS AS REQUIRED BY "OSHA", THE PROPERTY OWNER, OR ANY LOCAL, STATE & FEDERAL AUTHORITY.
 - CONTRACTOR TO ENSURE COMPLIANCE WITH A.D.A. REGULATIONS.

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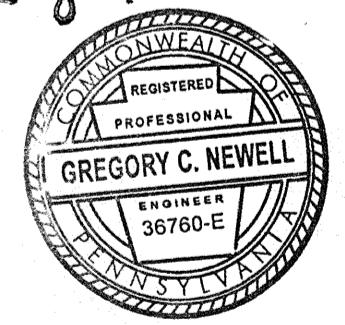
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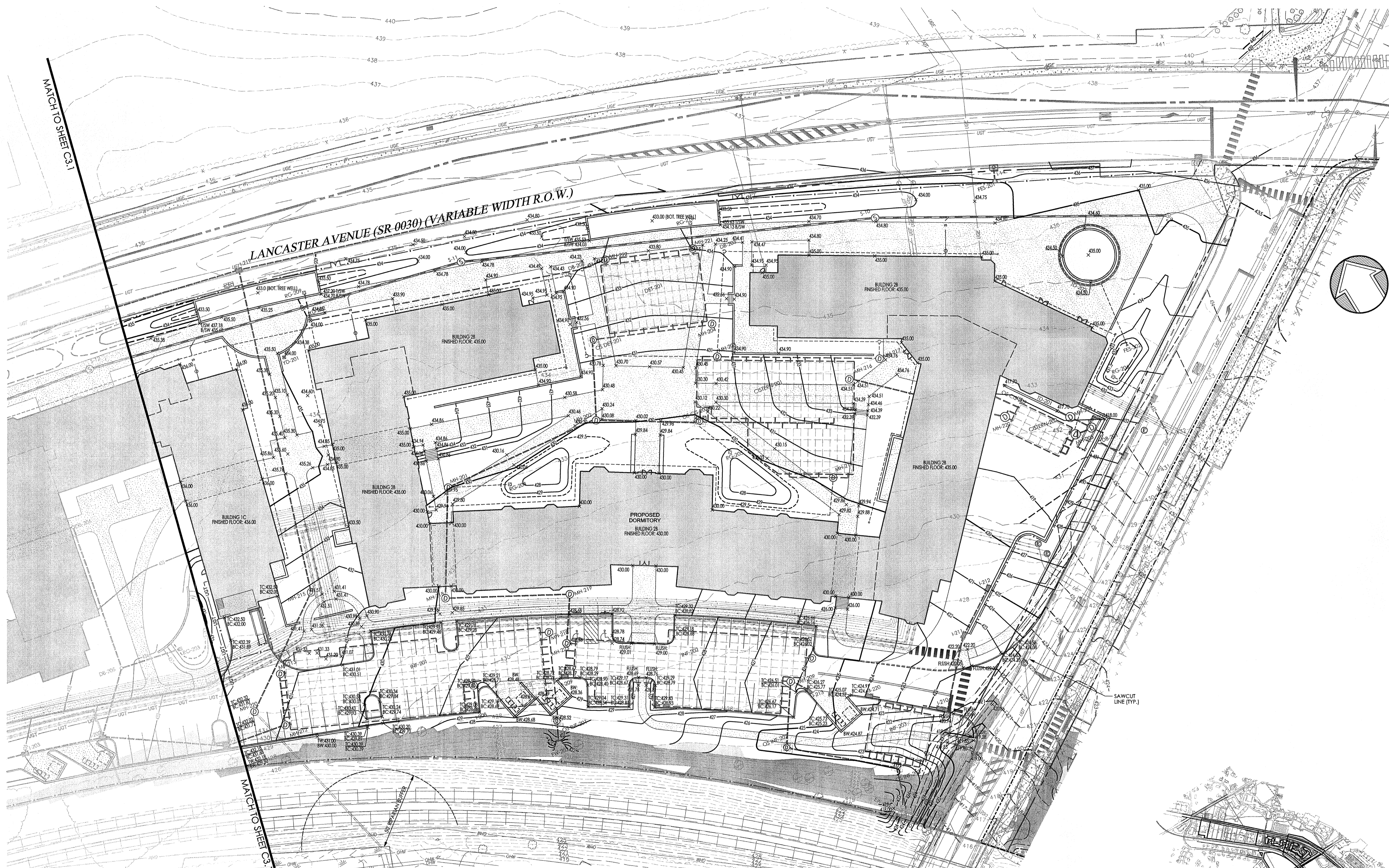
Revision #1 March 6, 2015
 Date December 5, 2014
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Sheet No. 11 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

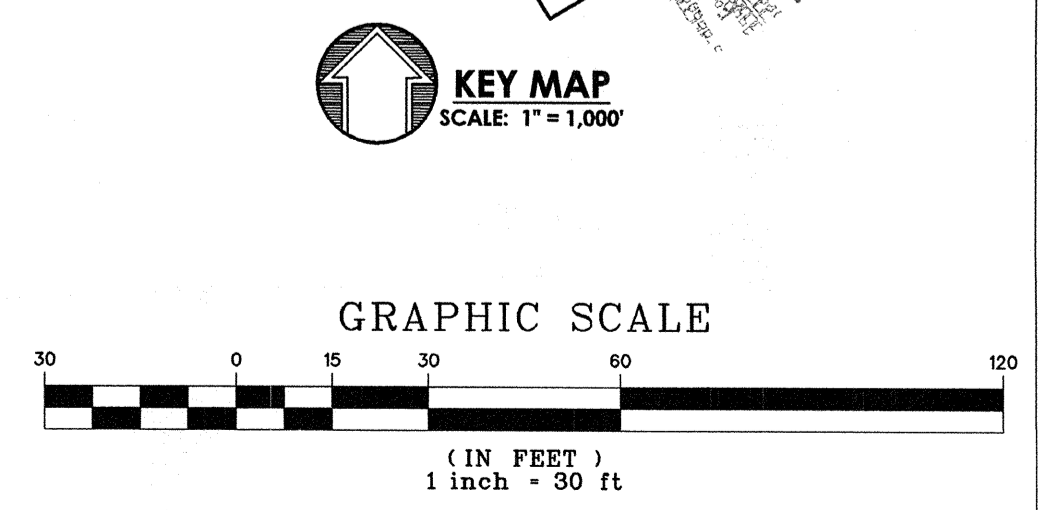


MATCH TO SHEET C3.1

LANCASTER AVENUE (SR-0030) (VARIABLE WIDTH R.O.W.)

LEGEND

| | | | |
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| <p>PROPERTY LINE LEGAL RIGHT-OF-WAY LINE EXISTING CURB EXISTING EDGE OF PAVEMENT EXISTING BUILDING EXISTING FENCE EXISTING RETAINING WALL EXISTING SIGN EXISTING TREELINE EXISTING TREE EXISTING RAILROAD TRACKS EXISTING WETLANDS EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR EXISTING STORM SEWER WITH MANHOLE EXISTING STORM INLET EXISTING WATER SERVICE WITH MANHOLE</p> | <p>EXISTING WATER VALVE EXISTING FIRE HYDRANT EXISTING GAS VALVE EXISTING UTILITY POLE WITH GUY WIRE EXISTING OVERHEAD WIRE EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE EXISTING ELECTRIC METER EXISTING TRANSFORMER EXISTING CABLE SERVICE WITH CABLE BOX EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE EXISTING TELEPHONE METER EXISTING LIGHT STANDARDS EXISTING TRAFFIC SIGNAL MAST ARM SOILS BOUNDARY LINE EXISTING MAJOR CONTOUR PER GARAGE CONSTRUCTION EXISTING MINOR CONTOUR PER GARAGE CONSTRUCTION EXISTING SLOPES 14% - 20% EXISTING SLOPES GREATER THAN 20% PROPOSED RIGHT-OF-WAY LINE PROPOSED CURB PROPOSED EDGE OF PAVEMENT</p> | <p>PROPOSED BUILDING PROPOSED CONCRETE SIDEWALK OR PAD PROPOSED DECORATIVE FENCE PROPOSED RETAINING WALL PROPOSED SIGN PROPOSED ADA PARKING SPACE PROPOSED DUMPSTER ENCLOSURE WITH DUMPSTER, RECYCLING BINS, SCREEN WALLS AND SCREEN GATE PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR TW: PROPOSED TOP OF WALL BW: PROPOSED BOTTOM OF WALL IC: PROPOSED TOP OF CURB BC: PROPOSED BOTTOM OF CURB FLUSH: PROPOSED FLUSHED CURB PROPOSED SANITARY MAIN PROPOSED SANITARY LATERAL</p> | <p>PROPOSED STORM PIPE PROPOSED INLET / YARD DRAIN PROPOSED UNDERDRAIN / ROOF DRAIN PROPOSED FIRE SERVICE PROPOSED WATER SERVICE PROPOSED UNDERGROUND ELECTRIC PROPOSED UNDERGROUND TELECOM PROPOSED GAS LINE SAWCUT LINE</p> |
|---|--|--|---|



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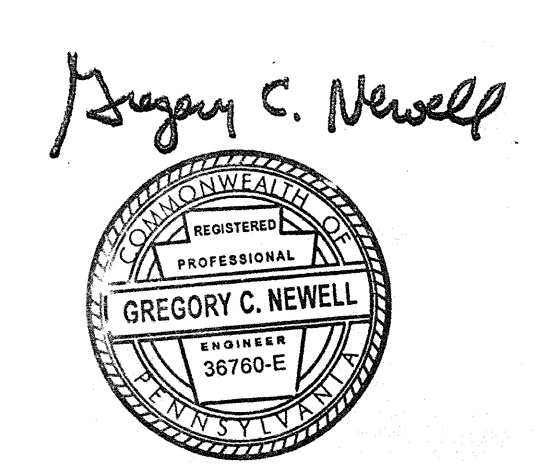
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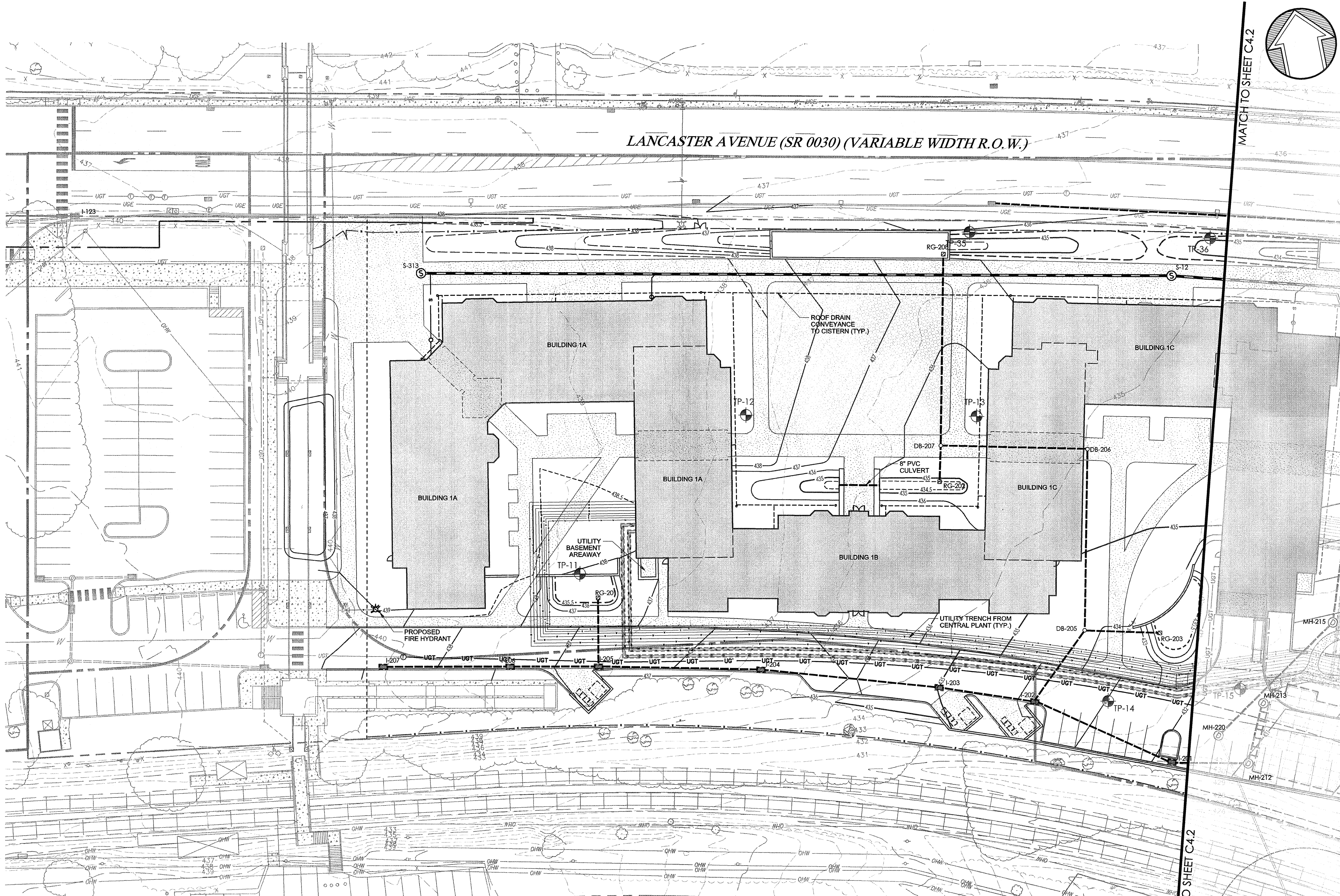
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 SUBMISSION

Revision #1 March 6, 2015
 Date December 5, 2014
 Title Utility Plan

Scale 1" = 30'
 Drawn By DCH

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 Sheet No. 12 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



LEGEND

- PROPERTY LINE
- LEGAL RIGHT-OF-WAY LINE
- EXISTING CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING SIGN
- EXISTING TREE LINE
- EXISTING TREE
- EXISTING RAILROAD TRACKS
- EXISTING WETLANDS
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER WITH MANHOLE
- EXISTING STORM INLET
- EXISTING WATER SERVICE WITH MANHOLE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING GAS VALVE
- EXISTING UTILITY POLE WITH GUY WIRE
- EXISTING OVERHEAD WIRE
- EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE
- EXISTING ELECTRIC METER
- EXISTING TRANSFORMER
- EXISTING UNDERGROUND TELEPHONE SERVICE WITH CABLE BOX
- EXISTING TELEPHONE METER
- EXISTING LIGHT STANDARDS
- EXISTING TRAFFIC SIGNAL MAST ARM
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- PROPOSED CONCRETE SIDEWALK OR PAD
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- PROPOSED SANITARY LATERAL
- PROPOSED STORM PIPE
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- PROPOSED WATER SERVICE
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND TELECOM
- PROPOSED GAS LINE

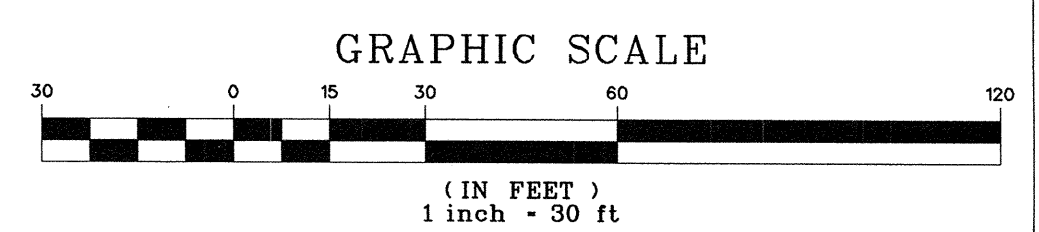
UTILITY NOTES:

1. WATER SERVICE MATERIALS SHALL BE AS NOTED BY MEP ENGINEER. SERVICE SIZE SHALL BE DETERMINED BY THE ARCHITECT AND SHALL BE INSTALLED WITH 48" MINIMUM COVER OR BELOW THE FROST LINE, WHICHEVER IS GREATER. CONTRACTOR'S PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHY INFORMATION AND UTILITY INVERT ELEVATIONS. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, ANY DISCREPANCIES THAT MAY AFFECT PUBLIC SAFETY AND/OR PROJECT COST MUST BE IDENTIFIED IMMEDIATELY TO THE ENGINEER OF RECORD IN WRITING. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
2. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. SERVICE SIZE TO BE DETERMINED BY ARCHITECT.
4. CONTRACTOR TO CONFIRM THE HORIZONTAL LOCATION AND VERTICAL ELEVATION OF UTILITIES BEING CROSSED OR CONNECTED TO. PRIOR TO CONSTRUCTION, THE ENGINEER SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES OR CLEARANCE ISSUES PRIOR TO PROCEEDING WITH CONSTRUCTION.
5. ALL ON-SITE STORM WATER PIPING SHALL BE HDPE. ALL LANCASTER AVENUE STORM WATER PIPING SHALL BE REINFORCED CONCRETE PIPE (RCP).
6. CLEAN CUTS AND CURB BOXES WITHIN THE PAVED AREAS MUST HAVE TRAFFIC LOADING FRAMES AND COVERS.
7. ALL INLET GRATES SHALL BE BICYCLE SAFE GRATES.
8. CONTRACTOR TO UTILIZE APPROPRIATE CONSTRUCTION TECHNIQUES TO PROTECT THE PROPOSED INFILTRATION PRACTICE OF THE STORMWATER BASIN. UNDER NO CIRCUMSTANCE IS THE INFILTRATION AREA TO BE COMPACTED, ROLLED, OR HAVE HEAVY EQUIPMENT OPERATING WITHIN THE EXCAVATED PERIMETER.
9. ALL BUILDINGS AND ASSOCIATED UTILITY CONNECTIONS, AS SHOWN, HAVE BEEN BASED UPON SCHEMATIC ARCHITECTURAL PLANS. CONTRACTOR SHALL REFER TO ARCHITECT'S FINAL PLANS FOR EXACT BUILDING DIMENSIONS AND UTILITY CONNECTION POINTS FOR SIZING.
10. ALL STORM DRAINAGE AND STORMWATER MANAGEMENT FACILITIES ON-SITE ARE TO BE OWNED AND MAINTAINED BY THE PROPERTY OWNER.
11. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION AND/OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
12. LOCATIONS OF EXISTING UTILITIES DEPICTED HEREON HAVE BEEN DEVELOPED FROM EXISTING UTILITY RECORDS, PLANS BY OTHERS, AND/OR GROUND EXAMINATION OF SITE. COMPLETENESS OR ACCURACY OF THE LOCATIONS OF SAID UTILITIES IS NOT GUARANTEED.
13. ALL UTILITIES AND STRUCTURES WITHIN PUBLIC RIGHTS-OF-WAY OR EASEMENTS SHALL REMAIN UNLESS OTHERWISE NOTED.
14. CONTRACTOR SHALL ADHERE TO ALL SAFETY REGULATIONS AS REQUIRED BY "OSHA", THE PROPERTY OWNER, OR ANY LOCAL STATE & FEDERAL AUTHORITY.
15. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE SITE AND VERIFY EXISTING SITE CONDITIONS TO HIS SATISFACTION.
16. PRIOR TO STARTING CONSTRUCTION, ALL UTILITY SERVICES IN THE AREA ARE TO BE LOCATED, THE USER NOTIFIED AND MEASURES TAKEN TO PROTECT THE LINES IN ACCORDANCE WITH PA ACT 287. AS AMENDED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT PA "ONE-CALL" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION OR DEMOLITION ON-SITE.
17. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION/DEMOLITION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER AND SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.

| Upstream Node | Downstream Node | Material | Conduit Description | Length (ft) | Slope (ft/ft) | Upstream Invert Elevation (ft) | Downstream Invert Elevation (ft) | Elevation Ground (ft) | Elevation Ground (ft) |
|-------------------------|---------------------------|----------|-------------------------|-------------|---------------|--------------------------------|----------------------------------|-----------------------|-----------------------|
| ON-SITE STRUCTURES | | | | | | | | | |
| Storm 1 Outlet | MH-2 | SLCFF | Concrete Pipe - 24.0 in | 81 | 0.005 | 424.00 | 423.53 | 430.20 | 430.10 |
| DB-2 | MH-22 | SLCFF | Concrete Pipe - 18.0 in | 11 | 0.005 | 426.97 | 426.90 | 434.00 | 434.00 |
| DB-5 | I-2 | SLCFF | Concrete Pipe - 12.0 in | 45 | 0.005 | 426.41 | 426.18 | 434.25 | 433.78 |
| DB-4 | DB-5 | SLCFF | Concrete Pipe - 12.0 in | 59 | 0.005 | 427.30 | 426.81 | 436.00 | 434.25 |
| DB-7 | DB-6 | SLCFF | Concrete Pipe - 12.0 in | 76 | 0.005 | 427.88 | 427.50 | 435.34 | 436.00 |
| DB-1 Outlet | MH-2 | SLCFF | Concrete Pipe - 18.0 in | 47 | 0.005 | 425.00 | 424.75 | 430.90 | 430.10 |
| I-1 | INF-3A | SLCFF | Concrete Pipe - 18.0 in | 36 | 0.005 | 426.40 | 426.23 | 431.70 | 430.80 |
| I-2 | I-1 | SLCFF | Concrete Pipe - 18.0 in | 77 | 0.005 | 425.58 | 425.59 | 433.78 | 431.70 |
| I-3 | INF-2A | SLCFF | Concrete Pipe - 18.0 in | 48 | 0.005 | 426.48 | 426.18 | 433.00 | 433.78 |
| I-4 | I-3 | SLCFF | Concrete Pipe - 18.0 in | 71 | 0.005 | 426.08 | 425.61 | 435.51 | 435.00 |
| I-5 | I-4 | SLCFF | Concrete Pipe - 18.0 in | 89 | 0.005 | 425.70 | 425.38 | 436.64 | 435.53 |
| I-6 | I-5 | SLCFF | Concrete Pipe - 18.0 in | 63 | 0.005 | 426.00 | 425.78 | 437.97 | 436.66 |
| I-7 | I-6 | SLCFF | Concrete Pipe - 18.0 in | 64 | 0.005 | 425.50 | 425.18 | 438.50 | 437.37 |
| I-8 | INF-1B | SLCFF | Concrete Pipe - 12.0 in | 6 | 0.005 | 424.73 | 424.70 | 428.88 | 429.30 |
| I-9 | INF-2A | SLCFF | Concrete Pipe - 12.0 in | 12 | 0.005 | 423.80 | 423.60 | 428.11 | 428.93 |
| I-10 | INF-3A | SLCFF | Concrete Pipe - 12.0 in | 5 | 0.005 | 425.10 | 425.00 | 429.30 | 429.50 |
| I-11 | I-10 | SLCFF | Concrete Pipe - 12.0 in | 47 | 0.005 | 425.85 | 425.61 | 429.20 | 429.10 |
| I-12 | I-11 | SLCFF | Concrete Pipe - 12.0 in | 30 | 0.005 | 427.00 | 426.90 | 430.90 | 430.80 |
| I-13 | INF-2C | SLCFF | Concrete Pipe - 12.0 in | 9 | 0.005 | 425.95 | 425.90 | 426.80 | 426.80 |
| I-14 | INF-3C | SLCFF | Concrete Pipe - 12.0 in | 6 | 0.005 | 424.75 | 424.72 | 428.50 | 428.00 |
| I-15 | I-14 | SLCFF | Concrete Pipe - 12.0 in | 31 | 0.005 | 426.00 | 425.90 | 429.75 | 429.75 |
| I-16 | I-15 | SLCFF | Concrete Pipe - 12.0 in | 4 | 0.005 | 428.00 | 427.90 | 432.00 | 432.00 |
| INF-1 Outlet | INF-1 Outlet | SLCFF | Concrete Pipe - 18.0 in | 31 | 0.005 | 423.30 | 422.90 | 431.00 | 431.00 |
| INF-2 Outlet | INF-2 Outlet | SLCFF | Concrete Pipe - 24.0 in | 81 | 0.041 | 419.50 | 416.30 | 426.60 | 423.75 |
| INF-3 Outlet | MH-10 | SLCFF | Concrete Pipe - 24.0 in | 29 | 0.017 | 414.90 | 414.50 | 423.75 | 424.00 |
| MH-1 | MH-18 | SLCFF | Concrete Pipe - 24.0 in | 67 | 0.005 | 423.83 | 423.39 | 430.75 | 429.95 |
| MH-2 | MH-1 | SLCFF | Concrete Pipe - 24.0 in | 100 | 0.005 | 423.13 | 422.81 | 430.10 | 430.00 |
| MH-10 | MH-8 | SLCFF | Concrete Pipe - 18.0 in | 20 | 0.016 | 413.40 | 413.12 | 424.00 | 424.00 |
| MH-15 | MH-20 Outlet to Rain Pipe | SLCFF | Concrete Pipe - 24.0 in | 76 | 0.005 | 424.90 | 424.53 | 431.50 | 431.50 |
| MH-18 | MH-19 | SLCFF | Concrete Pipe - 24.0 in | 76 | 0.005 | 422.00 | 421.71 | 429.95 | 429.00 |
| MH-19 | MH-23 | SLCFF | Concrete Pipe - 24.0 in | 28 | 0.009 | 423.11 | 421.50 | 429.00 | 428.46 |
| MH-1 | I-5 | SLCFF | Concrete Pipe - 12.0 in | 32 | 0.006 | 426.00 | 425.92 | 430.90 | 430.64 |
| MH-2 | DB-7 | SLCFF | Concrete Pipe - 12.0 in | 17 | 0.005 | 426.80 | 426.71 | 435.00 | 435.34 |
| MH-3 | DB-5 | SLCFF | Concrete Pipe - 12.0 in | 38 | 0.005 | 426.80 | 426.61 | 433.25 | 434.25 |
| MH-4 | MH-1 | SLCFF | Concrete Pipe - 12.0 in | 36 | 0.005 | 425.80 | 425.12 | 430.00 | 430.00 |
| MH-5 | Storm 1 Outlet | SLCFF | Concrete Pipe - 12.0 in | 7 | 0.006 | 425.30 | 425.26 | 428.75 | 430.00 |
| MH-6 | I-8 | SLCFF | Concrete Pipe - 12.0 in | 67 | 0.005 | 423.80 | 423.40 | 431.00 | 431.00 |
| MH-7 | I-7 | SLCFF | Concrete Pipe - 12.0 in | 67 | 0.005 | 424.00 | 423.67 | 431.75 | 432.50 |
| MH-8 | DB-7 | SLCFF | Concrete Pipe - 12.0 in | 100 | 0.005 | 425.98 | 425.68 | 433.00 | 433.34 |
| MH-9 | DB-2 | SLCFF | Concrete Pipe - 12.0 in | 15 | 0.005 | 423.00 | 422.89 | 430.75 | 430.00 |
| MH-20 | MH-21 | SLCFF | Concrete Pipe - 12.0 in | 13 | 0.005 | 423.00 | 422.81 | 431.50 | 431.00 |
| DB-1 | DB-2 | SLCFF | Concrete Pipe - 12.0 in | 27 | 0.005 | 425.70 | 425.56 | 434.00 | 434.00 |
| DB-2 | DB-3 | SLCFF | Concrete Pipe - 12.0 in | 177 | 0.005 | 428.00 | 427.17 | 434.00 | 434.00 |
| ITHAN AVENUE STRUCTURES | | | | | | | | | |
| I-16 | MH-8 | SLCFF | Concrete Pipe - 18.0 in | 47 | 0.008 | 424.90 | 424.12 | 433.80 | 433.80 |
| I-17 | I-16 | SLCFF | Concrete Pipe - 18.0 in | 152 | 0.002 | 421.90 | 421.10 | 431.10 | 431.80 |
| I-18 | I-17 | SLCFF | Concrete Pipe - 18.0 in | 98 | 0.001 | 425.70 | 425.20 | 430.60 | 431.40 |
| I-19 | I-18 | SLCFF | Concrete Pipe - 18.0 in | 81 | 0.007 | 427.17 | 426.90 | 432.00 | 433.00 |
| I-20 | MH-15 | SLCFF | Concrete Pipe - 24.0 in | 210 | 0.005 | 426.15 | 425.10 | 434.50 | 431.50 |

| LOCATION | TEST ELEV. | FIELD TEST INFILTRATION RATE | DESIGN RATE |
|----------|------------|------------------------------|-------------|
| TP-11 | 433.75 | 0.18 | 0.07 |
| TP-12 | 432.50 | 4.05 | 2.03 |
| TP-13 | 430.50 | 0.27 | 0.14 |
| TP-14 | 428.50 | 0.70 | 0.45 |
| TP-15 | 427.50 | 11.70 | 5.85 |
| TP-16 | 424.50 | 0.03 | 0.02 |
| TP-17 | 424.50 | 12.54 | 6.42 |
| TP-18 | 424.25 | 1.23 | 0.24 |
| TP-19 | 428.50 | 0.48 | 0.24 |
| TP-20 | 423.50 | 12.59 | 6.35 |
| TP-21 | 428.25 | 16.44 | 8.22 |
| TP-22 | 430.25 | 0.30 | 0.15 |
| TP-23 | 429.50 | 0.55 | 0.17 |
| TP-24 | 431.50 | 7.06 | 4.53 |
| TP-25 | 431.00 | 1.86 | 0.73 |
| TP-26 | 430.00 | 1.22 | 0.63 |
| TP-27 | 422.00 | 1.32 | 0.66 |
| TP-28 | 430.00 | 0.63 | 0.32 |
| TP-29 | 422.00 | 1.44 | 0.72 |
| TP-30 | 422.00 | | |

NOTE: REFER TO STORMWATER MANAGEMENT REPORT FOR STORM STRUCTURE PROFILES AND ELEVATION DETAILS.



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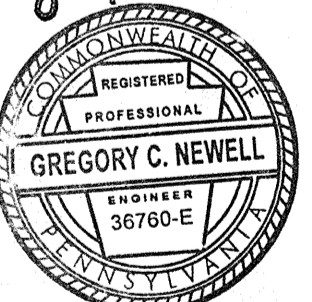
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 fax: 610-667-0216

Gregory C. Newell


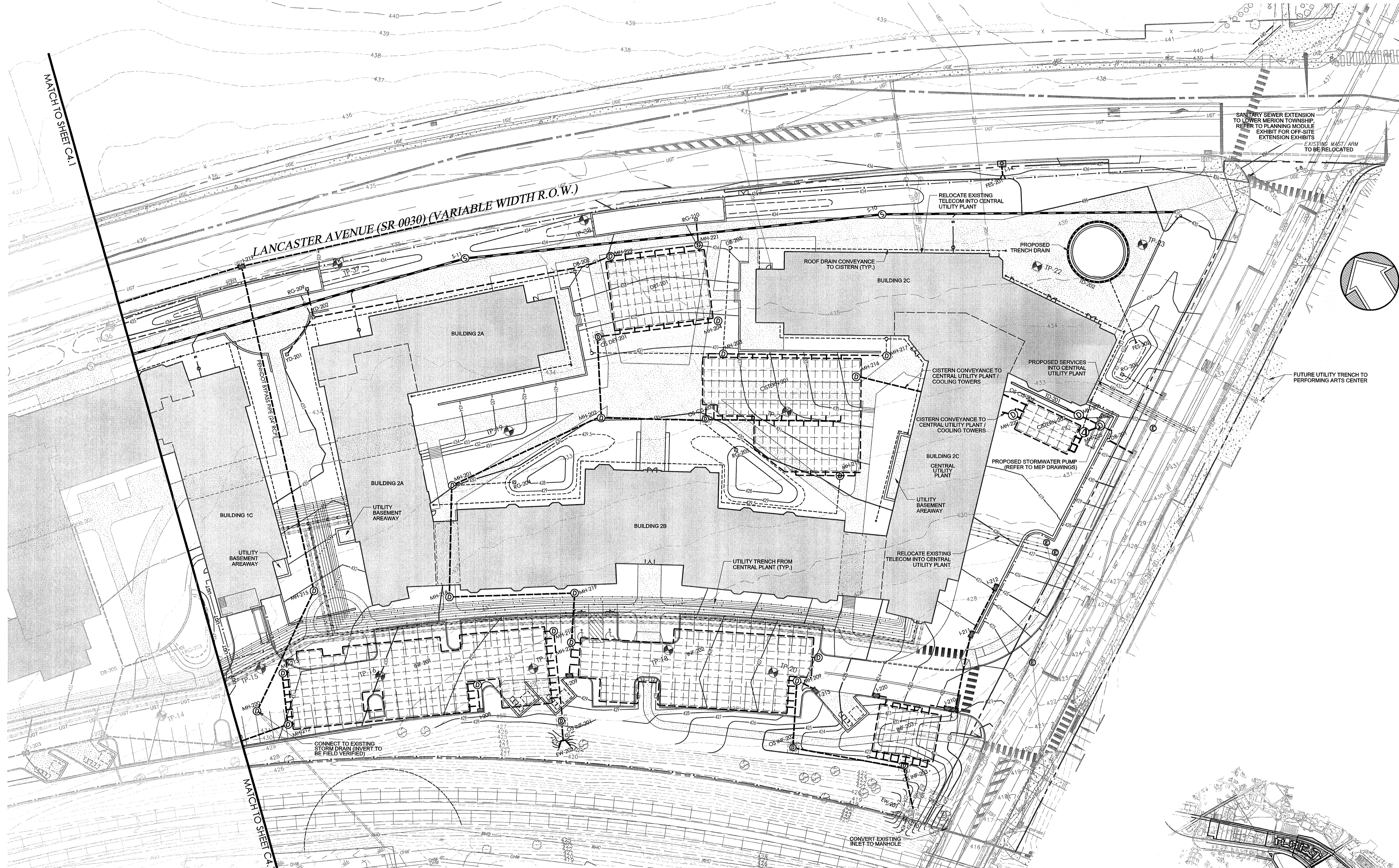
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 SUBMISSION

Revision #1 March 6, 2015
 Date December 5, 2014
 Title Utility Plan




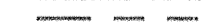
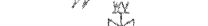



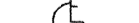










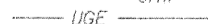
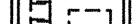

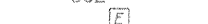



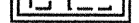


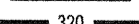
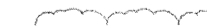
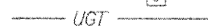
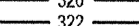


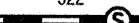

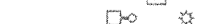





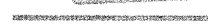


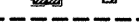



Scale 1" = 30'
 Drawn By DCH

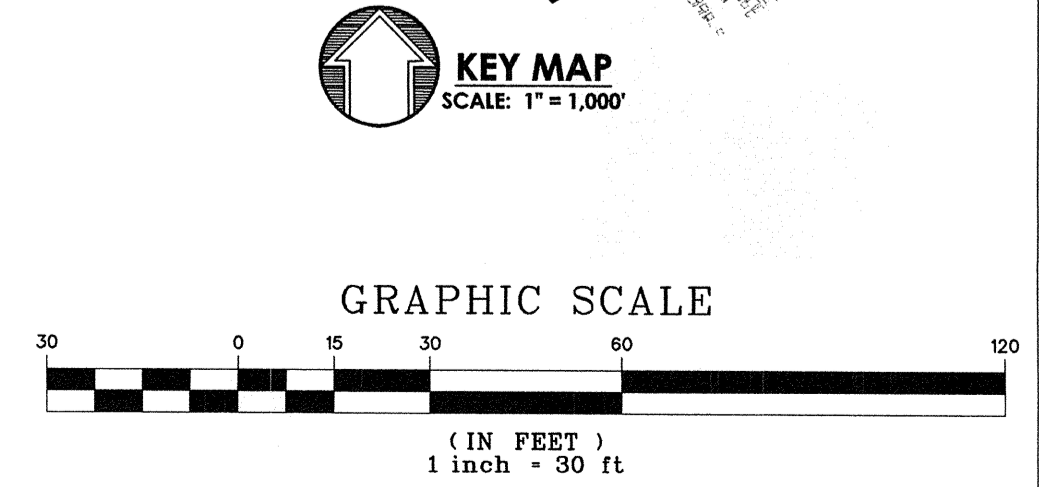
C4.2
 Sheet No. 13 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



LEGEND

| | | | | | |
|---|-----------------------------------|---|--|---|---|
|  | PROPERTY LINE |  | EXISTING WATER SERVICE WITH MANHOLE |  | PROPOSED SIGN |
|  | LEGAL RIGHT-OF-WAY LINE |  | EXISTING WATER VALVE |  | PROPOSED ADA PARKING SPACE |
|  | EXISTING CURB |  | EXISTING FIRE HYDRANT |  | PROPOSED DUMPSTER ENCLOSURE WITH DUMPSTER, RECYCLING BINS, SCREEN WALLS AND SCREEN GATE |
|  | EXISTING EDGE OF PAVEMENT |  | EXISTING GAS VALVE |  | PROPOSED MAJOR CONTOUR |
|  | EXISTING BUILDING |  | EXISTING UTILITY POLE WITH GUY WIRE |  | PROPOSED MINOR CONTOUR |
|  | EXISTING FENCE |  | EXISTING OVERHEAD WIRE |  | PROPOSED SANITARY MAIN |
|  | EXISTING RETAINING WALL |  | EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE |  | PROPOSED SANITARY LATERAL |
|  | EXISTING SIGN |  | EXISTING ELECTRIC METER |  | PROPOSED STORM PIPE |
|  | EXISTING TREE |  | EXISTING TRANSFORMER |  | PROPOSED INLET / YARD DRAIN |
|  | EXISTING RAILROAD TRACKS |  | EXISTING CABLE SERVICE WITH CABLE BOX |  | PROPOSED UNDERDRAIN / ROOF DRAIN |
|  | EXISTING WETLANDS |  | EXISTING LIGHT STANDARDS |  | PROPOSED TRENCH DRAIN |
|  | EXISTING MAJOR CONTOUR |  | EXISTING TRAFFIC SIGNAL MAST ARM |  | PROPOSED FIRE SERVICE |
|  | EXISTING MINOR CONTOUR |  | SOILS BOUNDARY LINE |  | PROPOSED WATER SERVICE |
|  | EXISTING STORM SEWER WITH MANHOLE |  | PROPOSED RIGHT-OF-WAY LINE |  | PROPOSED UNDERGROUND ELECTRIC |
|  | EXISTING STORM INLET |  | PROPOSED EDGE OF PAVEMENT |  | PROPOSED UNDERGROUND TELECOM |
| | |  | PROPOSED BUILDING |  | PROPOSED GAS LINE |
| | |  | PROPOSED CONCRETE SIDEWALK OR PAD | | |
| | |  | PROPOSED DECORATIVE FENCE | | |
| | |  | PROPOSED RETAINING WALL | | |



