

PROPOSED WAWA FOOD MARKET PRELIMINARY LAND DEVELOPMENT PLANS

FOLIO #36-03-01682-00 & #36-03-01683-00

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

DEVELOPED BY:
WAYNE PROPERTY ACQUISITION INC.

OWNER/EQUITABLE OWNER'S INTENT

I, GARABET KARAKELIAN, PRESIDENT OF WAYNE PROPERTY ACQUISITION INC., ACKNOWLEDGE THAT WAYNE PROPERTY ACQUISITION INC. IS THE REGISTERED OWNER OR EQUITABLE OWNER OF THE LANDS TO BE DEVELOPED AND THAT WE ADOPT THIS PLAN AND DESIRE THAT IT BE RECORDED ONCE APPROVED.

BY: _____
GARABET KARAKELIAN
PART OWNER OF FOLIO #36-03-01682-00; PRESIDENT OF WAYNE PROPERTY ACQUISITION INC.
OWNER OF FOLIO #36-03-01683-00 & EQUITABLE OWNER OF FOLIO #36-03-01682-00.

**CERTIFICATE OF OWNERSHIP & ACKNOWLEDGEMENT OF
SUBDIVISION AND LAND DEVELOPMENT PLANS:**

COMMONWEALTH OF PENNSYLVANIA: _____
SS.
COUNTY OF DELAWARE: _____

ON THIS, THE ____ DAY OF _____, 2018, BEFORE ME, THE UNDERSIGNED, PERSONALLY APPEARED GARABET KARAKELIAN, PRESIDENT OF WAYNE PROPERTY ACQUISITION INC., WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT WAYNE PROPERTY ACQUISITION INC., IS THE OWNER AND/OR EQUITABLE OWNER OF THE PROPERTY SHOWN ON THESE PLANS, AND THAT THESE PLANS WERE MADE AT THE DIRECTION OF WAYNE PROPERTY ACQUISITION INC., AND WAYNE PROPERTY ACQUISITION INC. ACKNOWLEDGES THE SAME TO BE ITS ACT AND DESIRES THE SAME BE RECORDED AS SUCH ACCORDING TO LAW FOLLOWING FINAL LAND DEVELOPMENT APPROVAL.

WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN.
WAYNE PROPERTY ACQUISITION INC.

BY: _____
GARABET KARAKELIAN
PART OWNER OF FOLIO #36-03-01682-00; PRESIDENT OF WAYNE PROPERTY ACQUISITION INC.
OWNER OF FOLIO #36-03-01683-00 & EQUITABLE OWNER OF FOLIO #36-03-01682-00.

NOTARY PUBLIC

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I, JAMES C. WEED, AM A REGISTERED PROFESSIONAL LAND SURVEYOR, LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF PENNSYLVANIA, THAT THIS IS A TRUE AND ACCURATE SURVEY MADE ON THE GROUND COMPLETED BY ME ON THE ____ DAY OF _____, 2017, AND HAVING A CLOSING WITH AN ERROR OF NOT MORE THAN ONE FOOT IN TEN THOUSAND FEET.

JAMES C. WEED P.A.L.S. DATE _____
LICENSE NO. SU-075250

APPROVAL OF DIRECTOR OF PUBLIC WORKS:

REVIEWED BY THE RADNOR TOWNSHIP DIRECTOR OF PUBLIC WORKS THIS ____ DAY OF _____, 2018.

DIRECTOR OF RADNOR TOWNSHIP PUBLIC WORKS

APPROVAL OF TOWNSHIP ZONING OFFICER:

REVIEWED BY THE RADNOR TOWNSHIP ZONING OFFICER THIS ____ DAY OF _____, 2018.

RADNOR TOWNSHIP ZONING OFFICER

APPROVAL OF TOWNSHIP ENGINEER:

REVIEWED BY THE RADNOR TOWNSHIP ENGINEER THIS ____ DAY OF _____, 2018.

RADNOR TOWNSHIP ENGINEER

APPROVAL OF TOWNSHIP BOARD OF COMMISSIONERS:

APPROVED BY RADNOR TOWNSHIP BOARD OF COMMISSIONERS THE ____ DAY OF _____, 2018, AND EXECUTED THIS ____ DAY OF _____, 2018.

BY: _____
PRESIDENT

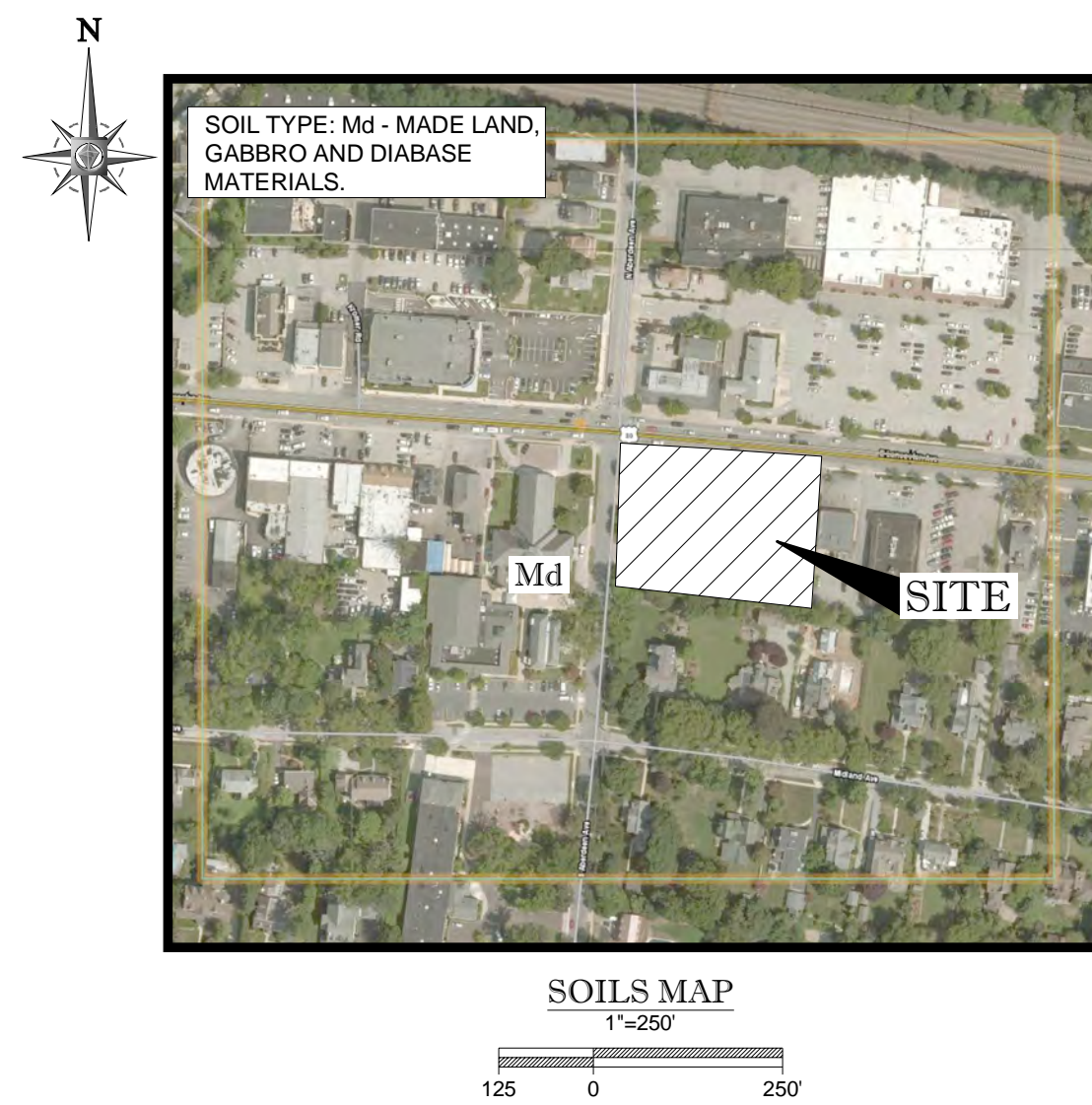
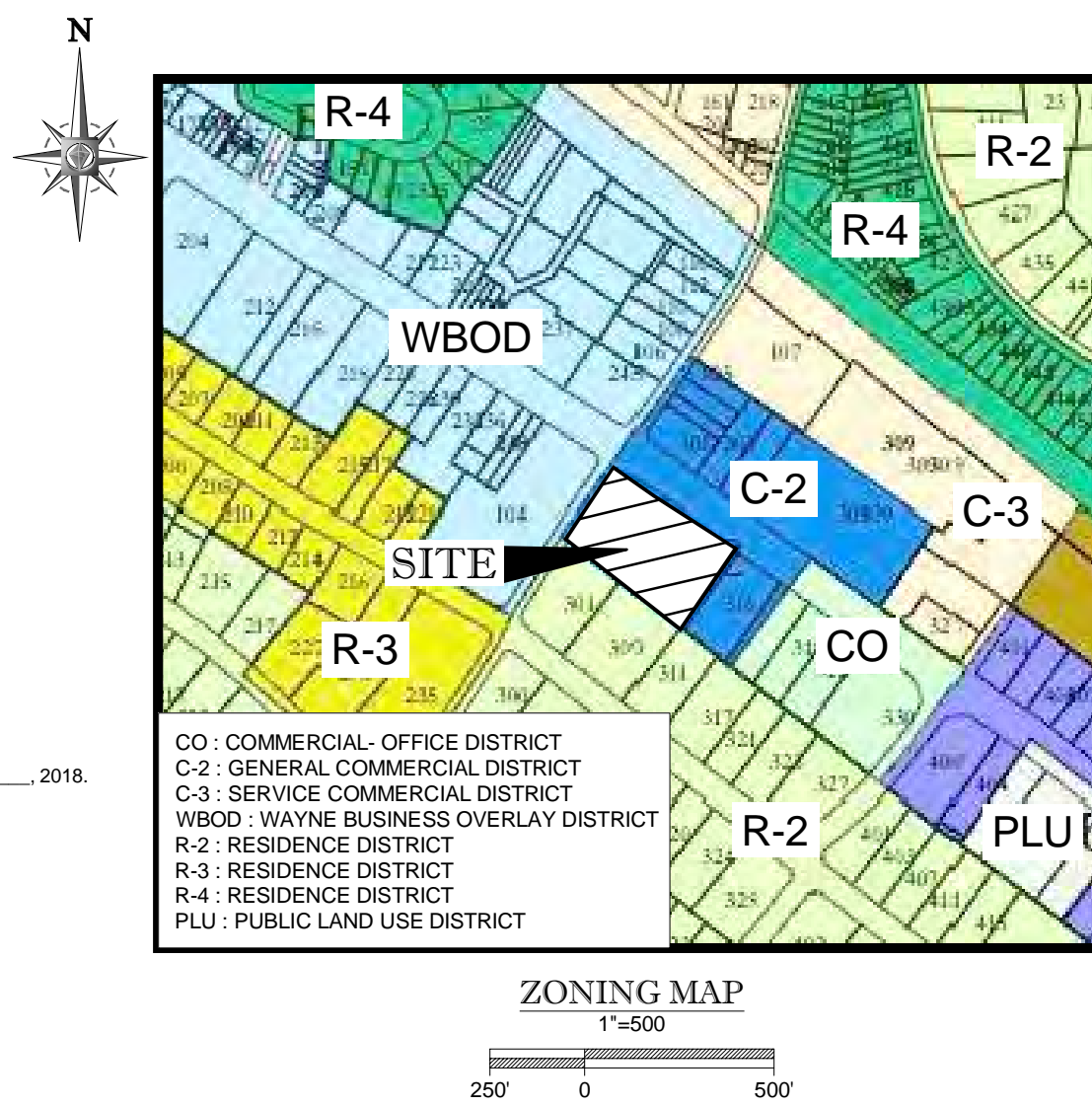
ATTEST: _____
SECRETARY

REVIEWED BY THE DELAWARE COUNTY PLANNING COMMISSION

DATE: _____ / _____ / _____
(MONTH) (DAY) (YEAR)

ATTEST: _____
(DIRECTOR)

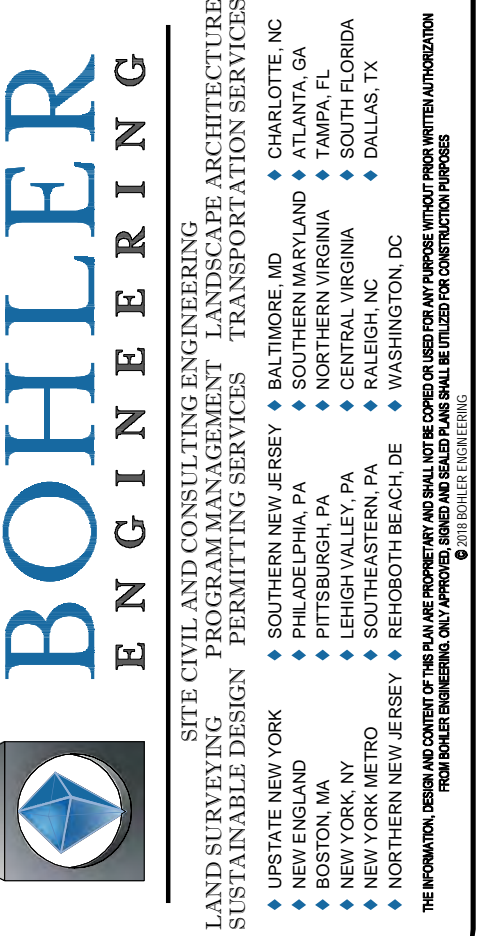
DCPC NO.:



SHEET INDEX	
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*** RECORD PLAN NOTE:**
SHEETS 1-3 & 13-15 OF THIS PLAN SET ARE TO BE CONSIDERED A COMPLETE RECORD PLAN SET FOR FILING PURPOSES IN THE DELAWARE COUNTY RECORDER OF DEEDS OFFICE.

NOTE:
PCSM DRAINAGE MAPS 1 OF 3 THRU 3 OF 3 LOCATED IN REF 1.d ARE PART OF THE RECORD PLAN SET AS SET FORTH BY THE PADEP NPDES PERMIT REQUIREMENTS.



REVISIONS			
REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL
PA1
1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

PROJECT No.: PC181016
DRAWN BY: MCM
CHECKED BY: EAB
DATE: 2018.07.13
SCALE: AS NOTED
CAD I.D.: PC181016 DETAILS-1

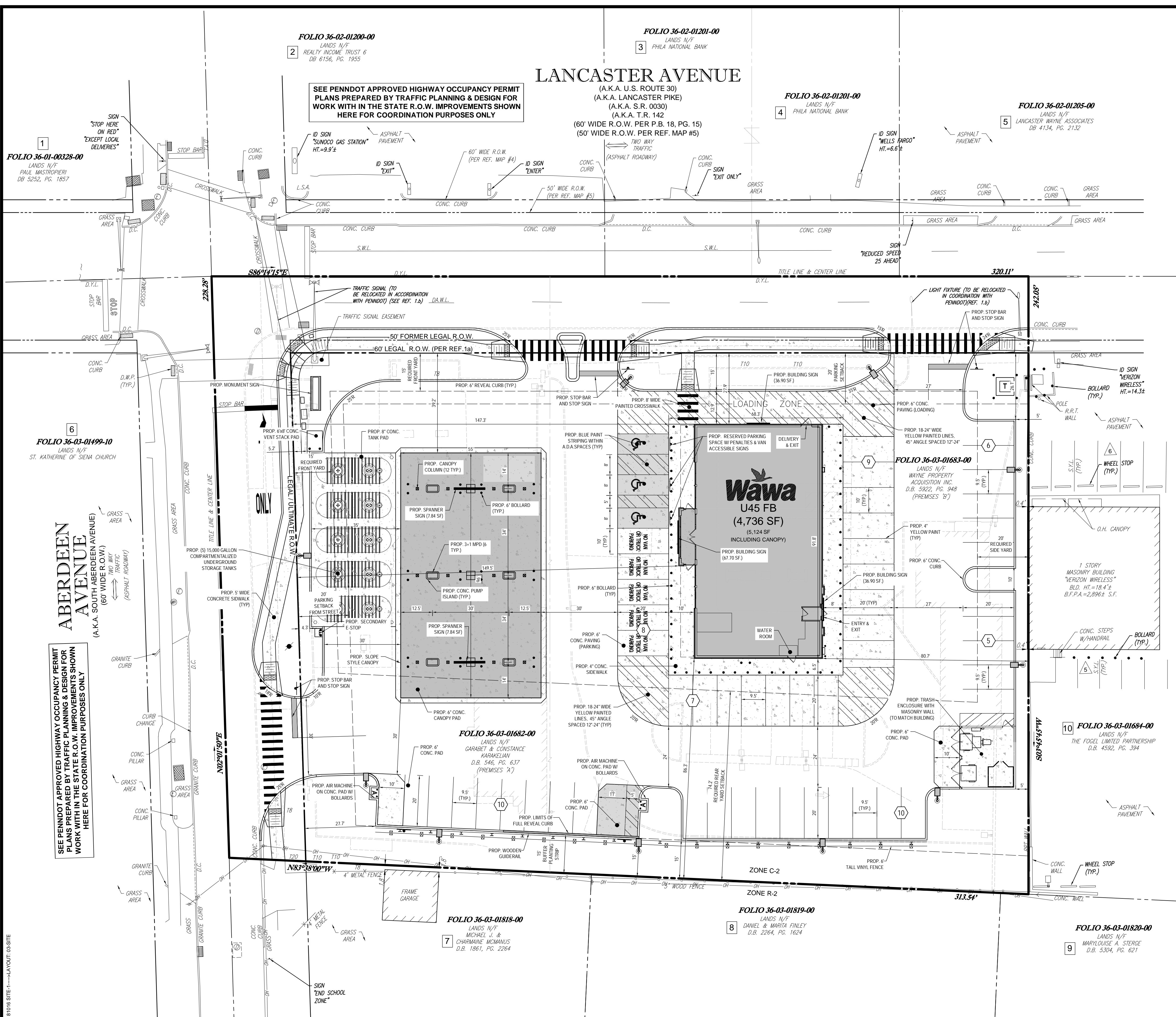
PROJECT:
PRELIMINARY LAND DEVELOPMENT PLANS
FOR
WAYNE PROPERTY ACQUISITION INC.
ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE
RADNOR TOWNSHIP
DELAWARE COUNTY, PA

BOHLER ENGINEERING
1600 MANOR DRIVE, SUITE 200
CHALFONT, PENNSYLVANIA 18914
Phone: (215) 996-9100
Fax: (215) 996-9102
www.BohlerEngineering.com

E.A. BRITZ
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE NO. PE076643

SHEET TITLE:
COVER
SHEET NUMBER:
1
OF 19
REVISION 1 - 2018.08.31

R:\181016\181016\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016\181016 DETAILS\1-181016-LAYOUT-01-COVER



SITE DATA
 TOWNSHIP OF RADNOR, DELAWARE COUNTY, PA
 ZONED: C-2 - GENERAL COMMERCIAL DISTRICT
 LOT AREA (TO TITLE): 1.71 Ac.
 - LEGAL/ULTIMATE ROW: 0.36 Ac.
 LOT AREA (TO LEGAL/ULTIMATE ROW): 1.35± Ac.

SITE DESIGN REQUIREMENTS
 REQUIREMENTS TAKEN FROM:
 - THE RADNOR ZONING ORDINANCE, ENACTED 2/25/1974, AS AMENDED.
 EXISTING ZONING: C-2 GENERAL COMMERCIAL DISTRICT
 PROPOSED USES: RETAIL STORE (PERMITTED BY RIGHT)

REQUIREMENTS	REQUIRED	EXISTING **	PROVIDED
MIN. LOT AREA (TO TITLE)	20,000 SF	74,384 SF (1.71 Ac.)	74,384 SF (1.71 Ac.)
MIN. LOT WIDTH @ BUILDING SETBACK LINE:	100.0 FEET	289.2 FEET	289.2 FEET
MIN. REQUIRED FRONT YARD:	15.0 FEET	LANCASTER AVE: 16.5 FEET ABERDEEN AVE: 36.8 FEET 9.9 FEET	LANCASTER AVE: 27.9 FEET ABERDEEN AVE: 149.5 FEET 80.7 FEET
MIN. REQUIRED SIDE YARD:	20.0 FEET (ABUTTING COMMERCIAL) 30.0 FEET (ABUTTING RESIDENTIAL)	n/a	n/a
MIN. REQUIRED REAR YARD:	35.0 FEET or 35.0% OF LOT DEPTH (74.2 FEET) ¹	18.7 FEET	88.3 FEET
MIN. BUFFER TO RESIDENTIAL:	15.0 FEET	0.0 FEET	15.0 FEET
MAX. BUILDING COVERAGE**:	30.0%	13.8% (10,271 SF)	14.0% (10,392 SF)
MAX. LOT COVERAGE**:	70.0%	66.1% (48,160 SF)	64.8% (48,206 SF)
MAX. BUILDING HEIGHT:	35.0 FEET	<35.0 FEET	<35.0 FEET
MAX. BUILDING DIMENSION:	160.0 FEET	84.7 FEET	91.8 FEET
MIN. PARKING SETBACK (TO STREETS R.O.W.):	20.0 FEET (COMMERCIAL)	LANCASTER AVE: 6.2 FEET ABERDEEN AVE: 4.8 FEET	LANCASTER AVE: 26.1 FEET ABERDEEN AVE: 27.7 FEET
MIN. LOADING SETBACK:	15.0 FEET	LANCASTER AVE: N/A ABERDEEN AVE: N/A	LANCASTER AVE: 15.0 FEET ABERDEEN AVE: 147.3 FEET
MAX. NUMBER OF DRIVEWAYS (PER 500 FEET OF FRONTAGE):	2	LANCASTER AVE: 3 ABERDEEN AVE: 2	LANCASTER AVE: 2 ABERDEEN AVE: 1
MAX. DRIVEWAY WIDTH:	35.0 FEET	LANCASTER AVE: 47.0 FEET ABERDEEN AVE: 31.2 FEET	LANCASTER AVE: 30.0 FEET ABERDEEN AVE: 30.0 FEET

- NOTES:**
- * LOT DEPTH TAKEN AT DEEPEST PART OF THE PROPERTY ALONG THE EASTERN PROPERTY LINE: 212.1 x 0.36 = 74.2 FEET.
 - ** SIGNAGE SHOWN ON THIS PLAN FOR COORDINATION PURPOSES ONLY & SHALL NOT BE CONSIDERED PART OF THE LAND DEVELOPMENT PLAN APPROVAL. SIGNAGE PERMIT AND ZONING APPLICATION REQUIRED FOR ALL SIGNAGE.
 - ** FOR THE PURPOSES OF CALCULATING THE EXISTING CONDITIONS, IT HAS BEEN ASSUMED THAT THE TWO LOTS HAVE BEEN CONSOLIDATED.
 - ** BUILDING AND IMPERVIOUS AREA PERCENTAGES CALCULATED AS RATIO OF BUILDING / IMPERVIOUS COVER WITHIN LEGAL / ULTIMATE R.O.W. TO THE TITLED LOT.