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 20112071869
 20112071907
 20112071937
 20112071972
 20112072172
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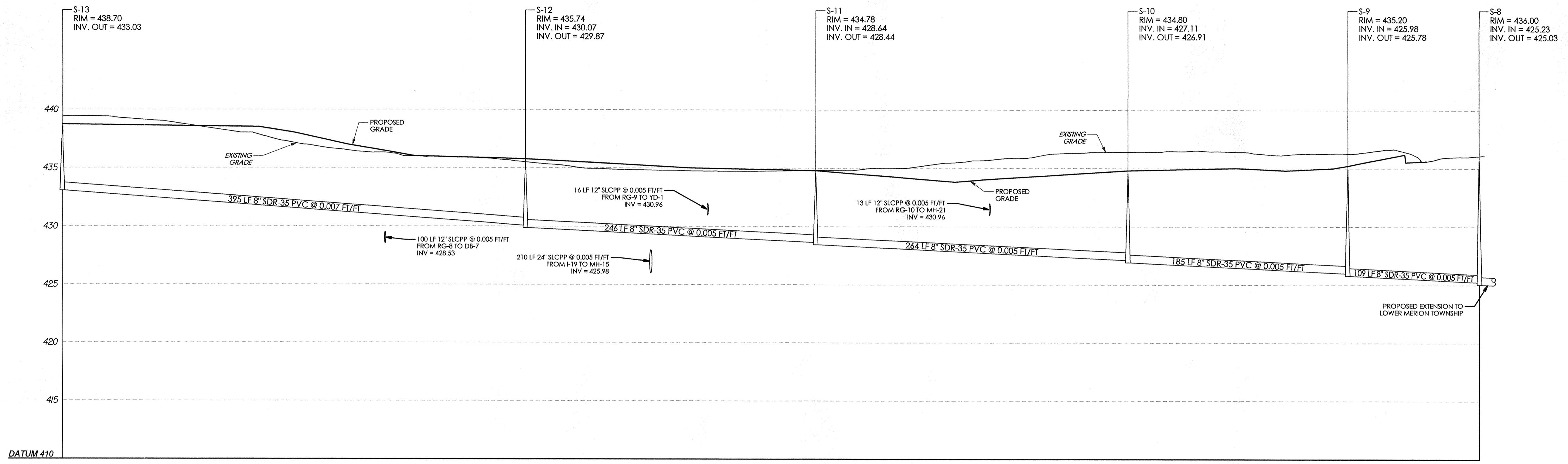
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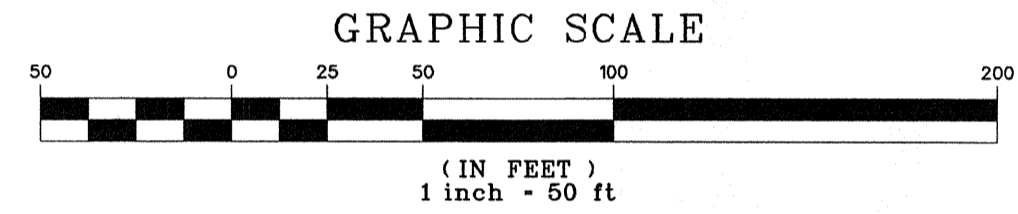
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 fax: 610-867-0216



**SANITARY PROFILE -
 S-13 TO S-8**
 SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



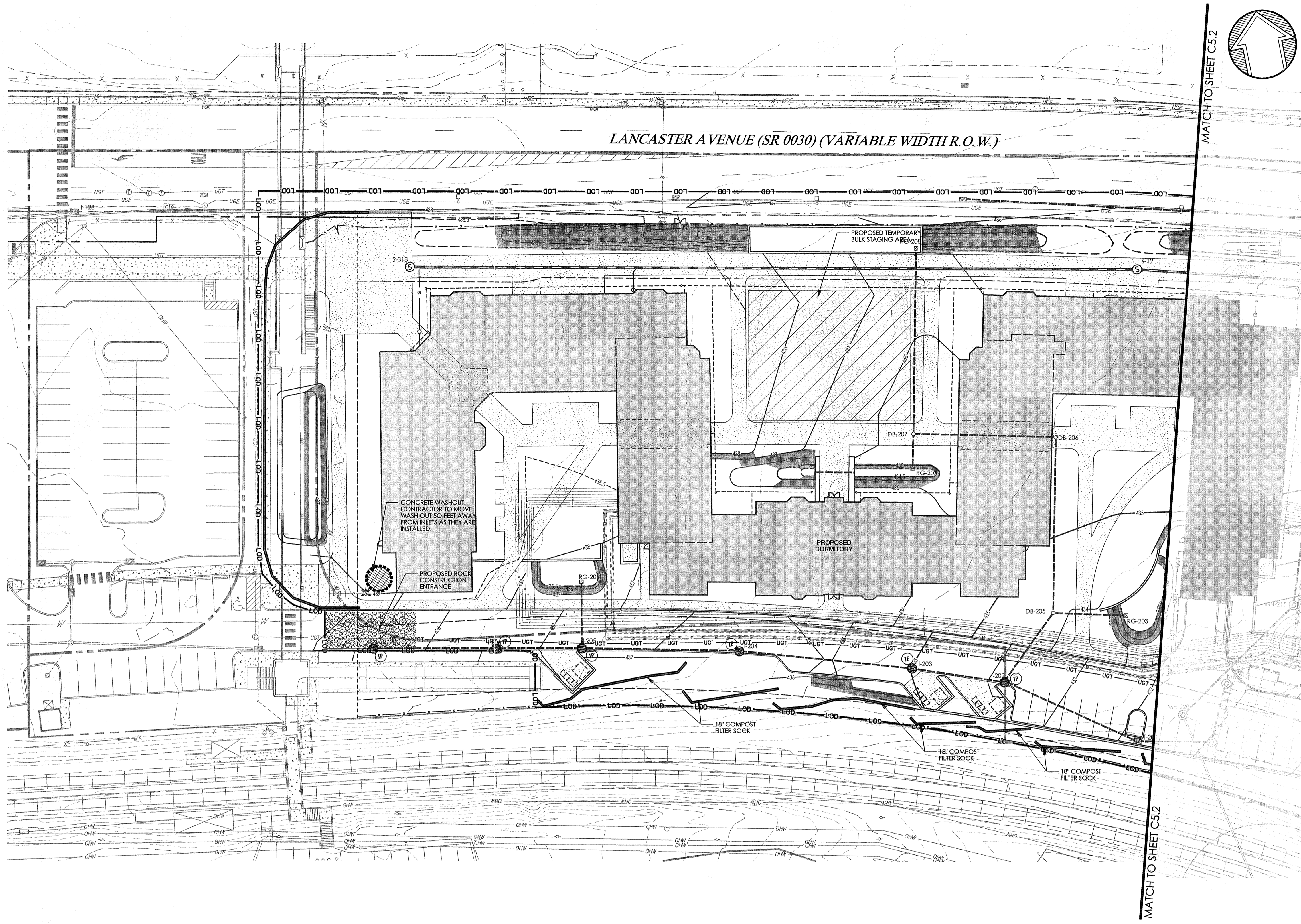
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 Revision #1 March 6, 2015
 Date December 5, 2014
 Title Utility Profiles
 Scale As Noted
 Drawn By MMB

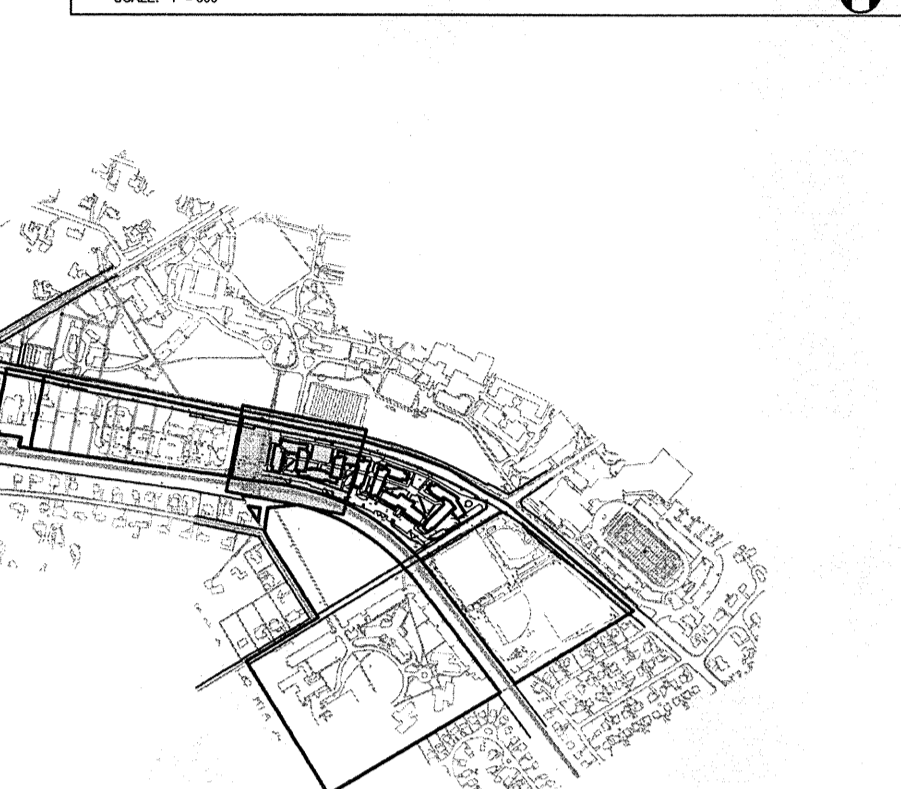
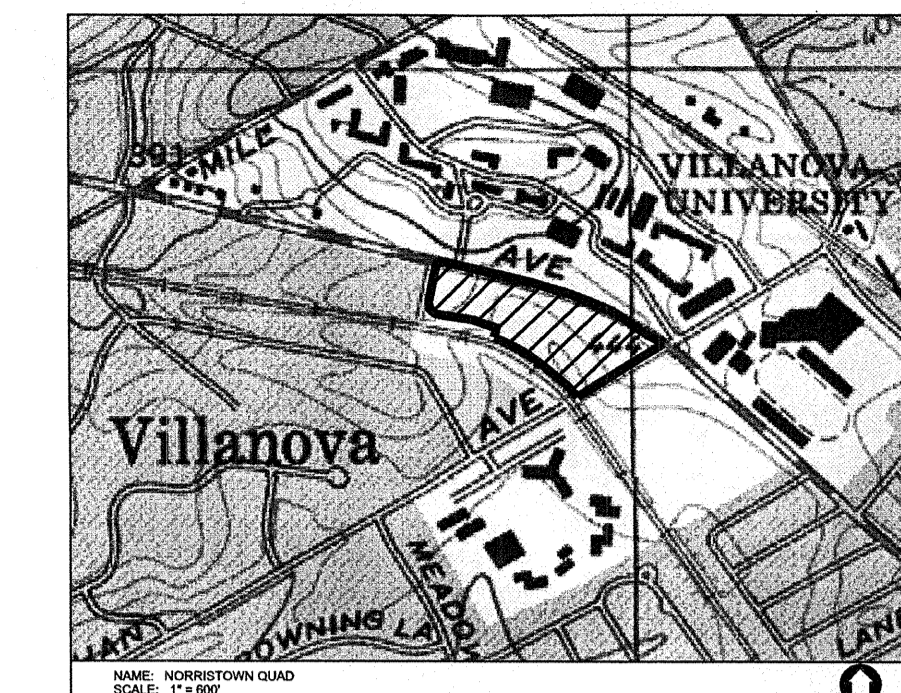
C4.3
 Sheet No. 14 of 35

Contractor to verify all dimensions in field and inform
 Architect of any discrepancies before starting work.



MATCH TO SHEET C5.2

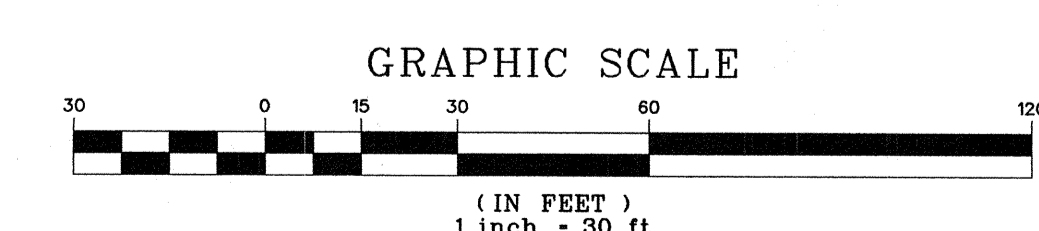
MATCH TO SHEET C5.2



KEY MAP
SCALE: 1" = 1,000'

LEGEND

| | |
|--|---|
| | PROPERTY LINE |
| | LEGAL RIGHT-OF-WAY LINE |
| | EXISTING CURBS |
| | EXISTING EDGE OF PAVEMENT |
| | EXISTING BUILDING |
| | EXISTING FENCE |
| | EXISTING RETAINING WALL |
| | EXISTING SIGN |
| | EXISTING TREE |
| | EXISTING RAILROAD TRACKS |
| | EXISTING WETLANDS |
| | EXISTING MAJOR CONTOUR |
| | EXISTING MINOR CONTOUR |
| | EXISTING STORM SEWER WITH MANHOLE |
| | EXISTING STORM INLET |
| | EXISTING WATER SERVICE WITH MANHOLE |
| | EXISTING WATER VALVE |
| | EXISTING FIRE HYDRANT |
| | EXISTING GAS VALVE |
| | EXISTING UTILITY POLE WITH GUY WIRE |
| | EXISTING OVERHEAD WIRE |
| | EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE |
| | EXISTING ELECTRIC METER |
| | EXISTING TRANSFORMER |
| | EXISTING CABLE SERVICE WITH CABLE BOX |
| | EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE |
| | EXISTING TELEPHONE METER |
| | EXISTING LIGHT STANDARDS |
| | EXISTING TRAFFIC SIGNAL MAST ARM |
| | SOILS BOUNDARY LINE |
| | PROPOSED RIGHT-OF-WAY LINE |
| | PROPOSED EDGE OF PAVEMENT |
| | PROPOSED BUILDING |
| | PROPOSED CONCRETE SIDEWALK OR PAD |
| | PROPOSED DECORATIVE FENCE |
| | PROPOSED RETAINING WALL |
| | PROPOSED SIGN |
| | PROPOSED ADA PARKING SPACE |
| | PROPOSED DUMPSTER ENCLOSURE WITH DUMPSTER, RECYCLING BINS, SCREEN WALLS AND SCREEN GATE |
| | PROPOSED MAJOR CONTOUR |
| | PROPOSED SANITARY MAIN |
| | PROPOSED SANITARY LATERAL |
| | PROPOSED STORM PIPE |
| | PROPOSED INLET / YARD DRAIN |
| | PROPOSED FIRE SERVICE |
| | PROPOSED WATER SERVICE |
| | PROPOSED UNDERGROUND ELECTRIC |
| | PROPOSED UNDERGROUND TELECOM |
| | PROPOSED GAS LINE |
| | PROPOSED LIMIT OF DISTURBANCE |
| | PROPOSED COMPOST FILTER SOCK |
| | PROPOSED ROCK CONSTRUCTION ENTRANCE |
| | PROPOSED INLET PROTECTION |
| | PROPOSED TEMPORARY BULK STAGING AREA |
| | EROSION CONTROL BLANKET, NAG S75 |
| | CONCRETE WASH OUT |



SOILS DATA
SOILS INFORMATION OBTAINED FROM THE USDA-NRCS WEB SOIL SURVEY, VERSION 6, WITH A DATE OF SURVEY AREA DATA OF FEBRUARY 24, 2009. THE FOLLOWING SITE SPECIFIC SOIL CLASSIFICATIONS ARE NOT LISTED AS HYDRIC SOILS.
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*WHOLE SITE LIES WITHIN THIS SOILS CLASSIFICATION

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20112071807
20112071937
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Gregory C. Newell

PRELIM. LAND DEVELOPMENT
SUBMISSION
Revision #1 March 6, 2015
Date December 5, 2014
Title Erosion & Sedimentation
Control Plan
Scale 1" = 30'
Drawn By DCH

C5.1
Sheet No. 17 of 35
Contractor to verify all dimensions in field and inform
Architect of any discrepancies before starting work.

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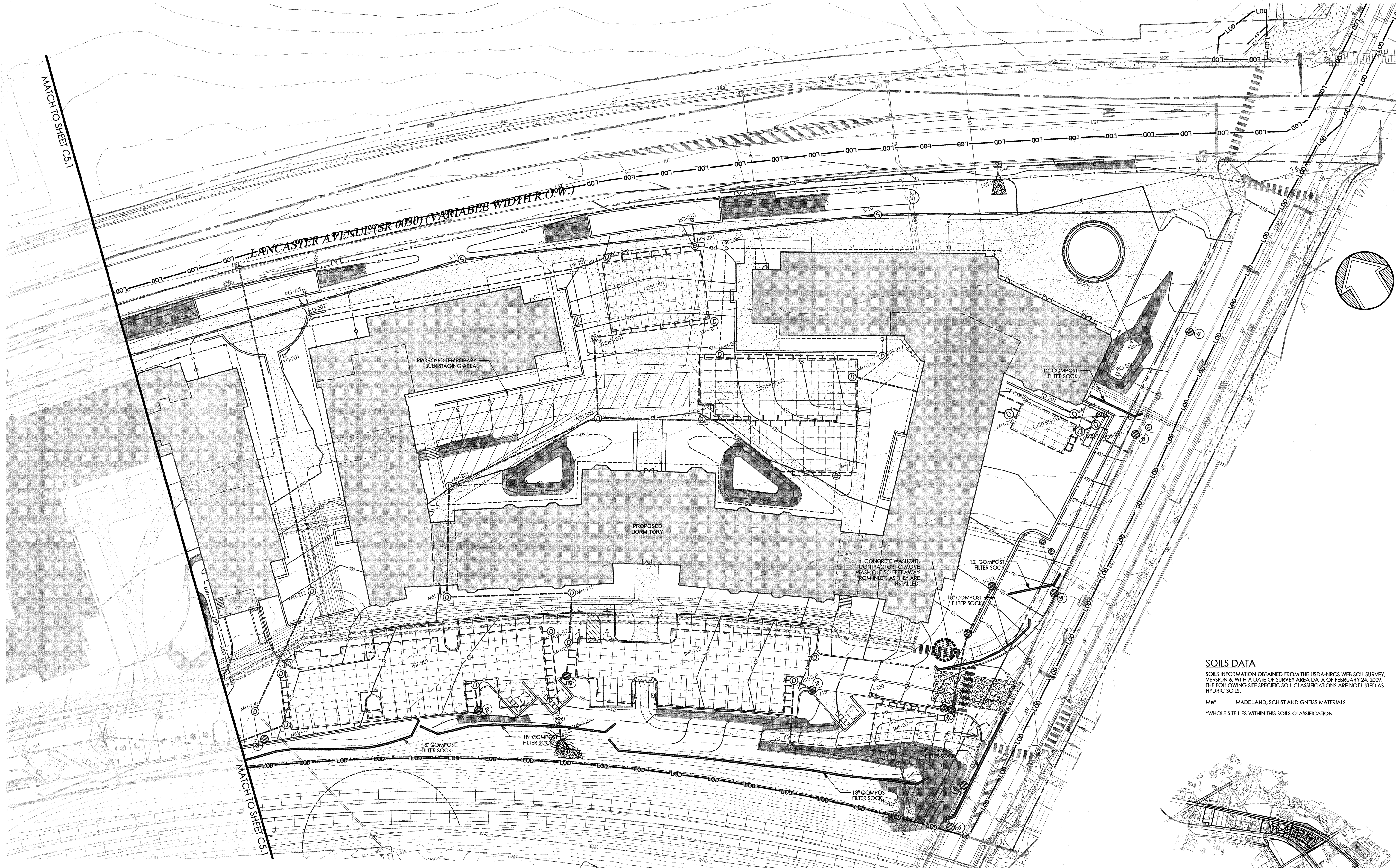
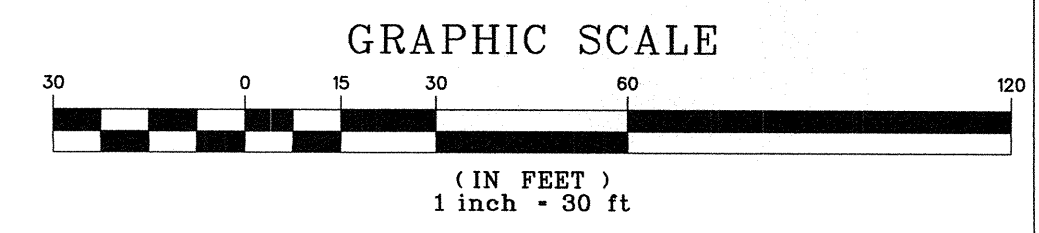
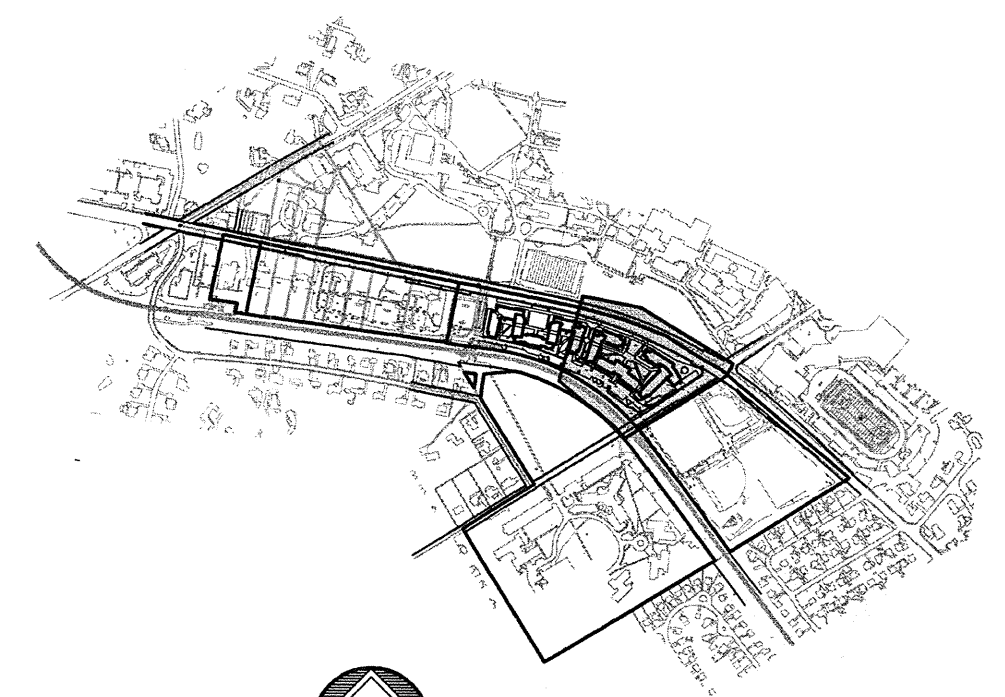
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| | | | |
|--|--|--|---|
| <p>PROPERTY LINE LEGAL RIGHT-OF-WAY LINE EXISTING CURB EXISTING EDGE OF PAVEMENT EXISTING BUILDING EXISTING FENCE EXISTING RETAINING WALL EXISTING SIGN EXISTING TREELINE EXISTING TREE EXISTING RAILROAD TRACKS EXISTING WETLANDS EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR EXISTING STORM SEWER WITH MANHOLE EXISTING STORM INLET</p> | <p>EXISTING WATER SERVICE WITH MANHOLE EXISTING FIRE HYDRANT EXISTING GAS VALVE EXISTING UTILITY POLE WITH GUY WIRE EXISTING OVERHEAD WIRE EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE EXISTING ELECTRIC METER EXISTING TRANSFORMER EXISTING CABLE SERVICE WITH CABLE BOX EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE EXISTING TELEPHONE METER EXISTING LIGHT STANDARDS EXISTING TRAFFIC SIGNAL MAST ARM EXISTING TELEPHONE METER EXISTING LIGHT STANDARDS EXISTING TRAFFIC SIGNAL MAST ARM SOILS BOUNDARY LINE PROPOSED RIGHT-OF-WAY LINE PROPOSED CURB PROPOSED EDGE OF PAVEMENT PROPOSED BUILDING PROPOSED CONCRETE SIDEWALK OR PAD PROPOSED DECORATIVE FENCE PROPOSED RETAINING WALL</p> | <p>PROPOSED SIGN PROPOSED ADA PARKING SPACE PROPOSED DUMPSTER ENCLOSURE WITH DUMPSTER, RECYCLING BINS, SCREEN WALLS AND SCREEN GATE PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR PROPOSED SANITARY MAIN PROPOSED SANITARY LATERAL PROPOSED STORM PIPE PROPOSED INLET / YARD DRAIN PROPOSED FIRE SERVICE PROPOSED WATER SERVICE PROPOSED UNDERGROUND ELECTRIC PROPOSED UNDERGROUND TELECOM PROPOSED GAS LINE PROPOSED LIMIT OF DISTURBANCE PROPOSED COMPOST FILTER SOCK</p> | <p>PROPOSED ROCK CONSTRUCTION ENTRANCE PROPOSED INLET PROTECTION PROPOSED TEMPORARY BULK STAGING AREA EROSION CONTROL BLANKET, NAG 575 CONCRETE WASHOUT</p> |
|--|--|--|---|

PROJECT SERIAL NO. 2011031855
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 2011201907
 2011201932
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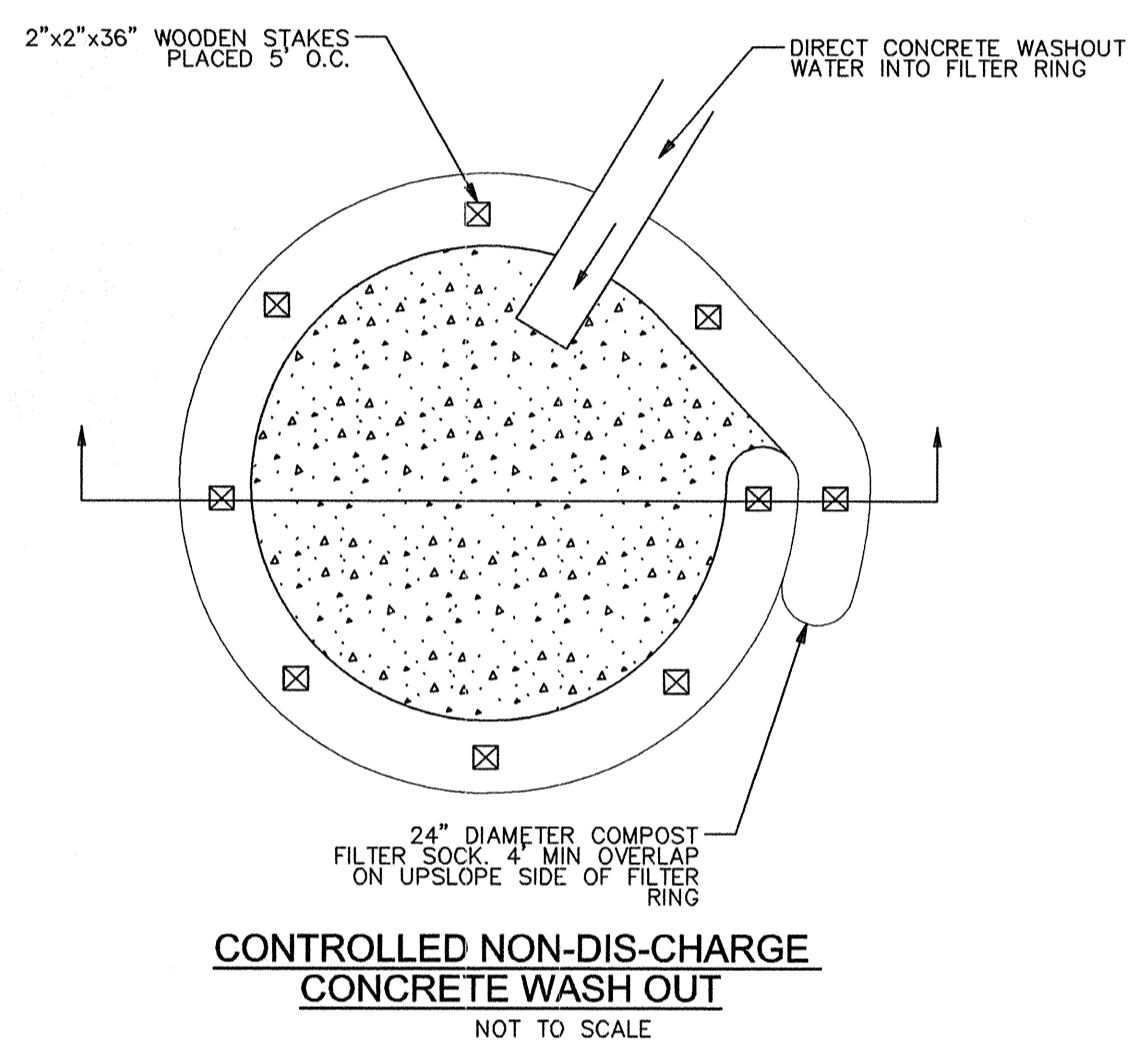
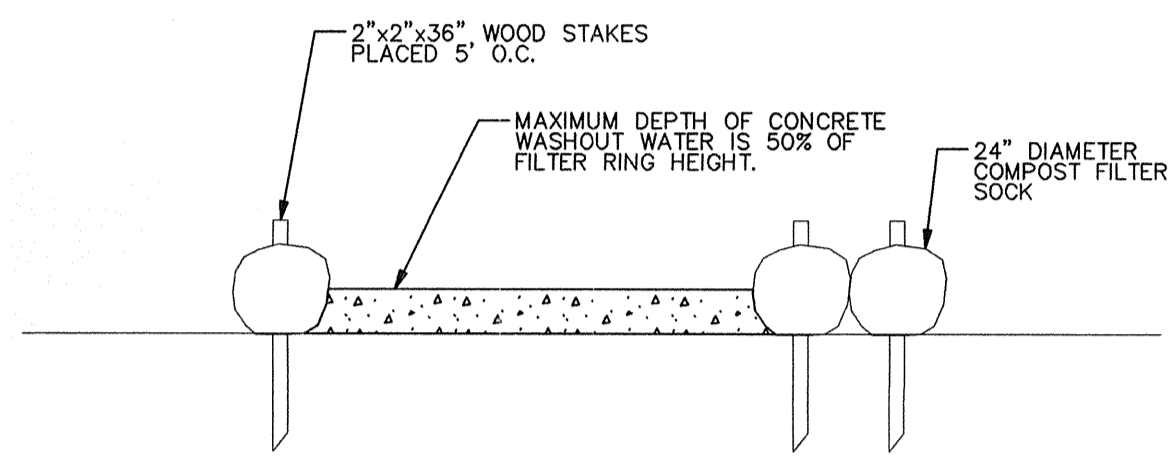
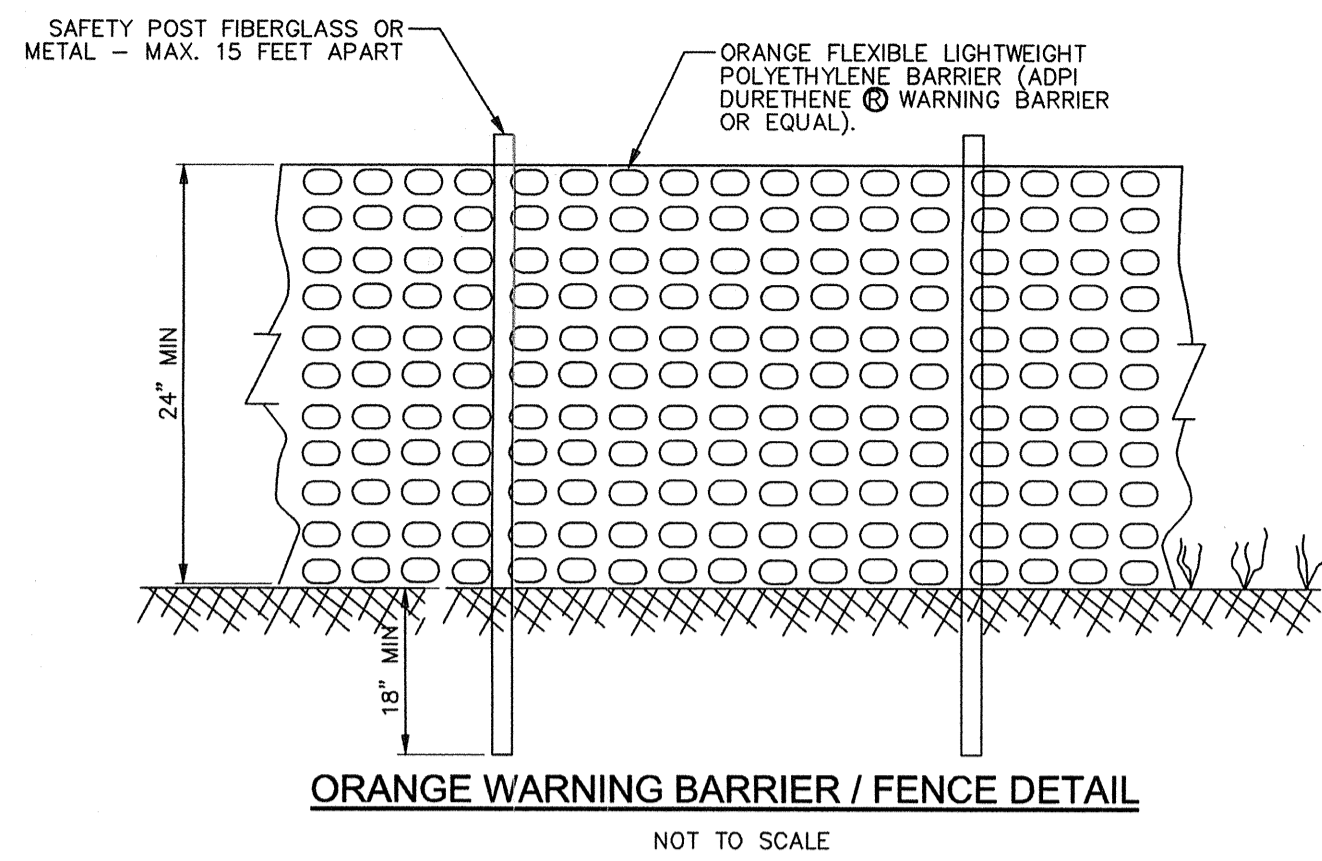
Revision #1 March 6, 2015
 Date December 5, 2014
 Title Erosion & Sedimentation
 Control Plan
 Scale 1" = 30'
 Drawn By DCH

C5.2

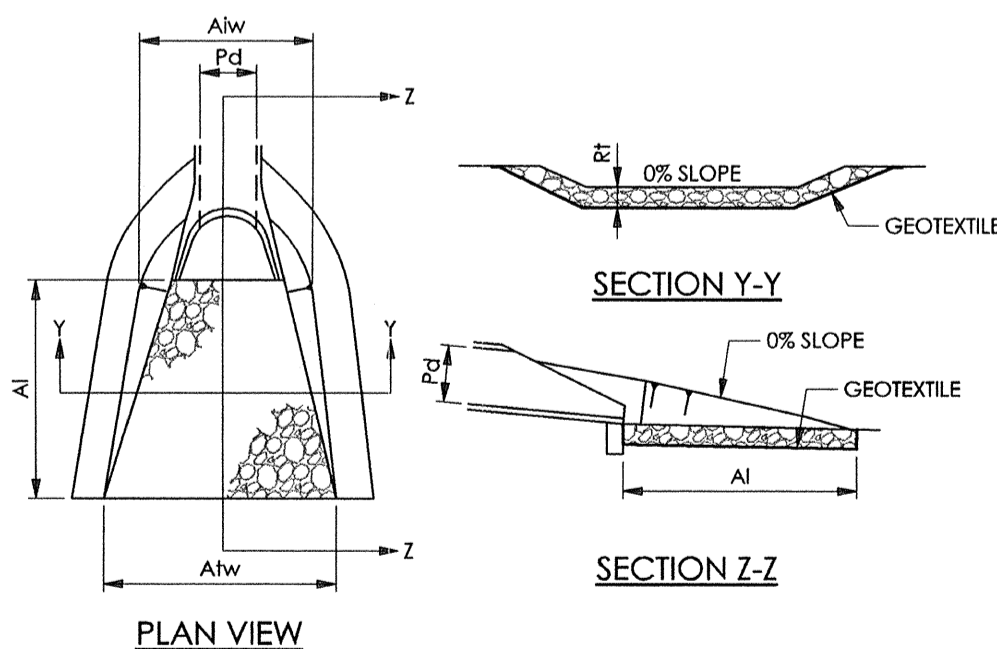
Sheet No. 18 of 35

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Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



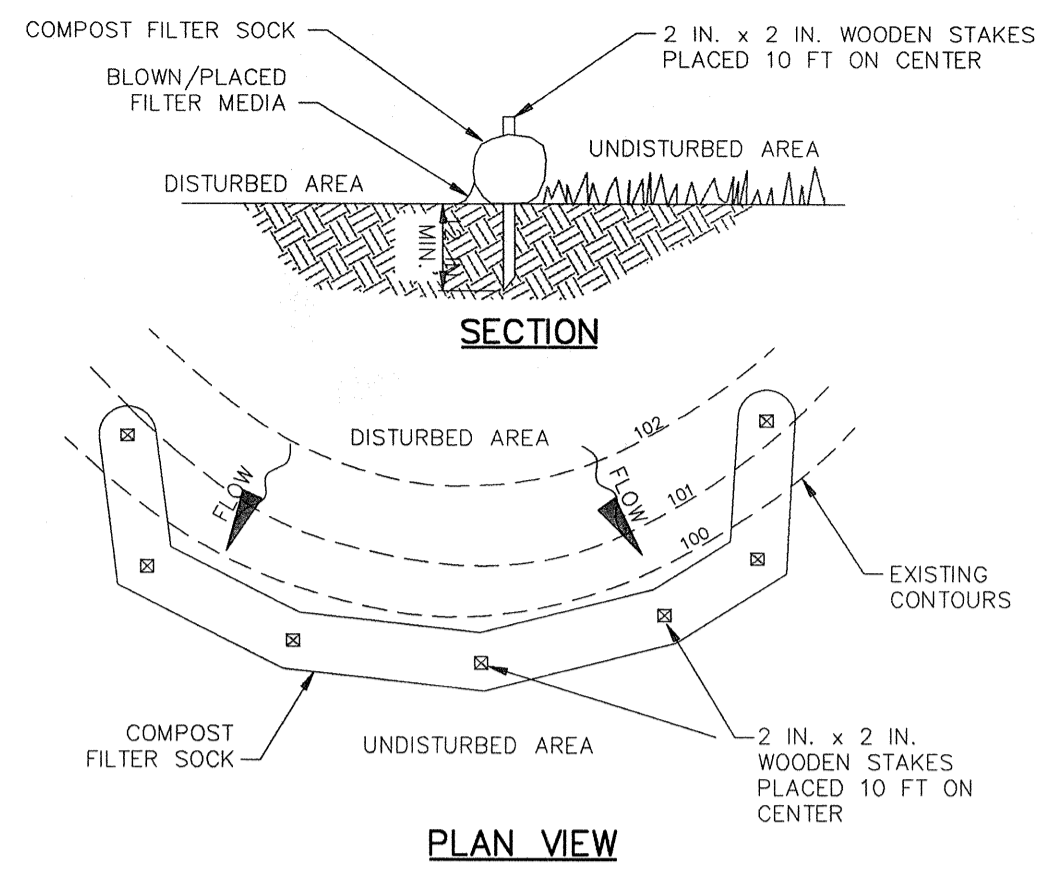
- NOTES:
1. A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.
 2. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
 3. 18" DIAMETER FILTER SOCKS MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.
 4. ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.



| OUTLET NO. | PIPE DIA (IN) | RIPRAP | | APRON | |
|------------|---------------|----------------------|----------------|----------------|-------------------------|
| | | SIZE R ₁₀ | THICK. RT (IN) | LENGTH AI (FT) | TERMINAL WIDTH ATW (FT) |
| I-14 | 18 | 3 | 9 | 8 | 4.5 |
| OS-INF-1 | 30 | 4 | 18 | 16 | 7.5 |

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

STANDARD CONSTRUCTION DETAIL #9-1 RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL
NOT TO SCALE



- NOTES:
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.
- WHERE SOCKS ARE PLACED ON PAVED SURFACES, CONCRETE BLOCKS SHOULD BE USED IMMEDIATELY DOWNSLOPE OF THE SOCKS (AT THE SAME INTERVALS RECOMMENDED FOR THE STAKES) TO HELP HOLD THE SOCK IN PLACE.

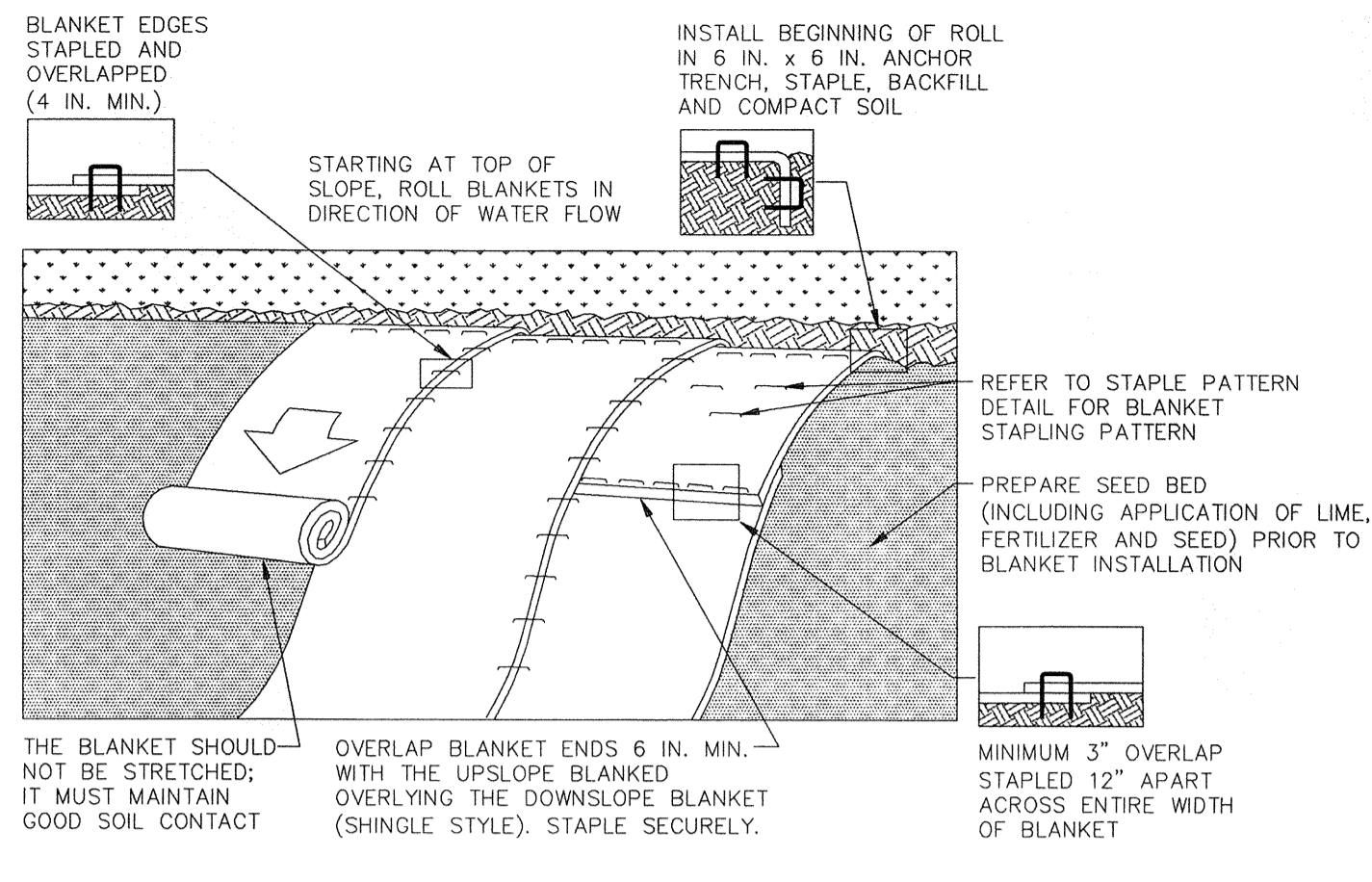
TABLE 4.2 FROM PA E&S MANUAL, MARCH 2012 COMPOST STANDARDS

| ORGANIC MATTER CONTENT | 25%-100% (DRY WEIGHT BASIS) |
|----------------------------|--------------------------------------|
| ORGANIC PORTION | FIBROUS AND ELONGATED |
| PH | 5.5-8.0 |
| MOISTURE CONTENT | 30%-60% |
| PARTICLE SIZE | 30%-50% PASS THROUGH 3/8" SIEVE |
| SOLUBLE SALT CONCENTRATION | 5.0 gS/m (mmhos/cm) MAXIMUM FILTREXX |

TABLE 4.1 FROM PA E&S MANUAL, MARCH 2012 COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

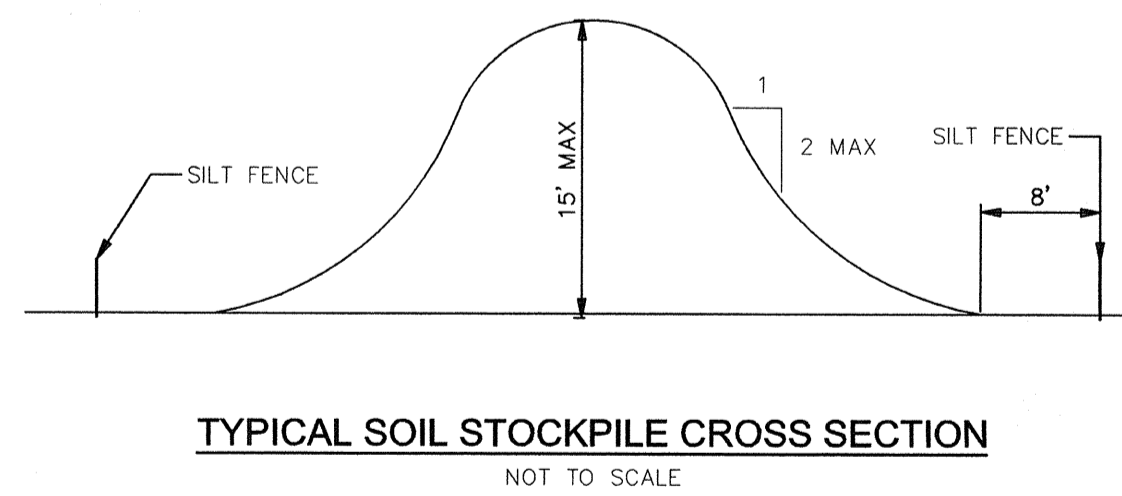
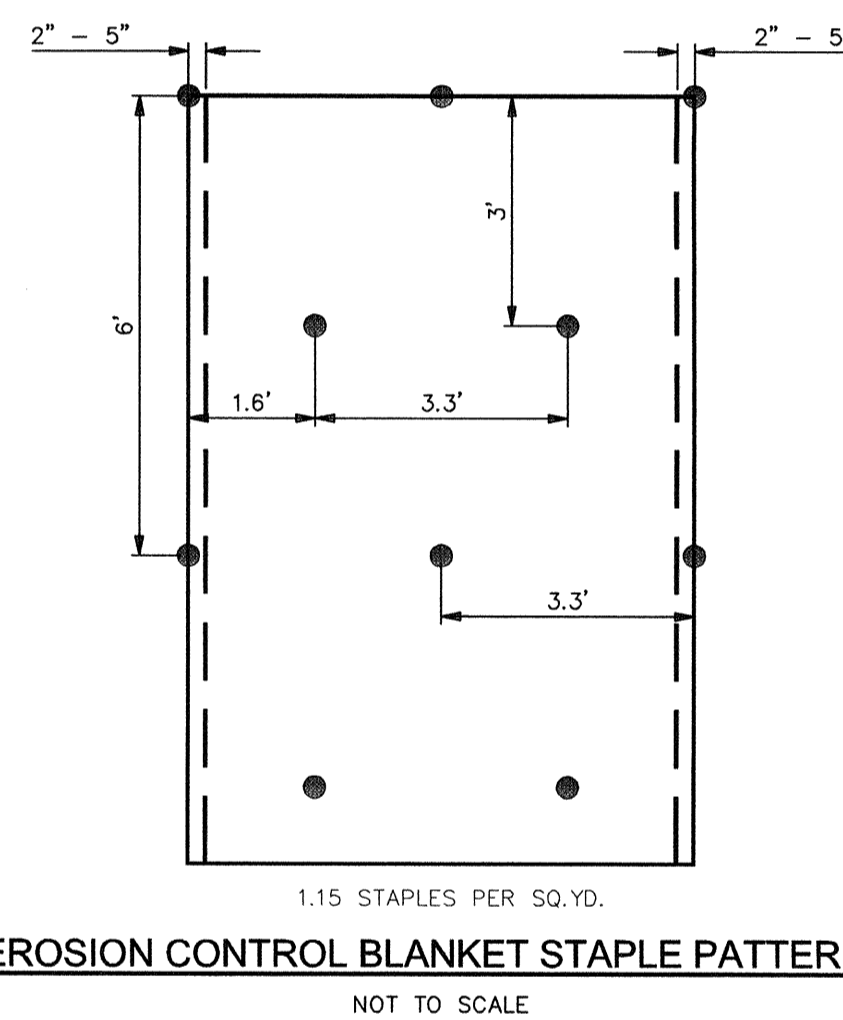
| MATERIAL TYPE | 3 MIL HDPE | 5 MIL HDPE | 5 MIL HDPE | MULTI-FILAMENT POLYPROPYLENE (MFPP) | HEAVY DUTY MULTIFILAMENT POLYPROPYLENE (HDMFPP) |
|--|------------------|-------------------|-------------------|-------------------------------------|---|
| | PHOTO-DEGRADABLE | PHOTO-DEGRADABLE | PHOTO-DEGRADABLE | PHOTO-DEGRADABLE | PHOTO-DEGRADABLE |
| SOCK DIAMETERS | 12" 18" | 12" 18" 24" | 12" 18" 24" | 12" 18" 24" | 12" 18" 24" |
| MESH OPENING | 3/8" | 3/8" | 3/8" | 3/8" | 1/8" |
| TENSILE STRENGTH | | 26 PSI | 26 PSI | 44 PSI | 202 PSI |
| ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM C-155) | 23% AT 1000 HR | 23% AT 1000 HR | | 100% AT 1000 HR | 100% AT 1000 HR |
| MINIMUM FUNCTIONAL LONGEVITY | 6 MONTHS | 9 MONTHS | 6 MONTHS | 1 YEAR | 2 YEARS |

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK
NOT TO SCALE

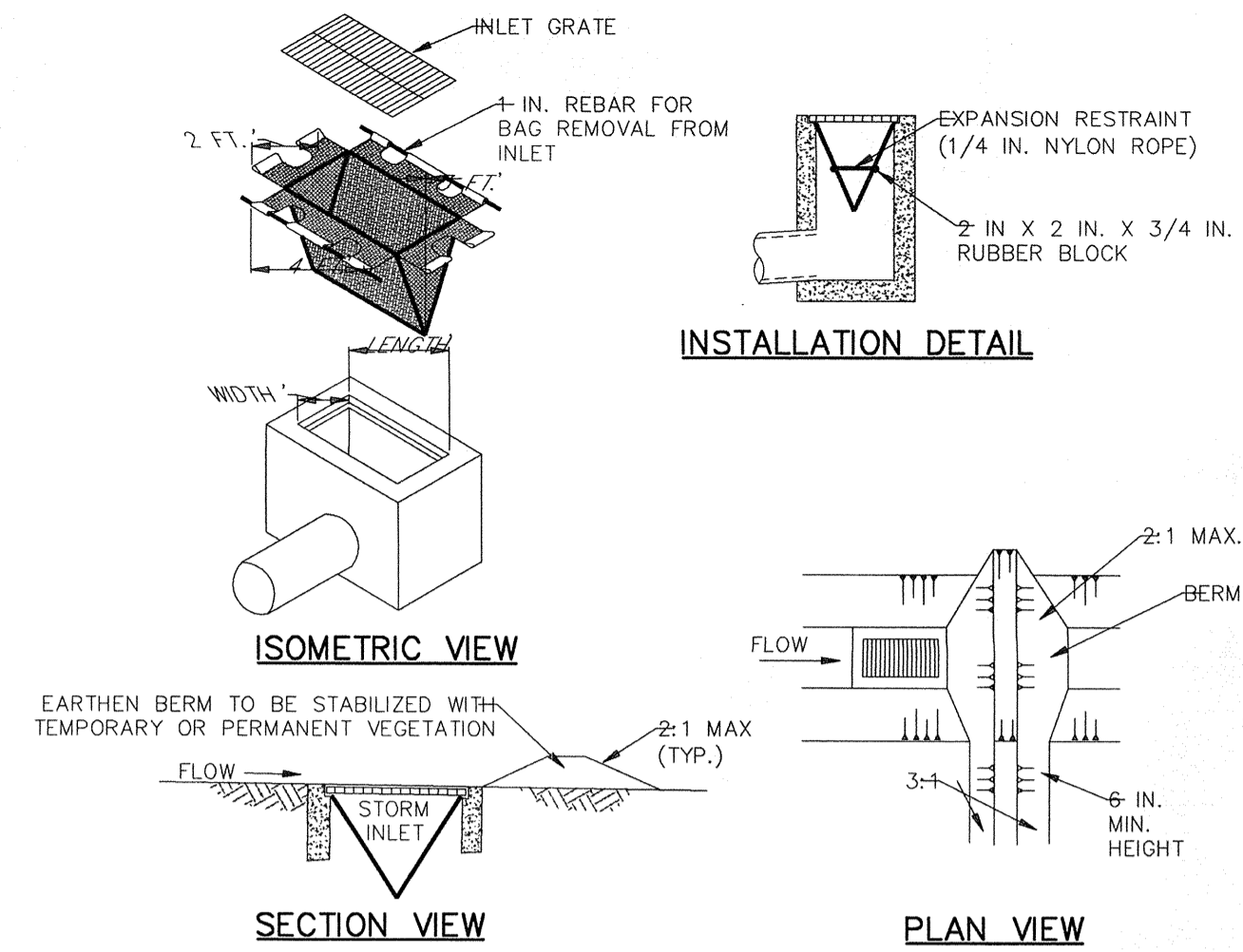


- NOTES:
- SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
- PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
- BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
- THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

STANDARD CONSTRUCTION DETAIL #1-1 EROSION CONTROL BLANKET INSTALLATION
NOT TO SCALE

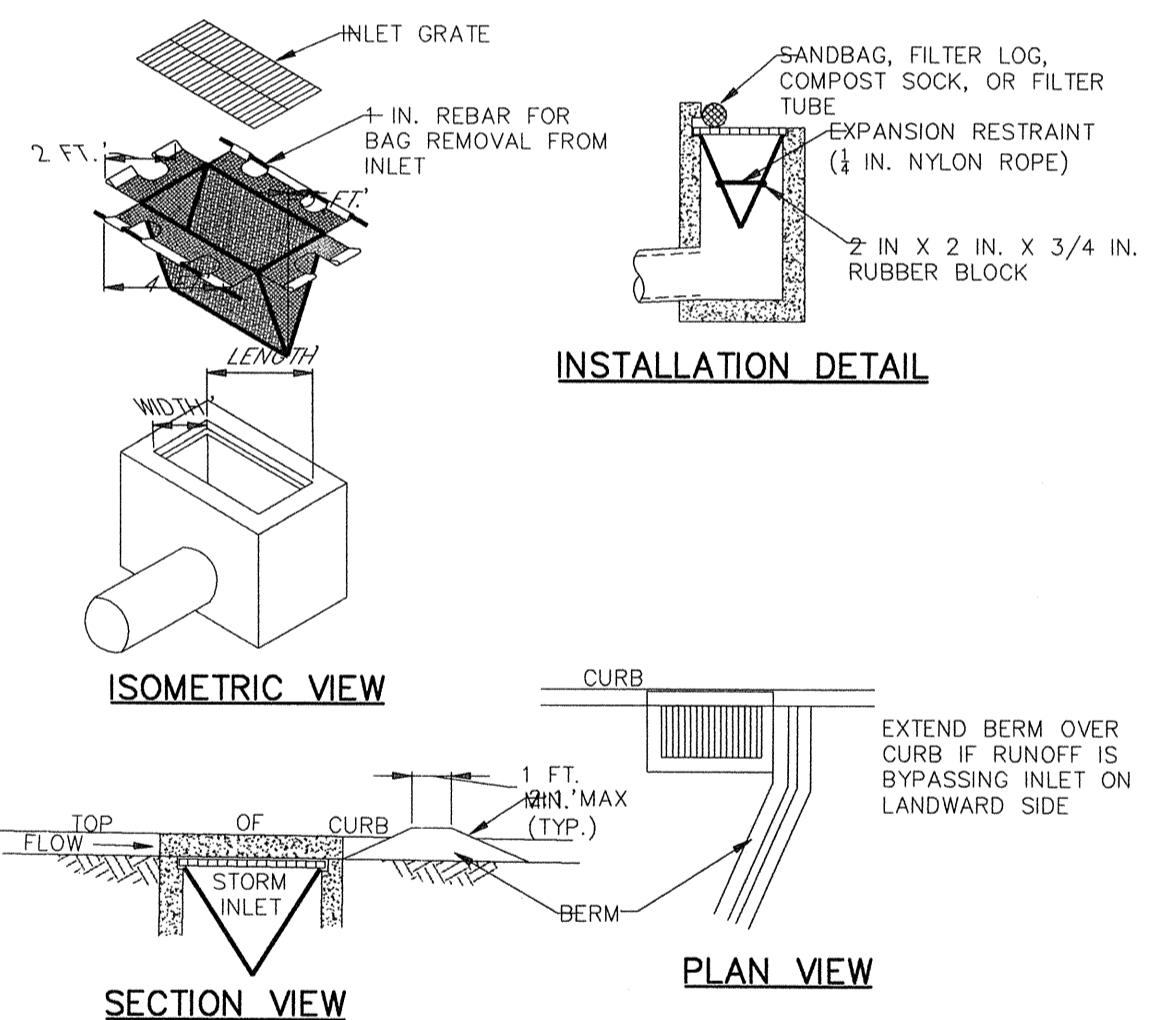


- NOTES:
- SILT FENCE MUST COMPLETELY ENIRCLE STOCKPILE
- TOPSOIL SHALL NOT BE REMOVED FROM THE DEVELOPMENT SITE OR USED AS FILL. TOPSOIL SHALL BE REMOVED FROM THE AREAS OF CONSTRUCTION AND STORED SEPARATELY. THE TOPSOIL SHALL BE STABILIZED TO MINIMIZE EROSION DURING STORAGE. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED ON THE SITE.



- NOTES:
- MAXIMUM DRAINAGE AREA = 1/2 ACRE.
- INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
- ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.
- AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
- INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.
- DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-16 FILTER BAG INLET PROTECTION - TYPE M INLET
NOT TO SCALE



- NOTES:
- MAXIMUM DRAINAGE AREA = 1/2 ACRE.
- INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
- ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.
- AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-15 FILTER BAG INLET PROTECTION - TYPE C INLET
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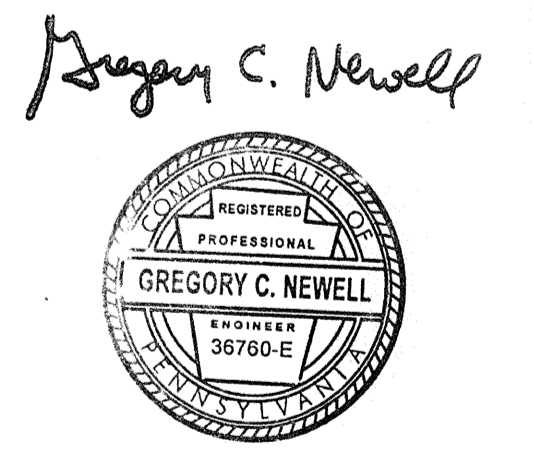
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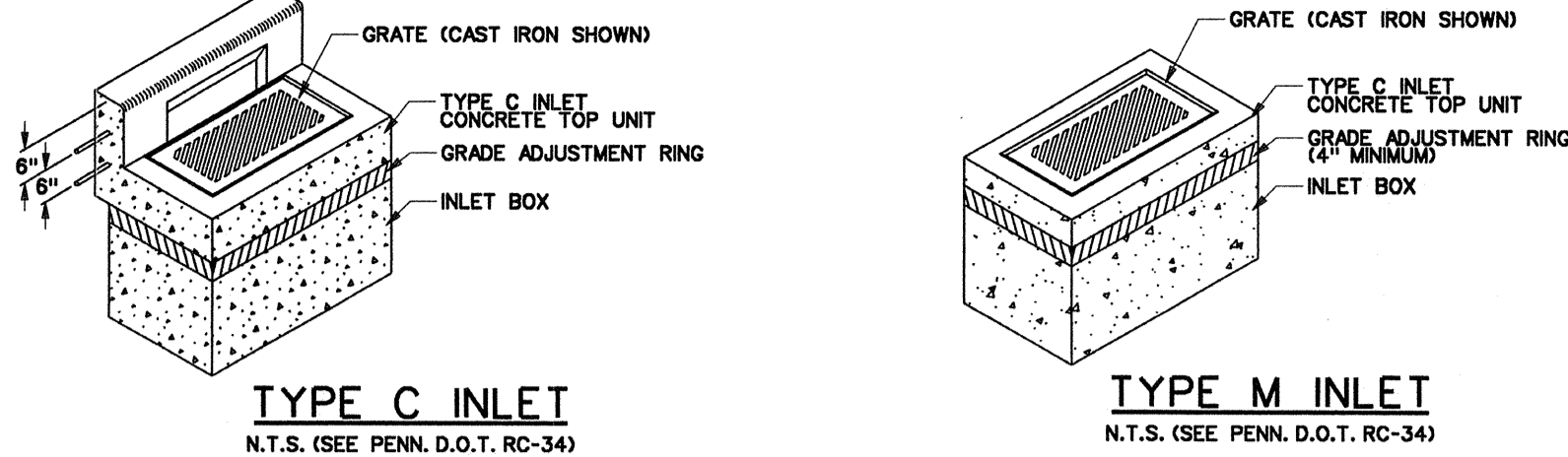
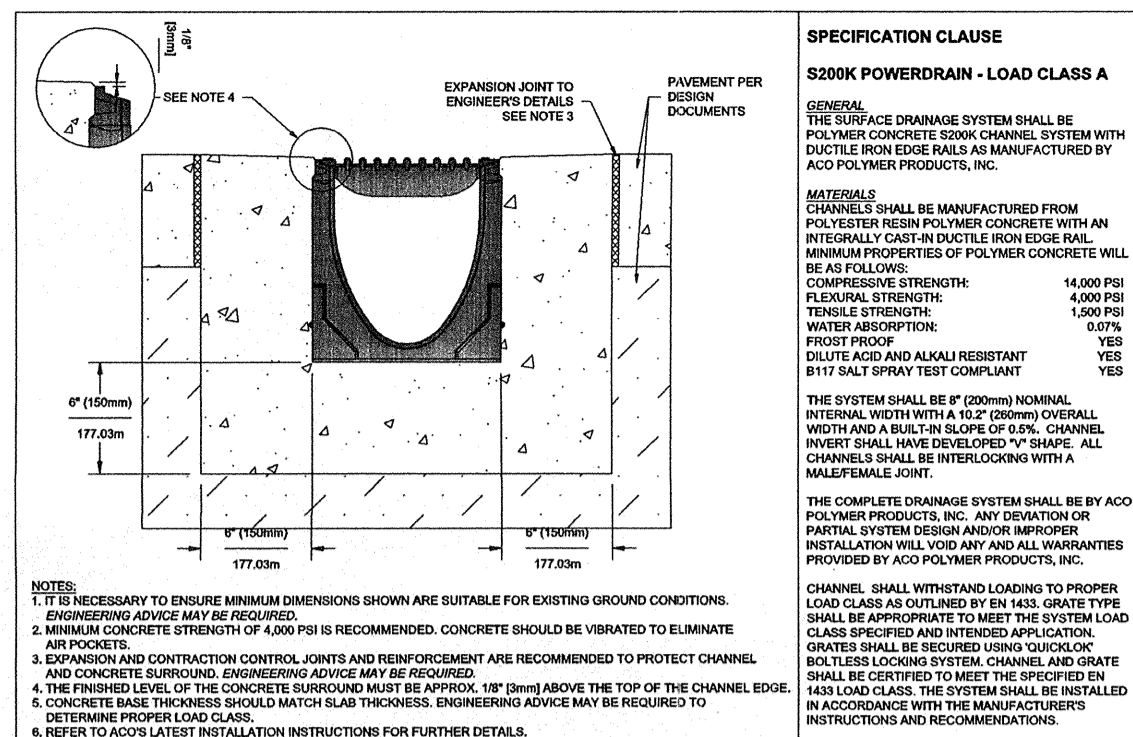
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Date December 5, 2014
Title Erosion & Sedimentation Control Detail Sheet
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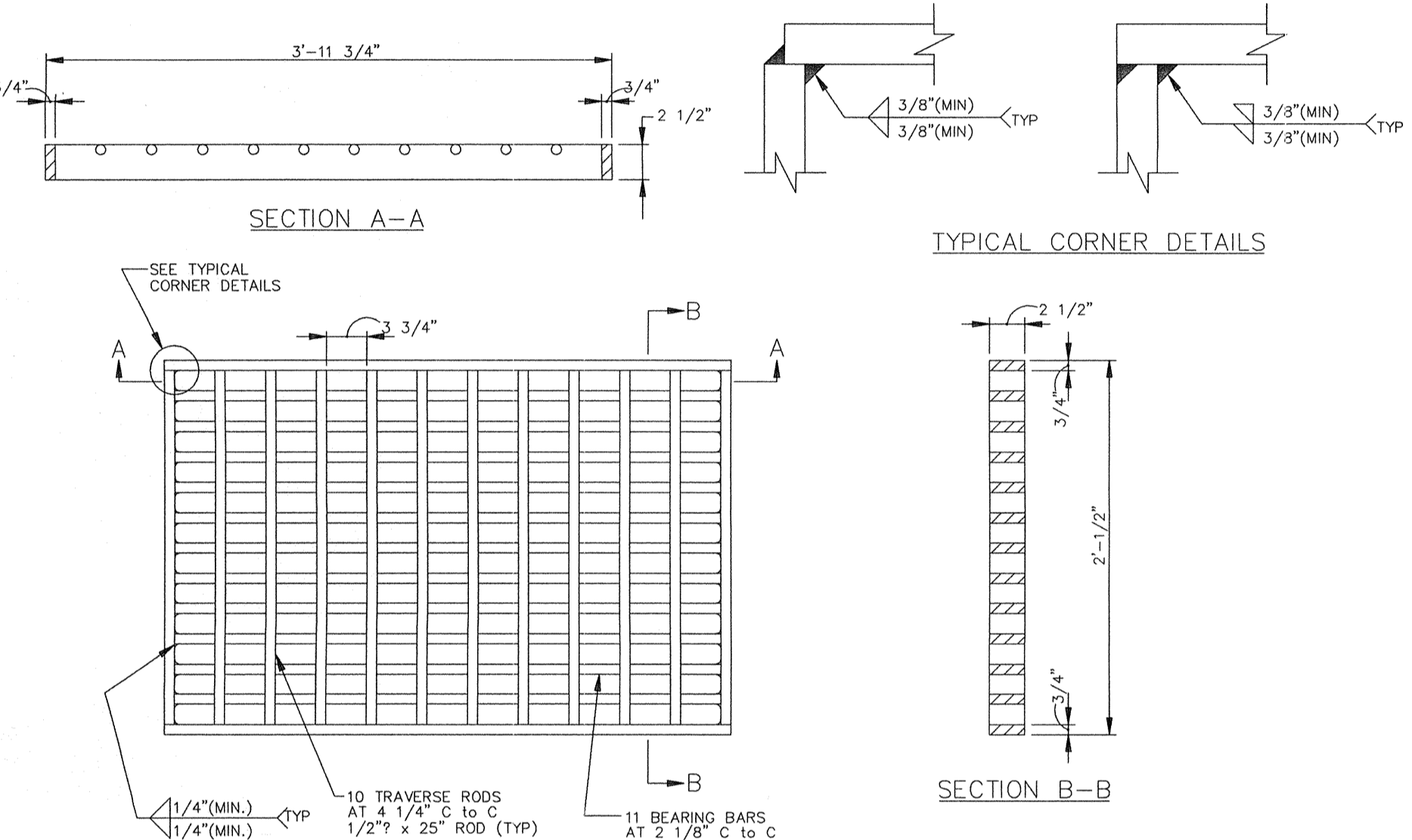
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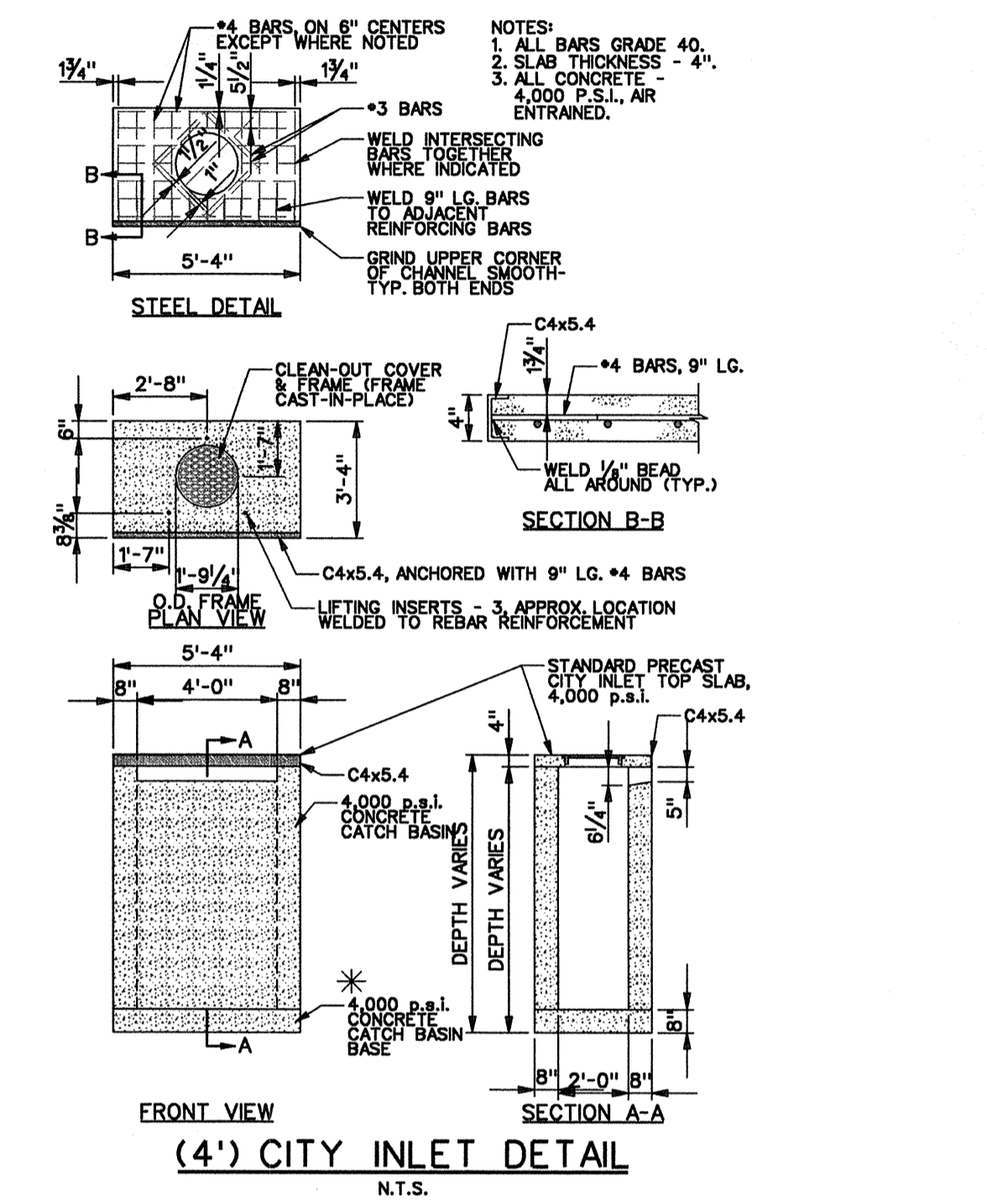
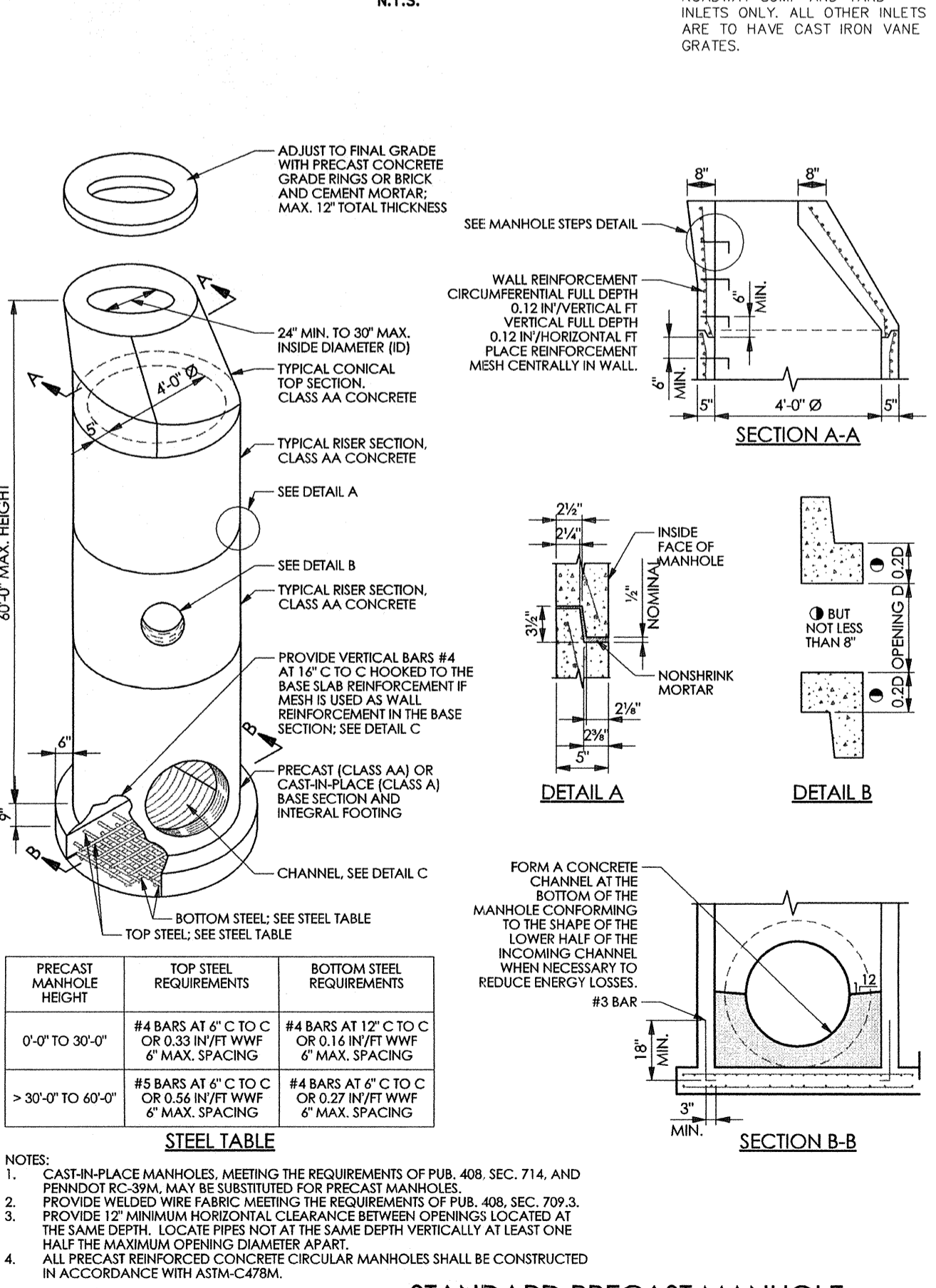


TRENCH DRAIN WITH GRATED COVER

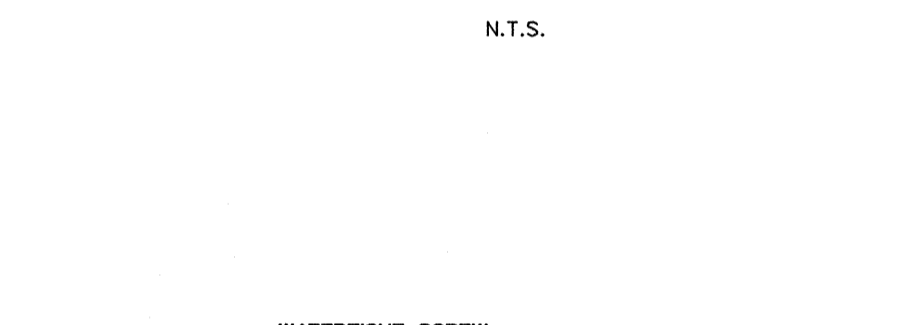
- NOTES:
 1. TRENCH DRAIN SHALL HAVE A TRASH BASKET AND CATCH BASIN INSTALLED BEFORE DISCHARGING INTO STORM PIPE NETWORK. TRASH BASKET AND CATCH BASIN SHALL MATCH TRENCH DRAIN MATERIALS.