PARKING REQUIREMENTS
 RETAIL: 1 SPACE / 200 SF + 1 SPACE / 2 EMPLOYEES (MAX. SHIFT)
 5112 x 0.8 / 200 = 20.45 + 5 = 25.45 OR 26 SPACES
 REQUIRED PARKING: 26 SPACES
 PROVIDED PARKING: 55 SPACES (INCLUDING 3 ADA SPACES)

LOADING REQUIREMENTS
 REQUIRED: (2,000 - 8,000 SF RETAIL) = 1 SPACE (12' x 30')
 PROVIDED: 1 SPACE (12.9' x 68.3')

ADJACENT PROPERTY OWNER INFORMATION

- FOLIO NUMBER: 36-01-00328-00
 LANDS N/F
 PAUL MASTROPieri
 DB 5252, PG. 1857
 MAILING ADDRESS: 907 SEACREST RD, OCEAN CITY NJ 08226-4735
- FOLIO NUMBER: 36-02-01200-00
 LANDS N/F
 REALTY INCOME TRUST 6
 DB 6156, PG. 1955
 MAILING ADDRESS: 11995 EL CAMINO REAL, SAN DIEGO, CA 92130
- FOLIO NUMBER: 36-02-01201-00
 LANDS N/F
 PHILA NATIONAL BANK
 PO BOX 2609, CARLSBAD CA 92018-2609
 C/O WACHOVIA BANK PROP TAX
- SAME AS #3
- FOLIO NUMBER: 36-02-01205-00
 LANDS N/F
 LANCASTER WAYNE ASSOCIATES
 DB 4134, PG. 2132
 MAILING ADDRESS: 1 TOWN PL #100, BRYN MAWR PA 19010-3418
- FOLIO NUMBER: 36-03-01499-10
 LANDS N/F
 DANIEL FINLEY/MARITA FINLEY
 DB 2264, PG. 1624
 MAILING ADDRESS: 309 MIDLAND AVE, WAYNE, PA 19087-4305
- FOLIO NUMBER: 36-03-01820-00
 LANDS N/F
 MARYLOUISE A. STERGE
 DB 5304, PG. 621
 MAILING ADDRESS: 311 MIDLAND AVE, WAYNE, PA 19087-4305
- FOLIO NUMBER: 36-03-01818-00
 LANDS N/F
 THE FOGEL LIMITED PARTNERSHIP
 DB 4592, PG. 394
 MAILING ADDRESS: 137 DORAL DR, BLUE BELL PA 19422-3258
- FOLIO NUMBER: 36-03-01819-00
 LANDS N/F
 DANIEL & MARITA FINLEY
 D.B. 2264, PG. 1624
- FOLIO NUMBER: 36-03-01820-00
 LANDS N/F
 MARYLOUISE A. STERGE
 D.B. 5304, PG. 621

DRAWING LEGEND

	PROPERTY LINE
	LEGAL RIGHT-OF-WAY LINE
	ULTIMATE RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	EXISTING EASEMENT
	PROPOSED DEPRESSED CURB
	PROPOSED CONCRETE PAVEMENT
	PROPOSED FENCE
	PROPOSED GUIDERAIL
	EXISTING SIGN
	EXISTING INLET
	EXISTING STORM MANHOLE
	EXISTING SANITARY MANHOLE
	EXISTING MANHOLE
	EXISTING UTILITY POLE
	EXISTING STREET LIGHT
	EXISTING TRAFFIC MAST ARM
	PROPOSED TRUNCATED DOMES
	PROPOSED PARKING COUNT
	PROPOSED SIGN
	PROPOSED AREA LIGHT
	PROPOSED TRANSFORMER



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 CAD ID: PC181016 SITE-1

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WAYNE PROPERTY ACQUISITION INC.

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 RADNOR TOWNSHIP
 DELAWARE COUNTY, PA

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EA BRITZ

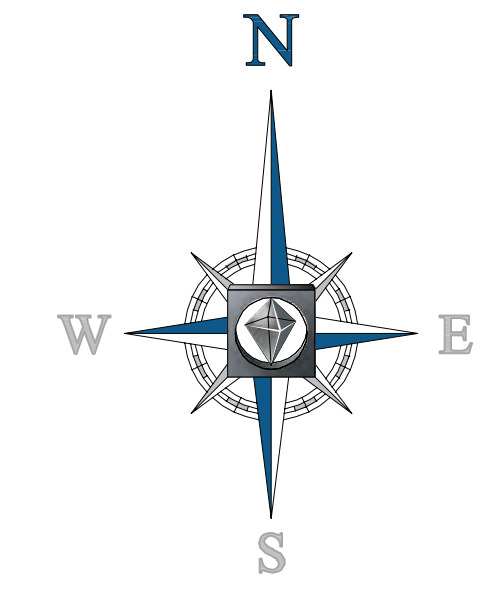
PROFESSIONAL ENGINEER
 PENNSYLVANIA LICENSE # 68971643

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
3
 OF 19

REVISION 1 - 2018.08.31

R:\PROJECTS\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 SITE-1-3\LA\OUT-03.SHEET



FOLIO 36-02-01200-00
LANDS N/F
REALTY INCOME TRUST 6
DB 6156, PG. 1955

FOLIO 36-02-01201-00
LANDS N/F
PHILA NATIONAL BANK

FOLIO 36-02-01201-00
LANDS N/F
PHILA NATIONAL BANK

FOLIO 36-02-01205-00
LANDS N/F
LANCASTER WAYNE ASSOCIATES
DB 4134, PG. 2132

LANCASTER AVENUE

(A.K.A. U.S. ROUTE 30)
(A.K.A. LANCASTER PIKE)
(A.K.A. S.R. 0030)
(A.K.A. T.R. 142)
(60' WIDE R.O.W. PER P.B. 18, PG. 15)
(50' WIDE R.O.W. PER REF. MAP #5)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY

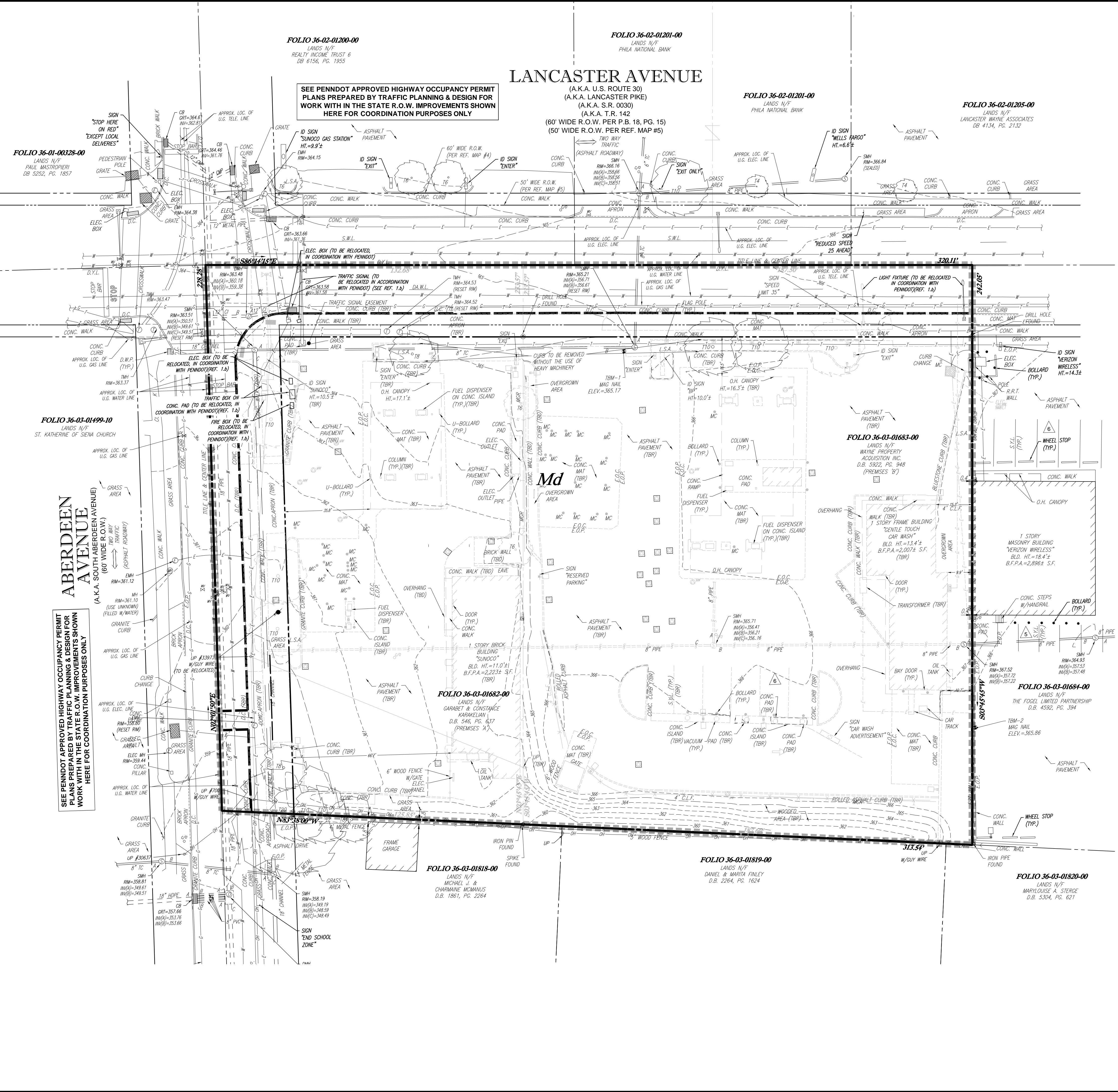
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LANDS N/F
PAUL MASTROPieri
DB 5252, PG. 1857

FOLIO 36-03-01499-10
LANDS N/F
ST. KATHERINE OF SIENA CHURCH

ABERDEEN AVENUE

(A.K.A. SOUTH ABERDEEN AVENUE)
(60' WIDE R.O.W.)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY



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1-800-242-1776

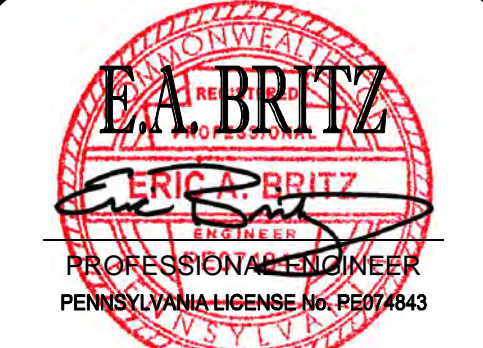
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FOR
WAYNE PROPERTY ACQUISITION INC.

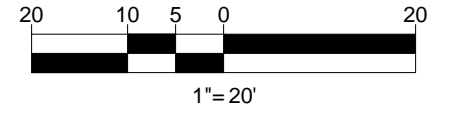
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SHEET TITLE:
EXISTING CONDITIONS / DEMOLITION PLAN
SHEET NUMBER:
4
OF 19
REVISION 1 - 2018.08.31

DRAWING LEGEND	
	PROPERTY LINE
	PROPOSED LIMIT OF DISTURBANCE/NPDES BOUNDARY
	PROPERTY LINE TO BE REMOVED
	LEGAL RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	EXISTING EASEMENT
	EXISTING PAVEMENT LINE
	EXISTING CONCRETE CURB TO BE REMOVED
	EXISTING SANITARY SEWER
	EXISTING STORMWATER
	EXISTING GAS LINE
	EXISTING OVERHEAD LINE
	EXISTING WATER LINE
	EXISTING GAS LINE TO BE REMOVED
	EXISTING OVERHEAD LINE TO BE REMOVED
	EXISTING ELECTRIC LINE TO BE REMOVED
	EXISTING CONTOUR INDEX
	EXISTING CONTOUR INTERVAL
	EXISTING SPOT ELEVATION
	EXISTING SIGN
	EXISTING INLET
	EXISTING STORM MANHOLE
	EXISTING SANITARY MANHOLE
	EXISTING MANHOLE
	EXISTING UTILITY POLE
	EXISTING STREET LIGHT
	EXISTING TRAFFIC MAST ARM
	EXISTING WATER VALVE
	EXISTING LIGHT FIXTURE
	EXISTING MONITORING WELL
	EXISTING METAL COVER
	TO BE REMOVED



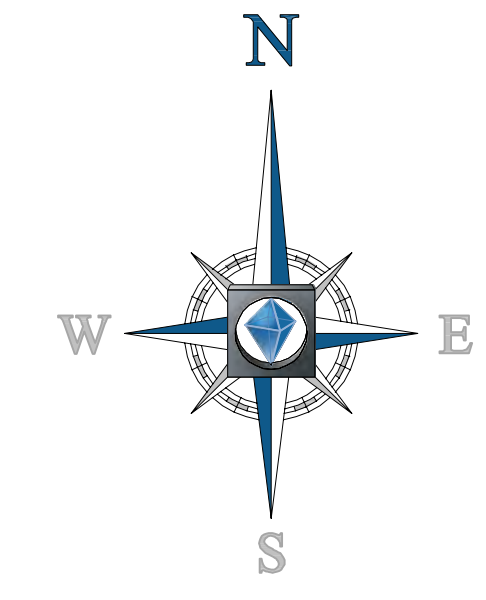
R:\PROJECTS\181016\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 SITE-1.dwg - 11/14/2018 10:46:00 AM

LANCASTER AVENUE

(A.K.A. U.S. ROUTE 30)
(A.K.A. LANCASTER PIKE)
(A.K.A. S.R. 0030)
(A.K.A. T.R. 142)

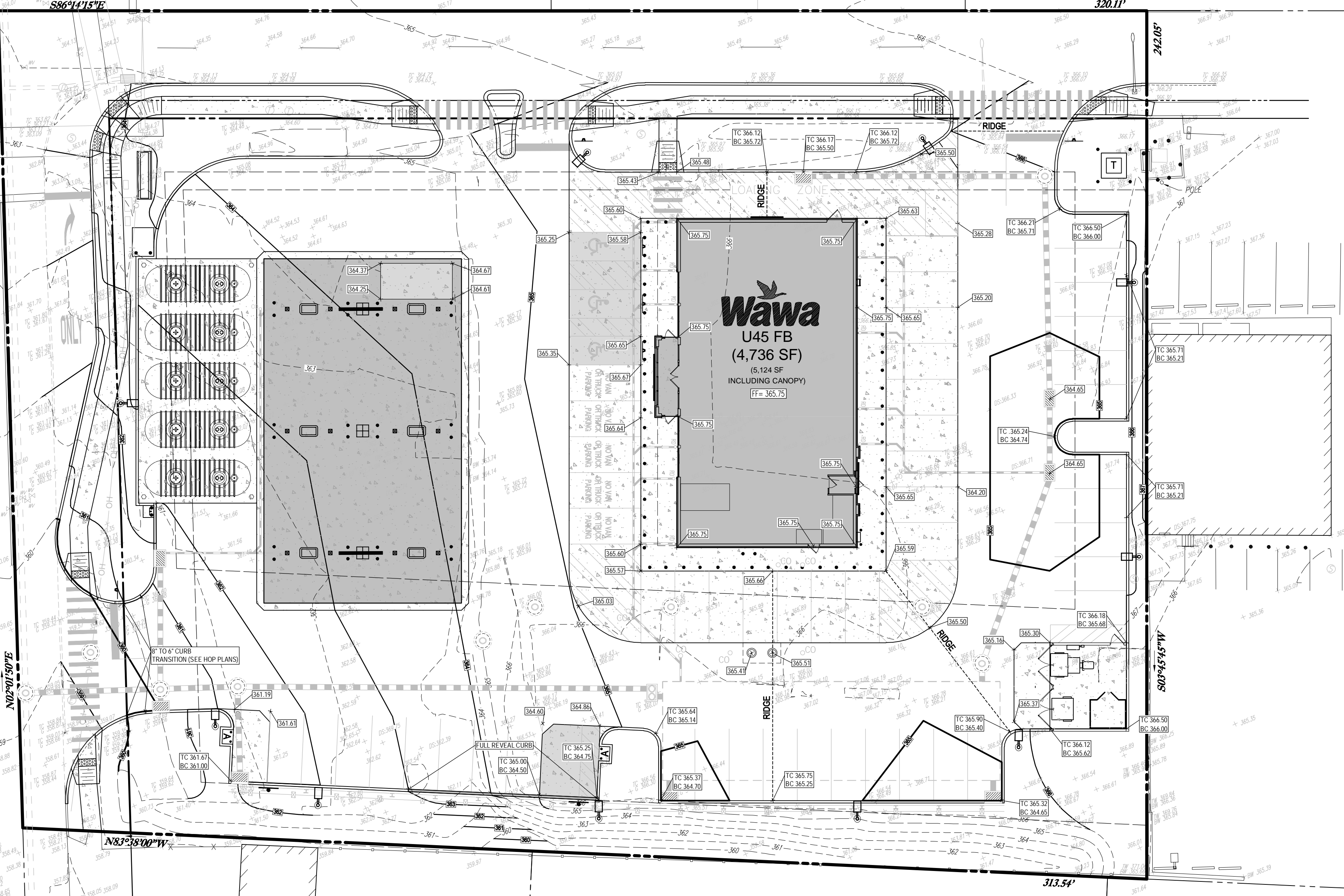
(60' WIDE R.O.W. PER P.B. 18, PG. 15)
(50' WIDE R.O.W. PER REF. MAP #5)
TWO WAY
704.77' C
(ASPHALT ROADWAY)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY



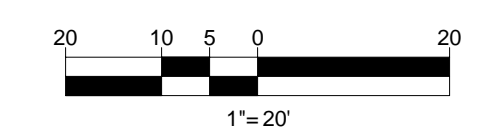
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(A.K.A. SOUTH ABERDEEN AVENUE)
(60' WIDE R.O.W.)
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DRAWING LEGEND

- PROPERTY LINE
- EXISTING CONTOUR INDEX
- EXISTING CONTOUR INTERVAL
- EXISTING SPOT ELEVATION
- EXISTING STORMWATER
- PROPOSED CONTOUR INDEX
- PROPOSED CONTOUR INTERVAL
- PROPOSED RIDGE LINE
- PROPOSED SPOT ELEVATION
- PROPOSED TOP / BOTTOM CURB ELEVATION
- PROPOSED STORMWATER PIPE



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E.A. BRITZ
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE NO. P0014643

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
5
OF 19

REVISION 1 - 2018.08.31

R:\18PC181016\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 SITE-1 - LAYOUT_06-GRADING

LANCASTER AVENUE

(A.K.A. U.S. ROUTE 30)
(A.K.A. LANCASTER PIKE)
(A.K.A. S.R. 0030)
(A.K.A. T.R. 142)