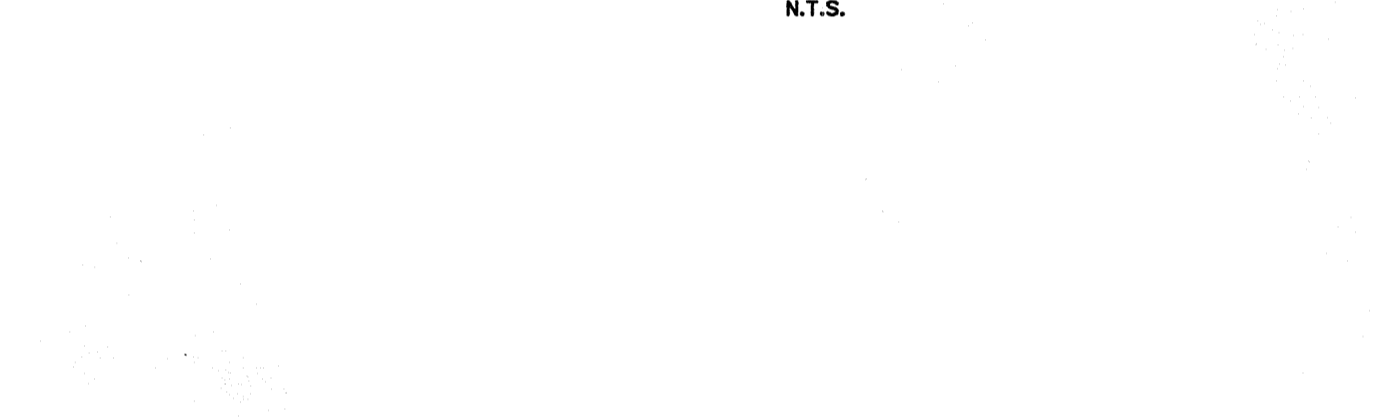
BICYCLE SAFE GRATE



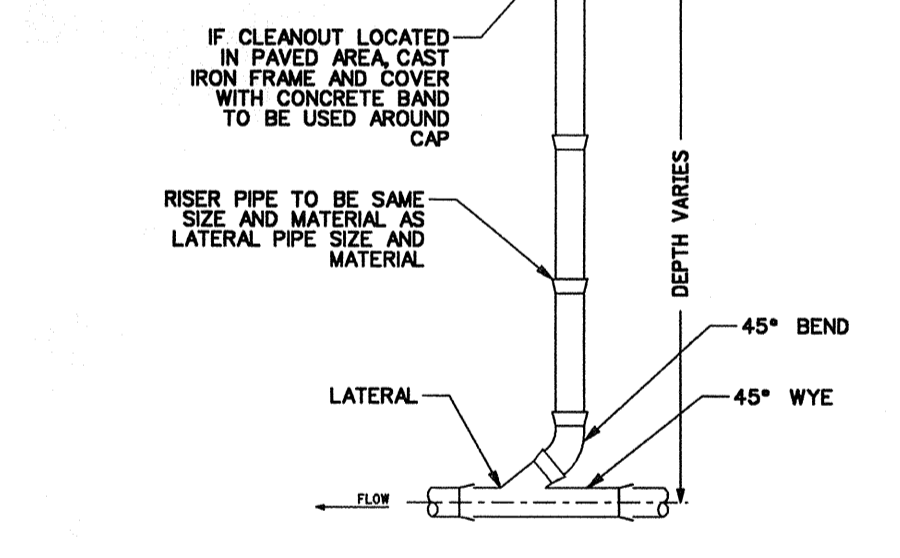
HEAVY DUTY CAST IRON MANHOLE FRAME AND SELF-SEALING COVER



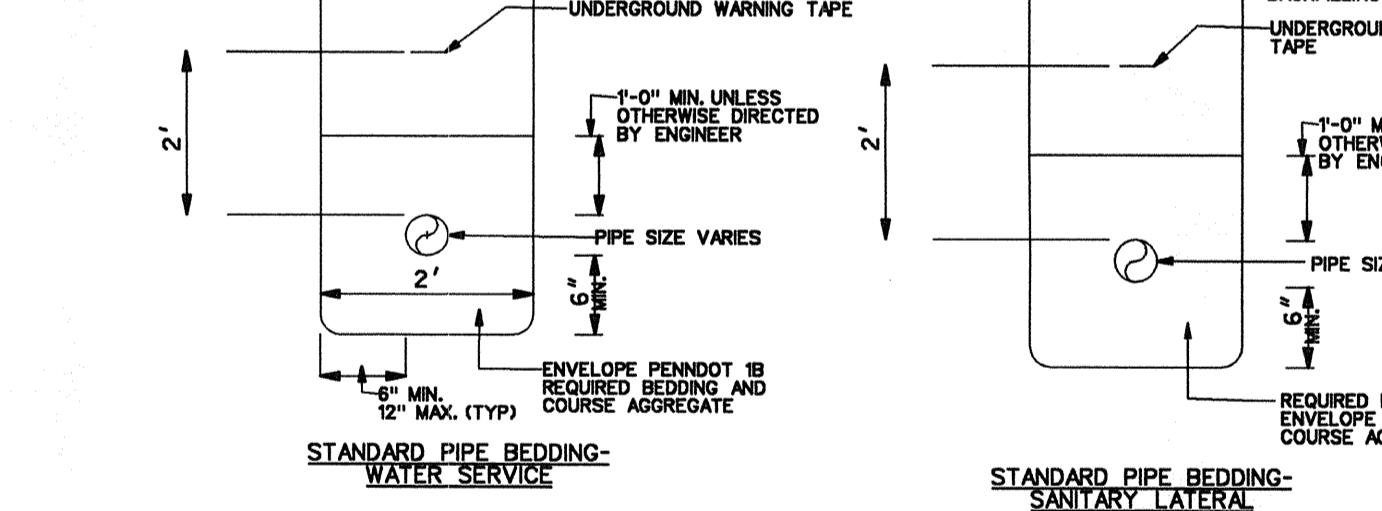
PIPE CONNECTION TO AN EXISTING MANHOLE



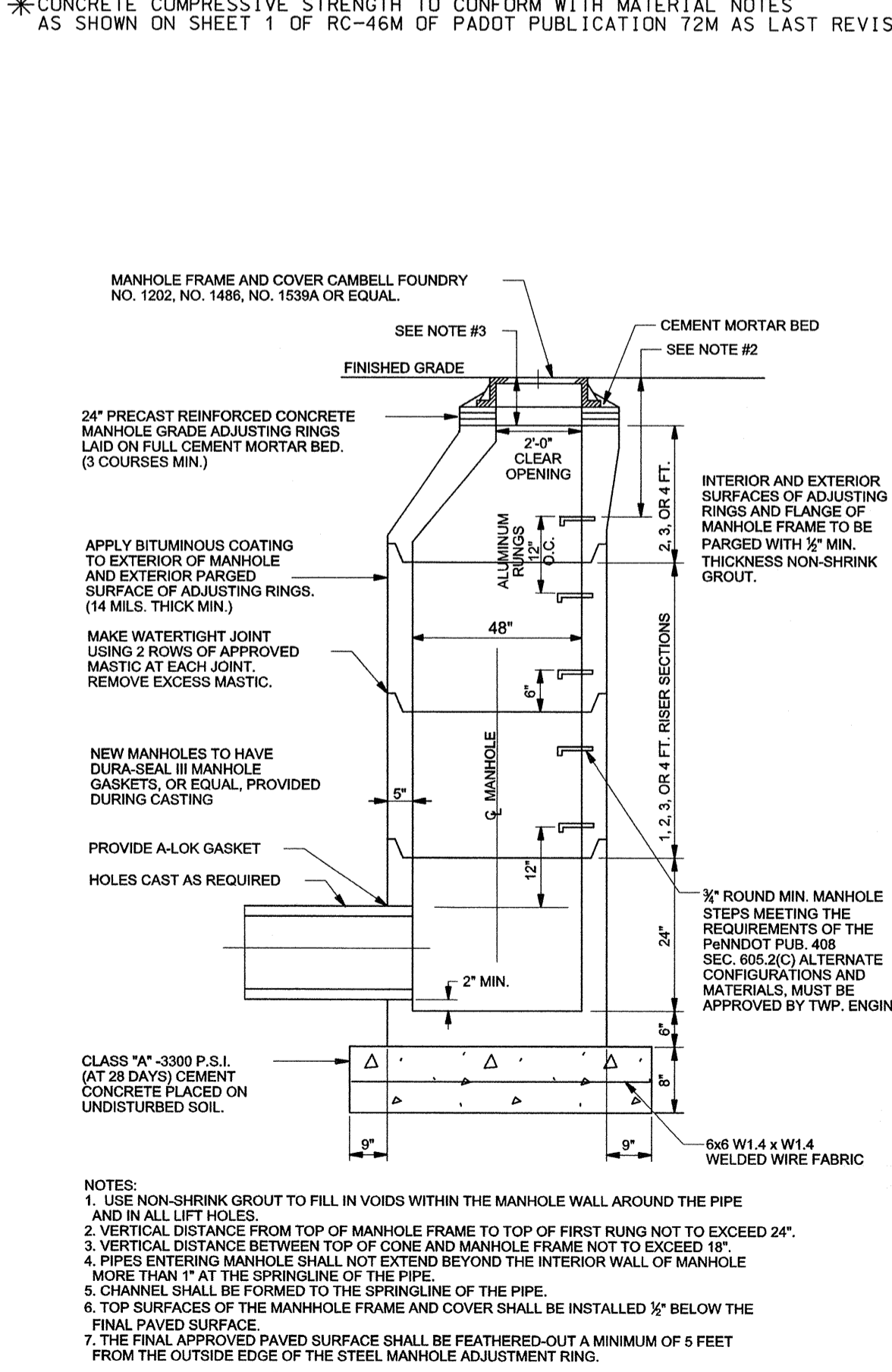
CLEAN-OUT DETAIL



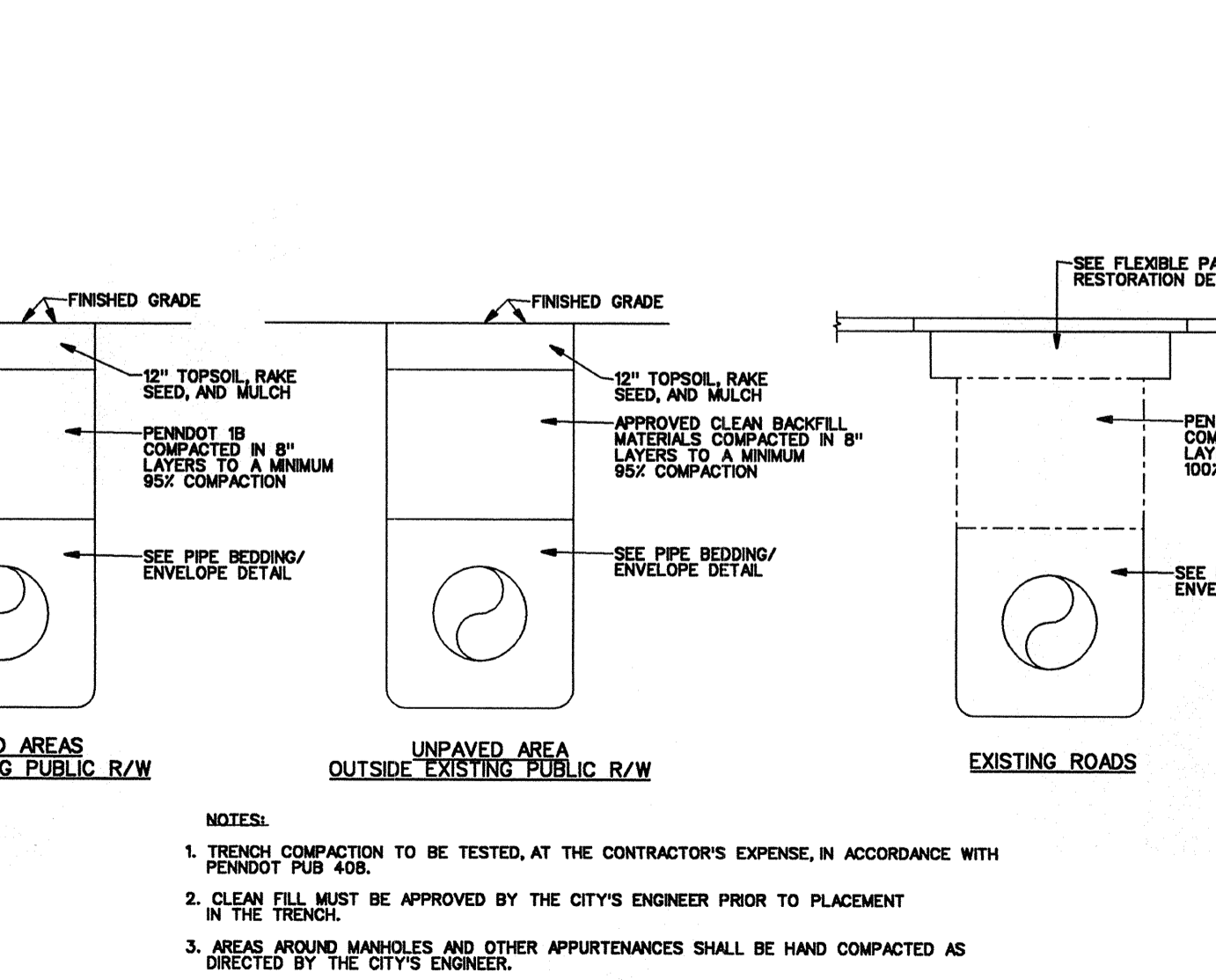
PIPE BEDDING/ENVELOPE DETAIL



SANITARY MANHOLE DETAIL



TRENCH BACKFILL



Villanova University
 Lancaster Avenue Housing
 Lancaster and Ithan Avenues
 Villanova PA 19085

VMA RAMSA

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 www.voithandmacLachlan.com

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 Nave Newell Inc.
 900 West Valley Road, Suite 1100
 Wayne, PA 19087
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 fax: 610-265-4299
 www.navenewell.com

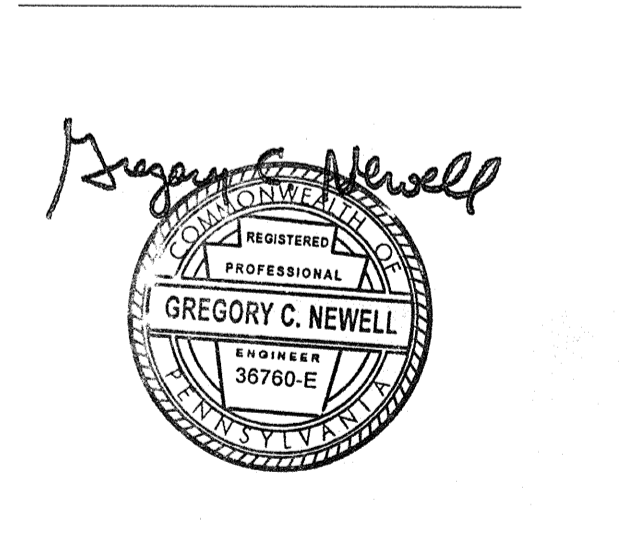
STRUCTURAL ENGINEER
 Macintosh Engineering
 One East Uwchlan Avenue, Ste. 403
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 www.macintosheng.com

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PRELIM. LAND DEVELOPMENT SUBMISSION

Revision #1 March 6, 2015
 Date December 5, 2014
 Title Construction Detail Sheet

Scale N.T.S.
 Drawn By MMB

C6.1

Sheet No. 21 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

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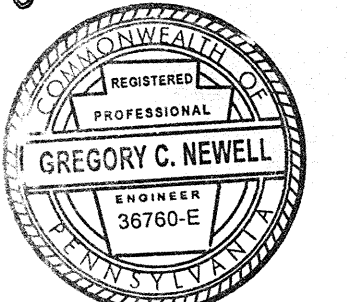
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Gregory C. Newell



PRELIM. LAND DEVELOPMENT
 SUBMISSION

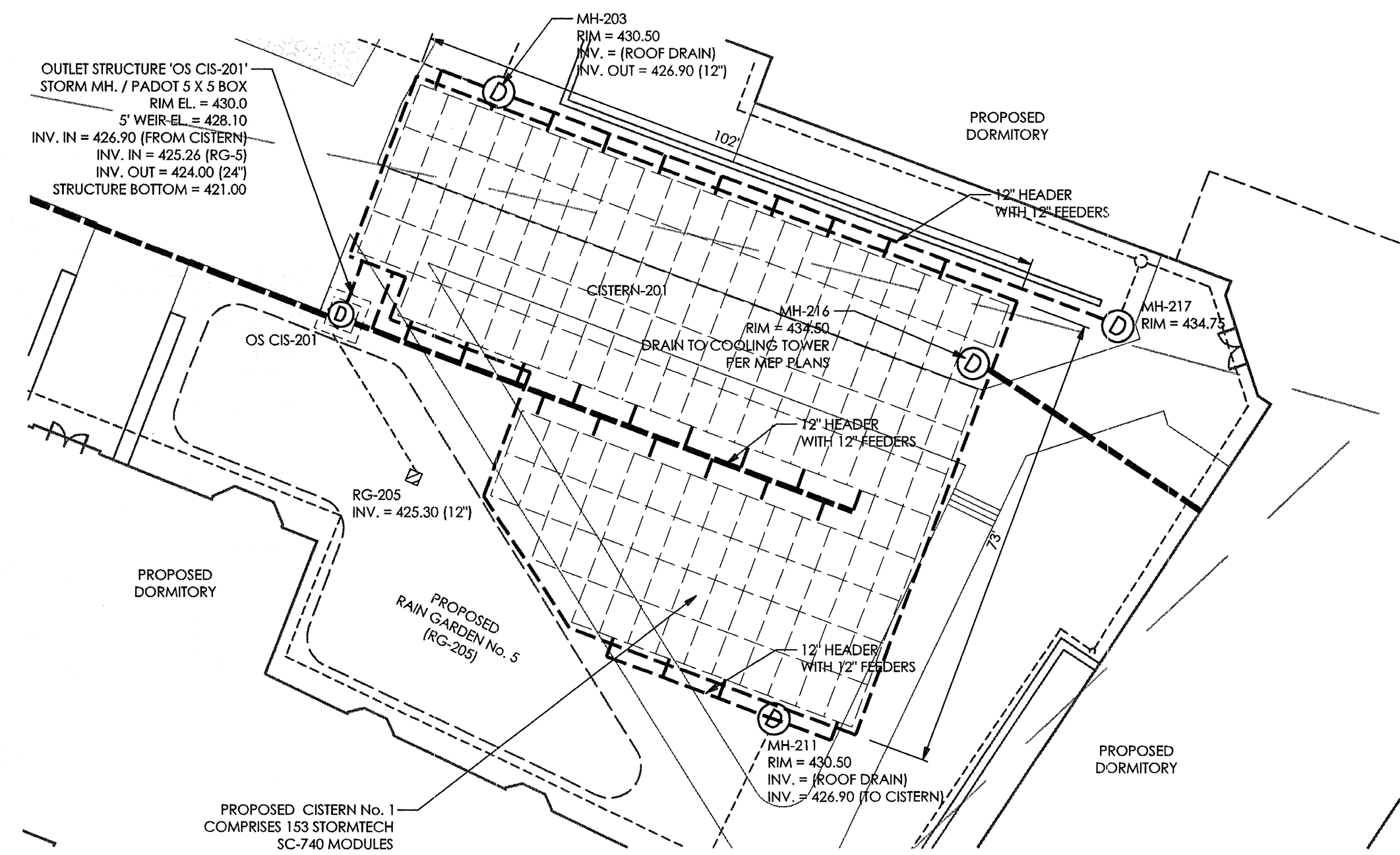
Revision #1 March 6, 2015
 Date December 5, 2014
 Title Construction Detail Sheet

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C6.2

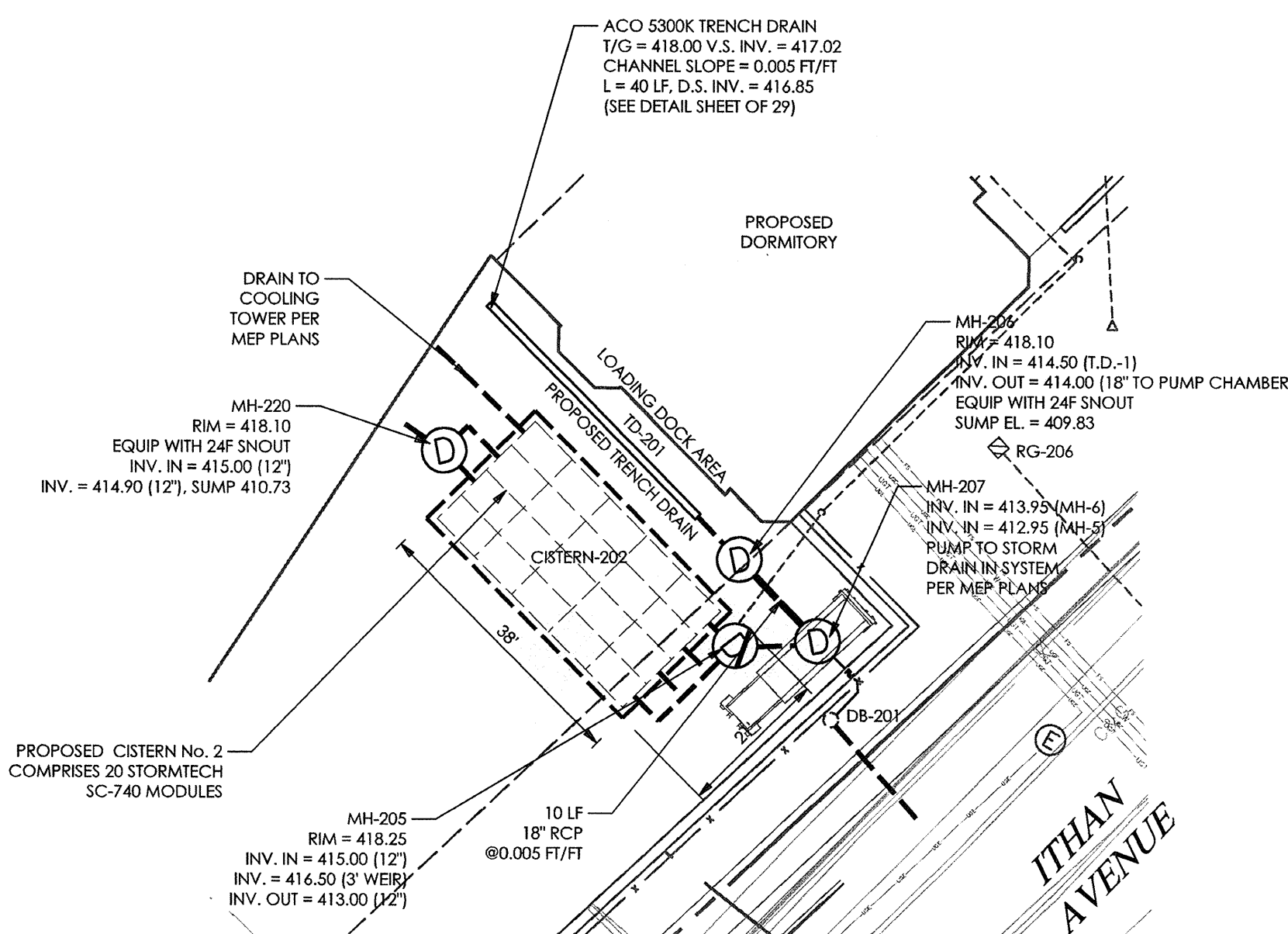
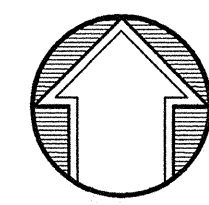
Sheet No. 22 of 35

Contractor to verify all dimensions in field and inform
 Architect of any discrepancies before starting work.



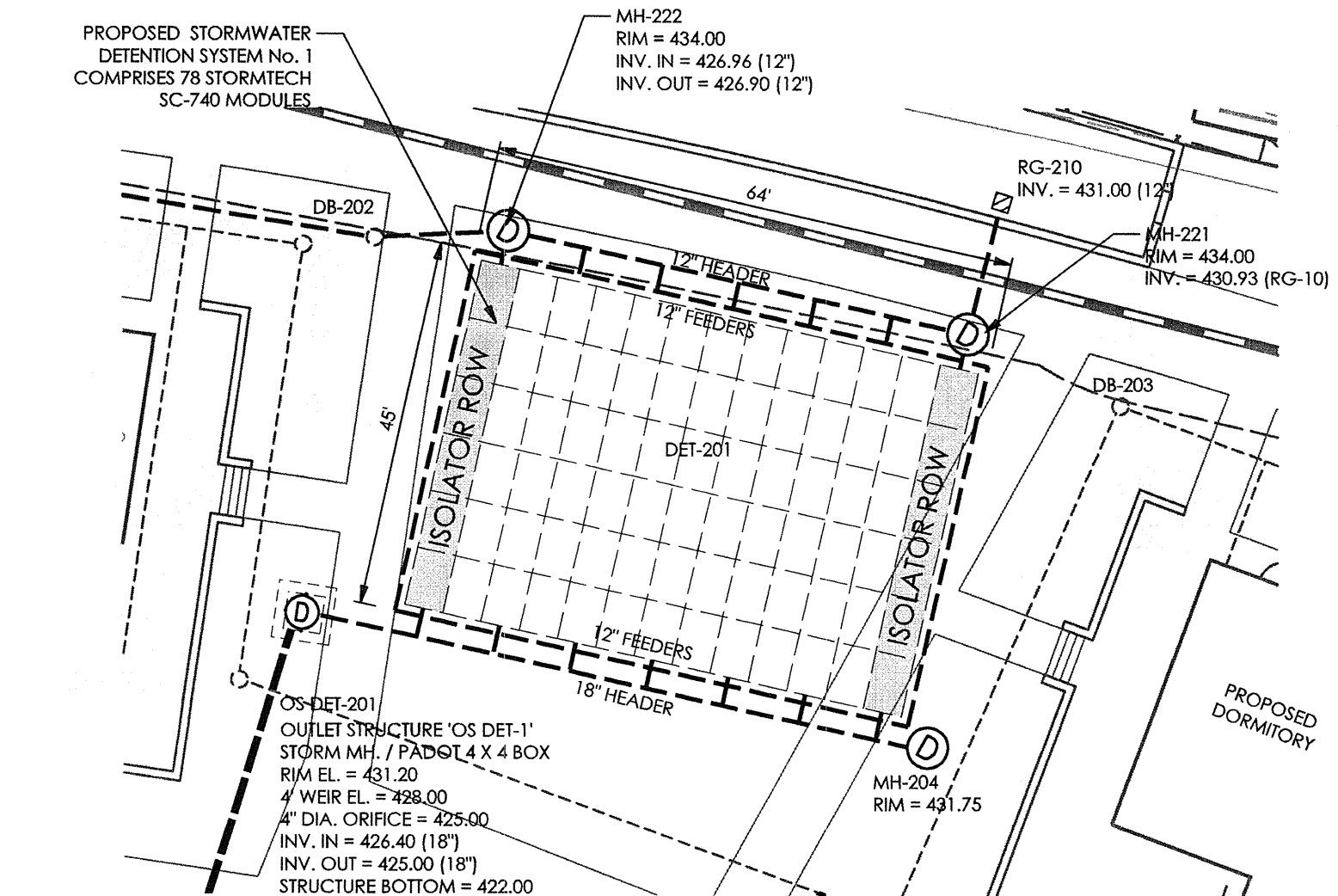
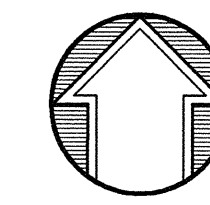
CISTERN No. 1 - PLAN VIEW

SCALE: 1" = 20'



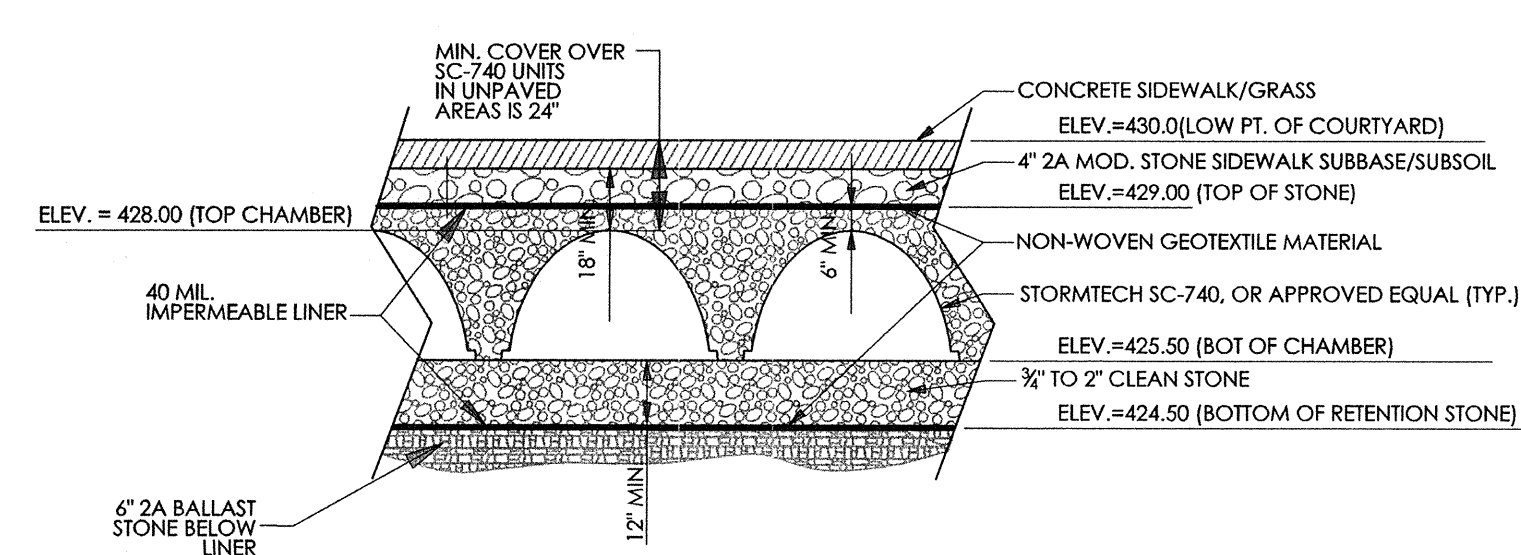
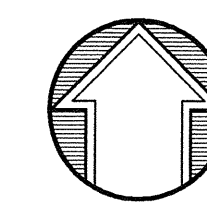
CISTERN No. 2 - PLAN VIEW

SCALE: 1" = 20'



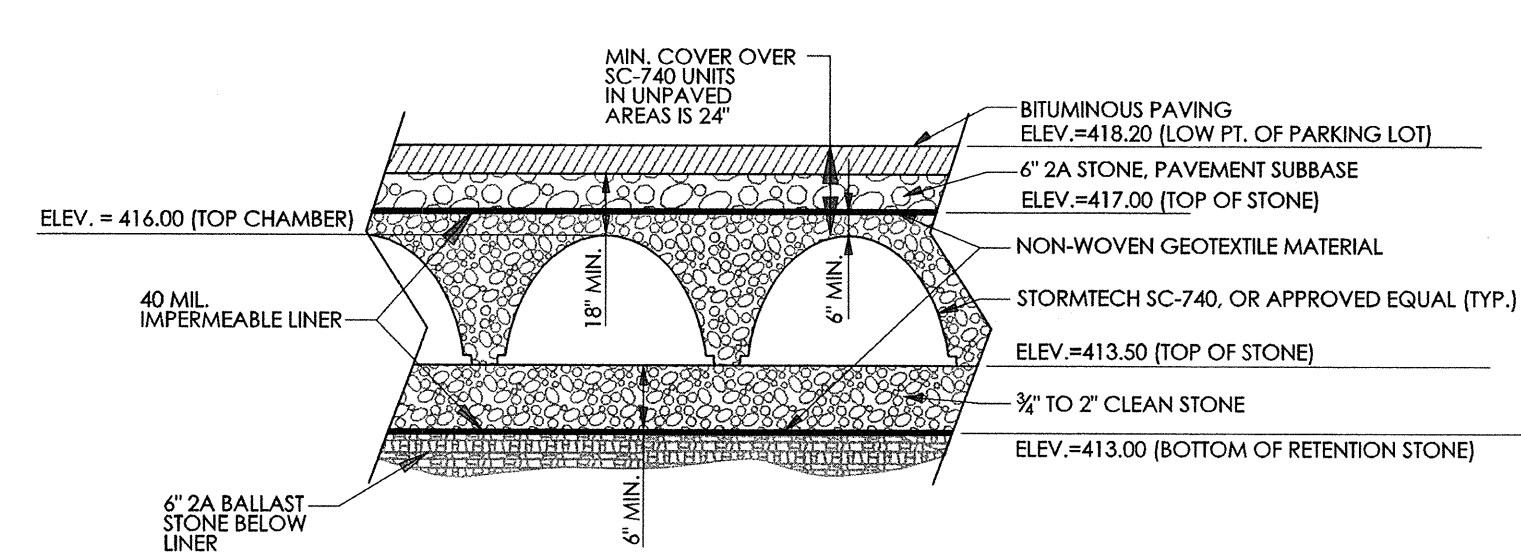
DETENTION No. 1 - PLAN VIEW

SCALE: 1" = 20'



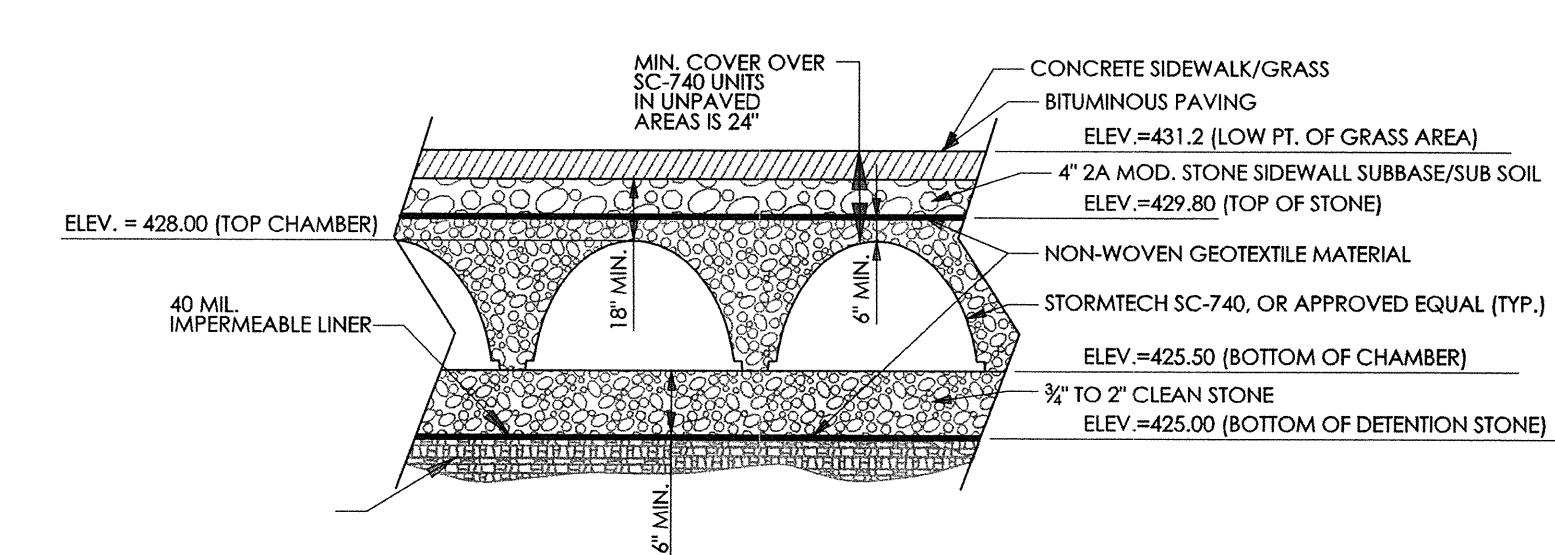
TYPICAL SECTION THROUGH CISTERN No. 1

N.T.S.



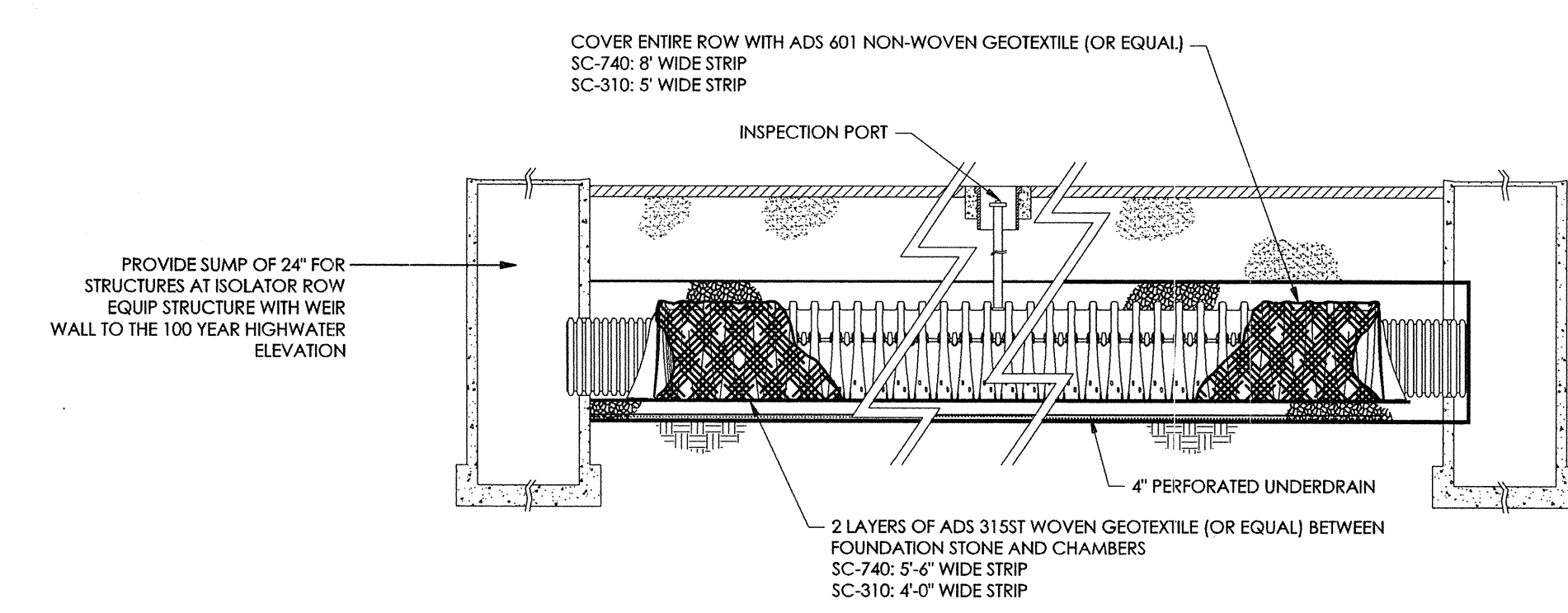
TYPICAL SECTION THROUGH CISTERN No. 2

N.T.S.



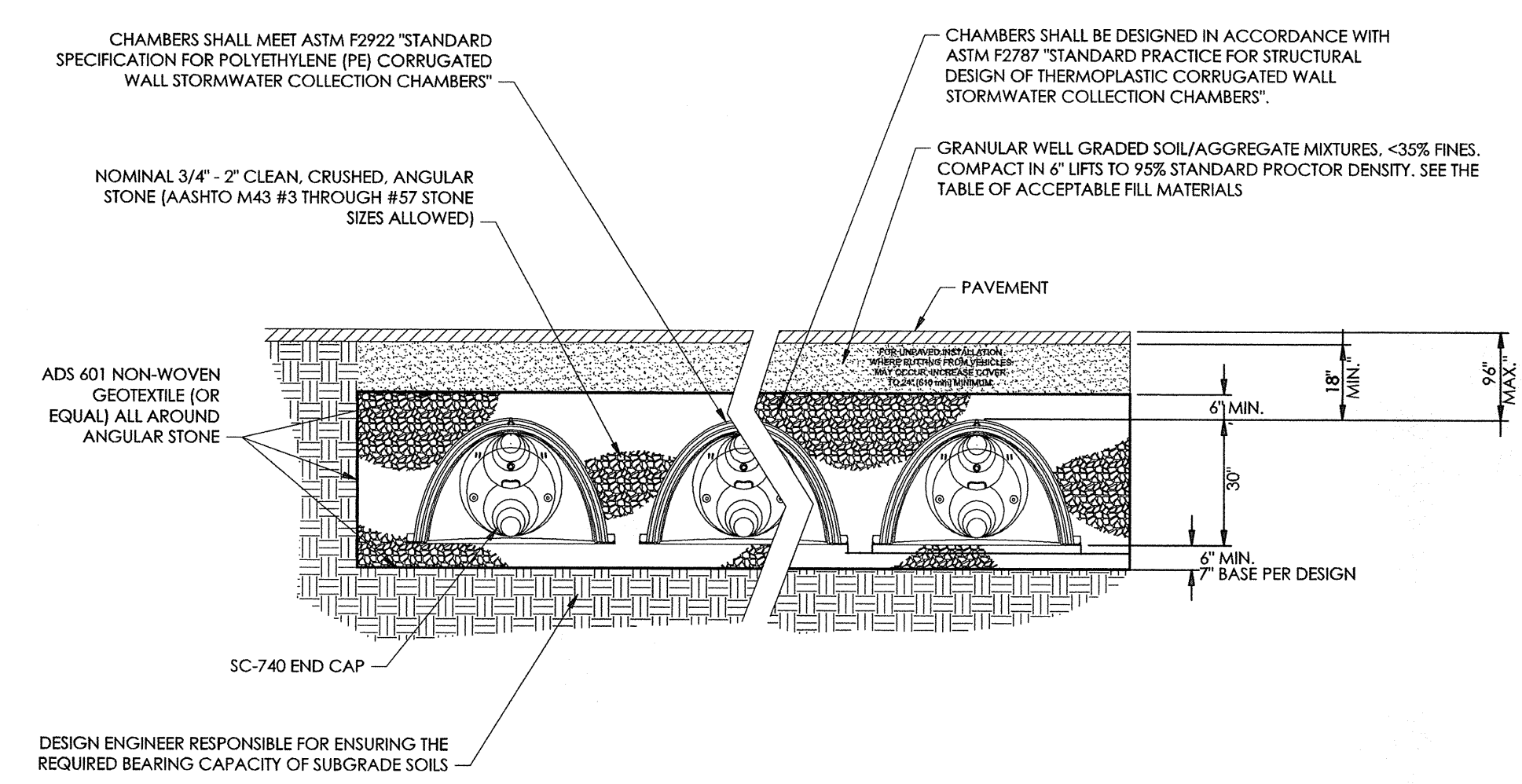
TYPICAL SECTION THROUGH DETENTION SYSTEM No. 1

N.T.S.



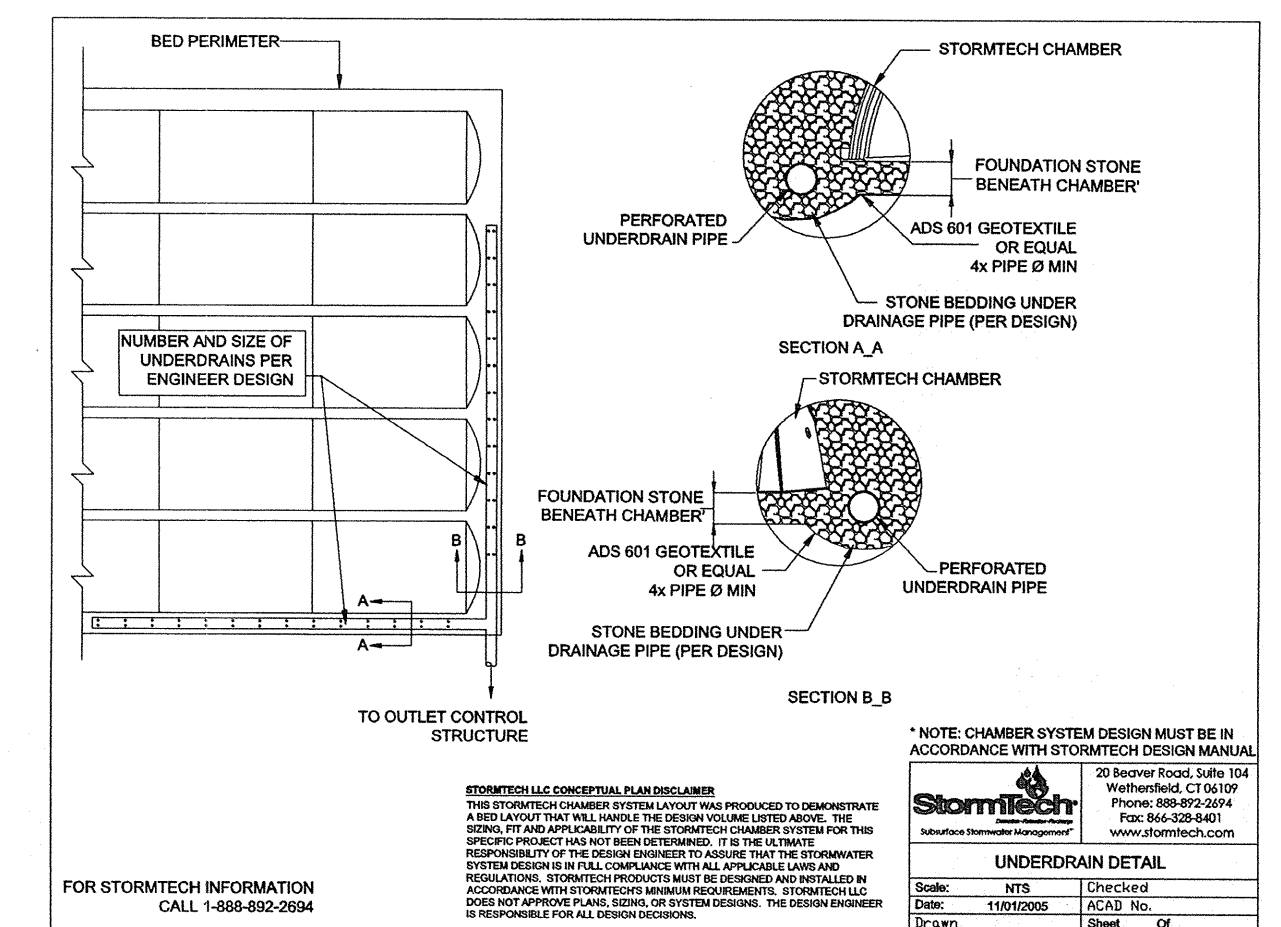
TYPICAL SECTION: SC-740 ISOLATOR ROW

N.T.S.



TYPICAL SECTION: SC-740 CROSS SECTION

N.T.S.



UNDERDRAIN DETAIL

FOR STORMTECH INFORMATION CALL 1-888-853-2894

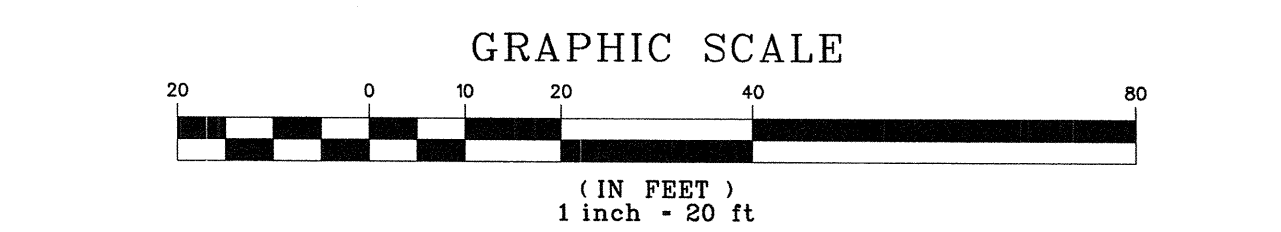
NOTE: CHAMBER SYSTEM DESIGN MUST BE IN ACCORDANCE WITH STORMTECH DESIGN MANUAL

20 Revere Street, Suite 102
 Philadelphia, PA 19103
 Phone: 800-853-2894
 Fax: 848-238-6401
 www.stormtech.com

Scale: N.T.S. Checked: Date: 11/20/15

Drawn: LRL

Sheet: C6.2 of 35



GRAPHIC SCALE

(IN FEET)
 1 inch = 20 ft

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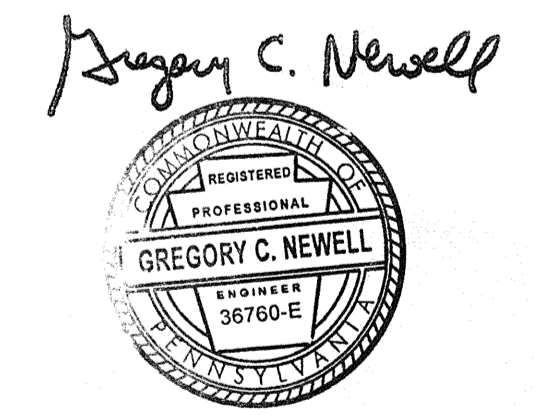
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PRELIM. LAND DEVELOPMENT
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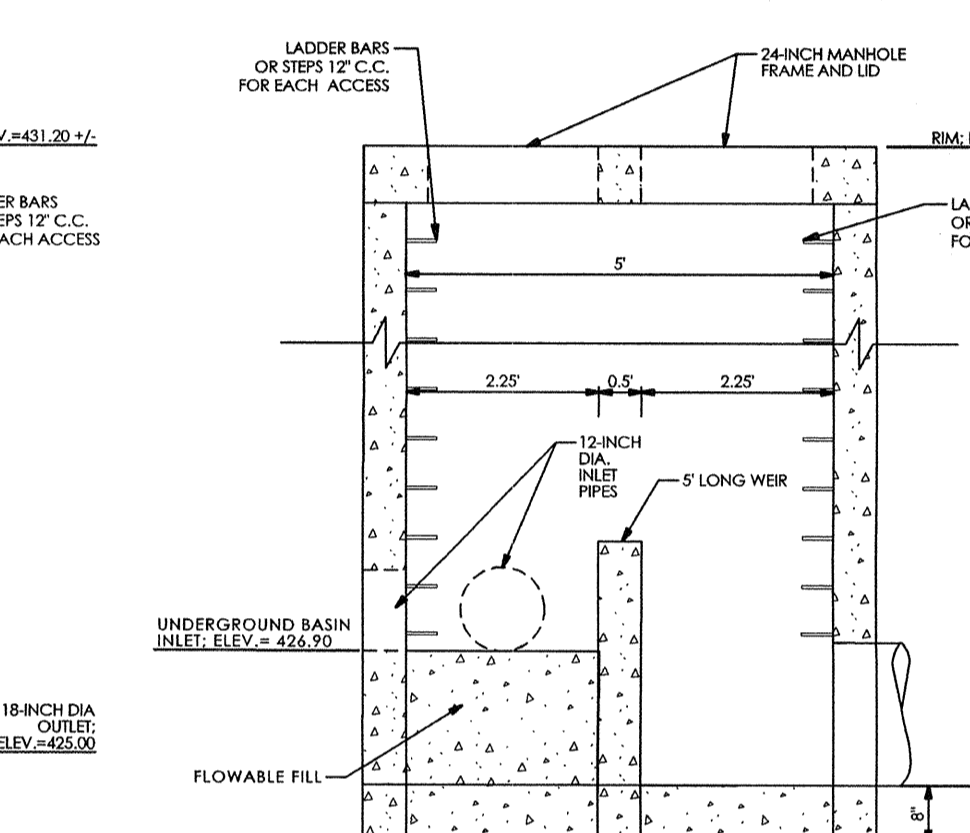
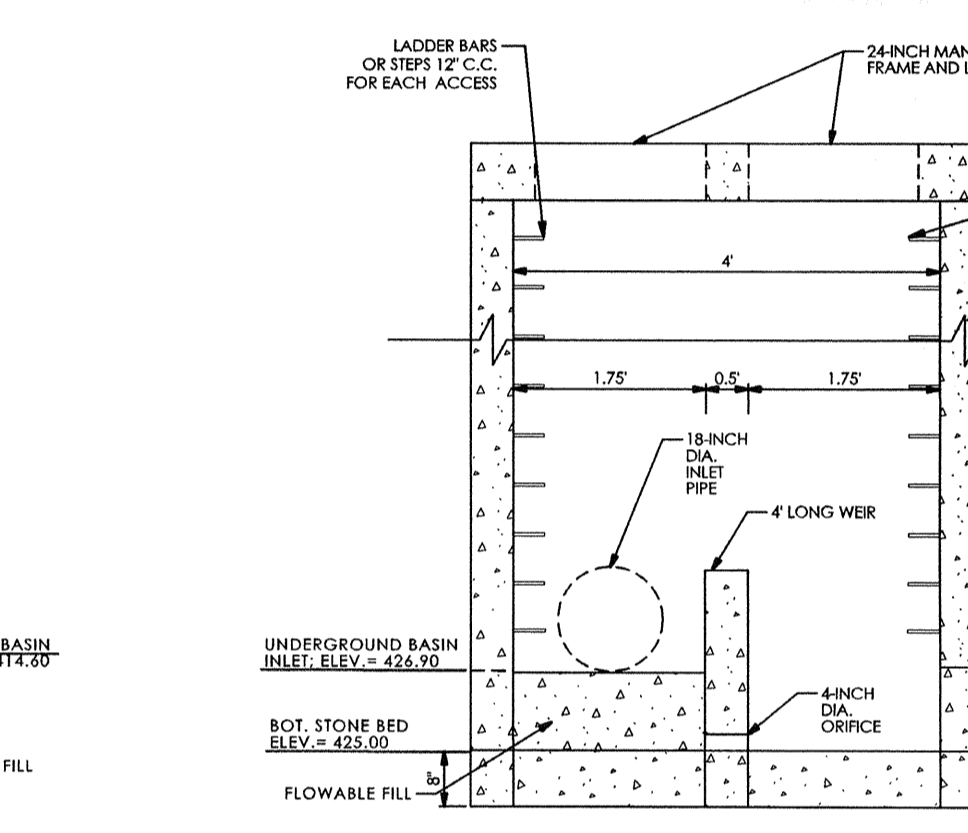
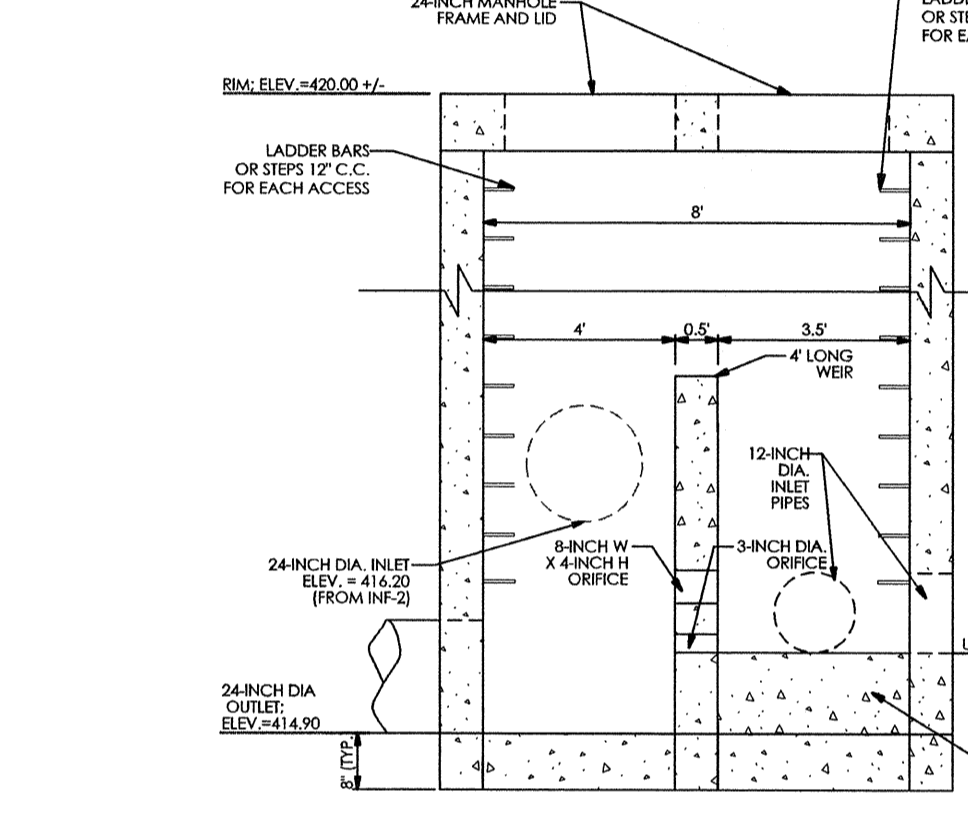
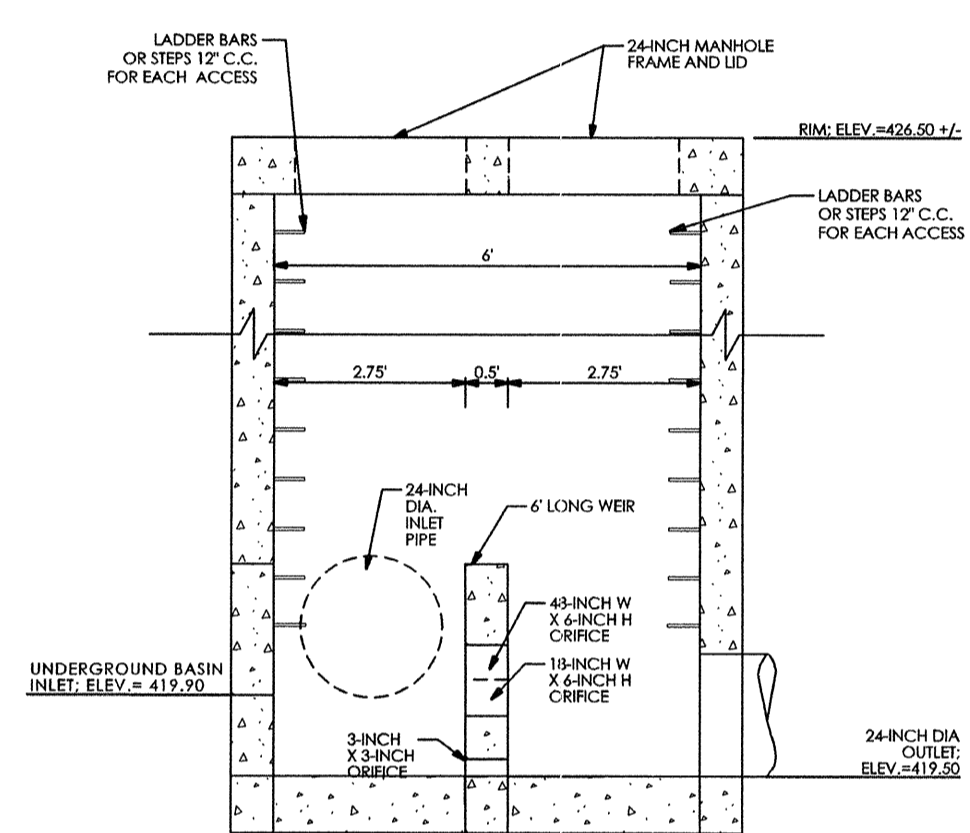
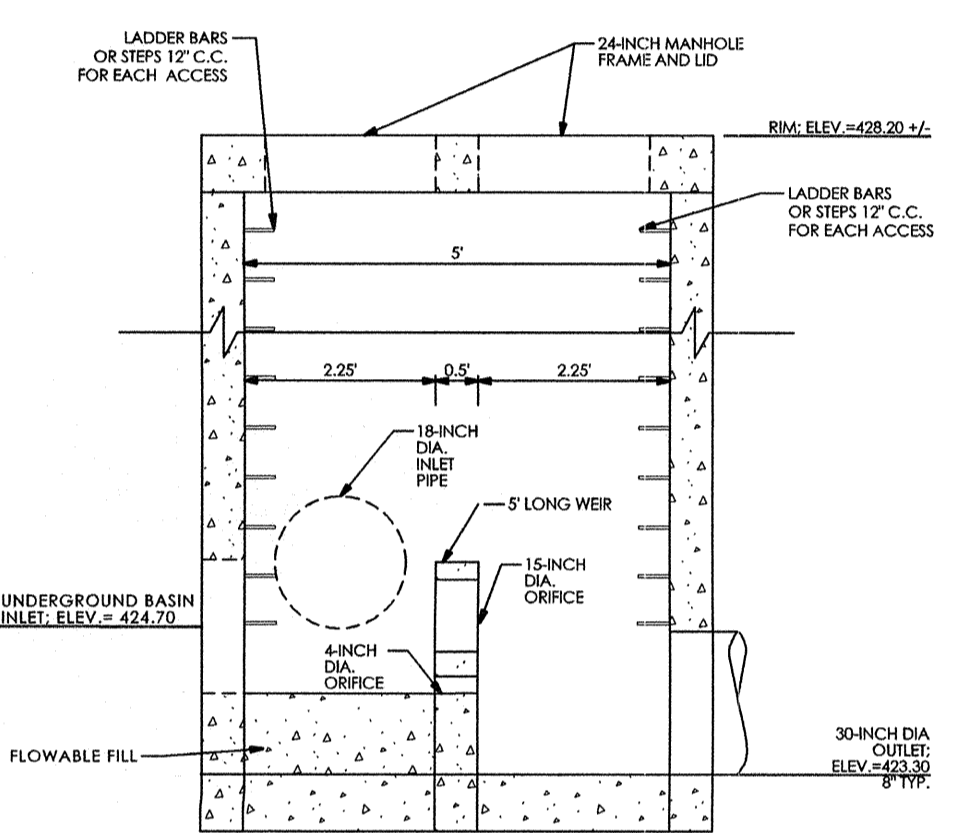
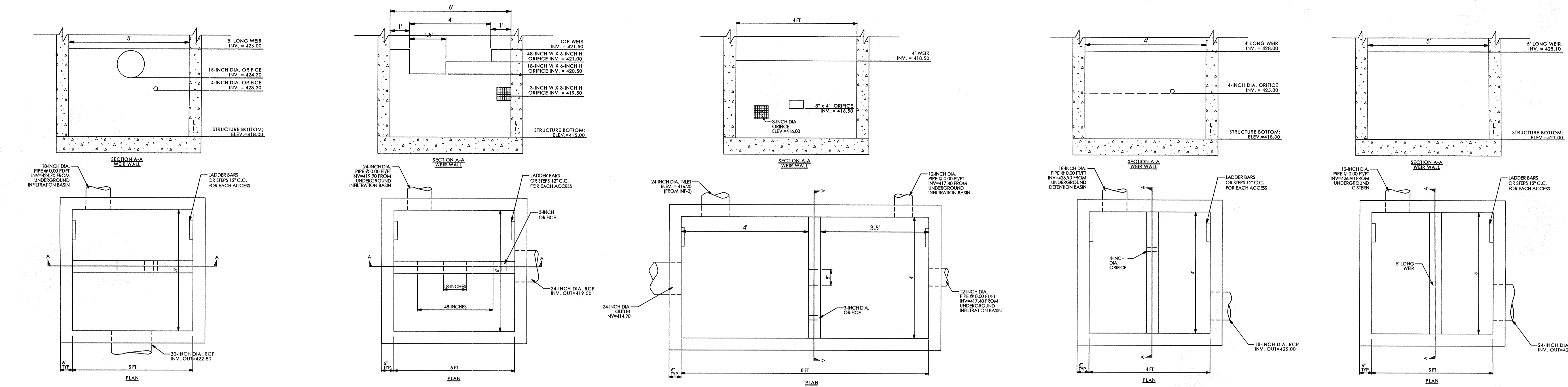
Revision #1 March 6, 2015
Date December 5, 2014
Title Construction Detail Sheet

Scale N.T.S.
Drawn By MMB

C6.4

Sheet No. 24 of 35

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



INFILTRATION BASIN - 1
OUTLET CONTROL
STRUCTURE, OS INF-1 DETAIL
(5' x 5' BOX)
N.T.S.

| INF-1 SYSTEM ELEVATIONS* | |
|--------------------------|-----------|
| STORM FREQUENCY | ELEVATION |
| 1 YR | 424.31 |
| 2 YR | 424.71 |
| 5 YR | 425.09 |
| 10 YR | 425.47 |
| 25 YR | 426.02 |
| 50 YR | 426.31 |
| 100 YR | 426.80 |

*SYSTEMS MODELLED FROM TOP OF STONE BED. NO VOLUME CREDIT APPLIED TO STONE BED FOR PEAK RATE CALCULATIONS. ZERO INFILTRATION RATE APPLIED

INFILTRATION BASIN - 2
OUTLET CONTROL
STRUCTURE, OS INF-2 DETAIL
(6' x 6' BOX)
N.T.S.

| INF-2 SYSTEM ELEVATIONS* | |
|--------------------------|-----------|
| STORM FREQUENCY | ELEVATION |
| 1 YR | 420.42 |
| 2 YR | 420.72 |
| 5 YR | 421.05 |
| 10 YR | 421.31 |
| 25 YR | 421.50 |
| 50 YR | 421.64 |
| 100 YR | 421.77 |

*SYSTEMS MODELLED FROM TOP OF STONE BED. NO VOLUME CREDIT APPLIED TO STONE BED FOR PEAK RATE CALCULATIONS. ZERO INFILTRATION RATE APPLIED

INFILTRATION BASIN-3
OUTLET CONTROL
STRUCTURE, OS INF-3 DETAIL
(4' x 8' BOX)
N.T.S.

| INF-3 SYSTEM ELEVATIONS* | |
|--------------------------|-----------|
| STORM FREQUENCY | ELEVATION |
| 1 YR | 414.44 |
| 2 YR | 416.65 |
| 5 YR | 416.85 |
| 10 YR | 417.06 |
| 25 YR | 417.29 |
| 50 YR | 417.54 |
| 100 YR | 417.89 |

*SYSTEMS MODELLED FROM TOP OF STONE BED. NO VOLUME CREDIT APPLIED TO STONE BED FOR PEAK RATE CALCULATIONS. ZERO INFILTRATION RATE APPLIED

DETENTION BASIN - 1
OUTLET CONTROL
STRUCTURE, OS DET-1 DETAIL
(4' x 4' BOX)
N.T.S.

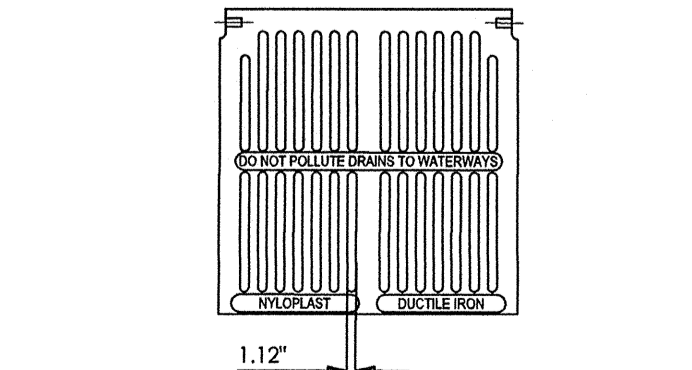
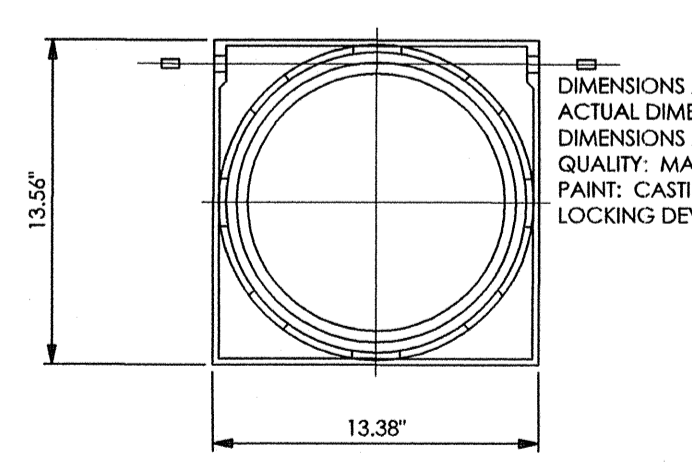
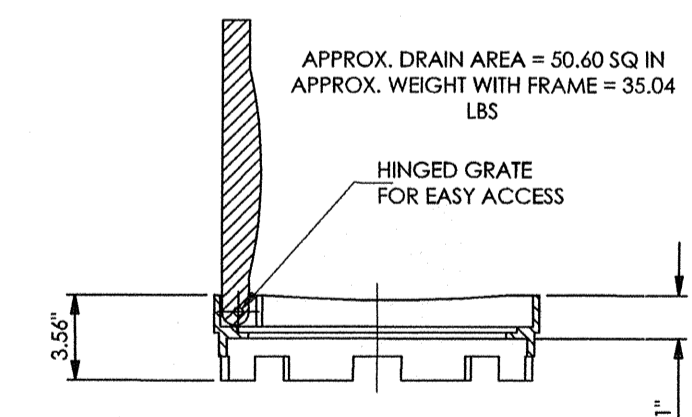
| DET-1 SYSTEM ELEVATIONS* | |
|--------------------------|-----------|
| STORM FREQUENCY | ELEVATION |
| 1 YR | 425.50 |
| 2 YR | 425.69 |
| 5 YR | 426.03 |
| 10 YR | 426.42 |
| 25 YR | 426.87 |
| 50 YR | 427.38 |
| 100 YR | 428.11 |

*SYSTEMS MODELLED FROM TOP OF STONE BED. NO VOLUME CREDIT APPLIED TO STONE BED FOR PEAK RATE CALCULATIONS. ZERO INFILTRATION RATE APPLIED

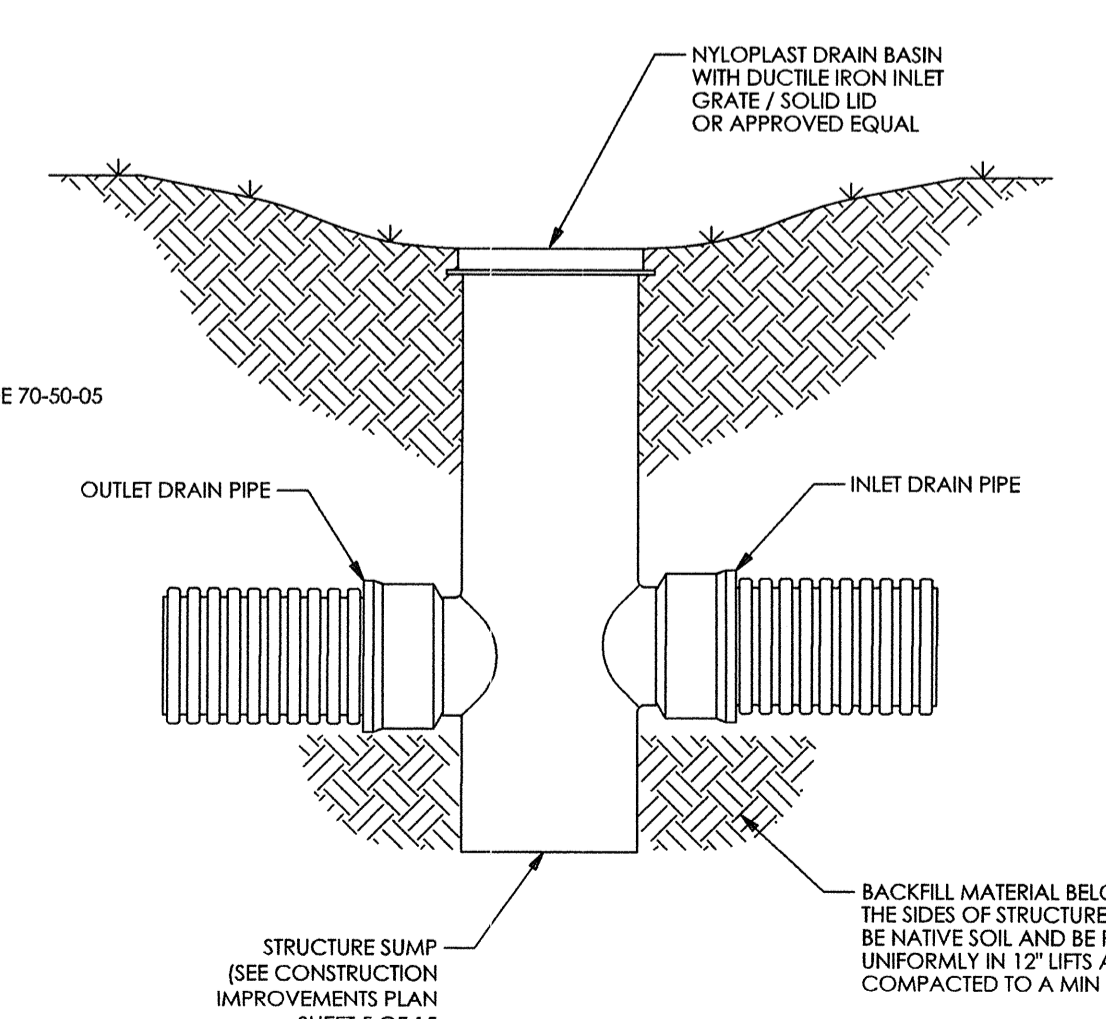
CISTERN - 1
OUTLET CONTROL
STRUCTURE, OS CIS-1 DETAIL
(5' x 5' BOX)
N.T.S.

| CIS-1 SYSTEM ELEVATIONS* | |
|--------------------------|-----------|
| STORM FREQUENCY | ELEVATION |
| 1 YR | 427.71 |
| 2 YR | 428.13 |
| 5 YR | 428.26 |
| 10 YR | 428.55 |
| 25 YR | 428.74 |
| 50 YR | 428.84 |
| 100 YR | 428.93 |

*ALL STORMWATER CAPTURED FOR RE-USE IN COOLING TOWERS. NO DETENTION CREDIT APPLIED.

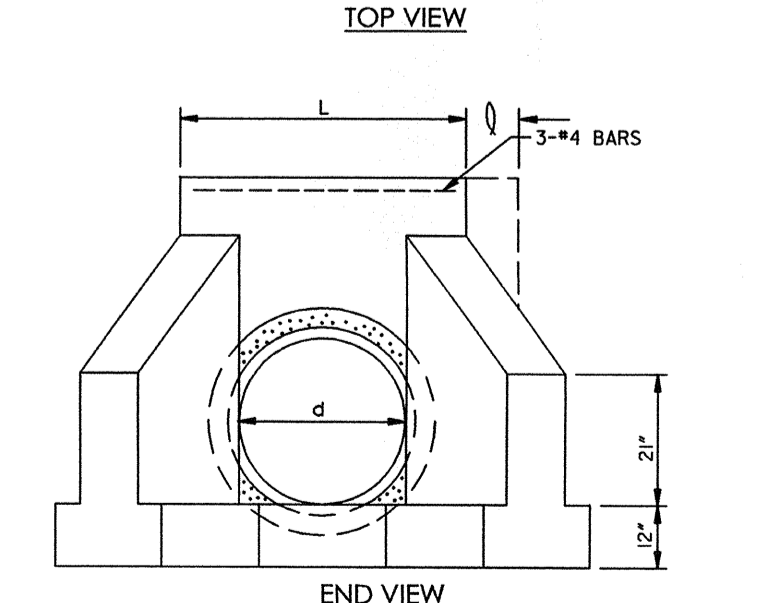
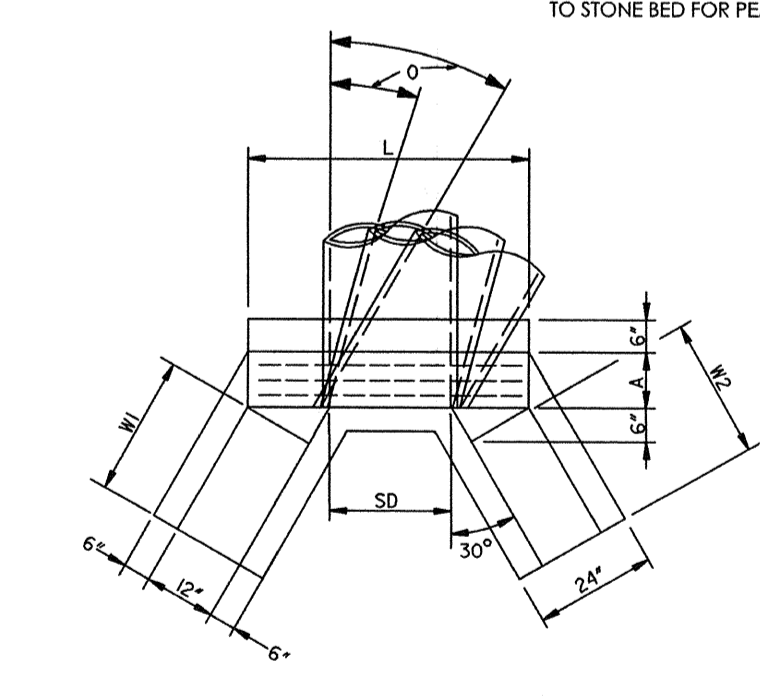


12-INCH NYLOPLAST GRATE
N.T.S.



NYLOPLAST DRAIN BASIN / CLEANOUT
N.T.S.