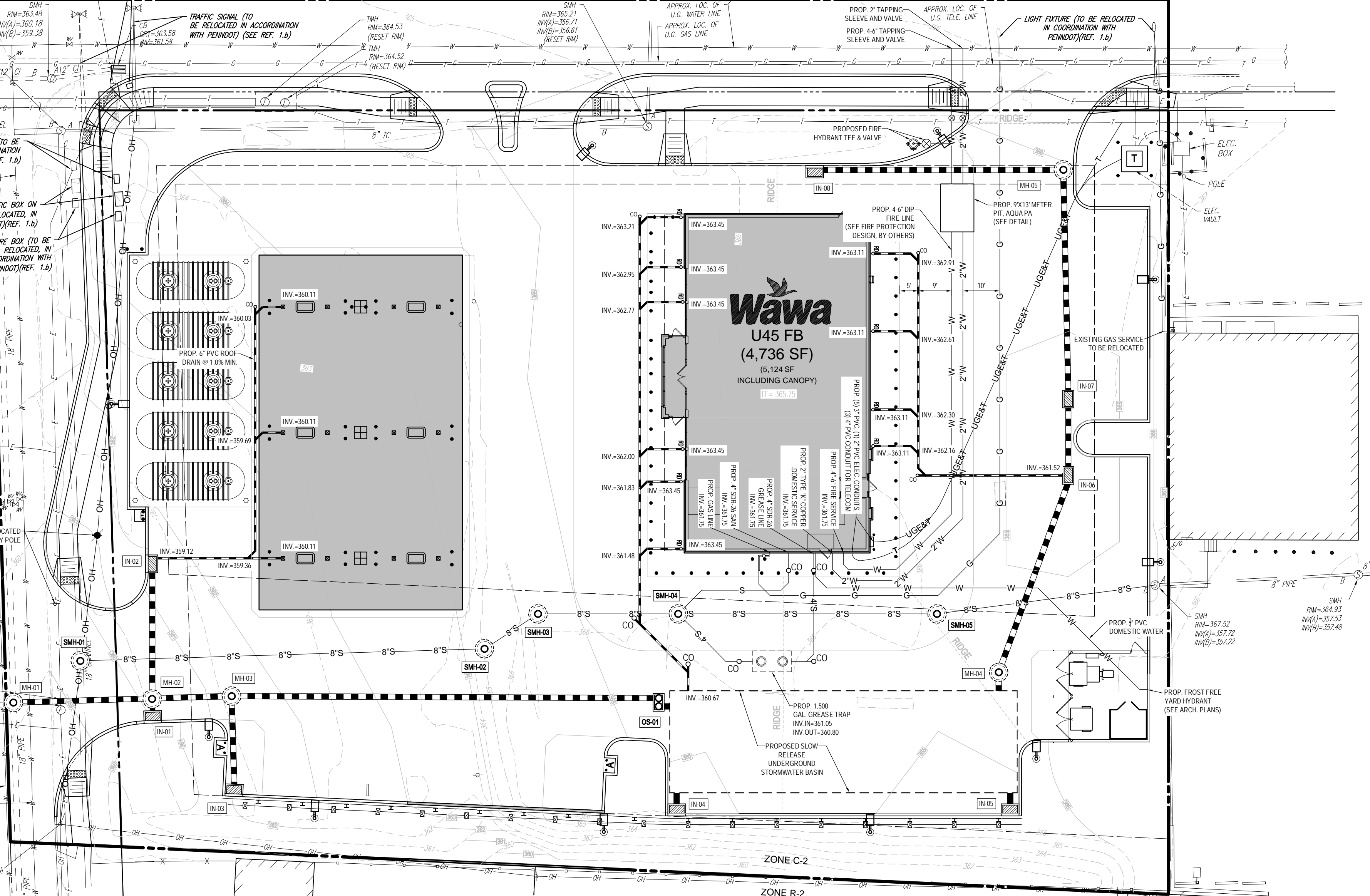
(60' WIDE R.O.W. PER P.B. 18, PG. 15)
(50' WIDE R.O.W. PER REF. MAP #5)



SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY

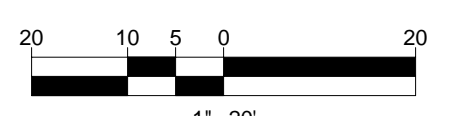
ABERDEEN AVENUE
(A.K.A. SOUTH ABERDEEN AVENUE)
(60' WIDE R.O.W.)
(ASPHALT ROADWAY)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY



DRAWING LEGEND

- S — S — S — S — S — PROPERTY LINE
- - - - - EXISTING SANITARY SEWER (SDR-28)
- - - - - EXISTING STORMWATER
- - - - - EXISTING GAS LINE
- - - - - EXISTING OVERHEAD LINE
- - - - - EXISTING WATER LINE
- - - - - PROPOSED STORMWATER PIPE
- - - - - PROPOSED SANITARY LINE
- - - - - PROPOSED WATERLINE
- - - - - PROPOSED GAS LINE
- - - - - PROPOSED ELECTRIC & TELEPHONE
- - - - - PROPOSED OVERHEAD UTILITY LINE
- 20 ○ EXISTING INLET
- ○ EXISTING STORM MANHOLE
- ○ EXISTING SANITARY MANHOLE
- ○ EXISTING MANHOLE
- ○ EXISTING UTILITY POLE
- ○ EXISTING STREET LIGHT
- ○ EXISTING TRAFFIC MAST ARM
- ○ EXISTING WATER VALVE
- ○ PROPOSED UTILITY MANHOLE
- ○ PROPOSED STORMWATER INLET
- ○ PROPOSED OUTLET STRUCTURE
- ○ PROPOSED TRANSFORMER
- ○ PROPOSED INLET LABEL
- ○ PROPOSED CLEANOUT
- ○ PROPOSED ROOF DRAIN



REVISIONS

REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

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PROJECT No.: PC181016
DRAWN BY: MCM
CHECKED BY: EAB
DATE: 2018.07.13
SCALE: AS NOTED
CAD I.D.: PC181016 SITE-1

PRELIMINARY LAND DEVELOPMENT PLANS
FOR
WAYNE PROPERTY ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE
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DELAWARE COUNTY, PA

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CHALFONT, PENNSYLVANIA 18914
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SHEET TITLE:
UTILITY PLAN

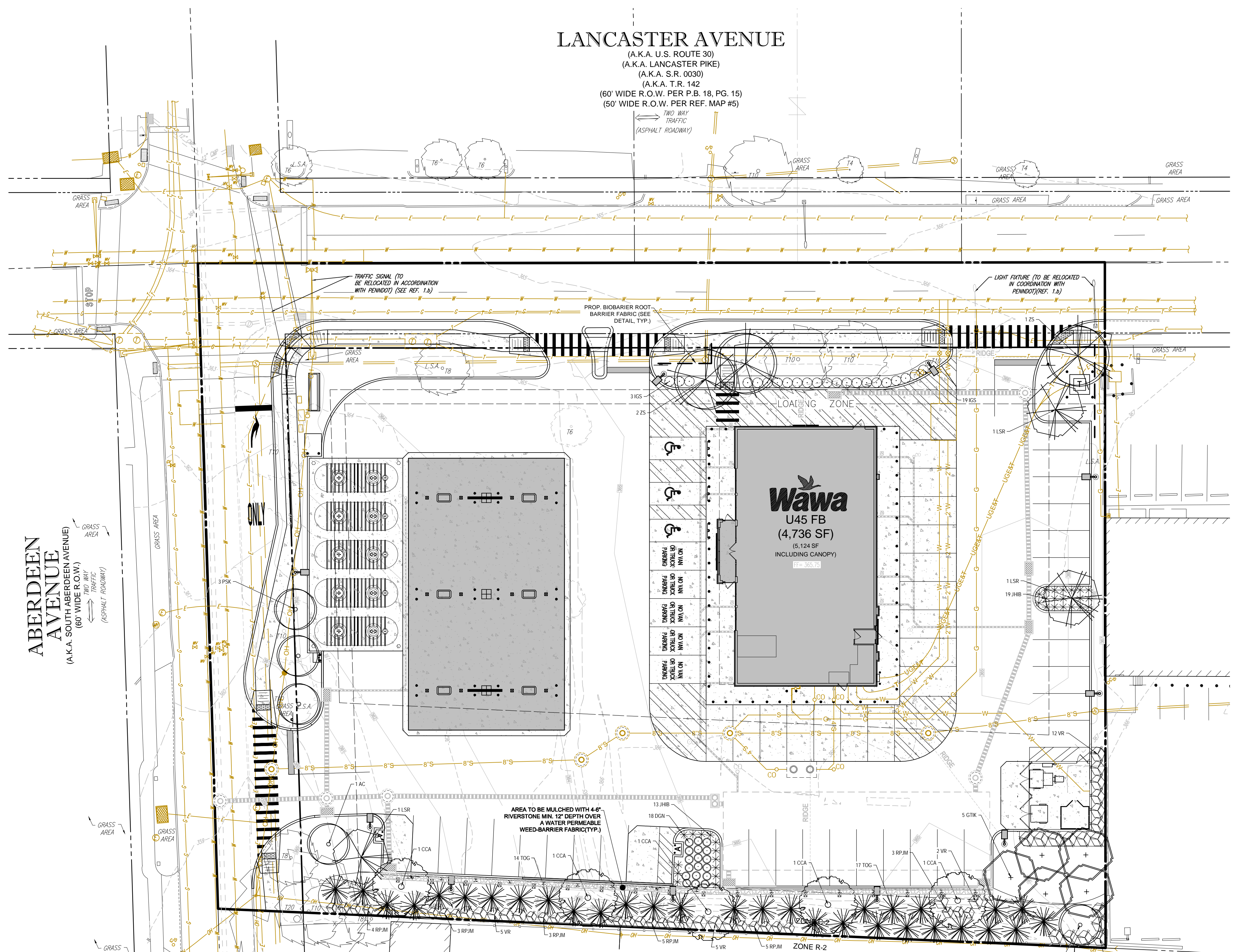
SHEET NUMBER:
6
OF 19

REVISION 1 - 2018.08.31

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LANCASTER AVENUE

(A.K.A. U.S. ROUTE 30)
(A.K.A. LANCASTER PIKE)
(A.K.A. S.R. 0030)
(A.K.A. T.R. 142)
(60' WIDE R.O.W. PER P.B. 18, PG. 15)
(50' WIDE R.O.W. PER REF. MAP #5)



GENERAL NOTES:

- THIS PLAN IS TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY.
- ALL DISTURBED UNPAVED AREAS, EXCLUDING PLANTING BEDS, ARE TO BE INSTALLED AS SODDED LAWN IN ACCORDANCE WITH LANDSCAPE SPECIFICATION 4.2, UNLESS OTHERWISE STATED ON THIS PLAN.
- CONTRACTOR TO PROVIDE AN IRRIGATION DESIGN FOR BOTH LAWN AND BED AREAS. DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR IS ALSO RESPONSIBLE FOR ANY PRESSURE REDUCING DEVICES REQUIRED TO MEET MAXIMUM PRESSURE REQUIREMENT.
- ALL LANDSCAPE BEDS ARE TO BE INSTALLED WITH WEED BARRIER FABRIC (SEE DETAIL).
- SHRUBS PLANTED ALONG HEAD-IN PARKING STALLS SHALL BE INSTALLED TO ALLOW A CLEARANCE OF FIVE FEET FROM FACE OF CURB TO ALLOW FOR BUMPER OVERHANG.
- WHEN APPLICABLE, CENTER OF PROPOSED ORNAMENTAL OR EVERGREEN TREE SHALL BE OFFSET 6' FROM THE BACK OF RETAINING WALLS (1' FOR SHADE TREES) TO PREVENT WALL FAILURE. FINAL PLANTING LOCATIONS SHALL BE COORDINATED WITH THE WALL DESIGNER.
- WITHOUT EXCEPTION, WEED BARRIER FABRIC SHALL NOT BE USED AT THE BOTTOM OR SIDE SLOPES OF STORMWATER BMP FACILITIES.

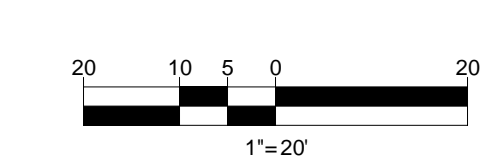
COMPLIANCE CHART

SECTION	REQUIREMENT	CALCULATIONS REQUIRED / PROVIDED	COMPLIANCE
255-29 PARKING FACILITIES	B.1. ALL PARKING AREAS SHALL HAVE AT LEAST ONE TREE 2 1/2 INCHES MINIMUM IN CALIPER FOR EVERY FIVE PARKING SPACES IN SINGLE BAYS AND ONE TREE 2 1/2 INCHES MINIMUM IN CALIPER FOR EVERY 10 PARKING SPACES IN DOUBLE BAYS. TREES SHALL BE PLANTED IN SUCH A MANNER TO PROVIDE MAXIMUM PROTECTION FROM THE SUN FOR PARKED VEHICLES. A MINIMUM OF 10% OF ANY PARKING LOT FACILITY OVER 2,000 SQUARE FEET IN GRASS AREA SHALL BE DEVOTED TO LANDSCAPING, INCLUDING OF REQUIRED TREES.	PARKING SPACES PROVIDED: 55 REQUIRED: 55 (5 - 11 SHADE TREES PROVIDED: 5 CCA, 3 GIK, 3 LSR, 11 SHADE TREES)	COMPLIES
255-38 SHADE TREES	B. STREET TREES 2 1/2 INCHES DBH AT INTERVALS OF NOT MORE THAN 30 FEET ALONG BOTH SIDES OF NEW STREETS AND ALONG ONE OR BOTH SIDES OF AN EXISTING STREET WITHIN THE PROPOSED SUBDIVISION OR LAND DEVELOPMENT. AN EQUIVALENT NUMBER MAY BE PLANTED IN AN ORIGINAL ARRANGEMENT, SUBJECT TO THE APPROVAL OF THE BOARD OF COMMISSIONERS.	TOTAL LENGTH ALONG LANCASTER AVE.: 175' LF (EXCLUDING 50' LF FROM INTERSECTION OF STREET R.O.W. AND DRIVEWAY WIDTH) REQUIRED: 175' 30" ± 8 OR 6 STREET TREES PROVIDED: 2 EXISTING TREES PLUS 2 CCA (4 STREET TREES)	COMPLIES
255-42 BUFFER SCREENS	A. BUFFER SCREENS ARE REQUIRED BETWEEN SUBDIVISIONS AND LAND DEVELOPMENTS AND ALONG EXISTING STREETS TO SOFTEN VISUAL IMPACT, TO SCREEN CLARE AND TO CREATE A VISUAL BARRIER BETWEEN CONFLICTING LAND USES. THE EXTENT OF SCREENING REQUIRED SHALL BE DETERMINED BY THE TYPE OF USE PROPOSED AND THE ADJACENT USES OR STREETS SURROUNDING THE PROPOSED DEVELOPMENT. THE IMPACT OF THE PROPOSED USE ON ADJACING PROPERTIES IS THE BASIS FOR ESTABLISHING BUFFER SCREEN STANDARDS.	NORTH BOUNDARY BUFFER YARD CLASS: A REQUIRED: STREET TREES AS REQUIRED BY 255-38 PROVIDED: SEE SECTION 255-38 ABOVE. EAST BOUNDARY BUFFER YARD CLASS: -- REQUIRED: NONE PROVIDED: NONE SOUTH BOUNDARY BUFFER YARD CLASS: B PROPERTY LINE LENGTH: 283± LF REQUIRED: 283' 15" ± 8 OR 19 EVERGREENS, 283' 8" ± 8 OR 24 EVERGREEN SHRUBS PROVIDED: 30 TOG (20 EVERGREENS), 23 RPJM, 18 VR (41 EVERGREEN SHRUBS)	COMPLIES
256 ATTACHMENT 2	TABLE 1. DETERMINATION OF BUFFER YARD CLASS PROPOSED LAND USE: RETAIL AND CONSUMER SERVICE ADJACENT LAND USE: SINGLE FAMILY DETACHED, RETAIL AND CONSUMER SERVICE ADJACENT STREET CLASSIFICATION: ARTERIAL MINOR COLLECTOR	WEST BOUNDARY BUFFER YARD CLASS: * REQUIRED: STREET TREES AS REQUIRED BY 255-38 PROVIDED: SEE SECTION 255-38 ABOVE.	COMPLIES
263-8 REVIEW OF PERMIT APPLICATIONS	D. GSA PLAN SHALL BE SUBMITTED ILLUSTRATING THE SIZE, SPECIES AND LOCATION OF THE TREE THAT IS PROPOSED TO BE REMOVED AND THE SIZE, SPECIES AND LOCATION OF NEW TREES TO BE PLANTED IN COMPLIANCE WITH THE TREE REPLACEMENT FORMULA. 263-4 TREE REPLACEMENT FORMULA 6 TO 18 INCH DBH REMOVED = 1 REPLACEMENT TREE	TREES 6-18" DBH TO BE REMOVED: 4 PROVIDED: 4 X 1 + 4 TREES 263-4 TREE REPLACEMENT FORMULA 6 TO 18 INCH DBH REMOVED = 1 REPLACEMENT TREE	COMPLIES

LANDSCAPE SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SHADE TREES					
CCA	5	CORYMPUS CAROLINIANA	AMERICAN HORSEMAN	2 1/2-3' CAL.	B-B
GIK	5	GLEDITSIA TRACANTHOS INTERMIS 'SKYCOLE'	SKYLINE THORNLESS HONEYLOCUST	2 1/2-3' CAL.	B-B
LSR	3	LIQUIDAMBAR STYRACIFLUA ROTUNDIFOLIA	SEEDLESS SWEETGUM	2 1/2-3' CAL.	B-B
ZS	3	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE ZELKOVA	2 1/2-3' CAL.	B-B
ORNAMENTAL TREES					
AC	2	AMELANCHIER CANADENSIS	SINGLE STEM SHADBLOW SERVICEBERRY	8-10'	B-B
PSK	3	PRUNUS SERRULATA 'KWANZAN'	KWANZAN CHERRY	2-12' CAL.	B-B
EVERGREEN TREES					
TOG	31	THUJA 'X' GREEN GIANT'	GREEN GIANT ARBORVITAE	8' MIN	B-B
EVERGREEN SHRUBS					
KS	22	ILEX GLABRA 'SHAMROCK'	SHAMROCK HEBBERRY HOLLY	30-36" MIN	CONTAINER
RPJM	23	RHOODOENDRON CAROLINIANA X PAI	PAI RHOODOENDRON	30-36" MIN	B-B
VR	30	VBURNUM X RHYTIDOPHYLLUM	LEATHERLEAF VBURNUM	3-4'	B-B
DECIDUOUS SHRUBS					
DN	18	DEUTZIA GRACIOS 'NICKO'	COMPACT DEUTZIA	18-24"	CONTAINER
GROUND COVER					
JHB	32	JUNIPERUS HORIZONTALIS 'MONBER'	ICEE BLUE JUNIPER	15-18" SPRD	CONTAINER

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN IN THE PLAN AND THE PLAN LIST, THE PLAN SHALL OBTAIN.