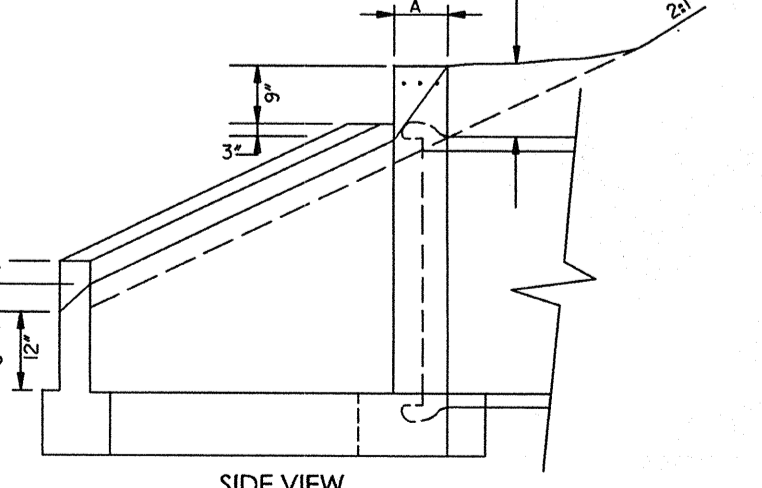
- NOTES:
- PVC SURFACE DRAINAGE INLETS SHALL INCLUDE THE DRAIN BASIN TYPE AS INDICATED ON THE DRAWINGS. THE DUCTILE IRON GRATES FOR EACH OF THESE FITTINGS ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SURFACE DRAINAGE INLET AND SHALL BE FURNISHED BY THE SAME MANUFACTURER. THE SURFACE DRAINAGE INLETS SHALL BE AS MANUFACTURED BY NYLOPLAST, A DIVISION OF ADVANCED DRAINAGE SYSTEMS, INC., OR PRIOR APPROVED EQUAL. THE DRAIN BASINS REQUIRED FOR THIS CONTRACT SHALL BE MANUFACTURED FROM PVC PIPE STOCK, UTILIZING A THERMO-MOLDING PROCESS TO REFORM THE PIPE STOCK TO THE SPECIFIED CONFIGURATION. THE DRAINAGE PIPE CONNECTION STUBS SHALL BE MANUFACTURED FROM PVC PIPE STOCK AND FORMED TO PROVIDE A WATER TIGHT CONNECTION WITH THE SPECIFIED PIPE SYSTEM. THIS JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR JOINTS FOR DRAIN AND SEWER PLASTIC PIPE USING FLEXIBLE ELASTOMERIC SEALS. THE FLEXIBLE ELASTOMERIC SEALS SHALL CONFORM TO ASTM F477. THE PIPE BELL SPIGOT SHALL BE JOINED TO THE MAIN BODY OF THE DRAIN BASIN OR CATCH BASIN. THE RAW MATERIAL USED TO MANUFACTURE THE PIPE STOCK THAT IS USED TO MANUFACTURE THE MAIN BODY AND PIPE STUBS OF THE SURFACE DRAINAGE INLETS SHALL CONFORM TO ASTM D1784 CELL CLASS 12454.
 - THE GRATES AND FRAMES FURNISHED FOR ALL SURFACE DRAINAGE INLETS SHALL BE DUCTILE IRON AND SHALL BE MADE SPECIFICALLY FOR EACH BASIN SO AS TO PROVIDE A ROUND BOTTOM FLANGE THAT CLOSELY MATCHES THE DIAMETER OF THE SURFACE DRAINAGE INLET. GRATES FOR DRAIN BASINS SHALL BE CAPABLE OF SUPPORTING H-20 WHEEL LOADING FOR TRAFFIC AREAS OR H-10 LOADING FOR PEDESTRIAN AREAS. METAL USED IN THE MANUFACTURE OF THE CASTINGS SHALL CONFORM TO ASTM A536 GRADE 70-50-05 FOR DUCTILE IRON. GRATE SHALL BE PROVIDED PAINTED BLACK.
 - THE SPECIFIED PVC SURFACE DRAINAGE INLET SHALL BE INSTALLED USING CONVENTIONAL FLEXIBLE PIPE BACKFILL MATERIALS AND PROCEDURES. THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS 2 MATERIAL AS DEFINED IN ASTM D2921. BEDDING AND BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED AND COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2921. THE DRAIN BASIN BODY WILL BE CUT AT THE TIME OF THE FINAL GRADE. NO BRICK, STONE OR CONCRETE BLOCK WILL BE REQUIRED TO SET THE GRATE TO THE FINAL GRADE HEIGHT. FOR H-20 LOAD RATED INSTALLATIONS, A CONCRETE RING WILL BE POURED UNDER AND AROUND THE GRATE AND FRAME. THE CONCRETE SLAB MUST BE DESIGNED TAKING INTO THE CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, AND OTHER APPLICABLE DESIGN FACTORS. FOR OTHER INSTALLATION CONSIDERATIONS SUCH AS MIGRATION OF FINES, GROUND WATER, AND SOFT FOUNDATIONS REFER TO ASTM D2921 GUIDELINES.
 - ALL PIPING JOINTS ON SITE ARE TO BE WATER TIGHT.



TYPE D-W ENDWALL
N.T.S.

| 2:1 EMBANKMENT SLOPES | | | | |
|-----------------------|------|----------------|---------|----|
| PIPE Ø | SKEW | Δ = 90° to 60° | Δ = 30° | WI |
| d | L | W | H | |
| 36 | 5.8 | 0 | 4.5 | |
| 42 | 6.3 | 0 | 5.8 | |
| 48 | 6.9 | 0 | 6.5 | |
| 54 | 7.5 | 0 | 8.0 | |
| 60 | 8.1 | 0 | 9.2 | |
| 72 | 9.2 | 0 | 11.5 | |

NOTE:
ALL EXPOSED EDGES SHALL BE CHAMFERED (1) ONE INCH



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Gregory C. Newell



PRELIM. LAND DEVELOPMENT
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Revision #1 March 6, 2015
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 Title Construction Detail Sheet

Scale N.T.S.
 Drawn By MMB

C6.5

Sheet No. 25 of 35
 Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

NOTES:

- PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 400, SECTION 630 FOR PLAN CONCRETE CURB AND DEPRESSED CURB, SECTION 840 FOR PLAN CONCRETE CURB AND FOR PLAN CONCRETE CURB CUTTER.
- SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
- PLACE 3/4\"/>

**PLAIN CONCRETE CURB
 LANCASTER AVENUE EXPANSION**
 N.T.S. - REFER TO PENNDOT PUB. 72, RC-64 FOR NOTES AND DETAILS

ONSITE CONCRETE CURB
 N.T.S.

NOTES:

- ANY EXCAVATION BELOW DESIRED GRADE DUE TO OVER EXCAVATION OR WET SOIL CONDITIONS SHALL BE BACKFILLED WITH 3/4\"/>

CONCRETE END SECTIONS

SLOPE DETAIL

NOTES:

- END SECTIONS SHALL COMPLY WITH PENNDOT STANDARDS RC-33M
- REFER TO PENNDOT STANDARD RC-33M FOR ADDITIONAL NOTES

TYPICAL SIDEWALK DETAIL
 N.T.S.

GORE MARKINGS
 PENNDOT RC-6600
 N.T.S.

CROSSWALK DETAIL
 PENNDOT TC-8600
 N.T.S.

DETECTABLE WARNING SURFACE FOR ACCESSIBLE ROUTES
 PENNDOT RC-67
 N.T.S.

NOTES:

- DETECTABLE WARNING SURFACES MUST MEET THE REQUIREMENTS OF THE ADA.
- IF A WALK CROSSES OR ADJOINS A VEHICULAR WAY, AND THE WALKING SURFACES ARE NOT SEPARATED BY CURBS, RAILINGS, OR OTHER ELEMENTS BETWEEN THE PEDESTRIAN AREAS AND VEHICULAR AREAS, THE BOUNDARY BETWEEN THE AREAS SHALL BE DEFINED BY A CONTINUOUS DETECTABLE WARNING SURFACE.
- DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6\"/>

CONVERSION OF INLET TO STORM MANHOLE
 N.T.S.

FLEXIBLE PAVEMENT RESTORATION
 N.T.S.

PRECAST CONCRETE CURB

PAVEMENT SAWCUT DETAIL
 N.T.S.

FULL PAVEMENT REPLACEMENT SUPERPAVE PAVEMENT SECTION
 N.T.S.

NOTES:

- PROVIDE TRANSVERSE CONSTRUCTION JOINTS EVERY 10'-0\"/>

LOADING DOCK / CONCRETE DUMPSTER PAD DETAIL
 N.T.S.

ADA PARKING STALL STRIPING
 N.T.S.

DUMPSTER ENCLOSURE DETAIL
 N.T.S.

CURB END TREATMENT DETAIL
 N.T.S.

PA TYPE-4 HANDICAP RAMP DETAIL
 PENNDOT RC-67, N.T.S.

CURB TRANSITION DETAIL
 N.T.S.

PA TYPE-2 HANDICAP RAMP DETAIL
 PENNDOT RC-67, N.T.S.

| SIGN SIZE DIMENSIONS (DO NOT BLANK) | | LEGEND AND BORDER - WHITE (REFLECTORIZED) | | BACKGROUND - RED (REFLECTORIZED) | | | |
|-------------------------------------|---|---|----|----------------------------------|------|-----|-------|
| A | B | C | C | DER | STD | | |
| 24 | x | 24 | 8 | 8 | 10 | 0.6 | B1-24 |
| 30 | x | 30 | 10 | 10 | 12.6 | 0.8 | B1-30 |
| 36 | x | 36 | 12 | 12 | 15 | 0.8 | B1-36 |
| 48 | x | 48 | 16 | 16 | 20 | 1.2 | B1-48 |

* Reduce spacing 40%

STOP SIGN (R1-1)
 N.T.S. (REFER TO PENNDOT PUB. 236)

STOP LINE
 N.T.S.

VAN ACCESSIBLE PARKING SIGN
 N.T.S.

ACCESSIBLE PARKING SIGN
 N.T.S.

ADA PARKING STALL STRIPING
 N.T.S.

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 RAMSA**

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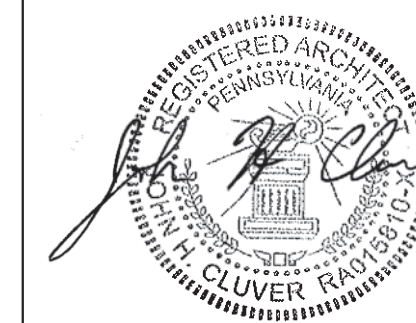
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 Revision

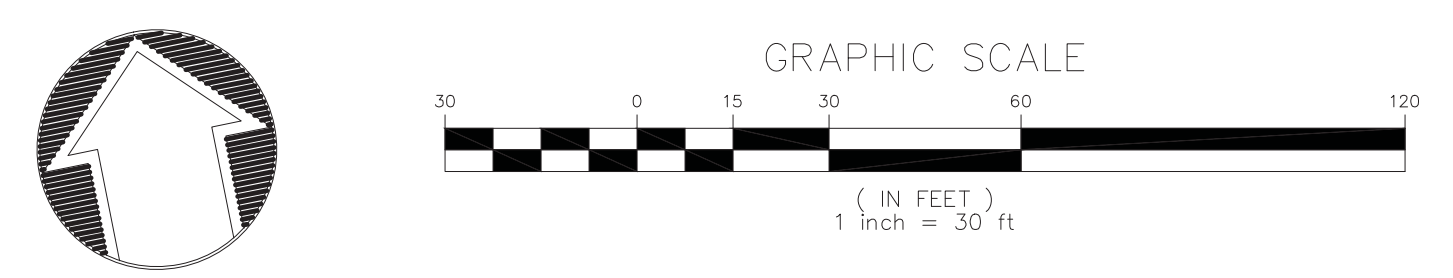
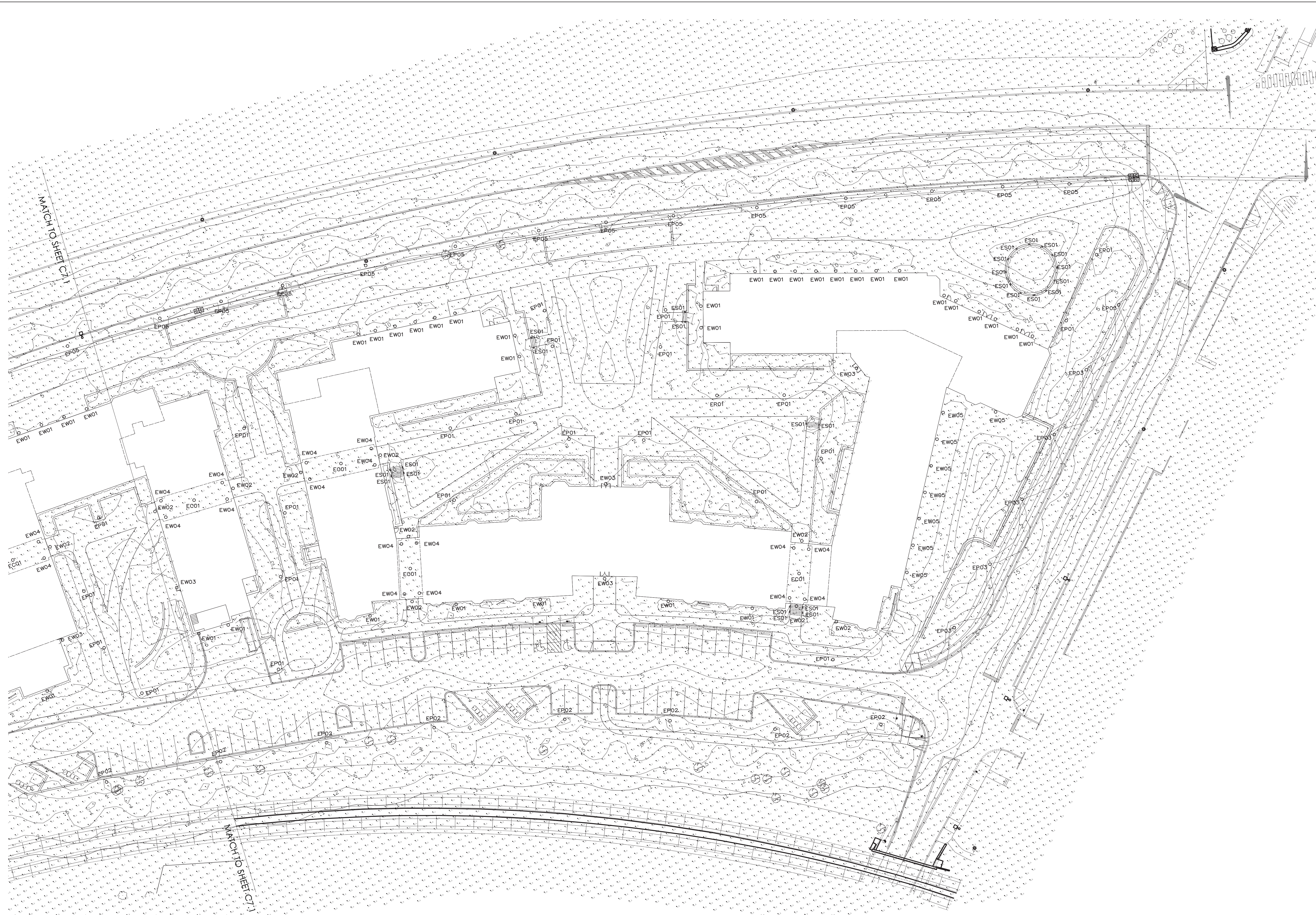
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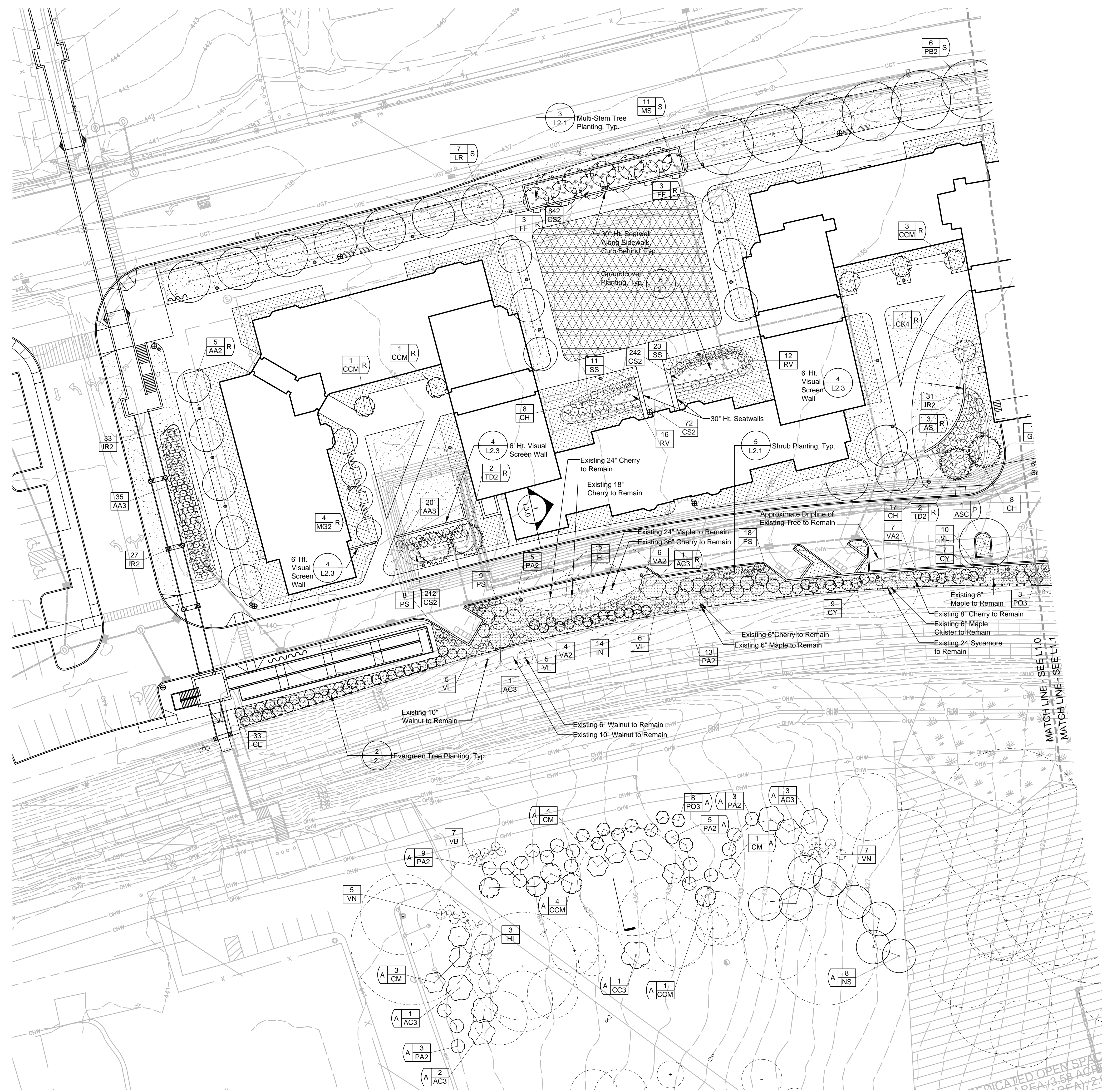
Scale 1" = 30'
 Drawn By JO/JL

C7.2

Sheet No. 27 of 35

Contractor to verify all dimensions in field and inform
 Architect of any discrepancies before starting work.





- Legend**
- 8 AC3 S Street Trees
 - 1 AS R Replacement Trees
 - 1 ASC P Parking Lot Trees
 - 1 ASC A Replacement Trees for W. Lancaster Ave. Parking Project; See W. Lancaster Ave. Parking Tree Requirement Table
 - Lawn
 - Reinforced Turf Fire Lane with Sod
 - Planting Beds
 - 'No Mow' Seed Mix
 - Pole Light; See Lighting Plans and Details
 - Fence
 - Litter Receptacle
 - Bicycle Rack
 - Bench

Notes:
 1. See Site Plans for all proposed paving information.

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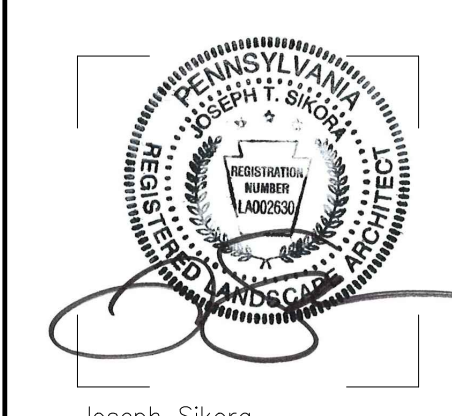
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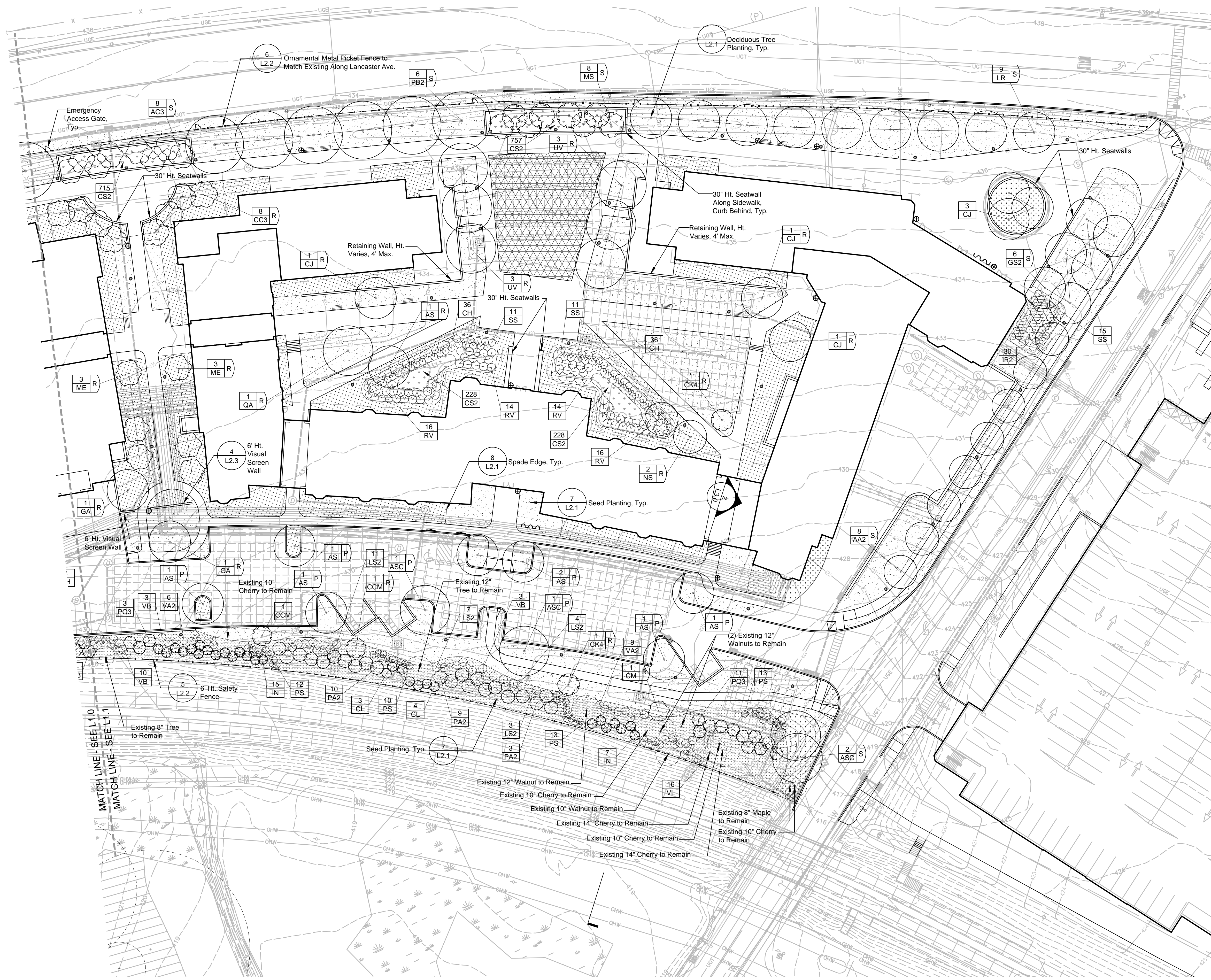
Revision March 6, 2015
 Date December 5, 2014
 Title Planting Plan

Scale 1" = 30'-0"
 Drawn By RM

L1.0

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.





Legend

- 8 AC3 S Street Trees
- 1 AS R Replacement Trees
- 1 ASC P Parking Lot Trees
- 1 ASC A Replacement Trees for W. Lancaster Ave. Parking Project; See W. Lancaster Ave. Parking Tree Requirement Table
- Lawn
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Notes:
 1. See Site Plans for all proposed paving information.



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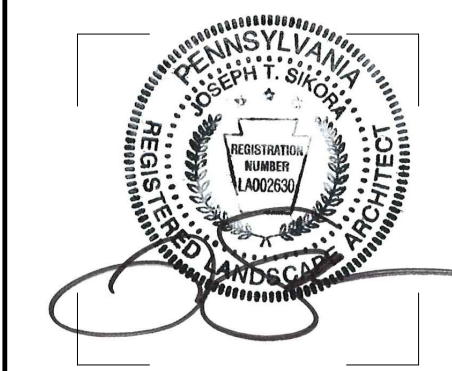
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**PRELIM. LAND DEVELOPMENT
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Revision March 6, 2015
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L1.1

Sheet No. 29 of 34

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

| TREE REQUIREMENT TABLE | | |
|--|--|---|
| | REQUIRED | PROPOSED |
| STREET TREES | | |
| LANCASTER AVENUE = 1,220 FT. SECTION 255-38.B. - INTERVALS OF NOT MORE THAN 30 FEET | 1,220/30' = 41 TREES | 55 TREES |
| SOUTH ITHAN AVENUE = 466 FT. SECTION 255-38.B. - INTERVALS OF NOT MORE THAN 30 FEET | 466/30' = 16 TREES | 16 TREES |
| BUFFER SCREENS | | |
| SOUTHERN PROPERTY LINE ADJACENT TO R-100 TRAIN RIGHT OF WAY SECTION 255-42 CLASS 'B' BUFFER SCREEN OPTION SELECTED: (1) EVERGREEN PER 15 FEET (INFORMALLY ARRANGED) PLUS: (1) EVERGREEN SHRUB PER 8 FEET (INFORMALLY ARRANGED) | 927/15' = 62 EVERGREEN TREES = 116 EVERGREEN SHRUBS | 927/8' 140 EVERGREEN TREES 2 UNDERSTORY DECIDUOUS TREES* 124 EVERGREEN SHRUBS 75 DECIDUOUS SHRUBS* SEE NOTE #1 |
| ALDWYN TRIANGLE | SEE W. LANCASTER AVE. PARKING TREE REQUIREMENT TABLE | |
| REPLACEMENT TREES | | |
| HOUSING PROJECT SITE 6 TO 18 INCH DBH REMOVED = (1) REPLACEMENT TREE (4) REMOVALS @ 19 TO 29 INCH = (4) x 3= 12 REPLACEMENT TREES** 19 TO 29 INCH DBH REMOVED = (3) REPLACEMENT TREES** 30 INCH DBH OR GREATER REMOVED = (6) REPLACEMENT TREES*** | (37) REMOVALS @ 6 TO 18 INCH = 37 REPLACEMENTS (4) REMOVALS @ 19 TO 29 INCH = (4) x 3= 12 REPLACEMENTS TOTAL REPLACEMENT TREES REQUIRED = 49 TREES | LARGE CANOPY TREES = 33 TREES ORNAMENTAL TREES = 29 TREES* TOTAL TREES PROPOSED = 62 |
| PARKING LOT | | |
| SECTION 255-29 B. - (1) ONE TREE FOR EVERY FIVE PARKING SPACES IN SINGLE BAYS AND ONE TREE FOR EVERY TEN PARKING SPACES IN DOUBLE BAYS | 17 SINGLE BAY SPACES/ 5 = 3.4 TREES 45 DOUBLE BAY SPACES/ 10 = 4.5 TREES TOTAL PARKING LOT TREES REQUIRED = 8 TREES | 10 |
| * PROPOSED BUFFER PLANTING INCLUDES UNDERSTORY DECIDUOUS TREES, AND LARGE, DENSE, DECIDUOUS SHRUBS IN AREAS WHERE EXISTING, MATURE TREES ARE TO REMAIN. THESE PLANTS OFFER VISUAL SCREENING QUALITIES AND FOUR SEASON INTEREST WITHIN SHADY AREAS. ** TWO BEING LARGE CANOPY TREES *** FOUR BEING LARGE CANOPY TREES | | |

- NOTES:
1. QUANTITY, AND ARRANGEMENT OF PLANT MATERIAL WITHIN BUFFER SCREEN WILL PRODUCE A VISUAL SCREEN NOT TO BE SEEN THROUGH AND PROVIDE IMMEDIATE VISUAL SCREENING TO THE ABUTTING PROPERTY OR DISTRICT AS PER SECTION 280-71.A. OF THE TOWNSHIP ZONING ORDINANCE.

| PLANT SCHEDULE | | | | | | | |
|----------------|-----|--|---------------------------|-------|-------------|------------|------------------------------|
| CANOPY TREES | QTY | BOTANICAL NAME | COMMON NAME | CONT | CAL | SIZE | REMARKS |
| AA2 | 13 | ACER RUBRUM 'ARMSTRONG' | ARMSTRONG RED MAPLE | B & B | 2 1/2" - 3" | | MATCHED SPECIMENS |
| AS | 11 | ACER RUBRUM 'SOMERSET' | SOMERSET RED MAPLE | B & B | 2" - 2 1/2" | | |
| ASC | 5 | ACER SACCHARUM 'COMMEMORATION' | COMMEMORATION SUGAR MAPLE | B & B | 2"-2-1/2" | | |
| CJ | 6 | CERCIDIPHYLLUM JAPONICUM | KATSURA TREE | B & B | 2" - 2 1/2" | | SPECIMEN QUALITY |
| FF | 6 | FAGUS SYLVATICA 'FASTIGIATA' | EUROPEAN BEECH | B & B | 2"-2-1/2" | | MATCHED SPECIMENS |
| GA | 2 | GINKGO BILLOBA 'AUTUMN GOLD' TM | MAIDENHAIR TREE | B & B | 2" - 2 1/2" | | SPECIMEN QUALITY |
| GS2 | 6 | GLEDITSIA TRIACANTHOS 'SKYLINE' | SKYLINE HONEY LOCUST | B & B | 2 1/2" - 3" | | MATCHED SPECIMENS; FULL HEAD |
| LR | 16 | LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA' TM | ROUND-LOBED SWEET GUM | B & B | 2 1/2" - 3" | | MATCHED SPECIMENS; FULL HEAD |
| NS | 10 | NYSSA SYLVATICA | SOUR GUM | B & B | 2" - 2 1/2" | | SPECIMEN QUALITY |
| PB2 | 12 | PLATANUS X ACERIFOLIA 'BLOODGOOD' | LONDON PLANE TREE | B & B | 2 1/2" - 3" | | MATCHED; SPECIMEN QUALITY |
| QA | 1 | QUERCUS ALBA | WHITE OAK | B & B | 2"-2-1/2" | | SPECIMEN QUALITY |
| TD2 | 4 | TAXODIUM DISTICHUM | BALD CYPRESS | B & B | | 8'-10' HT. | FULL TO GROUND |
| UV | 6 | ULMUS AMERICANA 'VALLEY FORGE' | AMERICAN ELM | B & B | 2" - 2 1/2" | | MATCHED SPECIMENS |

| EVERGREEN TREES | QTY | BOTANICAL NAME | COMMON NAME | CONT | CAL | SIZE | REMARKS |
|-----------------|-----|--------------------------------|----------------------|-------|-----|------------|---|
| CY | 16 | CRYPTOMERIA JAPONICA 'YOSHINO' | YOSHINO CRYPTOMERIA | B & B | | 8'-10' HT. | SPECIMENS; FULL TO GROUND; 6' MAX. O.C. SPACING |
| IN | 36 | ILEX X 'NELLIE R STEVENS' | NELLIE STEVENS HOLLY | B & B | | 8'-10' HT. | SPECIMENS; FULL TO GROUND; 6' MAX. O.C. SPACING |
| PA2 | 60 | PICEA ABIES | NORWAY SPRUCE | B & B | | 8'-10' HT. | SPECIMENS; FULL TO GROUND; 8' MAX. O.C. SPACING |
| PO3 | 25 | PICEA OMORIKA | SERBIAN SPRUCE | B & B | | 8'-10' HT. | SPECIMENS; FULL TO GROUND; 8' MAX. O.C. SPACING |
| CL | 40 | X CUPRESSOCYPARIS LEYLANDII | LEYLANDI CYPRESS | B & B | | 8'-10' HT. | SPECIMENS; FULL TO GROUND; MAX. 6' O.C. SPACING |

| ORNAMENTAL TREES | QTY | BOTANICAL NAME | COMMON NAME | CONT | CAL | SIZE | REMARKS |
|------------------|-----|------------------------------------|-----------------------------------|-------|-------------|------------|---------------------------------|
| AC3 | 16 | AMELANCHIER CANADENSIS | SHADBLow SERVICEBERRY MULTI-TRUNK | B & B | | 8'-10' HT. | FULL SPECIMENS; MIN. 5 STEMS |
| CCM | 12 | CERCIS CANADENSIS | EASTERN REDBUD MULTI-TRUNK | B & B | 2 1/2" - 3" | 8'-10' HT. | FULL SPECIMENS; MIN. 5 STEMS |
| CC3 | 9 | CORNUS FLORIDA 'CHEROKEE CHIEF' | CHEROKEE CHIEF DOGWOOD | B & B | 2" - 2 1/2" | | MATCHED SPECIMENS |
| CK4 | 3 | CORNUS KOUSA | KOUSA DOGWOOD | B & B | | 8'-10' HT. | FULL SPECIMENS |
| CM | 9 | CORNUS MAS | CORNELIAN CHERRY DOGWOOD | B & B | | 8'-10' HT. | FULL SPECIMENS |
| ME | 6 | MAGNOLIA GRANDIFLORA 'EDITH BOGUE' | EDITH BOGUE SOUTHERN MAGNOLIA | B & B | | 8'-10' HT. | SPECIMEN QUALITY; WELL-BRANCHED |
| MS | 19 | MAGNOLIA VIRGINIANA | SWEET BAY MULTI-TRUNK | B & B | | 8'-10' HT. | SPECIMEN QUALITY; WELL-BRANCHED |
| MG2 | 4 | MAGNOLIA X 'GALAXY' | GALAXY MAGNOLIA | B & B | 2" - 2 1/2" | | SPECIMEN QUALITY; WELL-BRANCHED |

| SHRUBS | QTY | BOTANICAL NAME | COMMON NAME | CONT | SIZE | REMARKS |
|--------|-----|---|---|-------|-----------------|--|
| AA3 | 55 | ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA' | BRILLIANT RED CHOKEBERRY/RED CHOKEBERRY | 3 GAL | 24"-30" HT. | |
| CH | 105 | CLETHRA ALNIFOLIA 'HUMMINGBIRD' | SUMMERSWEET | 3 GAL | 18"-24" SPREAD | |
| HI | 5 | HAMAMELIS X INTERMEDIA 'ARNOLD PROMISE' | ARNOLD PROMISE HYBRID WITCH HAZEL | B & B | 4'-5' HT. | SPECIMEN QUALITY |
| IR2 | 121 | ILEX VERTICILLATA 'RED SPRITE' | RED SPRITE WINTERBERRY | 3 GAL | 24"-30" HT | |
| LS2 | 25 | LINDERA GLAUCA SALICIFOLIA | SPICEBUSH | B & B | 4'-5' HT. | |
| PS | 83 | PRUNUS LAUROCERASUS 'SCHIPKAENSIS' | SCHIPKA LAUREL | B & B | 3' - 4' HT. | DENSE, FULL PLANTS; 4' MAX. O.C. SPACING |
| RV | 88 | RHODODENDRON VISCOSUM | SWAMP AZALEA | 3 GAL | 18"-24" HT. | |
| SS | 71 | SPIRAEA JAPONICA 'LITTLE PRINCESS' | LITTLE PRINCESS JAPANESE SPIREA | 3 GAL | 18"-24" SPREAD | |
| VA2 | 32 | VIBURNUM DENTATUM | VIBURNUM | B & B | 5'-6' HT. | DENSE, FULL PLANTS; 5' MAX. O.C. SPACING |
| VN | 12 | VIBURNUM NUDUM 'WINTERTHUR' | SMOOTH WITHEROD | 5 GAL | 3 1/2' - 4' HT. | DENSE, FULL PLANTS |
| VL | 42 | VIBURNUM RHYTIDOPHYLLUM | LEATHERLEAF VIBURNUM | B & B | 5'-6' HT. | DENSE, FULL PLANTS; 5' MAX. O.C. SPACING |
| VB | 23 | VIBURNUM X BURKWOODII | BURKWOOD VIBURNUM | B & B | 4'-5' HT. | DENSE, FULL PLANTS; 5' MAX. O.C. SPACING |

| GROUND COVERS | QTY | BOTANICAL NAME | COMMON NAME | CONT | REMARKS |
|---------------|-------|-----------------------|-------------|------|------------------------|
| CS2 | 3,296 | CAREX SPP. @ 15" O.C. | | FLAT | 15" O.C. PLANT SPACING |

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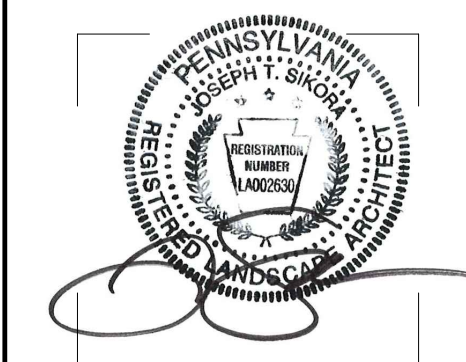
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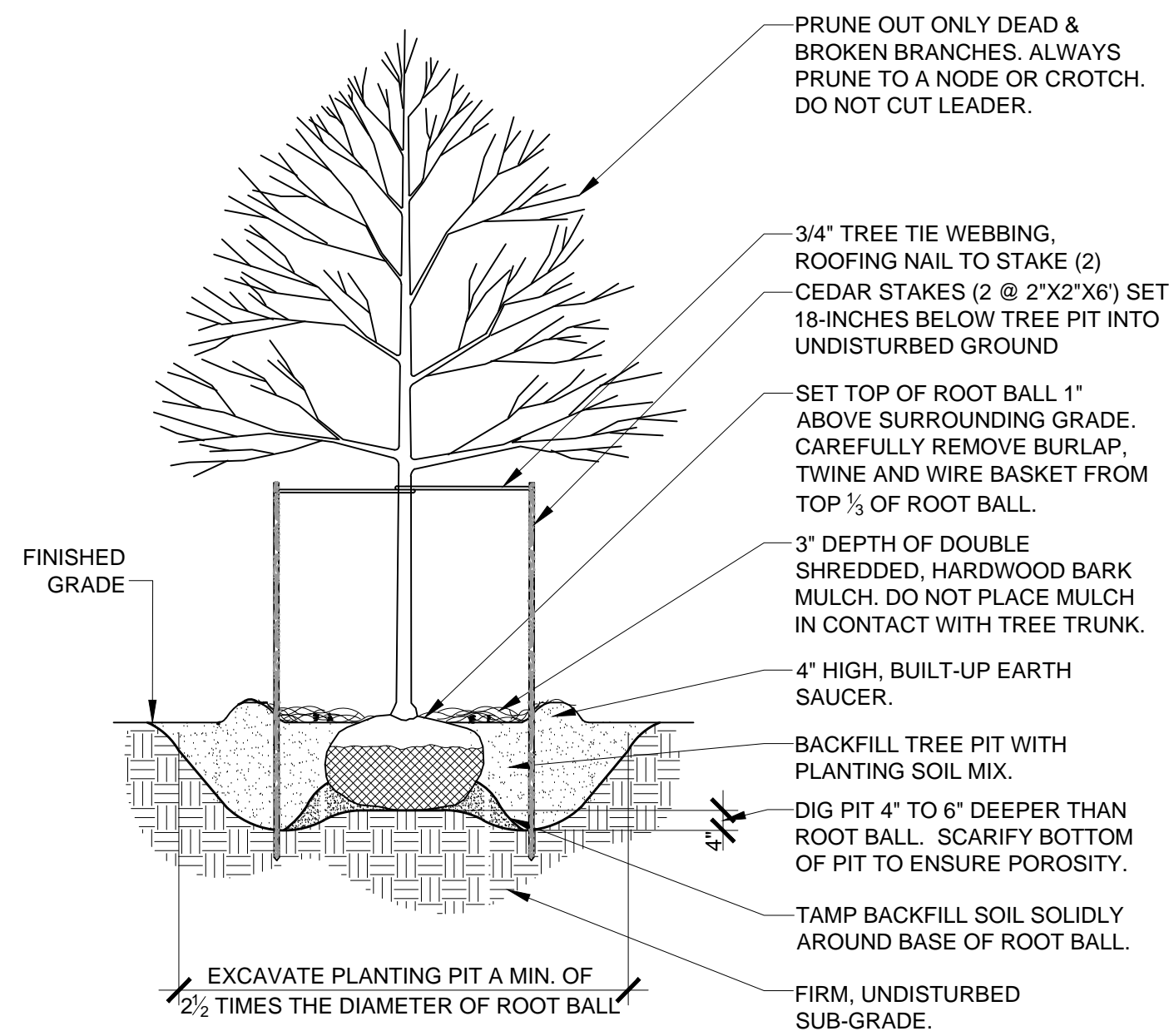
Revision March 6, 2015
Date December 5, 2014
Title Planting Schedule and
Tabulations