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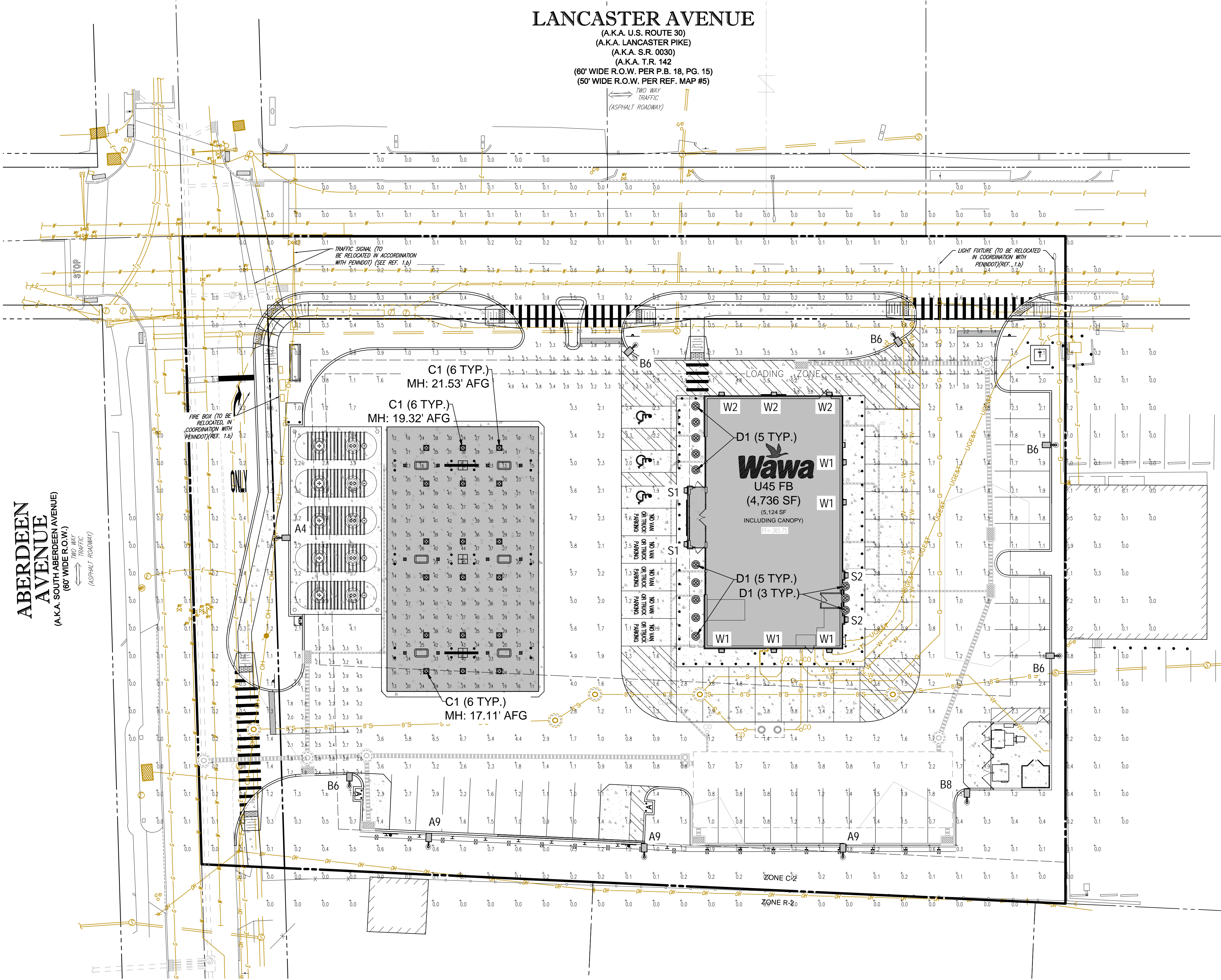
D.T. NORTH
 REGISTERED LANDSCAPE ARCHITECT
 PENNSYLVANIA LICENSE NO. LA007729

SHEET TITLE:
LANDSCAPE PLAN
 SHEET NUMBER:
7
 OF 19
 REVISION 0 - 2018.07.13

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LANCASTER AVENUE

(A.K.A. U.S. ROUTE 30)
(A.K.A. LANCASTER PIKE)
(A.K.A. S.R. 0030)
(A.K.A. T.R. 142)
(60' WIDE R.O.W. PER P.B. 18, PG. 15)
(50' WIDE R.O.W. PER REF. MAP #5)



LIGHTING COMPLIANCE

- SALDO**
255-29 PARKING FACILITIES
- (18) ALL COMMON PARKING AREAS SHALL BE ADEQUATELY LIGHTED DURING AFTER DARK OPERATING HOURS. ALL LIGHTED STANDARDS SHALL BE LOCATED ON RAISED PARKING ISLANDS AND NOT ON THE PARKING SURFACE. [COMPLIES]
- (19) ALL ARTIFICIAL LIGHTING USED TO ILLUMINATE ANY PARKING SPACE OR SPACES SHALL BE SO ARRANGED THAT NO DIRECT RAYS FROM SUCH LIGHTING SHALL FALL UPON ANY NEIGHBORING PROPERTY OR STREETS, NOR SHALL ANY HIGH BRIGHTNESS SURFACE OF THE LUMINAIRES BE VISIBLE FROM NEIGHBORING RESIDENTIAL PROPERTIES OR FROM A PUBLIC STREET. [COMPLIES]
- ZONING**
280.156 ACCESS AND HIGHWAY FRONTAGE
- E. ALL OUTSIDE LIGHTING, INCLUDING SIGN LIGHTING, SHALL BE DIRECTED IN SUCH A WAY AS NOT TO CREATE A NUISANCE IN ANY AGRICULTURAL, INSTITUTIONAL OR RESIDENTIAL DISTRICT, AND IN EVERY DISTRICT ALL SUCH LIGHTING SHALL BE ARRANGED SO AS TO PROTECT THE STREET OR HIGHWAY AND ADJOINING PROPERTY FROM DIRECT GLARE OR HAZARDOUS INTERFERENCE OF ANY KIND. ANY LUMINAIRE SHALL BE EQUIPPED WITH SOME TYPE OF GLARE SHIELDING DEVICE APPROVED BY THE TOWNSHIP ENGINEER. THE HEIGHT OF ANY LUMINAIRE SHALL NOT EXCEED 25 FEET. [COMPLIES]
- GENERAL LIGHTING NOTES**
- THIS PLAN IS TO BE UTILIZED FOR LIGHTING PURPOSES ONLY. ELECTRICAL ENGINEERING, INCLUDING, BUT NOT LIMITED TO, CIRCUITRY, CONDUIT, WIRING, AND ASSOCIATED SPECIFICATIONS, IS NOT WITHIN THE SCOPE OF THIS DOCUMENT.
 - THIS PLAN WAS PREPARED BY: RED LEONARD ASSOCIATES, 1340 KEMPER MEADOW DR, FOREST PARK, OH 45204, PH: 513-574-9500, DRAWING NO. RL-5550-S1-R2
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE PROJECT ENGINEER (BOHLER) FOR REVIEW AND APPROVAL. SUBSTITUTION REQUESTS MUST BE ACCOMPANIED BY A HORIZONTAL PHOTOMETRIC STUDY DEMONSTRATING THAT THE FIXTURE(S) IN QUESTION WILL MEET THE DESIGN INTENT OF THIS PLAN. SUBSTITUTION REQUESTS WITHOUT A PHOTOMETRIC STUDY WILL BE REJECTED.
 - THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURERS. ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
 - THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ALL ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT ELEVATION ZERO (GROUND LEVEL) UNLESS OTHERWISE NOTED. THE VALUES DEPICTED ON THIS PLAN ARE IN FOOT-CANDELS.
 - THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT NOT BE LIMITED TO, FREQUENT VISUAL INSPECTIONS, CLEANING OF LENSES, AND RELAMPING ACCORDING TO MANUFACTURER RECOMMENDATIONS. FAILURE TO FOLLOW THE ABOVE STEPS COULD CAUSE THE LUMINAIRES TO FUNCTION IMPROPERLY.
 - THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES, ONLY. POWER SYSTEM, CONDUITS, WIRING, VOLTAGES AND OTHER ELECTRICAL COMPONENTS ARE THE RESPONSIBILITY OF THE ARCHITECT, MEP AND/OR LIGHTING CONTRACTOR, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES AND ALL OTHER APPLICABLE RULES, REGULATIONS, LAWS AND STATUTES.
 - CONTRACTOR MUST BRING TO THE DESIGNER'S ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURES.
 - THE LIGHTING CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE SITE PLAN, INCLUDING BUT NOT LIMITED TO, GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL GOVERNMENTAL RULES, LAWS, ORDINANCES, REGULATIONS AND THE LIKE.
 - UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.

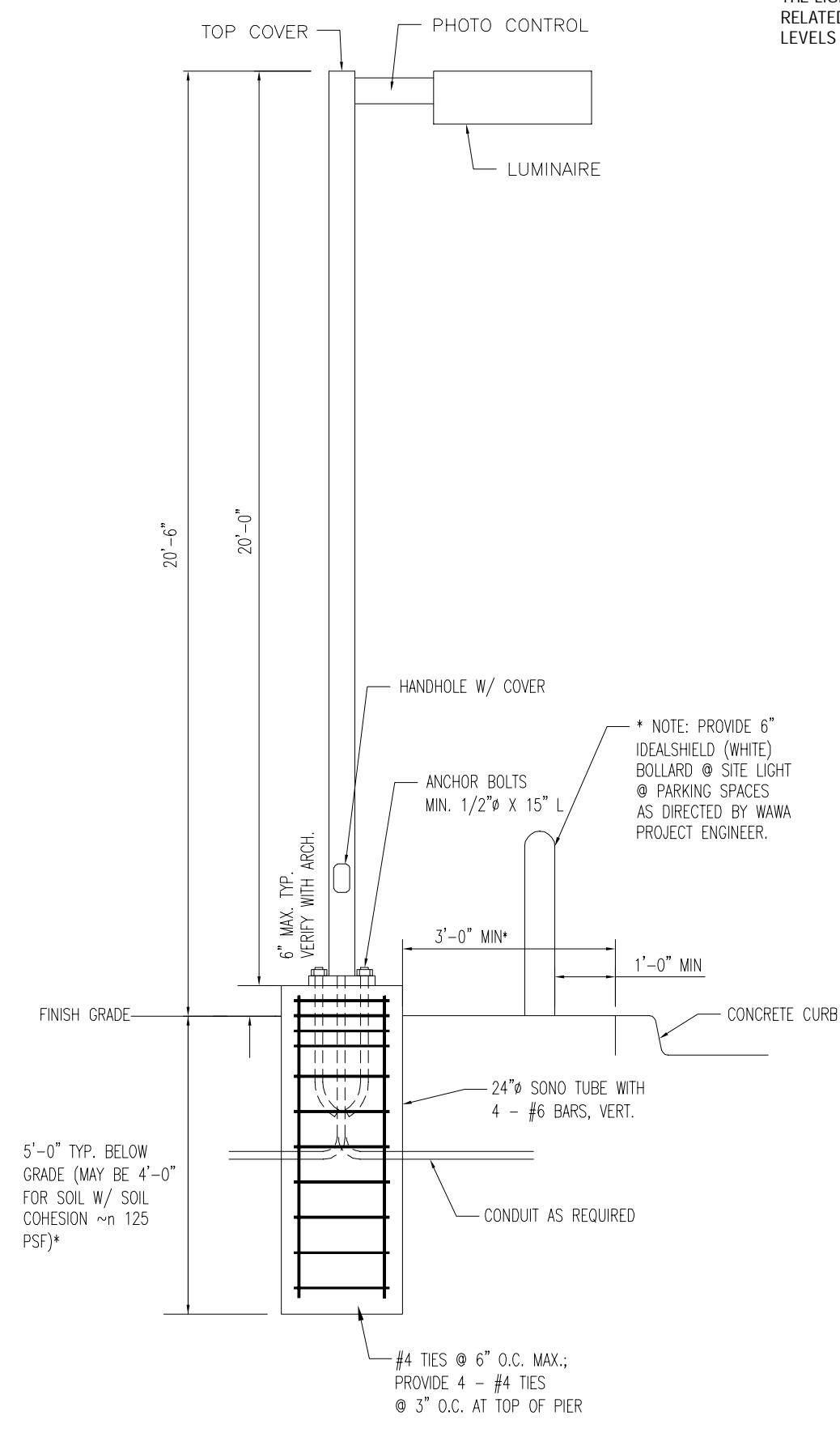
ABERDEEN AVENUE
(A.K.A. SOUTH ABERDEEN AVENUE)
(60' WIDE R.O.W.)
(ASPHALT ROADWAY)

LUMINAIRE SCHEDULE

LABEL	QTY	MOUNTING HEIGHT	ARRANGEMENT	LUMENS	LLF	BUG RATING	MANUFACTURER	DESCRIPTION
A4	1	20'-6" AFG	SINGLE	8891	1.030	B1-U0-G2	CREE, INC.	ARE-EDG-3MB-DA-06-E-UL-WM-700-5TK
A9	3	17'-6" AFG	SINGLE	2542	1.030	B0-U0-G1	CREE, INC.	ARE-EDG-3MB-DA-02-E-UL-WM-525-5TK
B6	5	20'-6" AFG	SINGLE	5460	1.030	B1-U0-G2	CREE, INC.	ARE-EDG-4MB-DA-04-E-UL-WM-525-5TK
B8	1	17'-6" AFG	SINGLE	3220	1.030	B1-U0-G1	CREE, INC.	ARE-EDG-4MB-DA-04-E-UL-WM-300-5TK
C1	18	VARIES, SEE PLAN	SINGLE	10972	1.030	B2-U0-G1	CREE, INC.	CAN-3M-SL-4B0-36-E-UL-WM-525-5TK
D1	13	9'-0" AFF	SINGLE	1362	1.030	B0-U0-G2	CREE, INC.	D1-L-K96-20L-3K-120V-4X81-SS02-FF
S1	2	7'-6" AFF	SINGLE	2011	1.000	B0-U0-G2	SCOTT ARCHITECTURAL LIGHTING	WC1 SCOTT SR131-L23-3K-8S
S2	2	7'-6" AFF	SINGLE	1119	1.000	B0-U0-G1	SCOTT ARCHITECTURAL LIGHTING	WC2 SCOTT SR130-XXX-3K-8S
W1	5	15'-0" AFF	SINGLE	4210	1.030	B1-U0-G1	CREE, INC.	SEC-EDG-3M-WM-04-E-UL-WM-350-5TK
W2	3	15'-0" AFF	SINGLE	3108	1.030	B1-U0-G1	CREE, INC.	SEC-EDG-2M-WM-02-E-UL-WM-525-5TK

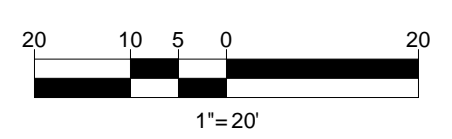
CALCULATION SUMMARY

LABEL	AVG	MAX	MIN	AVGMN	MAXMIN
CANOPY	28.49	47	11	2.59	4.27
DELIVERY	5.31	5.8	4.7	1.13	1.23
ENTRANCES & EXITS	2.61	5.1	1.4	1.86	3.64
PAVED	2.27	6.7	0.7	3.24	9.57



NOTE: THIS DETAIL IS NOT CERTIFIED. FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR TO PROVIDE SHOP DRAWINGS CERTIFIED BY STRUCTURAL ENGINEER.

LIGHT POLE WITH STANDARD ANCHORING DETAIL



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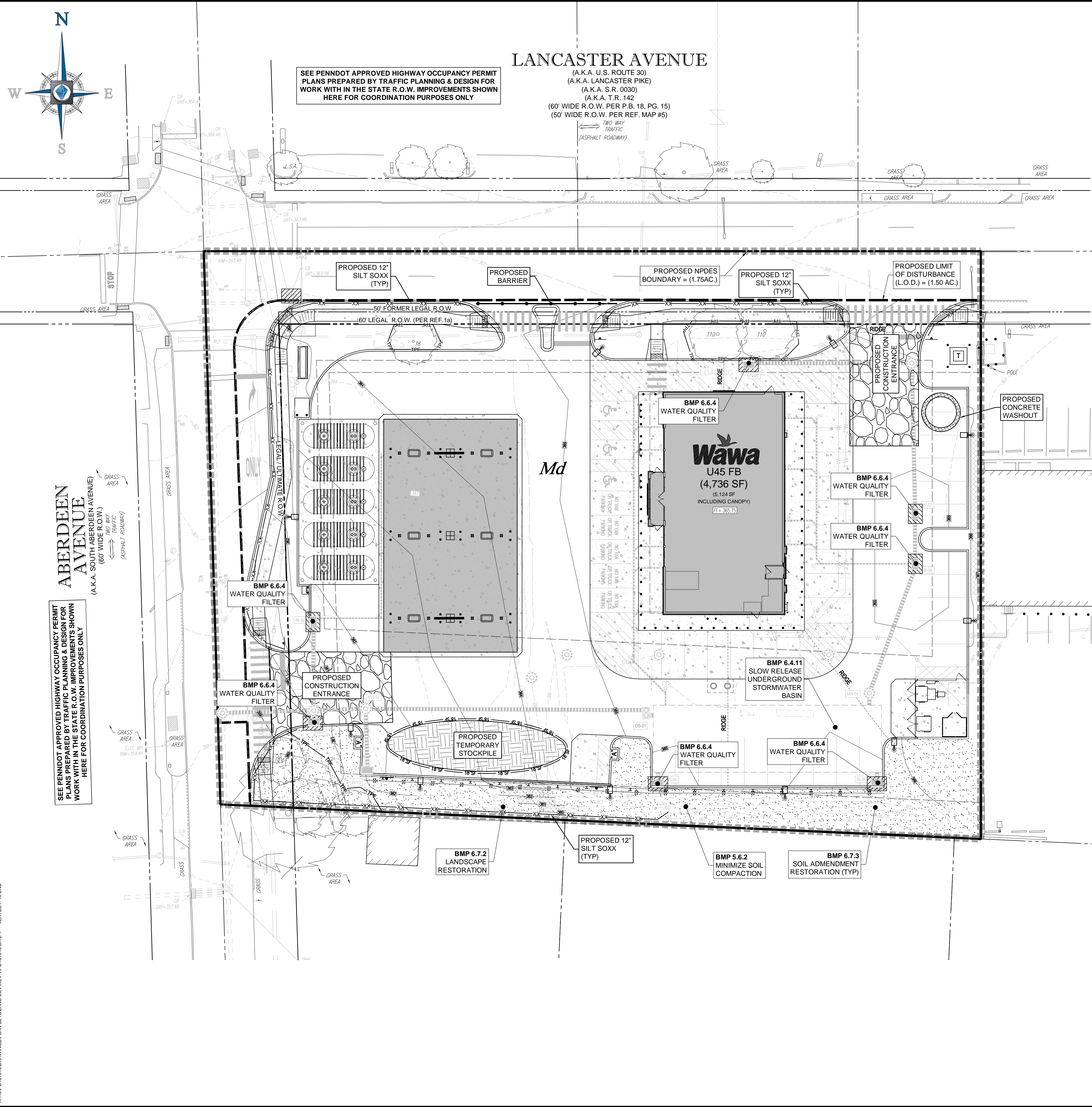
D.T. NORTH

REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA LICENSE NO. L007029

SHEET TITLE:
LIGHTING PLAN

SHEET NUMBER:
9
OF 19

REVISION 0 - 2018.07.13



SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY

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(60' WIDE R.O.W. PER P.B. 18, PG. 15)
(50' WIDE R.O.W. PER REF. MAP #5)
TWO WAY TRAFFIC (ASPHALT ROADWAY)

ABERDEEN AVENUE
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(60' WIDE R.O.W.)
TWO WAY TRAFFIC (ASPHALT ROADWAY)

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SOILS MAP
1"=250'

- NOTES:**
- SHOULD GROUNDWATER BE ENCOUNTERED DURING FOUNDATION OR UTILITY EXCAVATIONS, WATER SHALL BE PUMPED FROM TRENCH INTO FILTER BAGS.
 - DUE TO GRADING LIMITATIONS OF SOILS DURING WINTER MONTHS, THE CONTRACTOR SHALL NOT GRADE THESE SOILS DURING FROSTING OR ICING CONDITIONS.
 - SHOULD BEDROCK BE ENCOUNTERED DURING FOUNDATION OR UTILITY EXCAVATION, ROCK SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
 - SOIL TEST SHOULD BE PERFORMED TO DETERMINE SOIL SUITABILITY FOR TOPSOIL, IF SOIL IS DETERMINED TO BE UNSUITABLE THEN TOPSOIL SHALL BE IMPORTED AND DISTURBED THROUGHOUT THE SITE AS REQUIRED.
 - THE SUBJECT SITE DRAINS TO ITHAN CREEK WHICH DRAINS TO THE DARBY CREEK, THIS PORTION OF ITHAN CREEK WHICH HAS AN CWF/MF CHAPTER 93 CLASSIFICATION.

TYPES, DEPTH, SLOPE, LOCATIONS, AND LIMITATIONS OF THE SOILS
§102.4(b)(5)(ii)

SOILS SURVEY OF DELAWARE COUNTY, PENNSYLVANIA. (NOT FIELD VERIFIED)
SOURCE OF NATURAL RESOURCES CONSERVATION SERVICE MAP. AREA DATA: VERSION 7, 11/16/2015

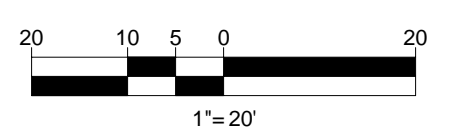
SYMBOL	NAME	HYDROLOGIC SOIL GROUP	SLOPES	DEPTH TO WATER TABLE	DEPTH TO RESTRICTIVE FEATURE	CONTAINS HYDRIC COMPONENTS	SURFACE RUNOFF
Md	MADE LAND, GAMBRO & DIBASSE MATERIALS	C	0-8	>80"	>80"	NO	

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS PROVIDED

- CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND RESOLUTIONS SPECIFIC TO THIS PROJECT.
- SOIL TYPES POORLY SUITED AS SOURCES OF TOPSOIL RESTRICT OR PLACE CONDITIONS ON PLANNING VEGETATIVE STABILIZATION, ACIDIC, LOW FERTILITY, EXCESSIVE DRYNESS AND EXCESSIVE WETNESS LIMIT PLANT GROWTH. RESOLUTIONS: IDENTIFYING AND RESOLVING CHARACTERISTICS, THAT RENDER THE SOIL TYPES POORLY, SUITED AS TOPSOIL.
 - ACIDIC SOIL TYPES EXHIBITING PH REACTION VALUES LOWER THAN ABOUT 5.5, LIMIT VEGETATIVE STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC PH REACTION. RESOLUTIONS: APPLYING LIME CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTING VEGETATIVE SPECIES TOLERANT TO ACIDIC SOIL CONDITIONS; AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
 - LOW FERTILITY SOIL TYPES LACKING IN SUFFICIENT AMOUNTS OF ESSENTIAL PLANT NUTRIENTS SUCH AS: NITROGEN, PHOSPHOROUS, POTASSIUM, SULFUR, MAGNESIUM, CALCIUM, IRON, MANGANESE, BORON, CHLORINE, ZINC, COPPER AND MOLYBDENUM LIMIT VEGETATION STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC SOIL FERTILITY. RESOLUTIONS: INCORPORATING SOIL NUTRIENTS CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTIVE VEGETATIVE SPECIES TOLERANT TO LOW FERTILITY SOIL CONDITIONS; AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
 - ERODIBLE SOIL TYPES EXHIBITING K VALUES GREATER THAN 0.36 OR PLASTICITY INDEX VALUES LOWER THAN 10, LIMIT VEGETATIVE STABILIZATION OF CHANNELS. RESOLUTIONS: TEMPORARY CHANNEL LINING, PROVIDING PERMANENT CHANNEL LINING, DECREASING CHANNEL GRADE, INCREASING CHANNEL WIDTH, SELECTING VEGETATIVE WITH GREATER RETARDANCE, SELECTING PERMANENT LININGS OTHER THAN GRASSES, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. VEGETATIVE RETARDANCE INFORMATION IS PROVIDED IN TABLES 6 AND 7 OF THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL PUBLISHED BY PADEP.
 - WET SOIL TYPES HAVE EXCESSIVE ROOT ZONE AND SOIL MOISTURES. SOME SOIL SURVEYS INDICATE WETNESS, HIGH WATER TABLE AND FLOODING. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE. RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO WET CONDITIONS, TILING VEGETATED AREAS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
 - DRY SOIL TYPES LACK SUFFICIENT ROOT ZONE SOIL MOISTURES. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE. RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO DRY CONDITIONS, IRRIGATING VEGETATED AREAS AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
 - SOIL TYPES SUSCEPTIBLE TO SINKHOLE AND SOLUTION CHANNEL/CHAMBER FORMATION POSE LIMITATIONS ON LOCATING RESERVOIR AREAS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS, AND STORMWATER DETENTION BASINS. RESOLUTIONS: LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LINING RESERVOIR AREAS WITH IMPERMEABLE LININGS, LIMITING STANDING WATER DEPTHS, LIMITING RETENTION TIMES AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
 - SOIL TYPES THAT EXHIBIT INSTABILITY IN POND EMBANKMENTS OR SUSCEPTIBILITY TO PIPING AND SEEPING POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS. RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, NOT CONSTRUCTING EMBANKMENTS DURING PERIODS PRONE TO FROST AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
 - SOIL THAT ARE DIFFICULT TO COMPACT, UNSUITABLE FOR WINTER GRADING, OR SUSCEPTIBLE TO FROST ACTION POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS. RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, NOT CONSTRUCTING EMBANKMENTS DURING PERIODS PRONE TO FROST AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
 - SUSCEPTIBILITY FOR THE DEVELOPMENT OF SINKHOLE WITHIN IDENTIFIED SOILS. RESOLUTIONS: IN THE EVENT THAT PRESENCE OF A SINKHOLE IS DETECTED DURING THE COURSE OF WORK, CORRECTIVE MEASURES SHALL BE PERFORMED UNDER THE OBSERVATION AND GUIDANCE OF THE OWNER'S GEOTECHNICAL CONSULTANT. EXCAVATE THE LOOSE, WET SOILS SURROUNDING THE SINKHOLE TO EXPOSE THE SINKHOLE "THROAT" (THE OPENING IN THE ROCK) AND THE ADJACENT STABLE SOILS/ROCK WHERE POSSIBLE. THE EXCAVATION SHALL EXTEND A MINIMUM OF TWO FEET (2') BEYOND THE STABLE SOILS OR TO THE ROCK SURFACE, WHICHEVER IS ENCOUNTERED FIRST. THE EXCAVATION SHALL BE FILL WITH LEAN CONCRETE TO BLOCK THE MIGRATION OF THE UPPER LAYERS OF SOIL THROUGH THE ROCK OPENING. AFTER CONCRETE HAS CURED OVERNIGHT BACKFILL THE REMAINDER OF THE EXCAVATION WITH CLAYEY SOILS TO PROVIDE A LOW PERMEABILITY BARRIER. THE CLAYEY SOILS SHALL BE PLACED IN 6" LIFTS AND EACH LIFT COMPACTED BY REPEATED PASSES OF THE COMPACTATION EQUIPMENT UNTIL STABLE. CARE SHALL BE TAKEN TO ASSURE THAT THE SOIL AT THE EDGES OF THE EXCAVATION ARE WELL COMPACTED.

DRAWING LEGEND

- PROP. LIMIT OF DISTURBANCE/PROPOSED BOUNDARY
- PROPOSED NPDES BOUNDARY
- PROPOSED SILT SOXX
- PROPOSED 18' SILT FENCE
- PROPOSED TREE PROTECTION FENCE
- PROPOSED CONSTRUCTION FENCE / BARRICADE
- PROPOSED TEMPORARY ROCK CONSTRUCTION ENTRANCE
- PROPOSED INLET PROTECTION
- PROPOSED SOIL RESTORATION



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 SCALE: AS NOTED
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SHEET TITLE:

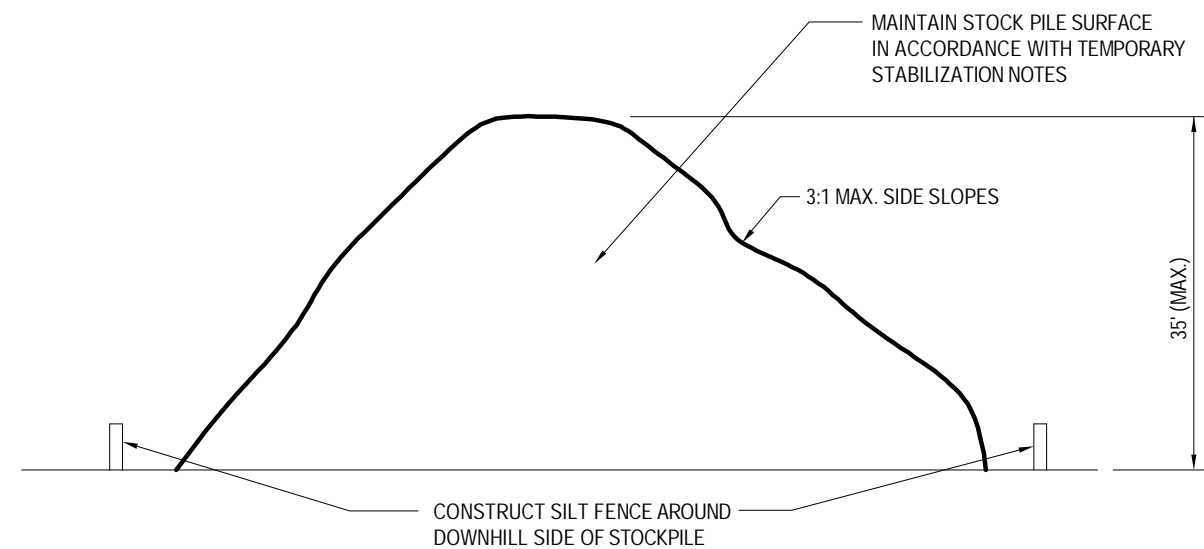
EROSION & SEDIMENTATION CONTROL PLAN

SHEET NUMBER:

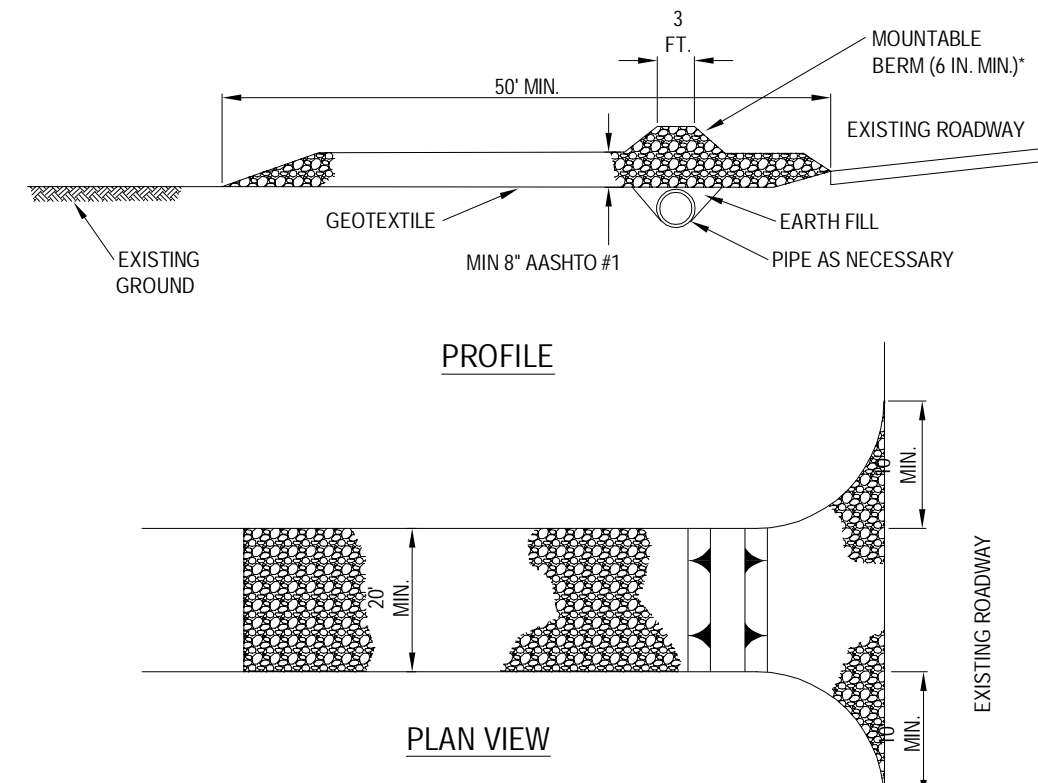
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REVISION 1 - 2018.08.31

R:\PROJECTS\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 SITE-1-LAYOUT-10.DWG

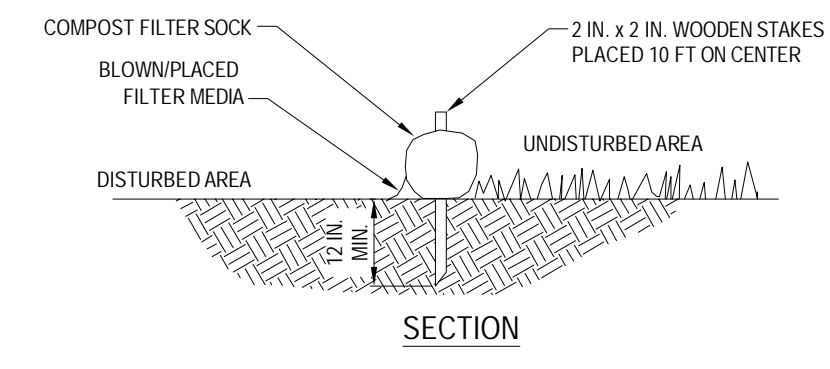


TEMPORARY SOIL STOCKPILE DETAIL
SCALE: N.T.S. REV.: 2015.03.09



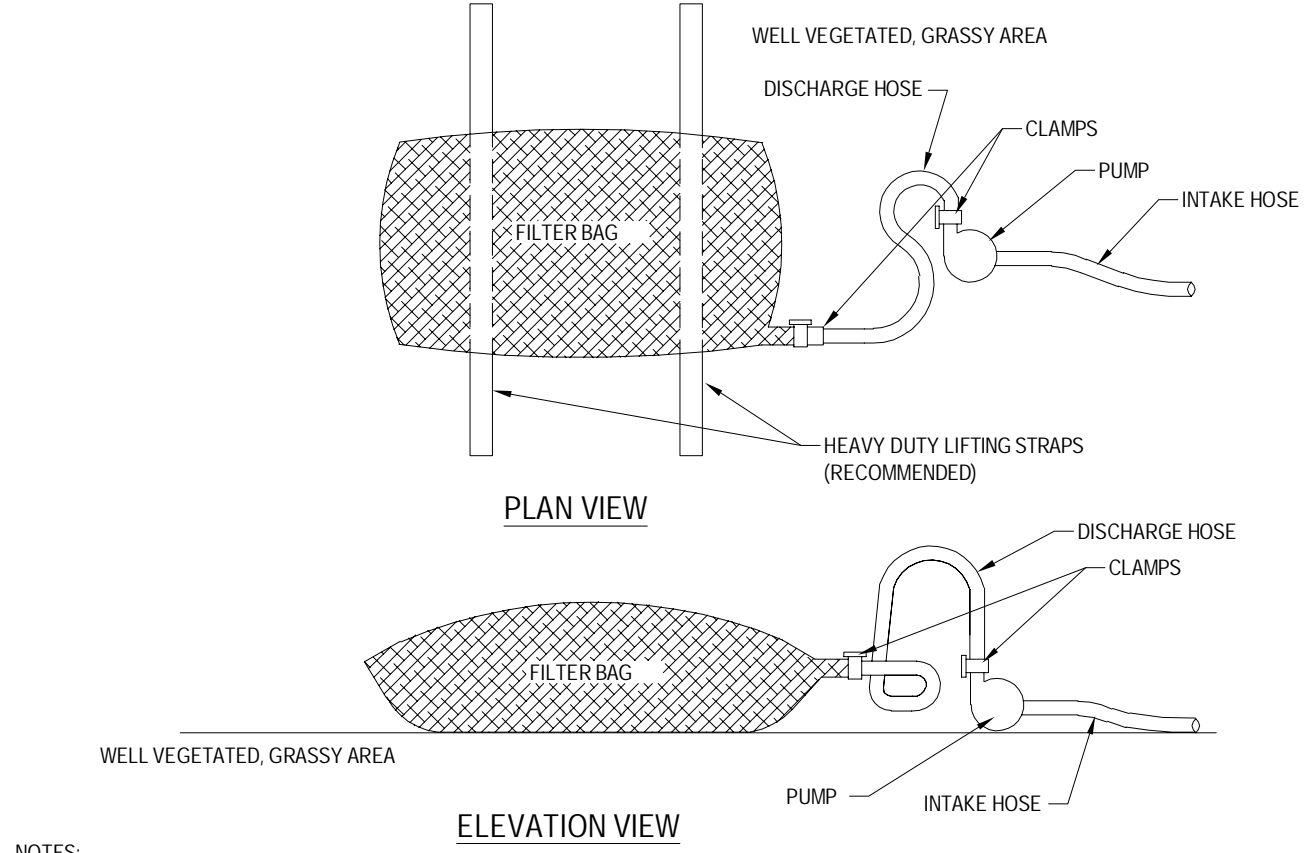
NOTES:
REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE



FILTREX NOTES:
• SOCK MATERIAL SHALL MEET THE STANDARDS OF PA DEP EROSION CONTROL MANUAL TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF PA DEP EROSION CONTROL MANUAL TABLE 4.2
• COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST EIGHT (8) FEET UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT (PA DEP EROSION CONTROL MANUAL FIGURE 4.1). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON PA DEP EROSION CONTROL MANUAL FIGURE 4.2. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
• TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
• ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
• 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 FILTER SOCKS SHALL BE REPLACED AFTER SIX (6) MONTHS. PHOTO DEGRADABLE SOCKS AFTER ONE (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.

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

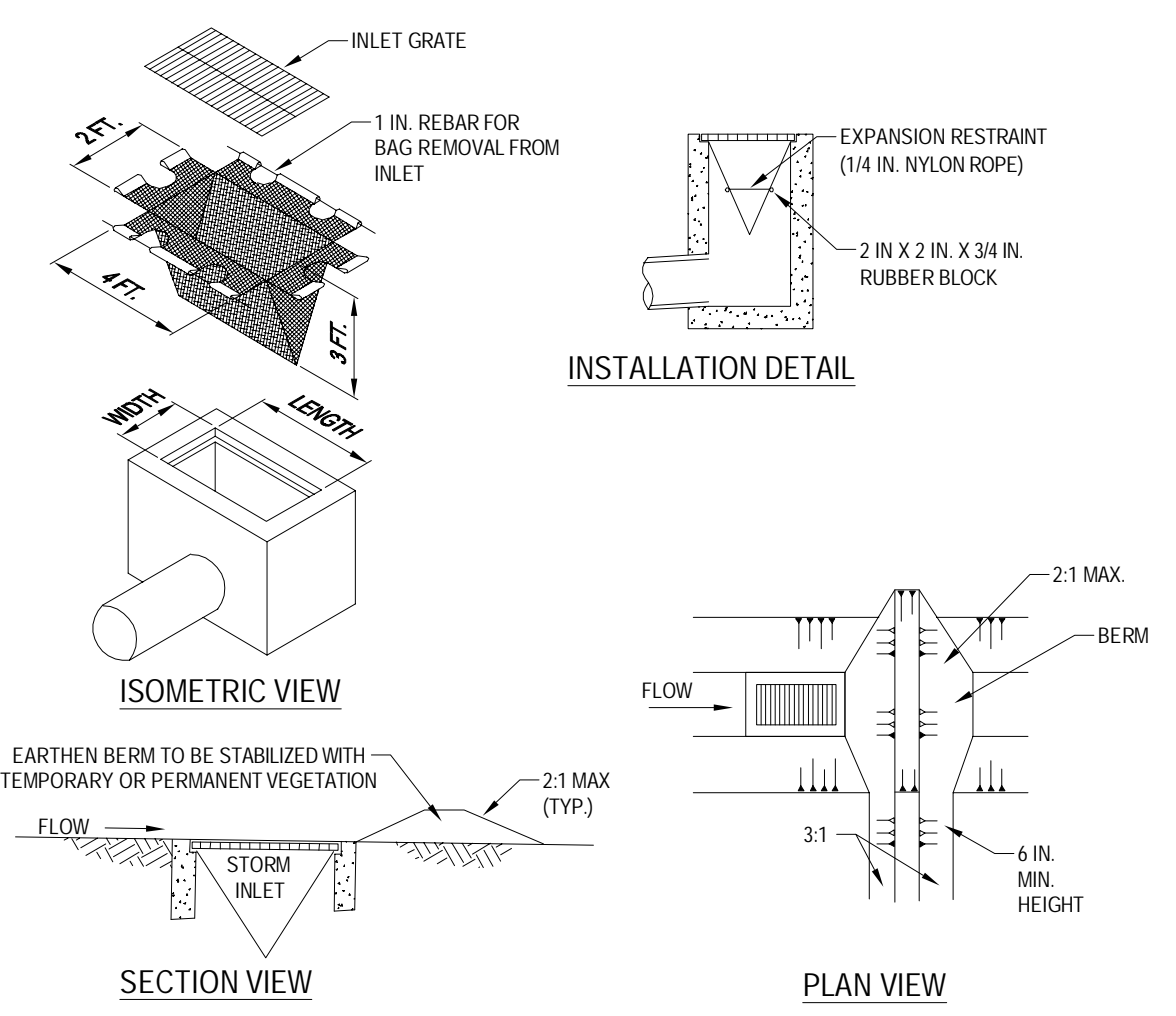


NOTES:
LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	40 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

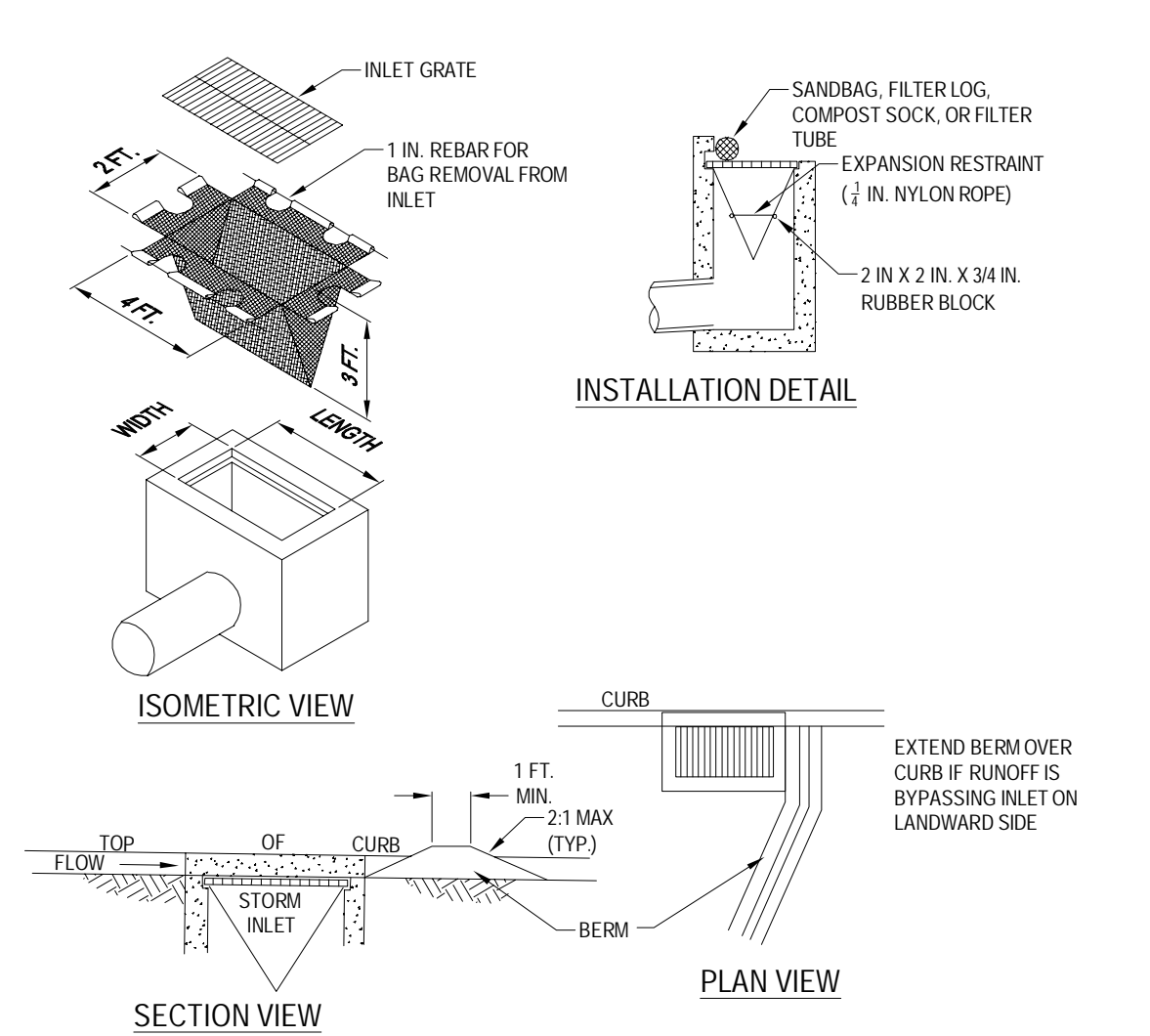
A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.
BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HO OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.
THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG
NOT TO SCALE