Scale As Indicated
Drawn By DF

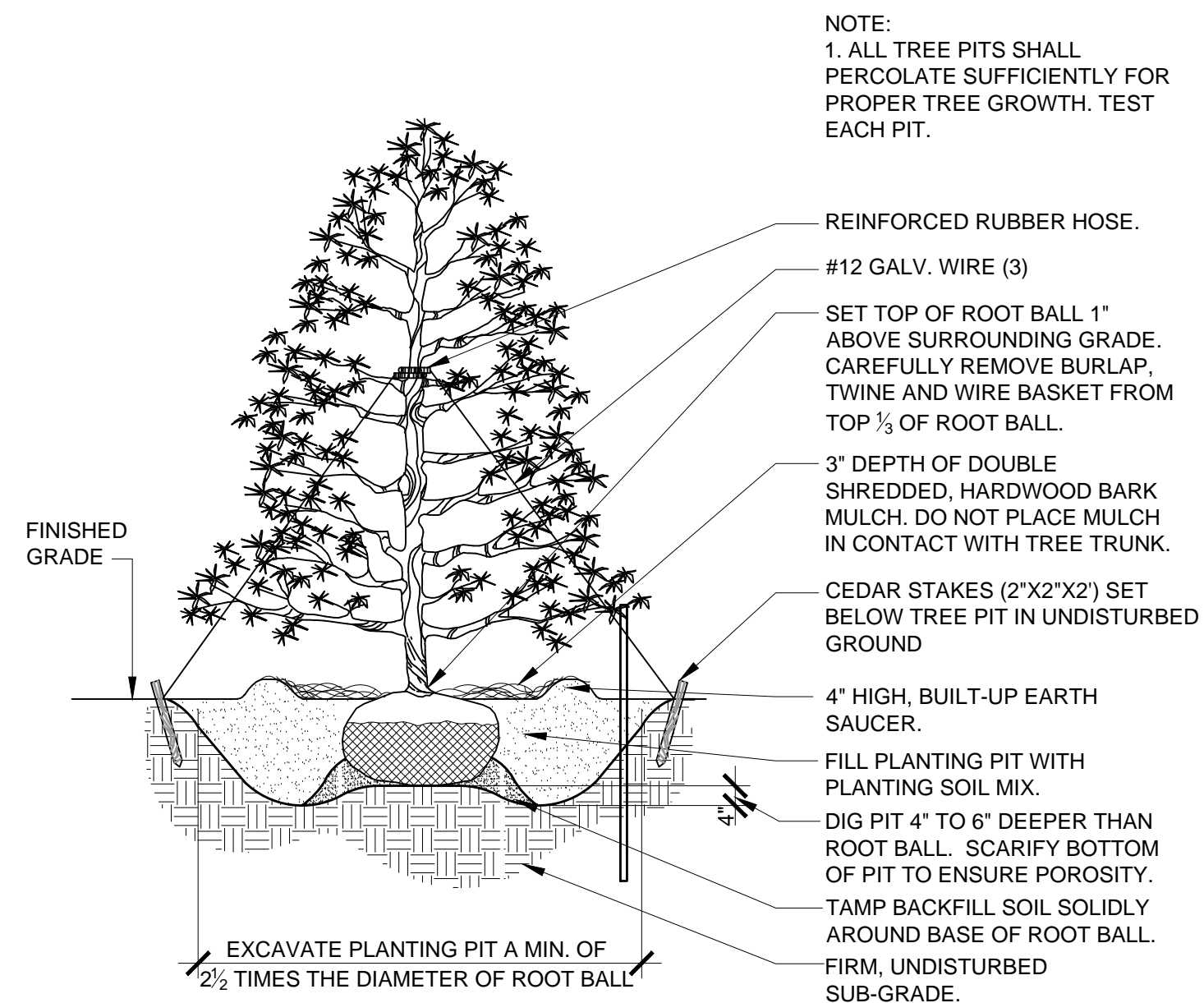
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Sheet No. 30 of 34

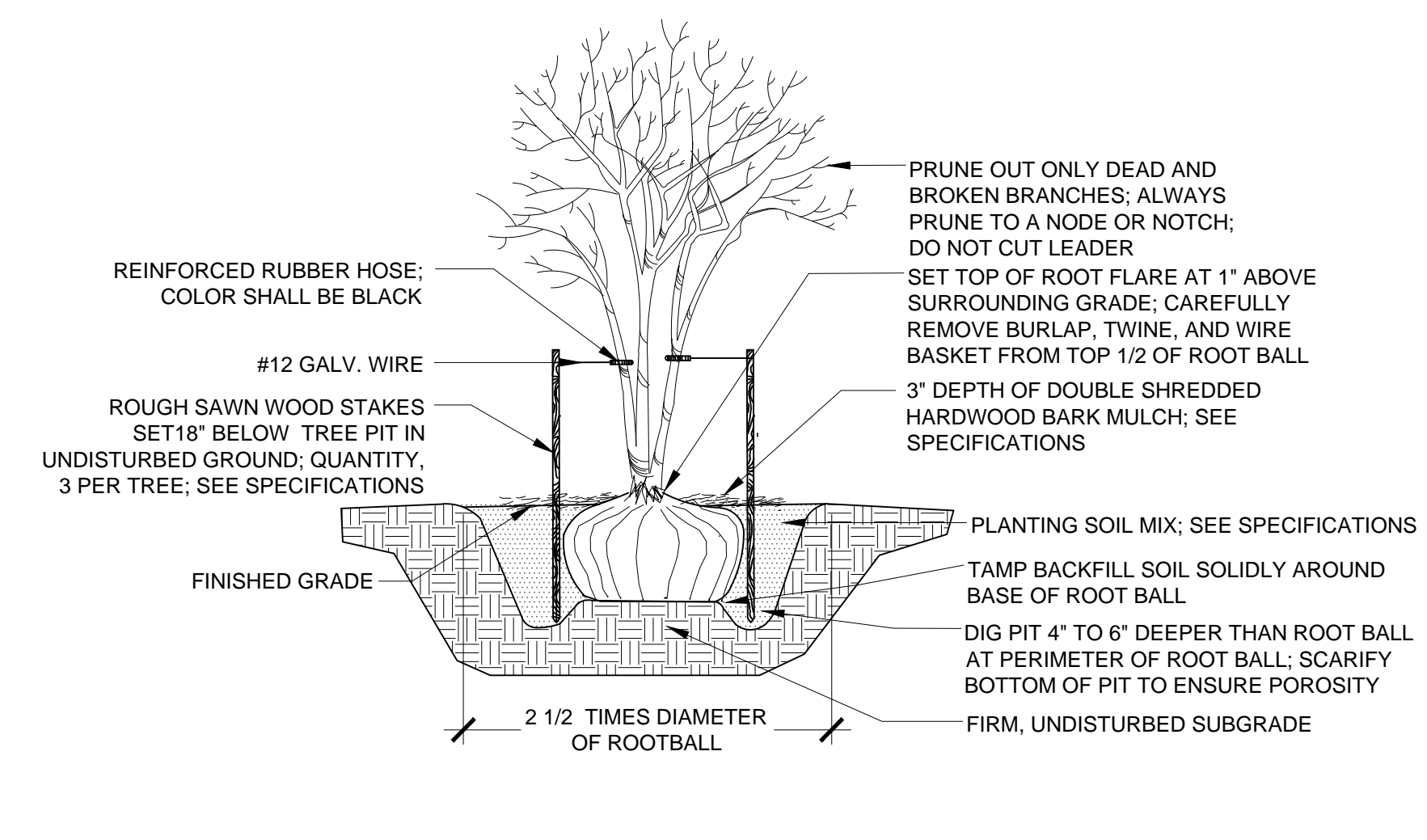
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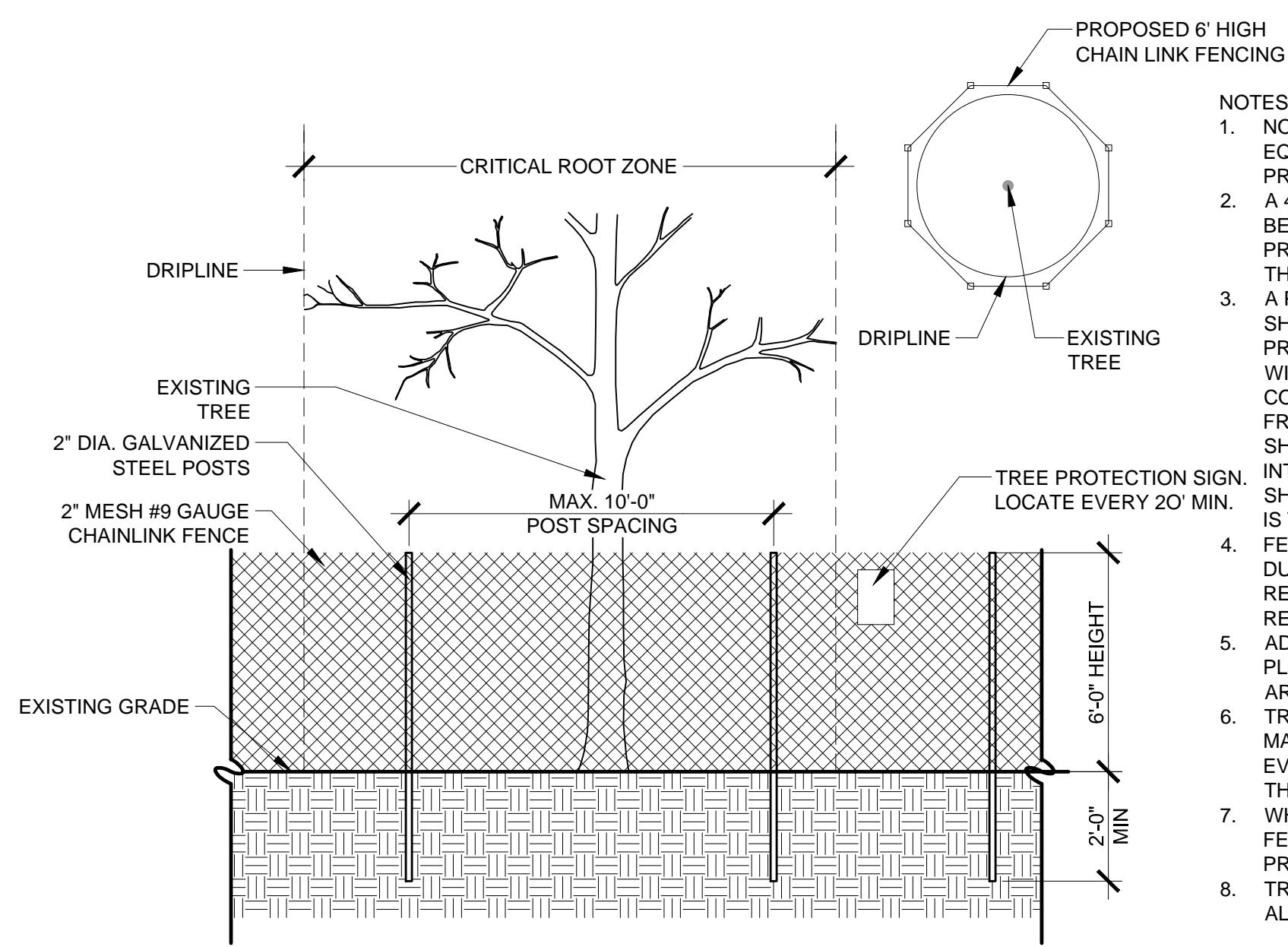
1 Deciduous Tree Planting
L2.1 N.T.S.



2 Evergreen Tree Planting
L2.1 N.T.S.

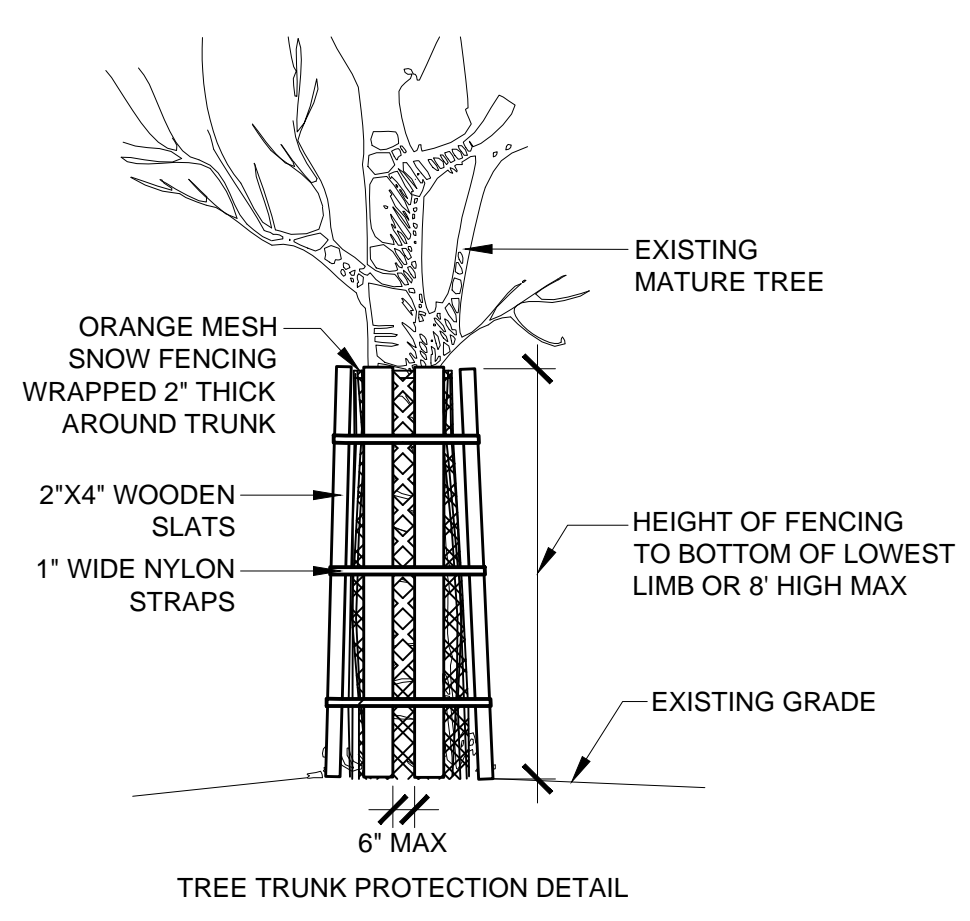


3 Multi-Stem Tree Planting
L2.1 Scale: 0 1' 2' 4' Scale: 1/2"=1'-0"

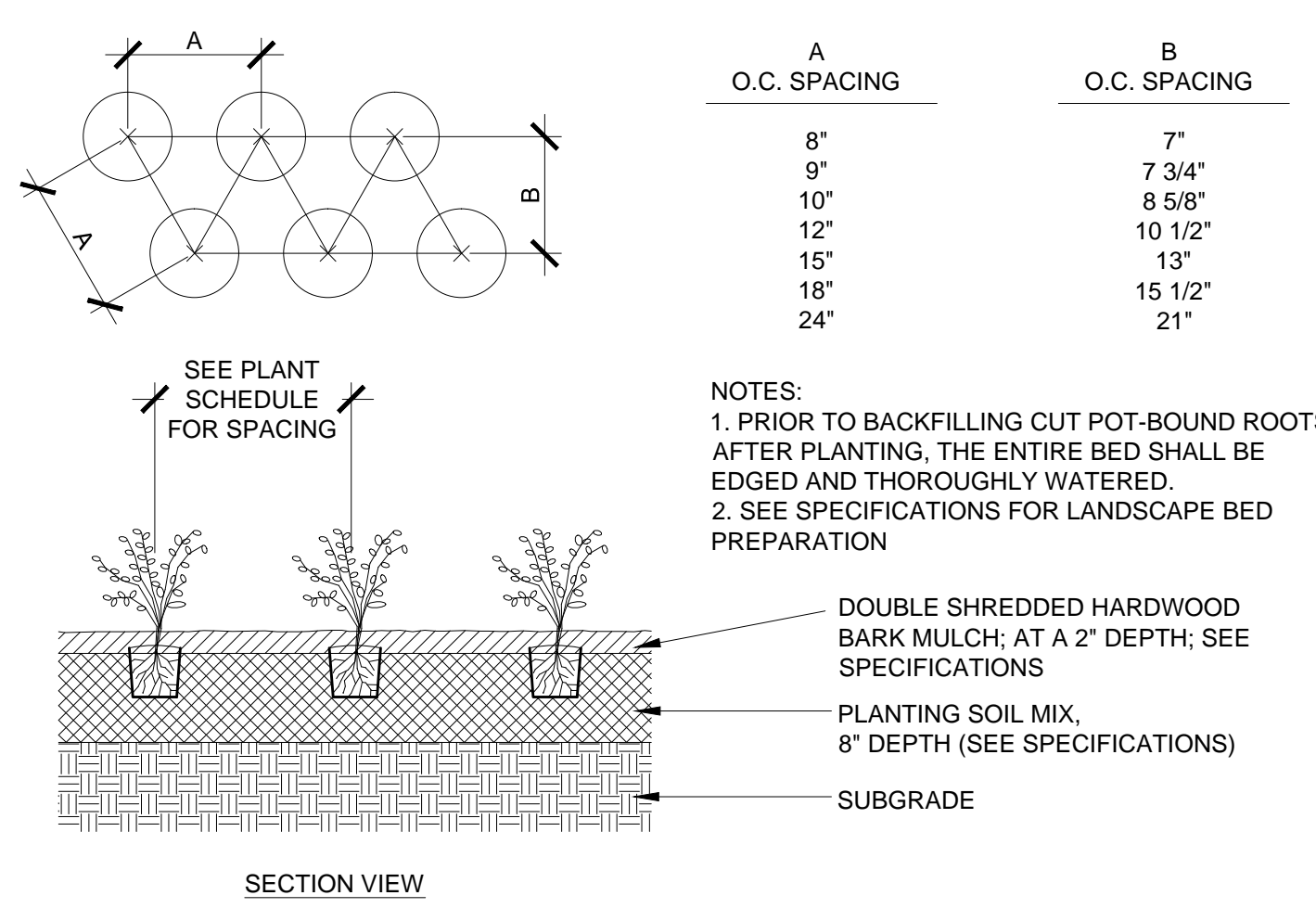


4 Tree Protection Detail
L2.1 Scale: 0 2' 4' 8' Scale: 1/4"=1'-0"

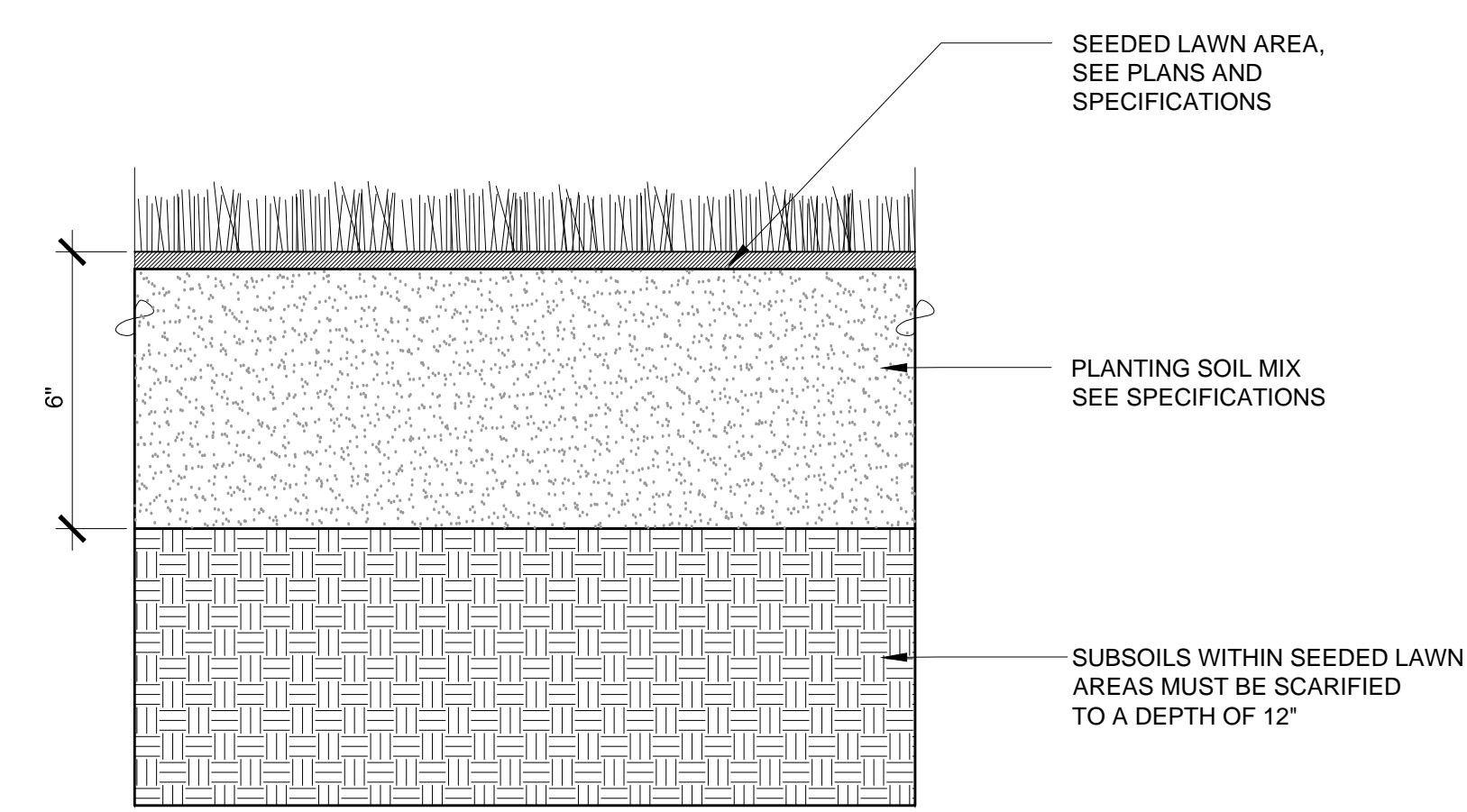
- NOTES:
- NO STORAGE OF MATERIALS OR OPERATION OF EQUIPMENT SHALL BE PERMITTED WITHIN TREE PROTECTION FENCING.
 - A 4" LAYER OF COARSE MULCH OR WOODCHIPS IS TO BE PLACED BENEATH THE DRIPLINE OF THE PROTECTED TREES. MULCH IS TO BE KEPT 12" FROM THE TRUNK.
 - A PROTECTIVE BARRIER OF 6' CHAIN LINK FENCING SHALL BE INSTALLED AROUND THE DRIPLINE OF THE PROTECTED TREE(S). THE FENCING CAN BE MOVED WITHIN THE DRIPLINE IF AUTHORIZED BY THE CONSULTING ARBORIST BUT NOT CLOSER THAN 2' FROM THE TRUNK OF ANY TREE. FENCE POSTS SHALL BE 2.0' IN DIAMETER AND ARE TO BE DRIVEN 2' INTO THE GROUND. THE DISTANCE BETWEEN POSTS SHALL NOT BE MORE THAN 10'. THIS ENCLOSED AREA IS THE TREE PROTECTION ZONE (TPVZ).
 - FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE WORK AT THE SITE OR UNTIL REMOVAL IS APPROVED BY OWNERS REPRESENTATIVE.
 - ADDITIONAL WARNING SIGNS SHOULD ALSO BE PLACED ON THE FENCING AND IN APPROPRIATE AREAS NEAR THE WORK ZONE.
 - TREE PROTECTION FENCE SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AT THE END OF EVERY DAY FOR THE DURATION OF THE PROJECT. THE FENCE SHALL BE REPAIRED WHERE NECESSARY.
 - WHERE FENCE MUST BE LOCATED WITHIN FIVE(S) FEET OF EXISTING TREE TRUNK, THE TRUNK PROTECTION DETAIL SHALL ALSO BE USED.
 - TREE PROTECTION MEASURES SHALL COMPLY WITH ALL TOWNSHIP REGULATIONS AND ORDINANCES.



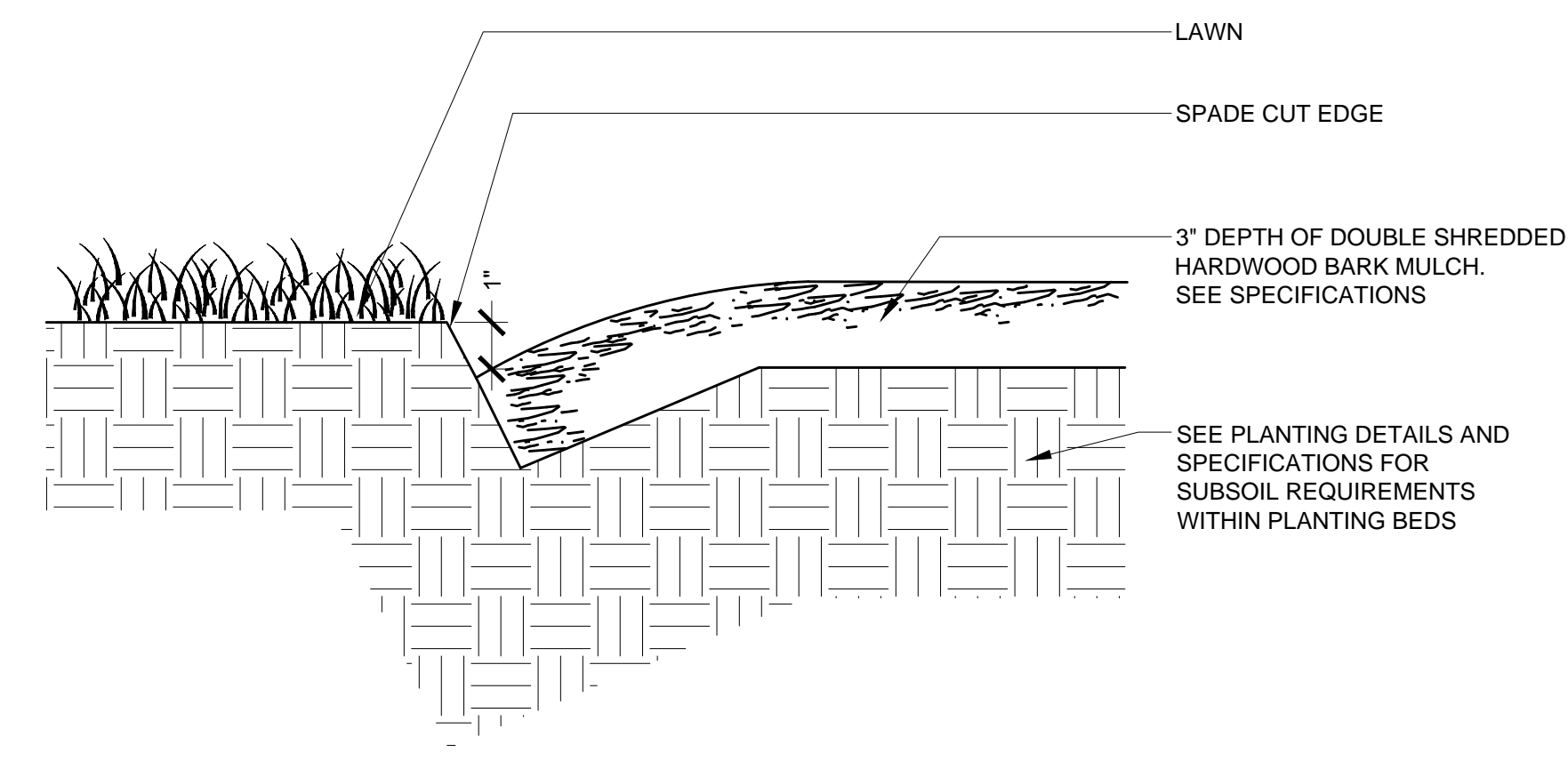
5 Shrub Planting
L2.1 Scale: 0 1' 2' 4' Scale: 1/2"=1'-0"



6 Groundcover Planting
L2.1 N.T.S.



7 Seed Planting
L2.1 N.T.S.



8 Spade Edge
L2.1 N.T.S.

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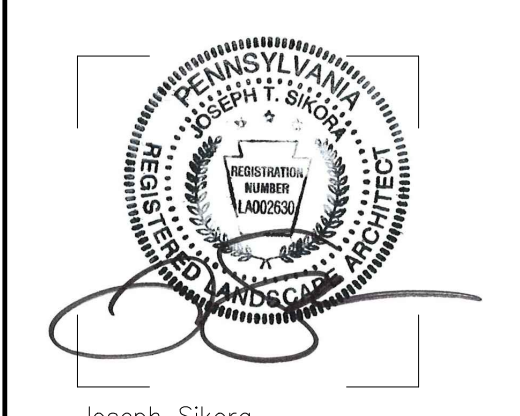
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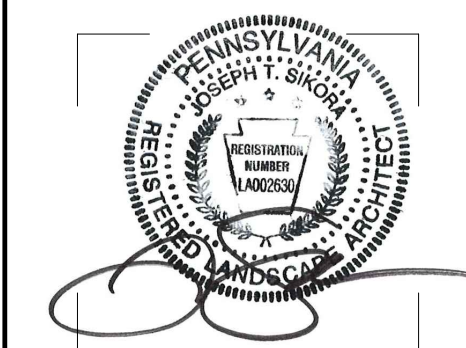
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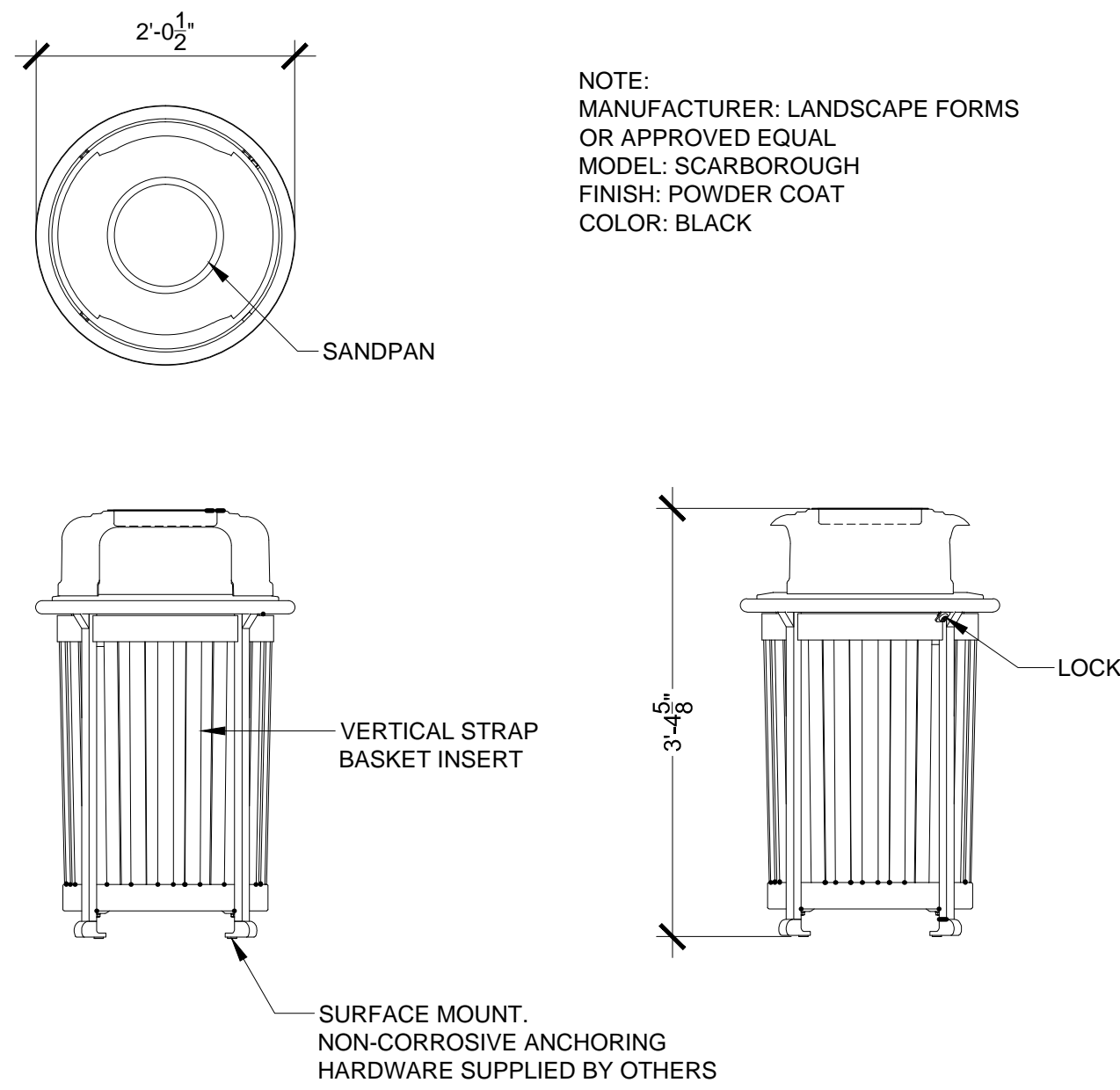
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L2.2

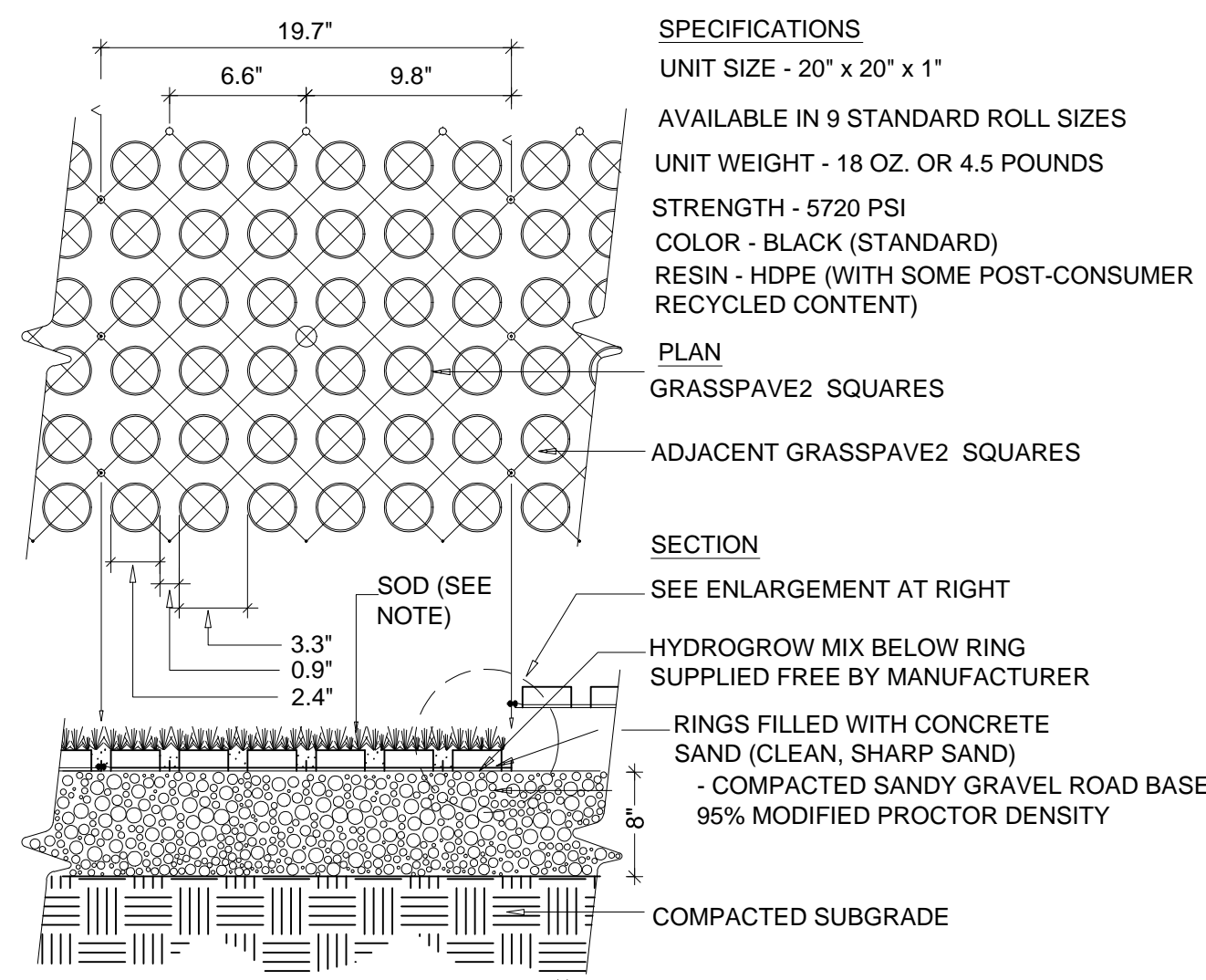
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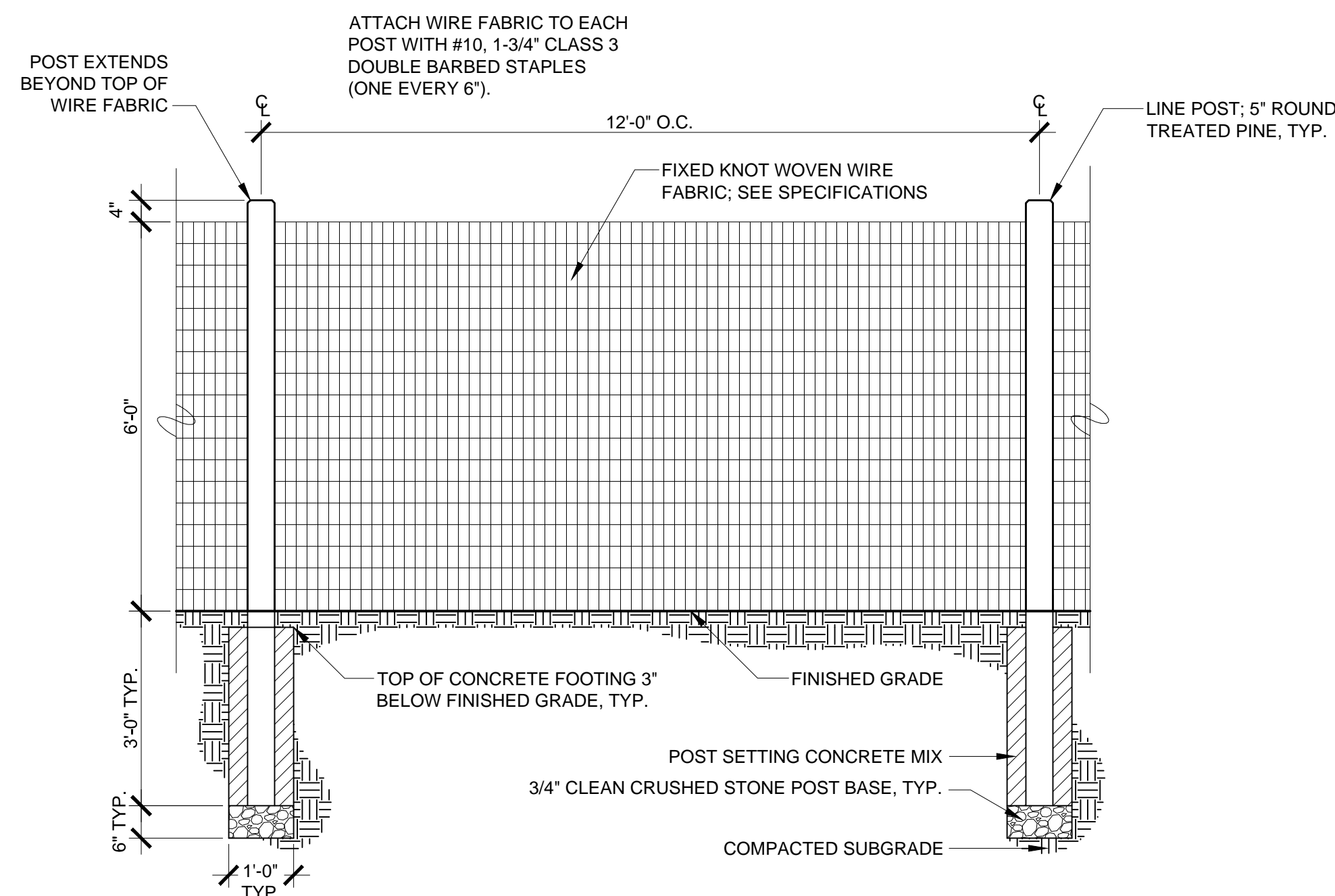
1 Litter Receptacle

L2.2 N.T.S.