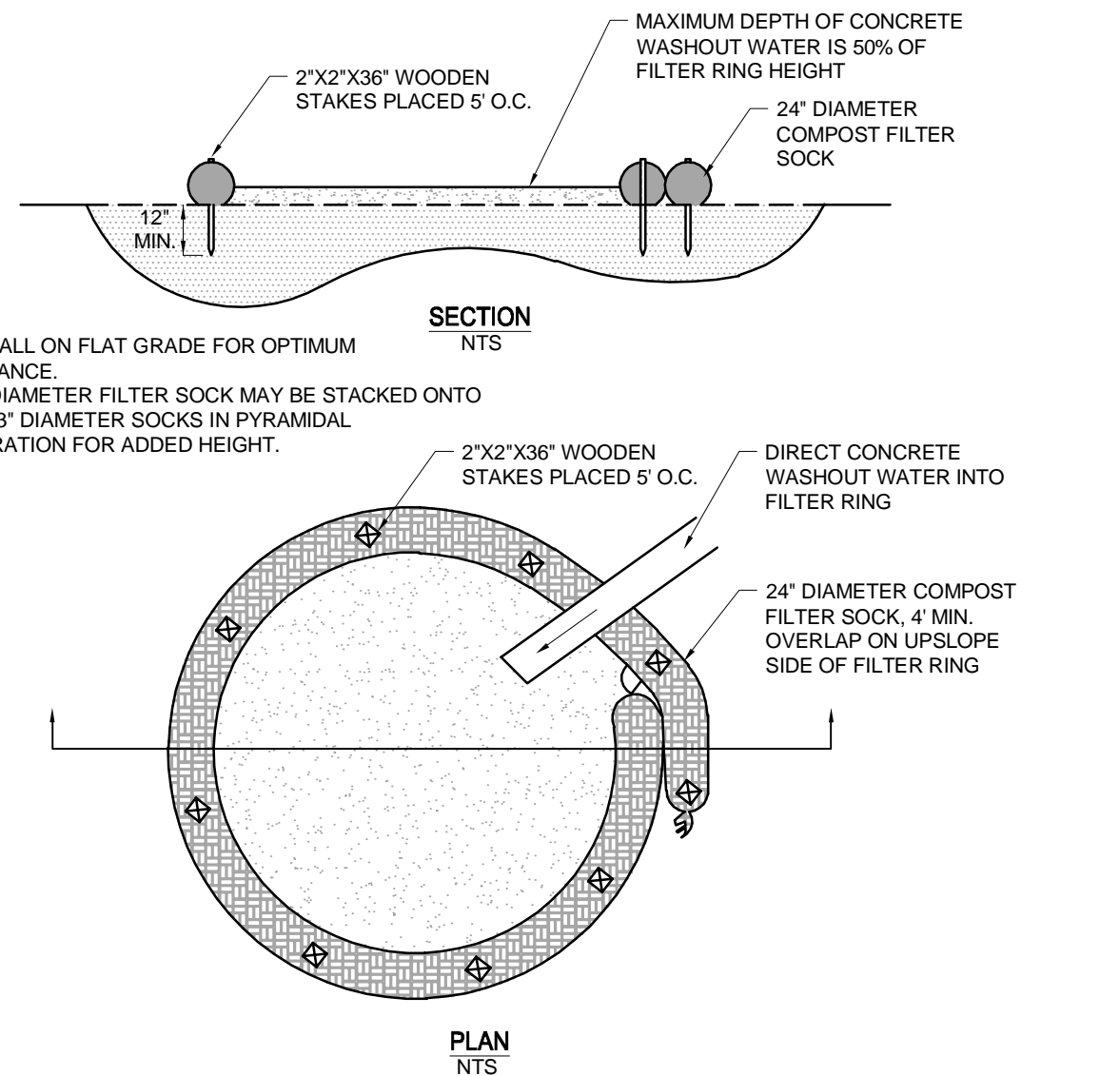
NOTES:
MAXIMUM DRAINAGE AREA - 1/2 ACRE.
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL 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



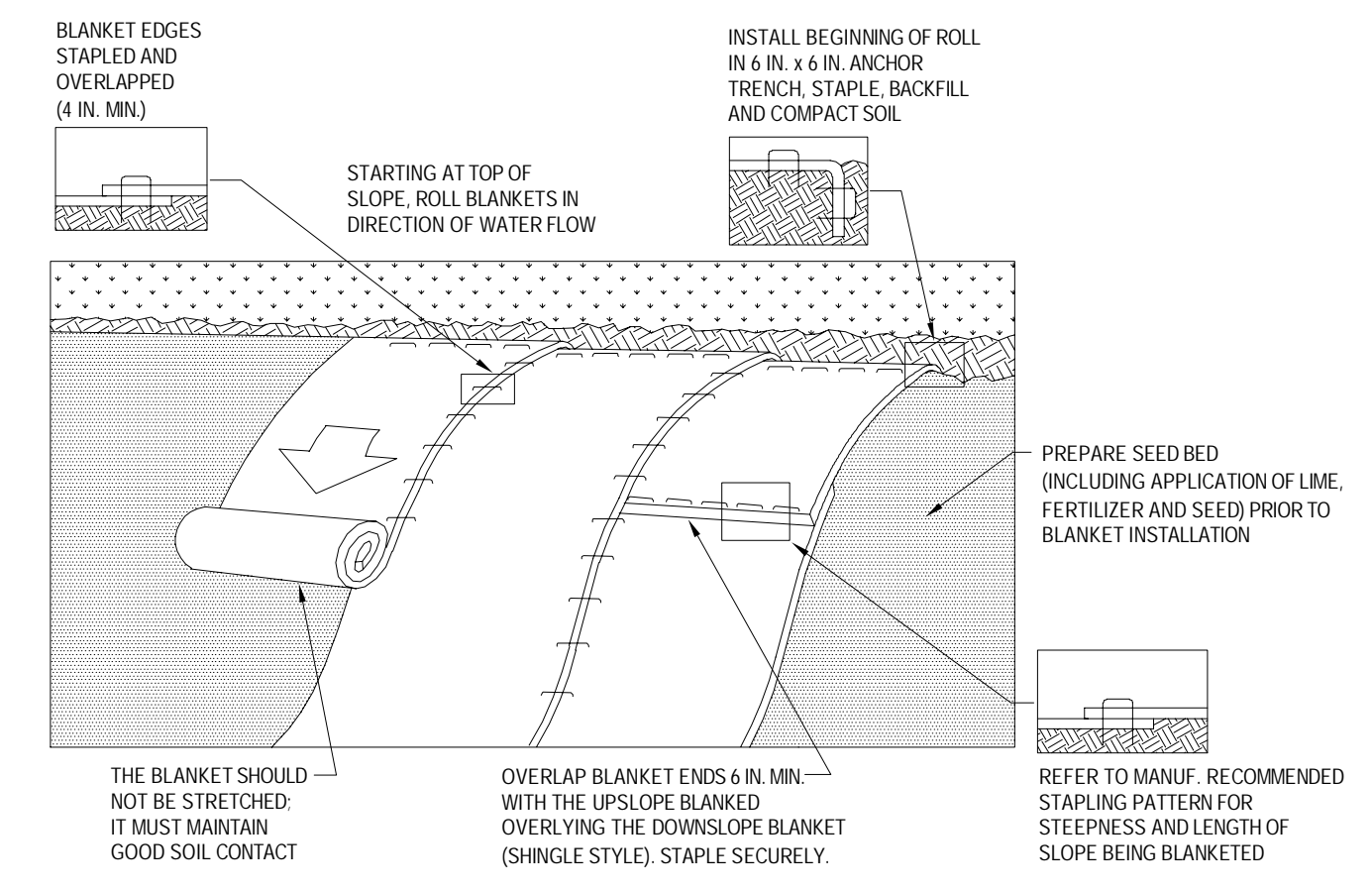
NOTES:
MAXIMUM DRAINAGE AREA - 1/2 ACRE.
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT 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.
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 OF 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 #4-15
FILTER BAG INLET PROTECTION - TYPE C INLET
NOT TO SCALE



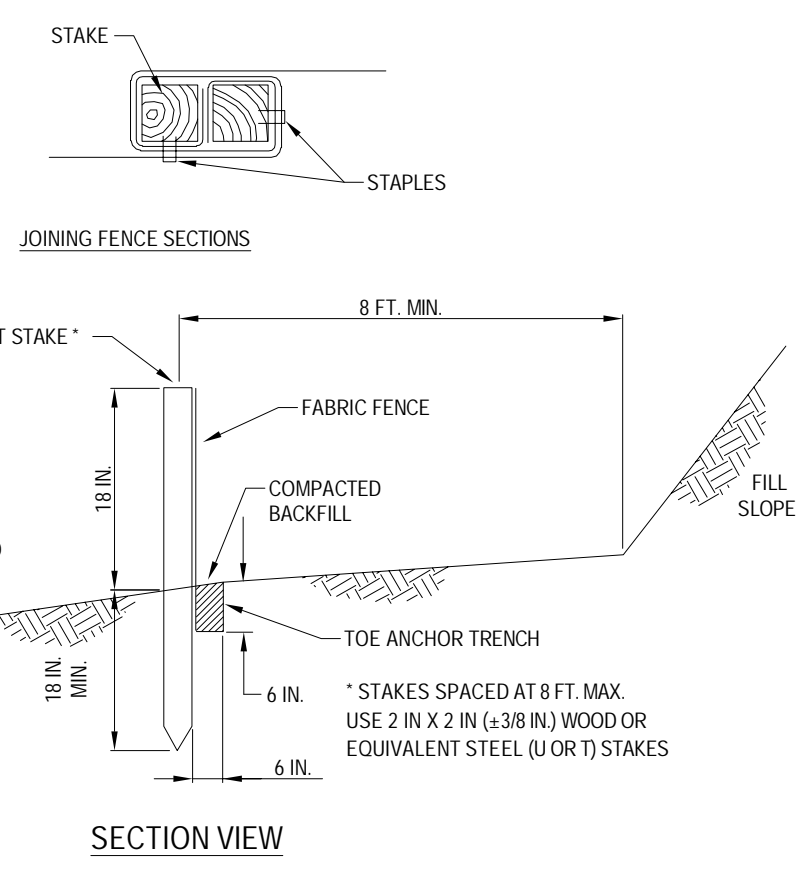
A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.
CONCRETE WASHOUT NOTES:
-UNDER NO CIRCUMSTANCES MAY WASH WATER FROM THESE VEHICLES BE ALLOWED TO ENTER ANY SURFACE WATERS.
-WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FEET OF STORM DRAINS, OPEN DITCHES OR SURFACE WATERS.
-SHOULD BE A MINIMUM OF 10 FEET WIDE AND PROVIDE AT LEAST 12 INCHES OF FREEBOARD ABOVE THE LIQUID AND SOLID WASTE ANTICIPATED BETWEEN CLEANOUT INTERVALS.
-THE PIT SHOULD BE LINED WITH PLASTIC SHEETING OF AT LEAST 10-MIL THICKNESS (WITH NO HOLES OR TEARS) TO PREVENT LEACHING OF LIQUIDS INTO THE GROUND.
-ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.
-ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.
-PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

TYPICAL COMPOST SOCK WASHOUT INSTALLATION
SCALE: N.T.S.



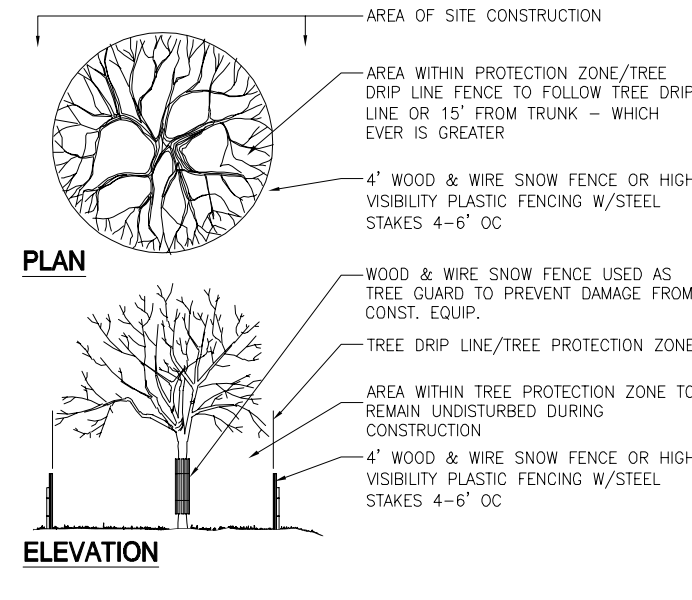
NOTES:
SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
SLOPE SURFACE SHALL BE FREE OF ROCKS, CLOUDS, STICKS, AND GRASS.
BLANKET SHALL HAVE GOOD CONTINUOUS 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 #11-1
EROSION CONTROL BLANKET INSTALLATION
NOT TO SCALE



NOTES:
FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.
FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (Q OR T) STAKES.
SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL #4-6).
FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

STANDARD CONSTRUCTION DETAIL #4-7
STANDARD SILT FENCE (18" HIGH)
NOT TO SCALE



TREE PROTECTION DURING SITE CONSTRUCTION
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SCALE: AS NOTED
CAD ID.: PC181016 DETAILS-1

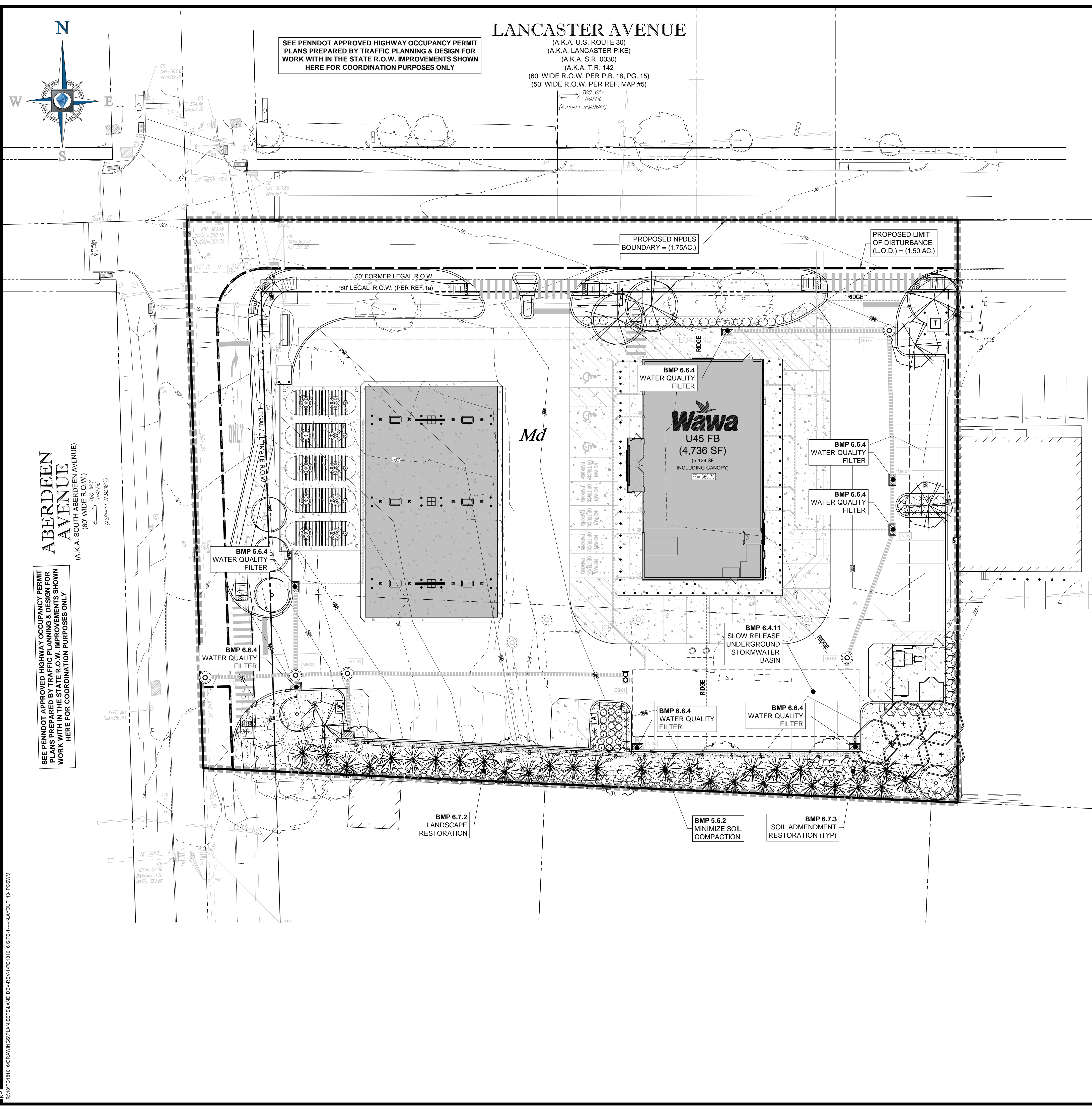
PRELIMINARY LAND DEVELOPMENT PLANS
FOR
WAYNE PROPERTY ACQUISITION INC.
ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE
RADNOR TOWNSHIP
DELAWARE COUNTY, PA

BOHLER ENGINEERING
1600 MANOR DRIVE, SUITE 200
CHALFONT, PENNSYLVANIA 18914
Phone: (215) 996-9100
Fax: (215) 996-9102
www.BohlerEngineering.com

E.A. BRITZ
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE NO. PE071643

SHEET TITLE:
EROSION & SEDIMENTATION CONTROL DETAILS
SHEET NUMBER:
12
OF 19
REVISION 1 - 2018.08.31

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SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY

LANCASTER AVENUE
(A.K.A. U.S. ROUTE 30)
(A.K.A. LANCASTER PIKE)
(A.K.A. S.R. 0030)
(A.K.A. T.R. 142)
(60' WIDE R.O.W. PER P.B. 18, PG. 15)
(50' WIDE R.O.W. PER REF. MAP #5)

ABERDEEN AVENUE
(A.K.A. SOUTH ABERDEEN AVENUE)
(60' WIDE R.O.W.)

SEE PENNDOT APPROVED HIGHWAY OCCUPANCY PERMIT PLANS PREPARED BY TRAFFIC PLANNING & DESIGN FOR WORK WITH IN THE STATE R.O.W. IMPROVEMENTS SHOWN HERE FOR COORDINATION PURPOSES ONLY

NOTES:

1. SHOULD GROUNDWATER BE ENCOUNTERED DURING FOUNDATION OR UTILITY EXCAVATIONS, WATER SHALL BE PUMPED FROM TRENCH INTO FILTER BAG.
2. DUE TO GRADING LIMITATIONS OF SOILS DURING WINTER MONTHS, THE CONTRACTOR SHALL NOT GRADE THESE SOILS DURING FROSTING OR ICING CONDITIONS.
3. SHOULD BEDROCK BE ENCOUNTERED DURING FOUNDATION OR UTILITY EXCAVATION, ROCK SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
4. SOIL TEST SHOULD BE PERFORMED TO DETERMINE SOIL SUITABILITY FOR TOPSOIL. IF SOIL IS DETERMINED TO BE UNSUITABLE THEN TOPSOIL SHALL BE IMPORTED AND DISTURBED THROUGHOUT THE SITE AS REQUIRED.
5. THE SUBJECT SITE DRAINS TO ITHAN CREEK WHICH DRAINS TO THE DARBY CREEK. THIS PORTION OF ITHAN CREEK WHICH HAS AN CWF/MF CHAPTER 93 CLASSIFICATION.

TYPES, DEPTH, SLOPE, LOCATIONS, AND LIMITATIONS OF THE SOILS

§102.4(b)(5)(ii)
SOILS SURVEY OF DELAWARE COUNTY, PENNSYLVANIA. (NOT FIELD VERIFIED)
SOURCE OF NATURAL RESOURCES CONSERVATION SERVICE MAP. AREA DATA: VERSION 7, 11/16/2015

SYMBOL	NAME	HYDROLOGIC SOIL GROUP	SLOPES	DEPTH TO WATER TABLE	DEPTH TO RESTRICTIVE FEATURE	CONTAINS HYDRC COMPONENTS	SURFACE RUNOFF
Md	MADE LAND, GABBRO & DIABASE MATERIALS	C	0-8	>80'	>80'	NO	

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS PROVIDED

- CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND RESOLUTIONS SPECIFIC TO THIS PROJECT.
1. SOIL TYPES POORLY SUITED AS SOURCES OF TOPSOIL. RESTRICT OR PLACE CONDITIONS ON PLANNING VEGETATIVE STABILIZATION. ACIDIC, LOW FERTILITY, EXCESSIVE DRYNESS AND EXCESSIVE WETNESS LIMIT PLANT GROWTH. RESOLUTIONS: IDENTIFYING AND RESOLVING CHARACTERISTICS, THAT RENDER THE SOIL TYPES POORLY, SUITED AS TOPSOIL.
 2. ACIDIC SOIL TYPES EXHIBITING PH REACTION VALUES LOWER THAN ABOUT 5.5. LIMIT VEGETATIVE STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC PH REACTION. RESOLUTIONS: APPLYING LIME CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTING VEGETATIVE SPECIES TOLERANT TO ACIDIC SOIL CONDITIONS; AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
 3. LOW FERTILITY SOIL TYPES LACKING IN SUFFICIENT AMOUNTS OF ESSENTIAL PLANT NUTRIENTS SUCH AS: NITROGEN, PHOSPHOROUS, POTASSIUM, SULFUR, MAGNESIUM, CALCIUM, IRON, MANGANESE, BORON, CHLORINE, ZINC, COPPER AND MOLYBDENUM, LIMIT VEGETATION STABILIZATION. SOIL TESTS MIGHT BE NECESSARY TO DETERMINE SITE SPECIFIC SOIL FERTILITY. RESOLUTIONS: INCORPORATING SOIL NUTRIENTS CONSISTENT WITH RATES DETERMINED BY SOIL TESTING; SELECTIVE VEGETATIVE SPECIES TOLERANT TO LOW FERTILITY SOIL CONDITIONS; AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
 4. ERODIBLE SOIL TYPES EXHIBITING K VALUES GREATER THAN 0.36 OR PLASTICITY INDEX VALUES LOWER THAN 10. LIMIT VEGETATIVE STABILIZATION OF CHANNELS. RESOLUTIONS: TEMPORARY CHANNEL LINING, PROVIDING PERMANENT CHANNEL LINING, DECREASING CHANNEL GRADE, INCREASING CHANNEL WIDTH, SELECTING VEGETATIVE WITH GREATER RETARDANCE, SELECTING PERMANENT LININGS OTHER THAN GRASSES, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. VEGETATIVE RETARDANCE INFORMATION IS PROVIDED IN TABLES 6 AND 7 OF THE EROSION AND SEDIMENT POLLUTION CONTROL MANUAL PUBLISHED BY PADEP.
 5. WET SOIL TYPES HAVE EXCESSIVE ROOT ZONE AND SOIL MOISTURES. SOME SOIL SURVEYS INDICATE WETNESS, HIGH WATER TABLE AND FLOODING. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE. RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO WET CONDITIONS, TILING VEGETATIVE AREAS, AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
 6. DRY SOIL TYPES LACK SUFFICIENT ROOT ZONE SOIL MOISTURES. THIS INDICATOR IS AFFECTED BY SOIL DISTURBANCE. RESOLUTIONS: SELECTING VEGETATIVE SPECIES TOLERANT TO DRY CONDITIONS, IRRIGATING VEGETATED AREAS AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS. SPECIFIC TOLERANCE INFORMATION IS PROVIDED IN TABLE 1 OF THE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND PUBLISHED BY PENN STATE.
 7. SOIL TYPES SUSCEPTIBLE TO SINKHOLE AND SOLUTION CHANNEL/CHAMBER FORMATION POSE LIMITATIONS ON LOCATING RESERVOIR AREAS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS, AND STORMWATER DETENTION BASINS. RESOLUTIONS: LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, LINING RESERVOIR AREAS WITH IMPERMEABLE LININGS, LIMITING STANDING WATER DEPTHS, LIMITING RETENTION TIMES AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
 8. SOIL TYPES THAT EXHIBIT INSTABILITY IN POND EMBANKMENTS OR SUSCEPTIBILITY TO PIPING AND SEEPING POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS. RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, NOT CONSTRUCTING EMBANKMENTS DURING PERIODS PRONE TO FROST AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
 9. SOIL THAT ARE DIFFICULT TO COMPACT, UNSUITABLE FOR WINTER GRADING, OR SUSCEPTIBLE TO FROST ACTION POSE LIMITATIONS ON PLANNING EMBANKMENTS OF SEDIMENT BASINS, SEDIMENT TRAPS, STORMWATER RETENTION BASINS AND STORMWATER DETENTION BASINS. RESOLUTIONS: IMPORTING OTHER SOIL FOR EMBANKMENT OF THOSE FACILITIES, LOCATING THOSE FACILITIES ON OTHER SOIL TYPES, NOT CONSTRUCTING EMBANKMENTS DURING PERIODS PRONE TO FROST AND IMPLEMENTING COMBINATIONS OF THESE AND/OR OTHER METHODS.
 10. SUSCEPTIBILITY FOR THE DEVELOPMENT OF SINKHOLE WITHIN IDENTIFIED SOILS. RESOLUTIONS: IN THE EVENT THAT PRESENCE OF A SINKHOLE IS DETECTED DURING THE COURSE OF WORK, CORRECTIVE MEASURES SHALL BE PERFORMED UNDER THE OBSERVATION AND GUIDANCE OF THE OWNER'S GEOTECHNICAL CONSULTANT. EXCAVATE THE LOOSE, WET SOILS SURROUNDING TO EXPOSE THE SINKHOLE "THROAT" (THE OPENING IN THE ROCK) AND THE ADJACENT STABLE SOILS/ROCK WHERE POSSIBLE. THE EXCAVATION SHALL EXTEND A MINIMUM OF TWO FEET (2) BEYOND THE STABLE SOILS OR TO THE ROCK SURFACE, WHICHEVER IS ENCOUNTERED FIRST. FILL THE EXPOSED SINKHOLE "THROAT" WITH LEAN CONCRETE TO BLOCK THE MIGRATION OF THE UPPER LAYERS OF SOIL THROUGH THE ROCK OPENING. AFTER CONCRETE HAS CURED OVERNIGHT BACKFILL THE REMAINDER OF THE EXCAVATION WITH CLAYEY SOILS TO PROVIDE A LOW PERMEABILITY BARRIER. THE CLAYEY SOILS SHALL BE PLACED IN 8" LIFTS AND EACH LIFT COMPACTED BY REPEATED PASSES OF THE COMPACTION EQUIPMENT UNTIL STABLE. CARE SHALL BE TAKEN TO ASSURE THAT THE SOIL AT THE EDGES OF THE EXCAVATION ARE WELL COMPACTED.

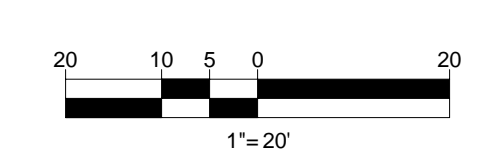


SOILS MAP
1"=250'

DRAWING LEGEND

- PROPERTY LINE
- - - LEGAL RIGHT-OF-WAY LINE
- ULTIMATE RIGHT-OF-WAY LINE
- - - ADJACENT PROPERTY LINE
- - - EXISTING EASEMENT
- - - PROP. LIMIT OF DISTURBANCE
- ▨▨▨▨▨▨▨▨ PROP. NPDES BOUNDARY

Amended Soils
Md SOIL TYPE



BOHLER ENGINEERING
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES
PAID BY THE CLIENT
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BALTIMORE, MD • CHARLOTTE, NC • COLUMBIA, SC
DALLAS, TX • HOUSTON, TX • MEMPHIS, TN
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WASHINGTON, DC

REVISIONS

REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

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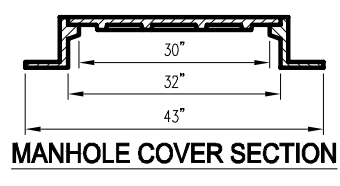
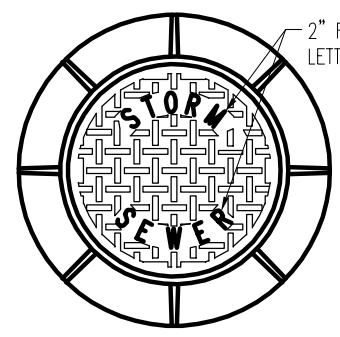
NOT APPROVED FOR CONSTRUCTION
PROJECT No.: PC181016
DRAWN BY: MCM
CHECKED BY: EAB
DATE: 08/13/18
SCALE: AS NOTED
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SHEET TITLE: **POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**
SHEET NUMBER: **13 OF 19**
REVISION 1 - 2018.08.31



NOTES:
 1. STANDARD MANHOLE FRAMES & COVERS SHALL BE USED ON ALL MANHOLES NOT LOCATED WITHIN CASSEMENTS UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
 2. STANDARD MANHOLE FRAME & COVER SHALL BE BROUGHT TO EQUIVALENT, WITH NON-PENETRATING PICK HOLES.
 3. "FLOW-SEAL" MANHOLE COVERS SHALL BE USED ON MANHOLES LOCATED WITHIN CASSEMENTS, IN UNPAVED AREAS, AND OUTSIDE OF THE CENTERLINE OF PAVED ROADS.
 4. ALL MANHOLE FRAME AND COVERS SHALL BE MADE IN THE USA.

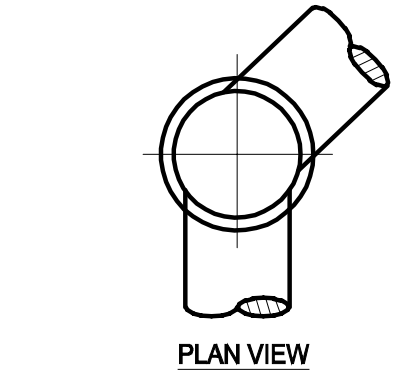


TABLE A
 BASE SIZE DIMENSIONS

MANHOLE DEPTH FROM TOP OF FOOTING	FOOTING DIAMETER	FOOTING THICKNESS
10'-0"	6'-0"	1'-0"
10'-6"	6'-6"	1'-0"
11'-0"	7'-0"	1'-0"
11'-6"	7'-6"	1'-0"
12'-0"	8'-0"	1'-0"
12'-6"	8'-6"	1'-0"

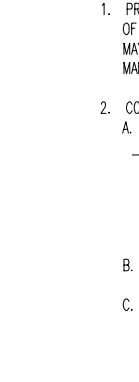


TABLE B
 AS DESIGNER (SEE NOTE 13)

MANHOLE DEPTH FROM TOP OF FOOTING	FOOTING DIAMETER	FOOTING THICKNESS
10'-0"	6'-0"	1'-0"
10'-6"	6'-6"	1'-0"
11'-0"	7'-0"	1'-0"
11'-6"	7'-6"	1'-0"
12'-0"	8'-0"	1'-0"
12'-6"	8'-6"	1'-0"

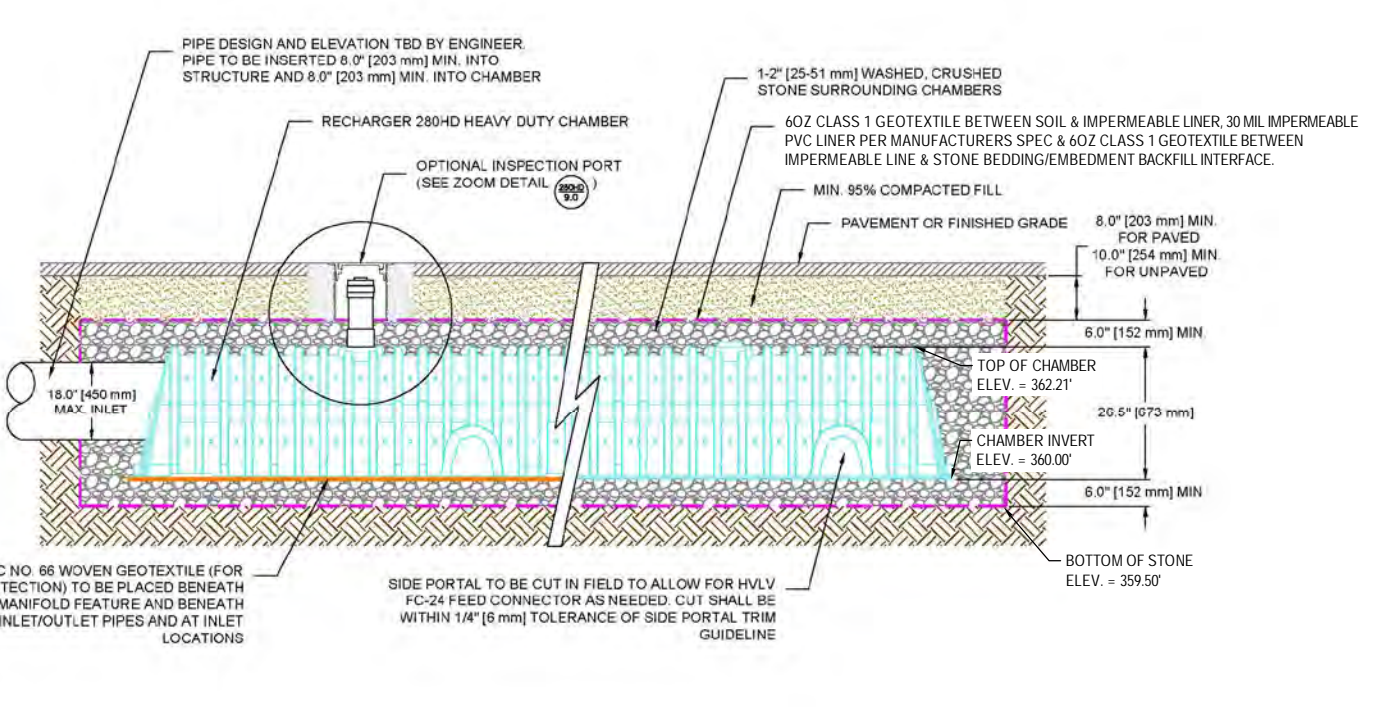
NOTES:
 1. PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 409 SPECIFICATIONS, SECTION 714, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE.
 2. CONSTRUCTION NOTES:
 A. CONCRETE TO ACCORDANCE WITH CONC. SPECIFICATIONS, SECTION 605, 606, 714 AND 715 OF THE 2018 AASHTO STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS, AS NOTED HERE IN.
 B. MINIMUM CONCRETE CLASS 40.
 C. PROVIDE 200# COILED STEEL REINFORCEMENT (AS ACCORDANCE WITH AASHTO) WITH 18" MAXIMUM SPACING (ON CENTER) WITH 4" MINIMUM CLEARANCE BETWEEN BARS. PROVIDE 18" MAXIMUM SPACING (ON CENTER) WITH 4" MINIMUM CLEARANCE BETWEEN BARS. PROVIDE 18" MAXIMUM SPACING (ON CENTER) WITH 4" MINIMUM CLEARANCE BETWEEN BARS. PROVIDE 18" MAXIMUM SPACING (ON CENTER) WITH 4" MINIMUM CLEARANCE BETWEEN BARS.
 D. CLEAR COVER FOR STEEL REINFORCEMENT: 2" (TOP BARS), 1 1/2" (BOTTOM BARS).
 E. PROVIDE 1" MINIMUM HORIZONTAL CLEARANCE BETWEEN OPENINGS LOCATED AT THE SAME DEPTH. PIPES NOT LOCATED AT THE SAME DEPTH MUST BE LOCATED VERTICALLY AT LEAST ONE TIMES MINIMUM OPENING DIAMETER APART.
 F. FOR RISERS OR BASE SECTIONS WITH 2 OR MORE OPENINGS, LOCATED AT A DEPTH GREATER THAN 15 FEET, BUT LESS THAN OR EQUAL TO 30 FEET, PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.44 SQ/IN VERTICAL FOOT FOR THE DEPTH OF THE RISER OR BASE SECTION.
 G. FOR RISERS OR BASE SECTIONS WITH 2 OR MORE OPENINGS, LOCATED AT DEPTHS GREATER THAN 30 FEET, USE A 10 INCH THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ/IN VERTICAL FOOT EACH FACE.
 H. RISERS OR BASE SECTIONS WITH HOLES TO BE CLEARLY MARKED WITH MINIMUM ALLOWABLE DEPTH.
 I. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS.
 J. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 409 SPECIFICATIONS, SECTION 802(C). ALTERNATE CONDUITINGS AND UNIFORMS, AS APPROVED BY THE ENGINEER, MAY BE USED.
 K. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS. PROVIDE MINIMUM 3/4" SECTION DIMENSION FOR NON-STEERING MATERIAL STEPS.
 L. MECHANICAL AND/OR REQUIRED FOR INSULATION OF STEPS WITHOUT HOLES.
 M. FOR FOOTING TOP REINFORCEMENT, BOTH DIRECTIONS, USE NO. 10 (6) BARS AT 12" ON CENTER TO 60" OR 0.32 (MFT) BAR FOR DEPTHS GREATER THAN 30". 6" MAXIMUM SPACING FOR 18".
 N. FOR FOOTING BOTTOM REINFORCEMENT, BOTH DIRECTIONS, USE NO. 13 (4) BARS AT 18" FOR DEPTHS TO 60" OR 0.15 (MFT) BAR FOR DEPTHS TO 30" AND 0.16 (MFT) BAR FOR DEPTHS GREATER THAN 30". 6" MAXIMUM SPACING FOR 18".
 O. A SAFE BEARING CAPACITY OF (1.5x PER SQ FT) UNDER THE ENTIRE SLAB IS ASSUMED TO DETERMINE THE BASE SIZE. WHEN THE SUBSOIL IS OTHERWISE FOUND, PROCEED WITH CONSTRUCTION ONLY AFTER THE ENGINEER SPECIFIES ADEQUATE BASE DESIGN.

CULTEC RECHARGER® 280HD SPECIFICATIONS

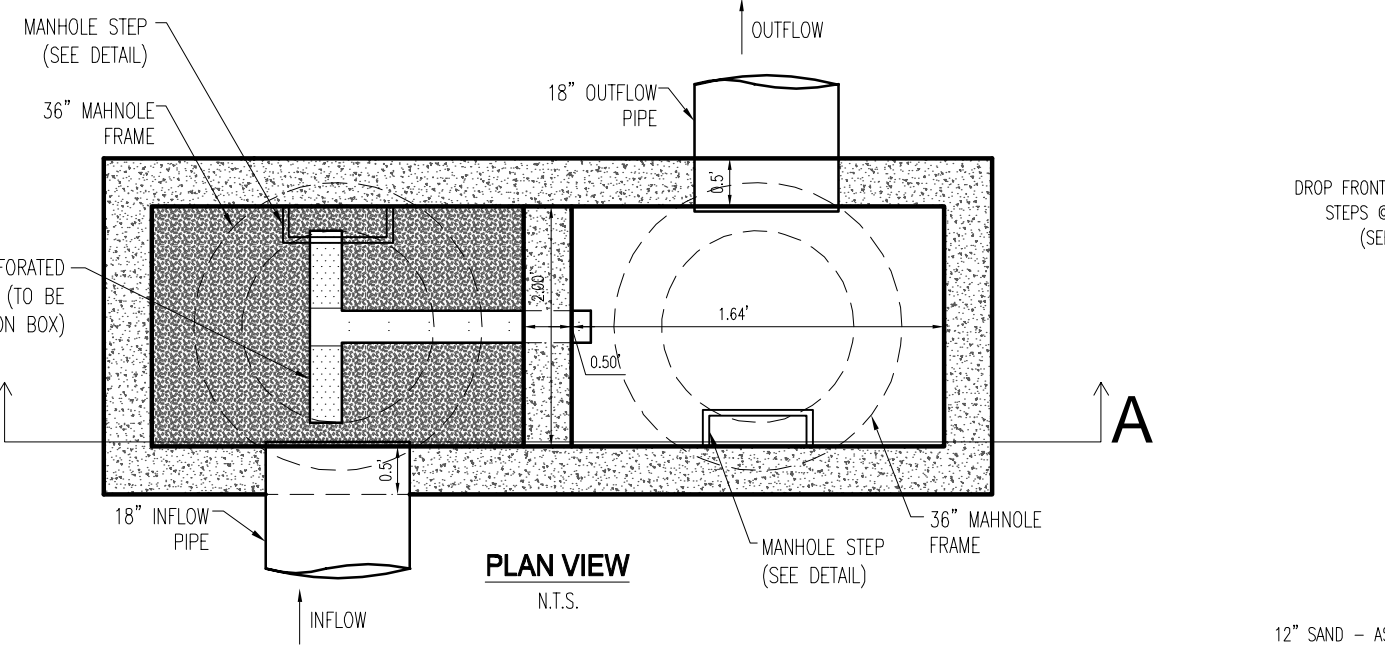
GENERAL
 CULTEC RECHARGER® 280HD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT. THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.