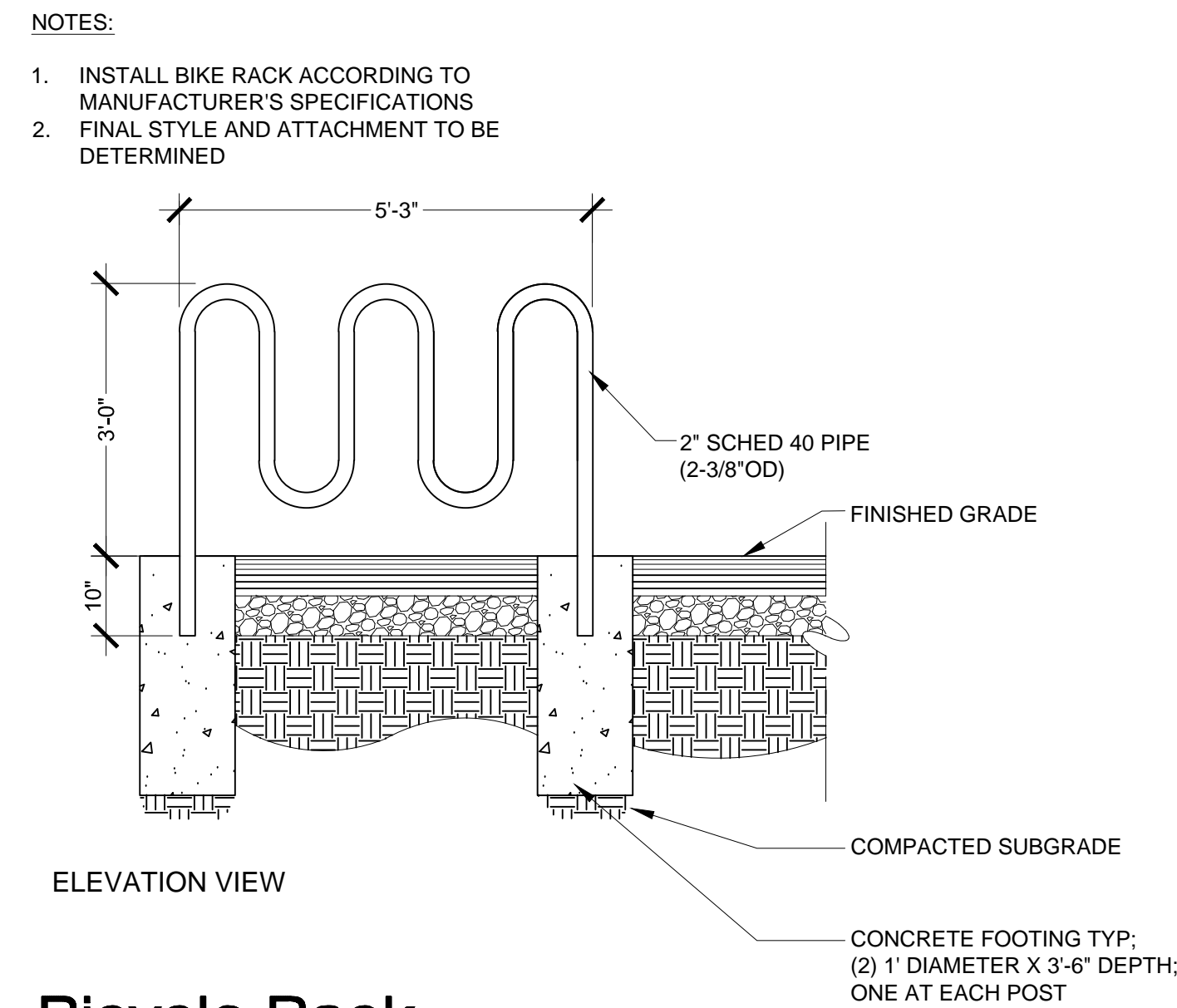
3 Reinforced Turf Fire Lane, Typ.

L2.2 N.T.S.



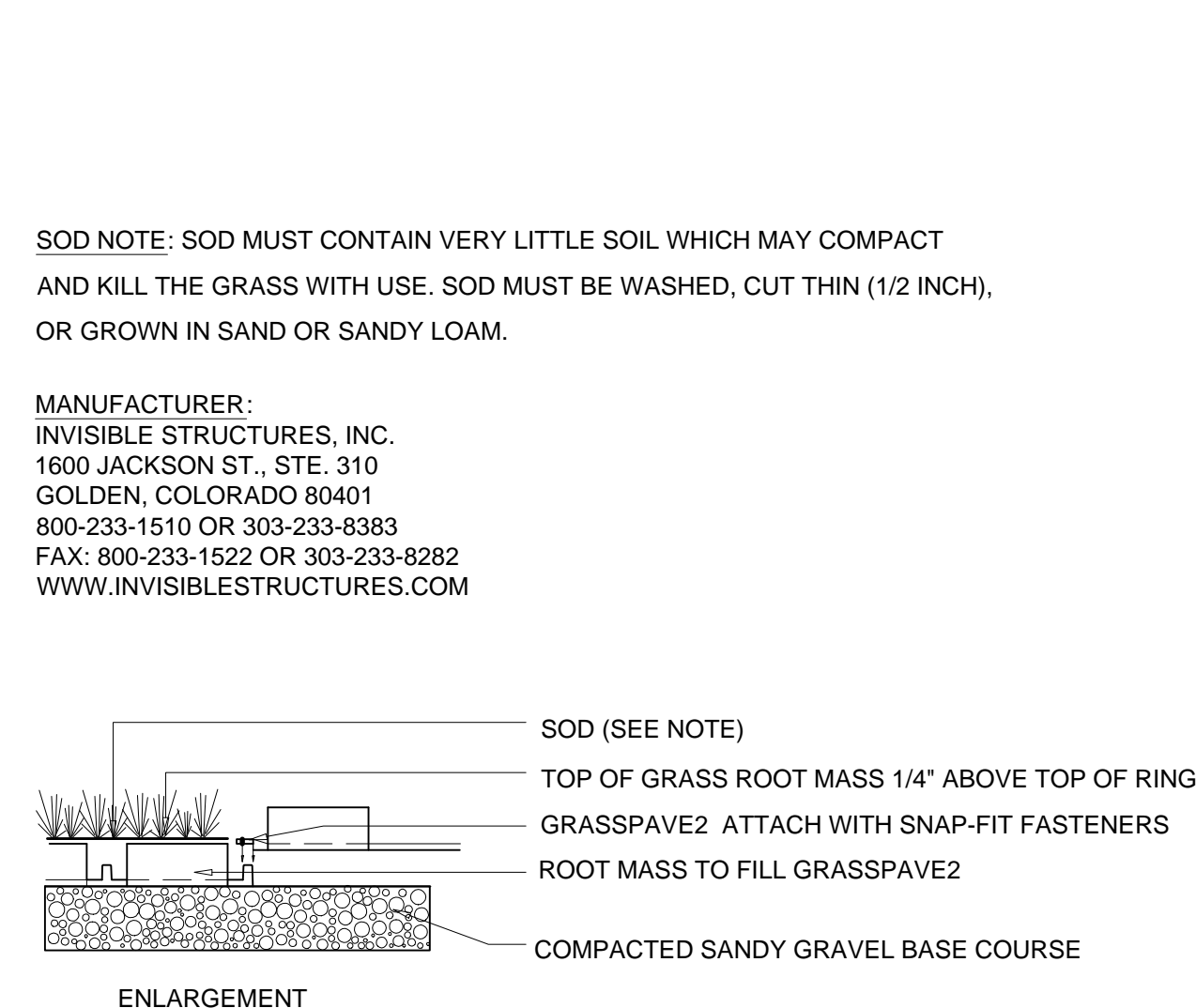
5 6' Ht. Safety Fence

L2.2 Scale: 0 1' 2' 4' Scale: 1/2"=1'-0"



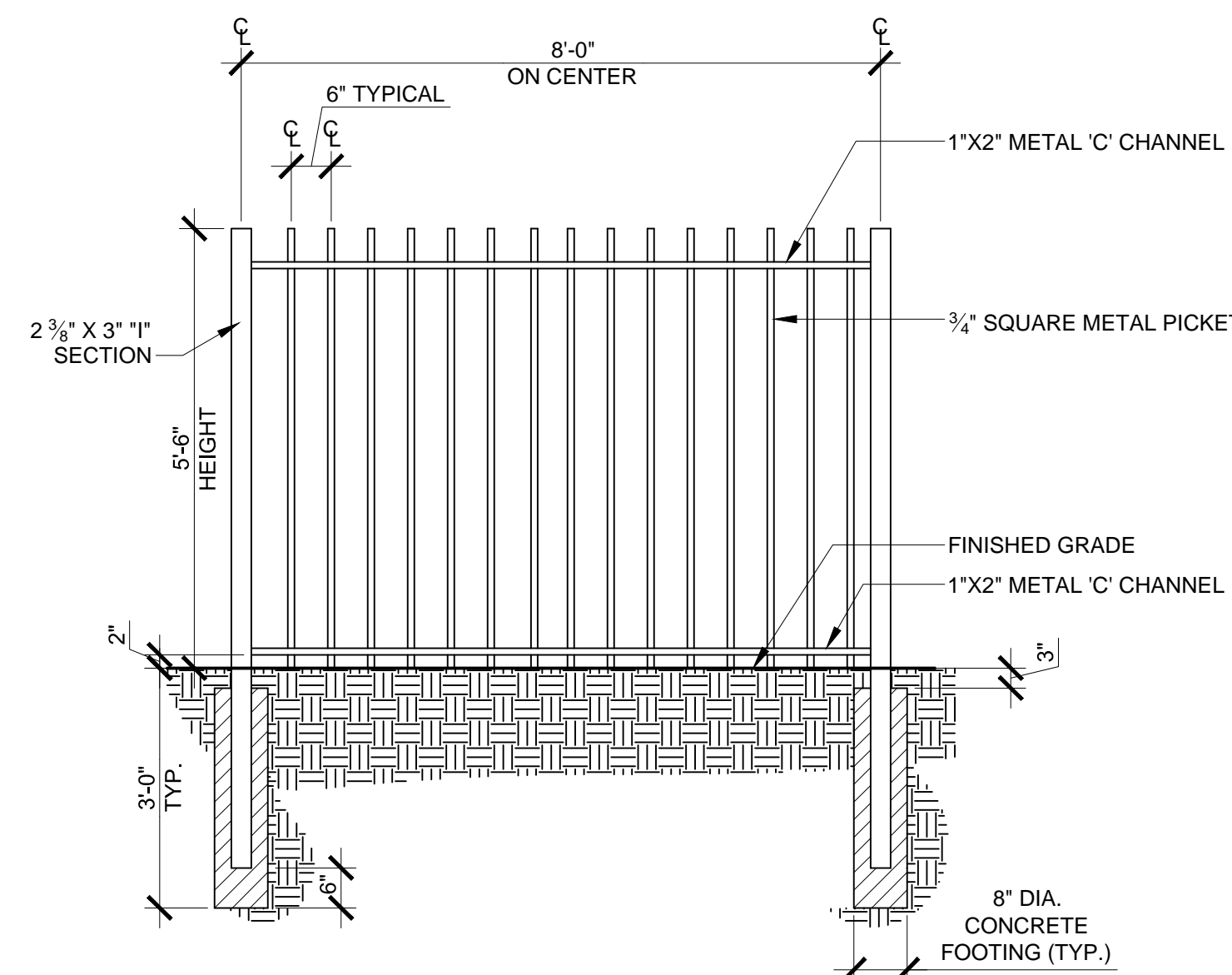
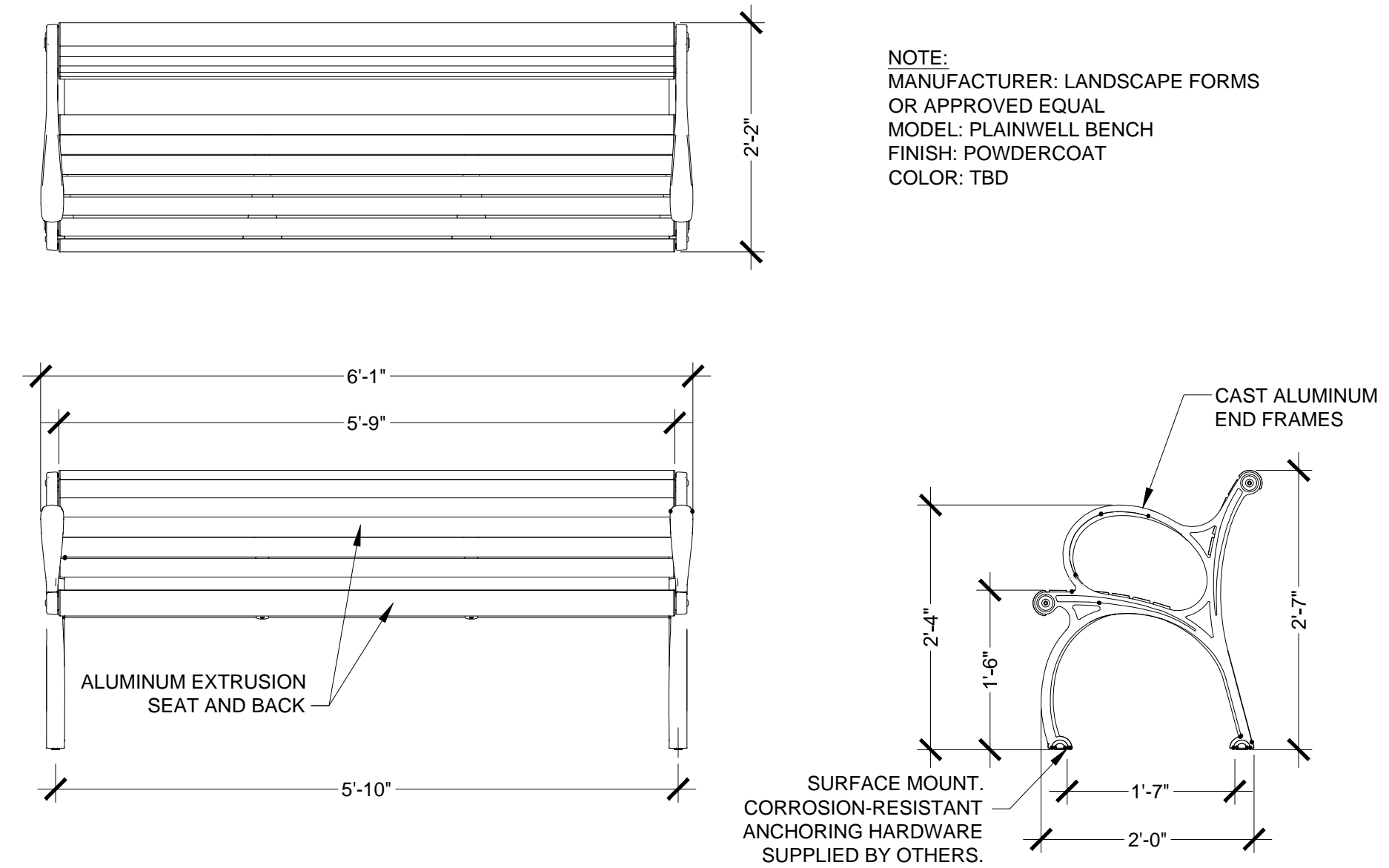
2 Bicycle Rack

L2.2 N.T.S.



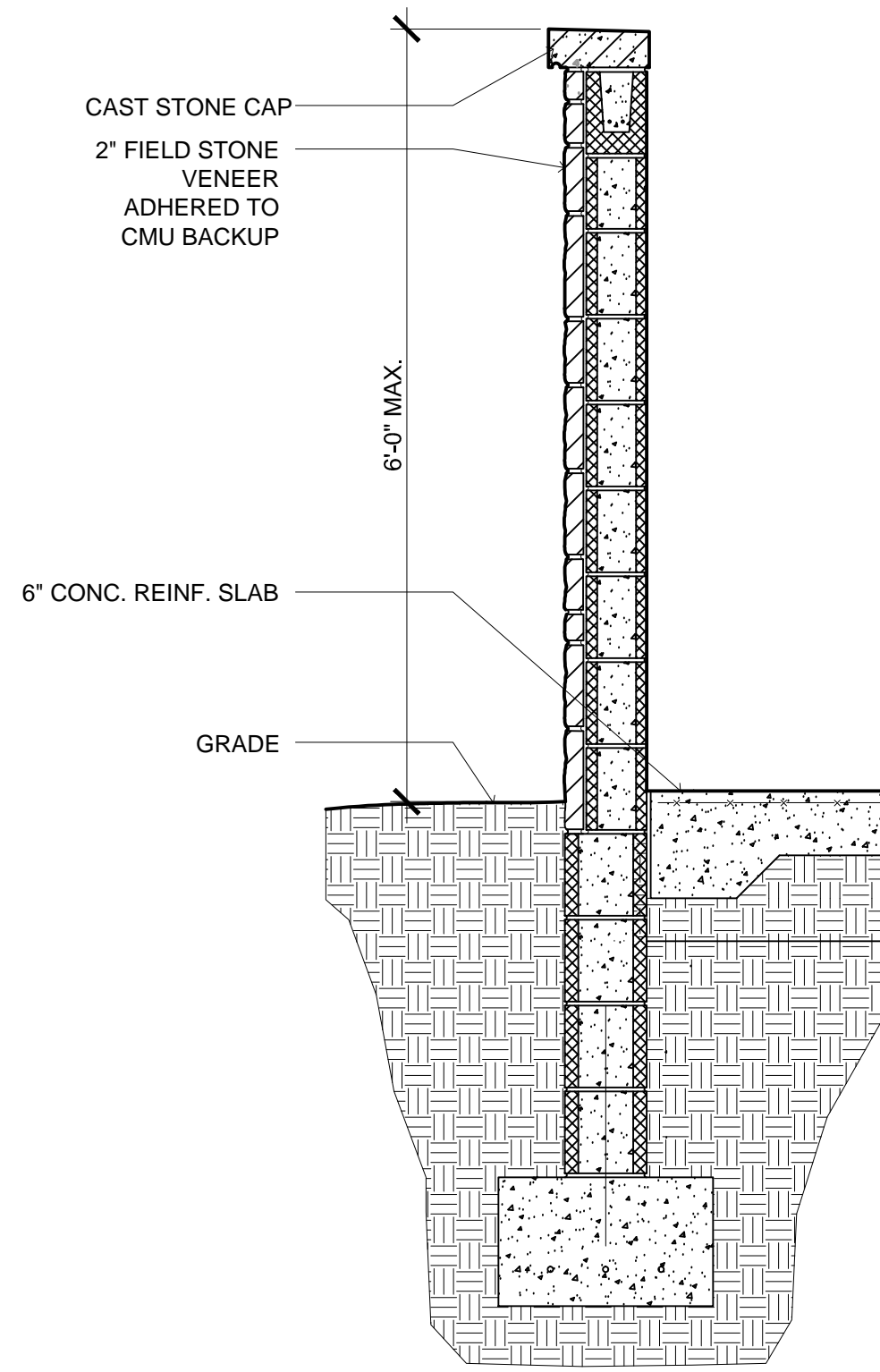
4 Bench

L2.2 N.T.S.

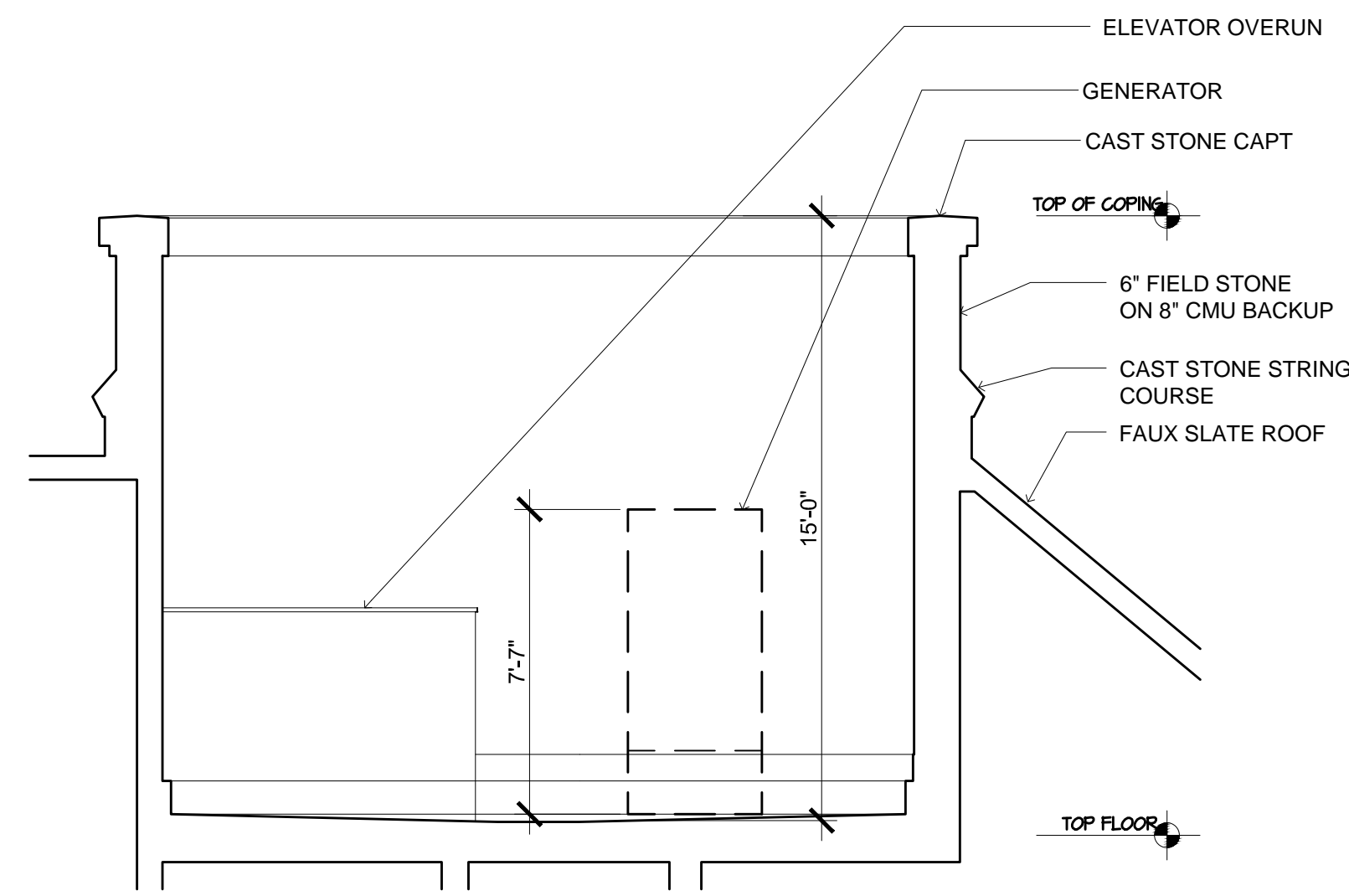


6 Ornamental Metal Picket Fence

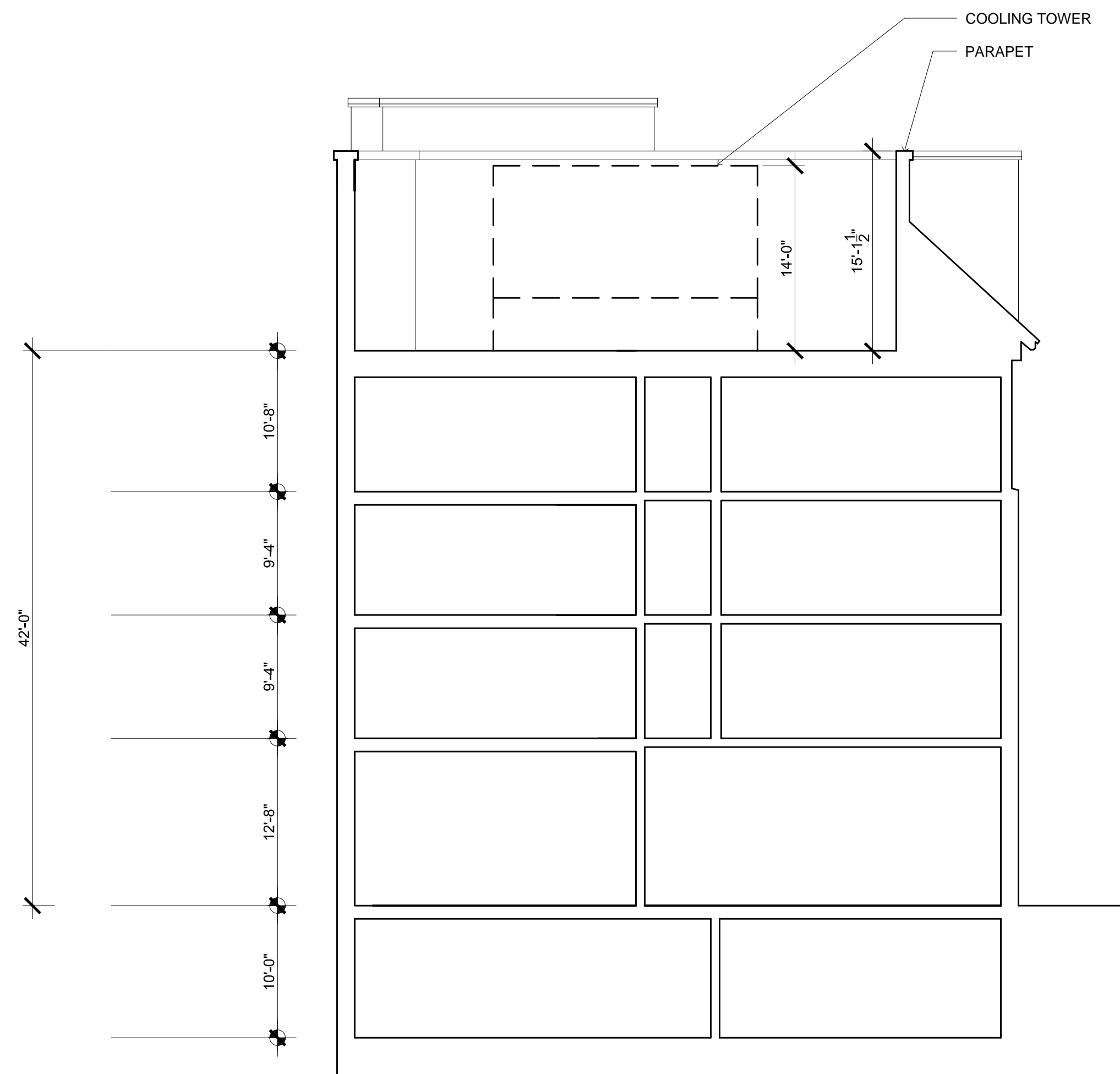
L2.2 Scale: 0 1' 2' 4' Scale: 1/2"=1'-0"



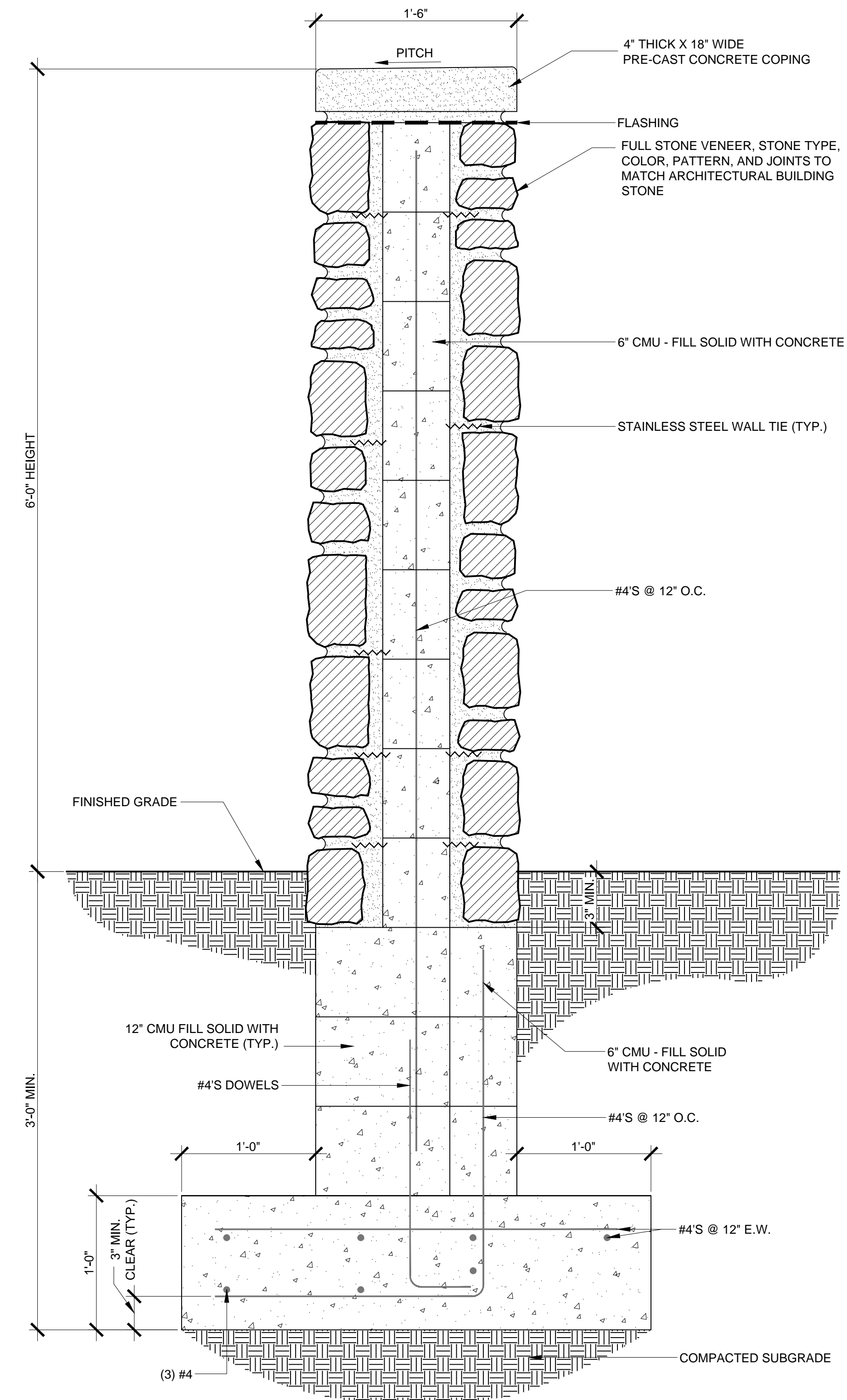
1 Dumpster Enclosure
 L2.3 Scale: 0 2" 4" 8" Scale: 3/4" = 1'-0"



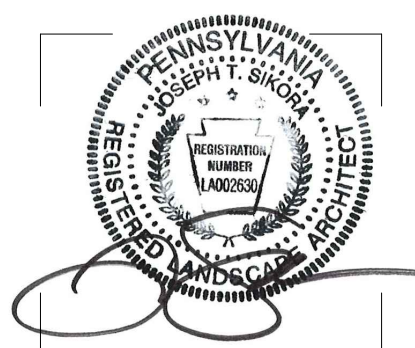
2 Typical Mechanical Well
 L2.3 Scale: 0 2' 4' 8' Scale: 1/4" = 1'-0"



3 Main Mechanical Well
 L2.3 Scale: 0 4' 8' 16' Scale: 1/8" = 1'-0"



4 6' Ht. Visual Screen Wall
 L2.3 Scale: 0 4" 8" 1'-4" Scale: 1-1/2" = 1'-0"



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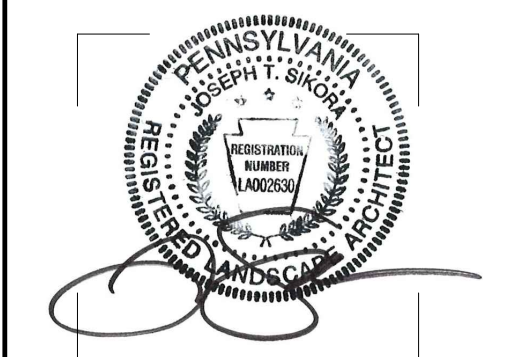
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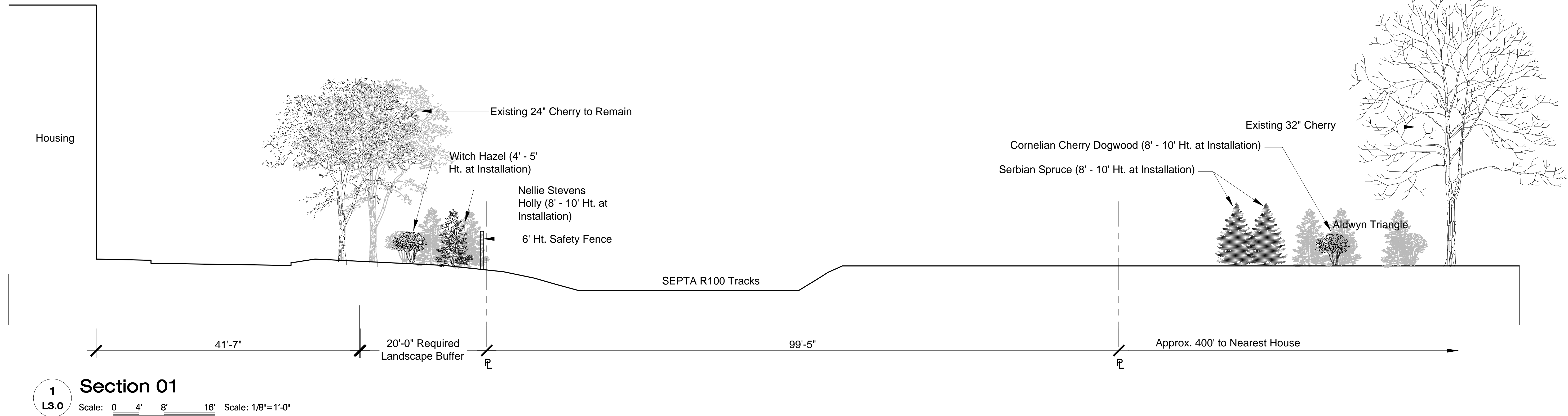
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L3.0

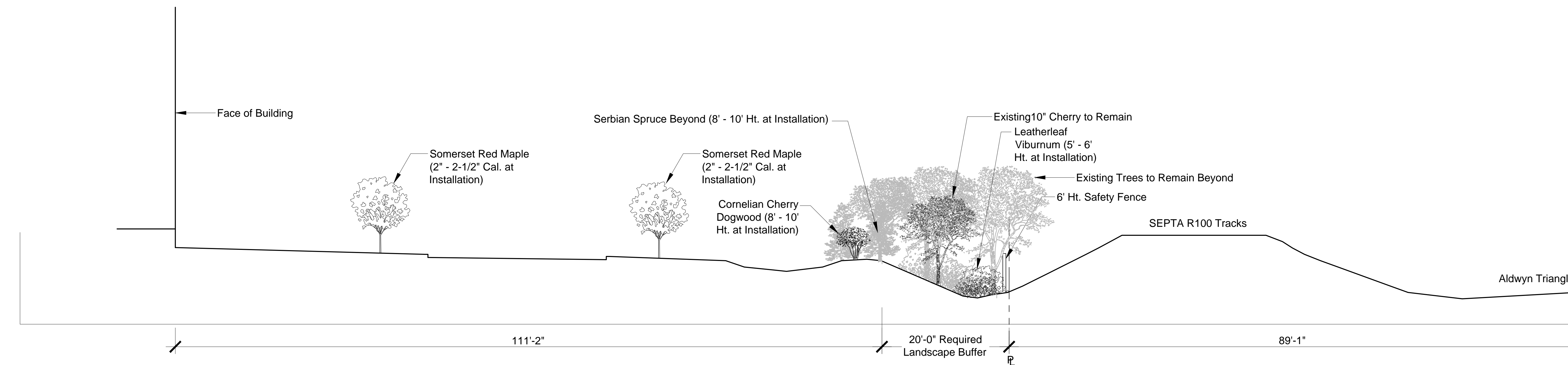
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1 Section 01

L3.0 Scale: 0 4' 8' 16' Scale: 1/8"=1'-0"



2 Section 02

L3.0 Scale: 0 4' 8' 16' Scale: 1/8"=1'-0"