CHAMBER PARAMETERS

- THE CHAMBERS WILL BE MANUFACTURED IN THE U.S.A. BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4418 OR 1-800-428-5832)
- THE CHAMBER WILL BE VACUUM THERMOFORMED OF BLACK HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE)
- THE CHAMBER WILL BE ARCHED IN SHAPE.
- THE CHAMBER WILL BE OPEN-BOTTOMED.
- THE CHAMBER WILL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED/OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS OR SEPARATE END WALLS.
- THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER 280HD SHALL BE 26.5 INCHES (673 mm) TALL, 47 INCHES (1194 mm) WIDE AND 5 FEET (2.44 m) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER 280HD SHALL BE 7 FEET (2.13 m).
- MAXIMUM INLET OPENING ON THE CHAMBER ENDWALL IS 18 INCHES (450 mm).
- THE CHAMBER WILL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLF/FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. NOMINAL INSIDE DIMENSIONS OF THE SIDE PORTAL SHALL HAVE A WIDTH OF 11.25" (286 mm) AND HEIGHT OF 11.5" (293 mm). THE SIDE PORTAL CAN ACCEPT A MAXIMUM OUTER DIAMETER (O.D.) PIPE SIZE OF 12.25 INCHES (311 mm).
- THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLF/FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24 INCHES (614 mm) LONG.
- THE NOMINAL STORAGE VOLUME OF THE RECHARGER 280HD CHAMBER WILL BE 6.079 FT³/FT (0.565 m³/m) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER 280HD SHALL BE 4.2553 FT³/UNIT (1.135 m³/UNIT) - WITHOUT STONE.
- THE NOMINAL STORAGE VOLUME OF THE HVLF/FC-24 FEED CONNECTOR WILL BE 0.913 FT³/FT (0.085 m³/m) - WITHOUT STONE.
- THE RECHARGER 280HD CHAMBERS WILL HAVE EIGHT (8) TWO DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNIT'S CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.
- THE RECHARGER 280HD CHAMBER SHALL HAVE 15 CORRUGATIONS.
- THE ENDWALL OF THE CHAMBER, WHEN PRESENT, WILL BE AN INTEGRAL PART OF THE CONTINUOUSLY FORMED UNIT. SEPARATE END PLATES CANNOT BE USED WITH THIS UNIT.
- THE RECHARGER 280HD STAND ALONE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO FULLY FORMED INTEGRAL ENDWALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS.
- THE RECHARGER 280SHD STARTER UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 9 INCHES (229 mm) HIGH X 35 INCHES (889 mm) WIDE.
- THE RECHARGER 280HD INTERMEDIATE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY OPEN ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 9 INCHES (229 mm) HIGH X 35 INCHES (889 mm) WIDE.
- THE RECHARGER 280SHD END UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE FULLY OPEN END WALL AND HAVING NO SEPARATE END PLATES OR END WALLS.
- THE HVLF/FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT WILL FIT INTO THE SIDE PORTALS OF THE RECHARGER 280HD AND ACT AS CROSS FEED CONNECTIONS.
- CHAMBERS MUST HAVE HORIZONTAL STIFFENING FLEX REDUCTION STEPS BETWEEN THE RIBS.
- HEAVY DUTY UNITS ARE DESIGNATED BY A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
- THE CHAMBER WILL HAVE A RAISED INTEGRAL CAP AT THE TOP OF THE ARCH IN THE CENTER OF EACH UNIT TO BE USED AS AN OPTIONAL INSPECTION PORT OR CLEAN-OUT.
- THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION.
- THE CHAMBER SHALL BE MANUFACTURED IN AN IN AN ISO 9001:2008 CERTIFIED FACILITY.
- THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S INSTALLATION INSTRUCTIONS.
- MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12 FEET (3.66 m).

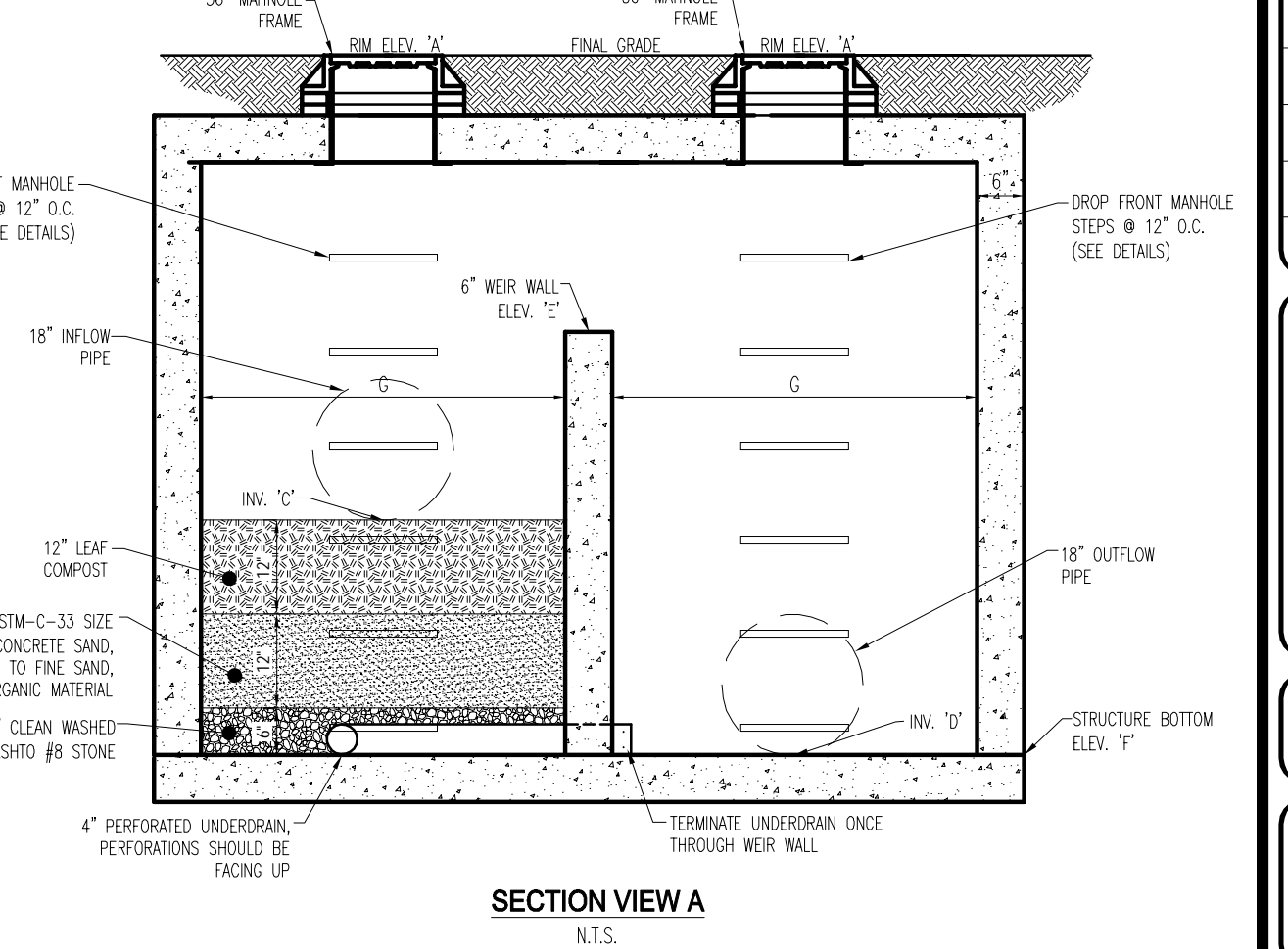


CULTEC INTERNAL MANIFOLD - OPTIONAL INSPECTION PORT DETAIL

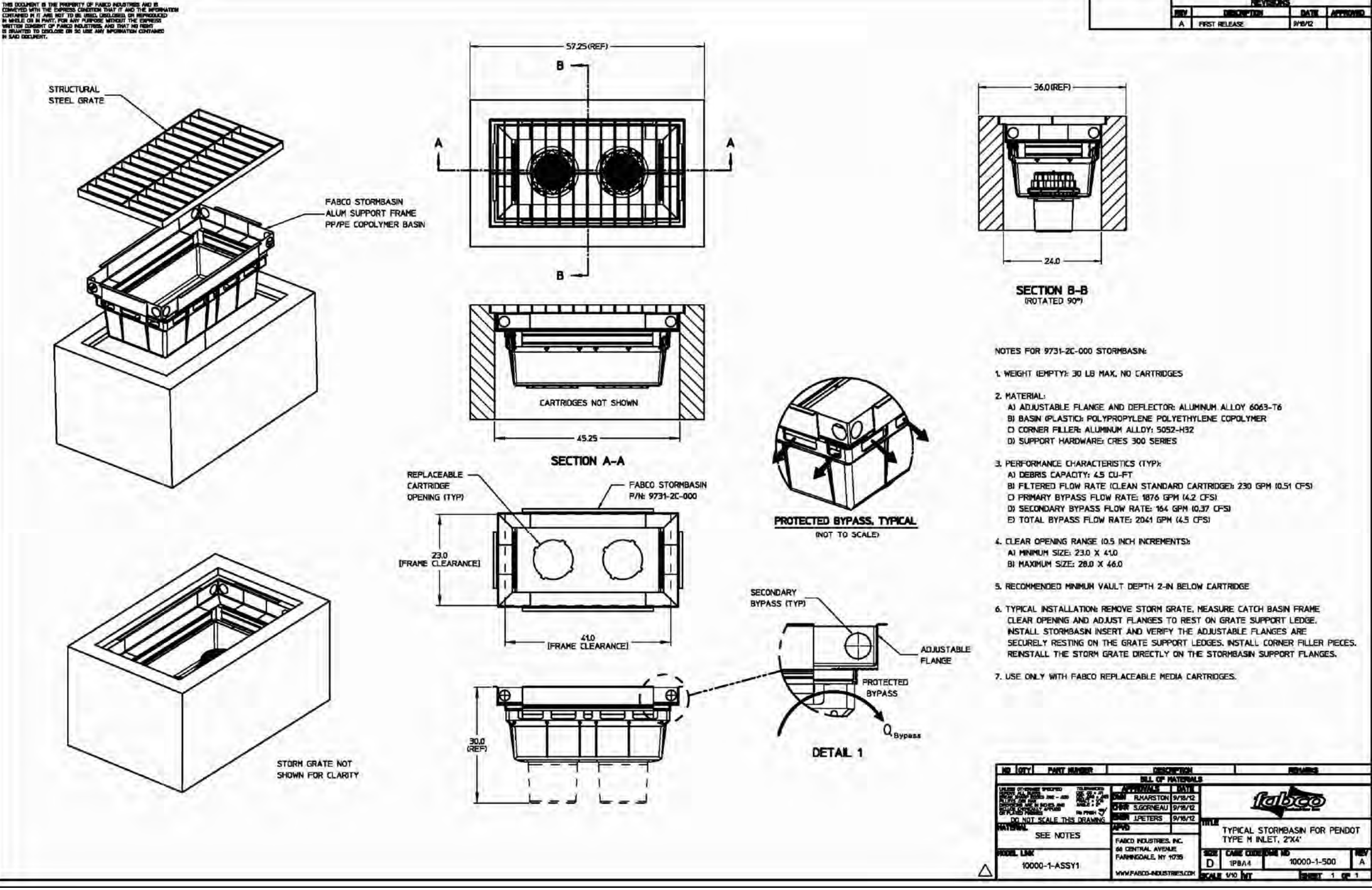
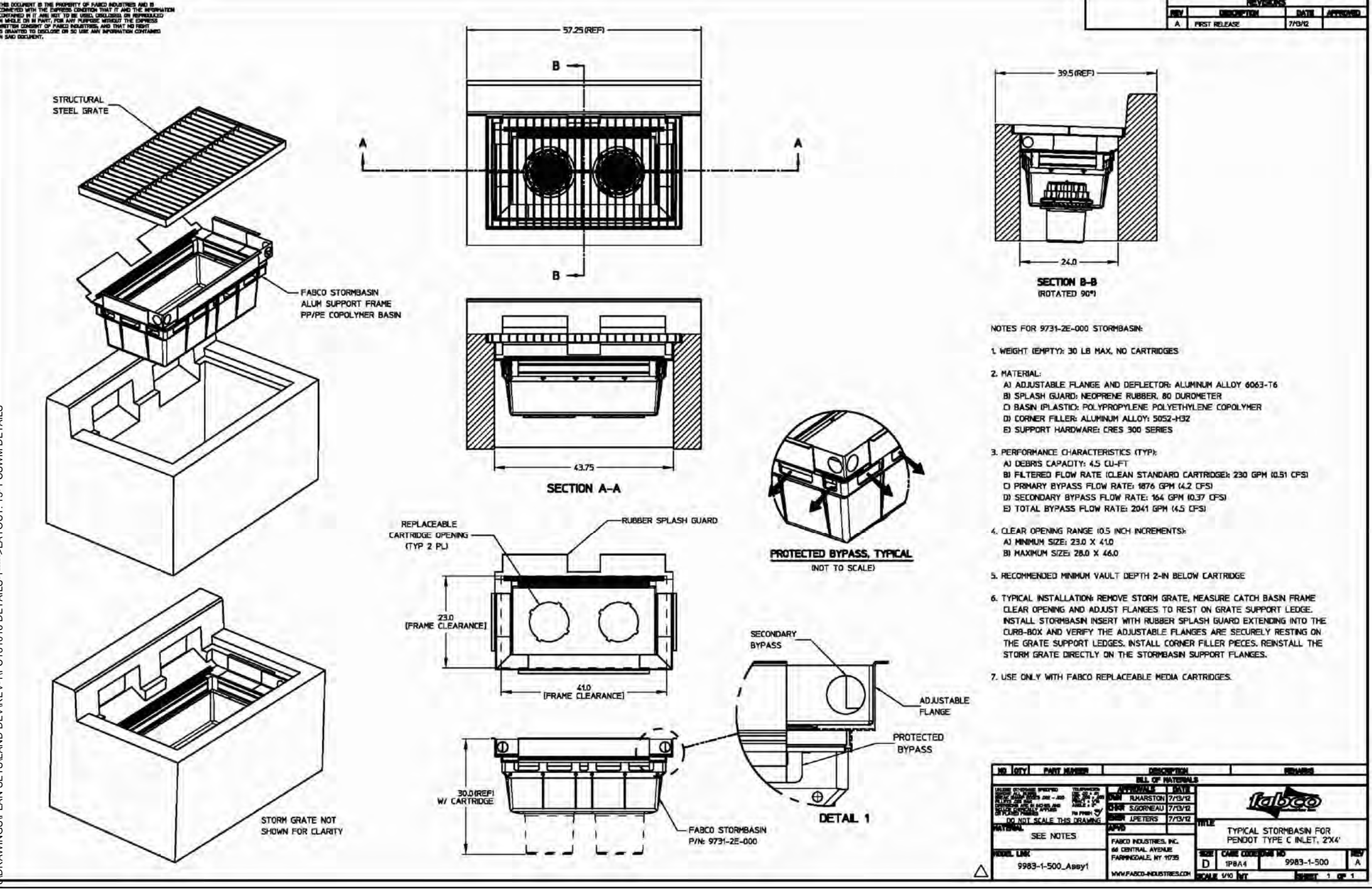


OS-01 - TYPICAL SUBSURFACE CONSTRUCTED FILTER DETAIL

WATER QUALITY OUTLET STRUCTURE	PADOT BOX TYPE	RIM ELEV. 'A'	INFLOW INV. 'C'	OUTFLOW INV. 'D'	TOP OF WER ELEV. 'E'	STRUCTURE BOTTOM ELEV. 'F'	DIM. 'G'
OS-01	STANDARD BOX	365.12	360.00	357.50	361.50	357.50	1.64'



PRECAST STORM MANHOLE DETAILS
 SCALE: N.T.S.
 REV. 2015.03.09



BOHLER ENGINEERING
 SITE CIVIL AND CONSULTING ENGINEERING
 LAND SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECTURE
 SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES
 TRAFFIC SIGNALS AND SIGNALS
 • ALABAMA • ARIZONA • ARKANSAS • CALIFORNIA • COLORADO • CONNECTICUT • DELAWARE • FLORIDA • GEORGIA • ILLINOIS • INDIANA • IOWA • KANSAS • KENTUCKY • LOUISIANA • MARYLAND • MASSACHUSETTS • MICHIGAN • MINNESOTA • MISSISSIPPI • MISSOURI • MONTANA • NEBRASKA • NEVADA • NEW HAMPSHIRE • NEW JERSEY • NEW YORK • NORTH CAROLINA • NORTH DAKOTA • OHIO • OKLAHOMA • OREGON • PENNSYLVANIA • RHODE ISLAND • SOUTH CAROLINA • SOUTH DAKOTA • TEXAS • UTAH • VERMONT • VIRGINIA • WASHINGTON • WEST VIRGINIA • WISCONSIN • WYOMING

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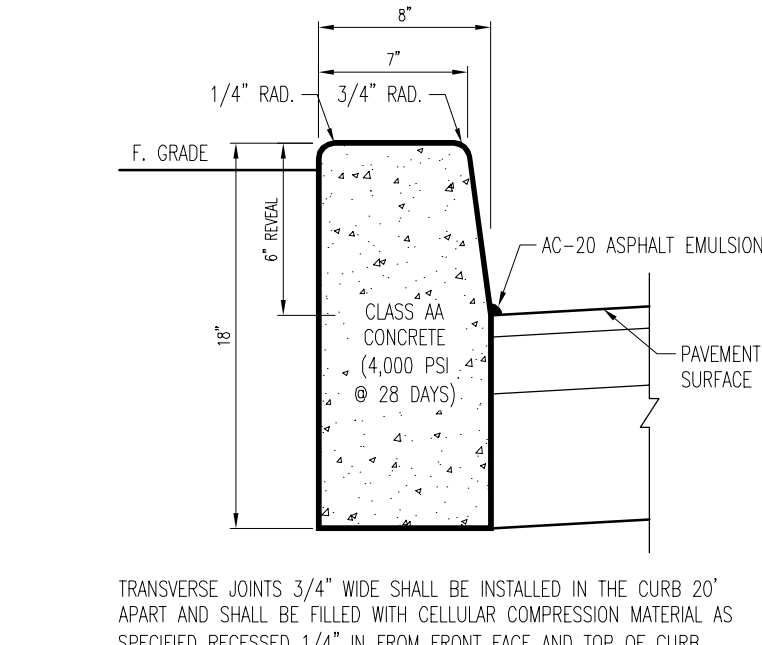
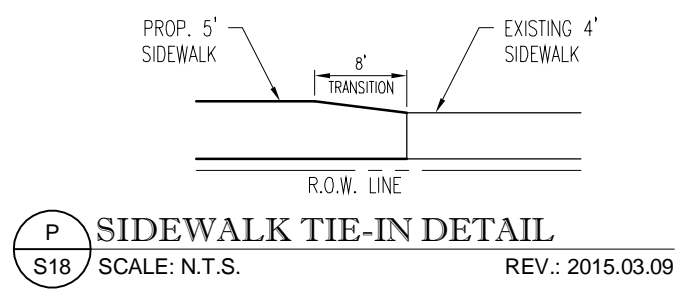
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 PROJECT No.: PC181016
 DRAWN BY: MCM
 CHECKED BY: EAB
 DATE: 2018.07.13
 SCALE: AS NOTED
 CAD ID.: PC181016 DETAILS-1

PRELIMINARY LAND DEVELOPMENT PLANS
 FOR
WAYNE PROPERTY ACQUISITION INC.
 ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE
 RADNOR TOWNSHIP
 DELAWARE COUNTY, PA

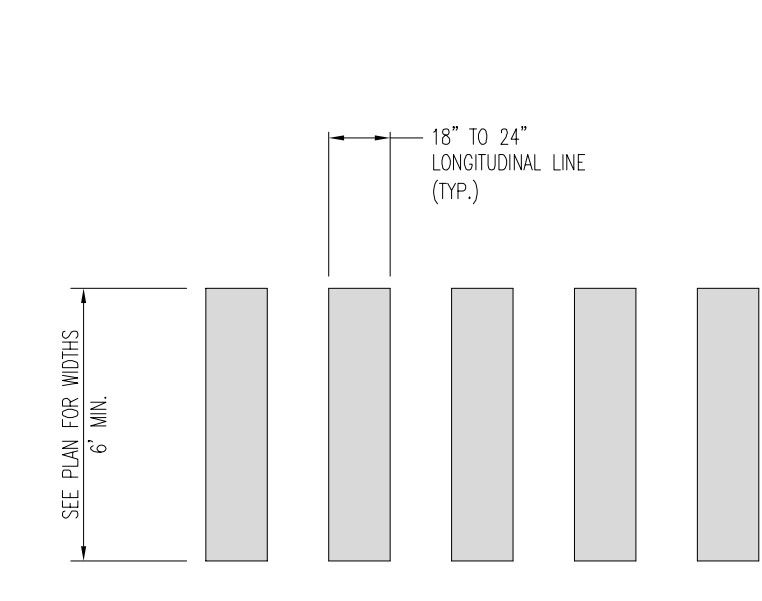
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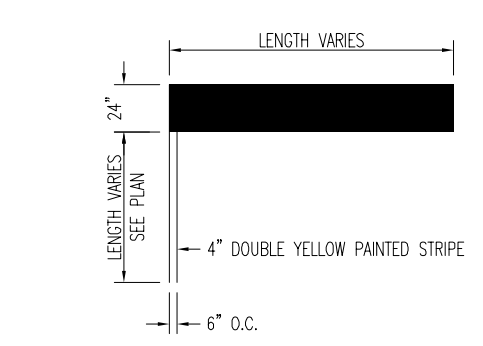
SHEET TITLE: **POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS**
 SHEET NUMBER: **15**
 OF 19
 REVISION 1 - 2018.08.31



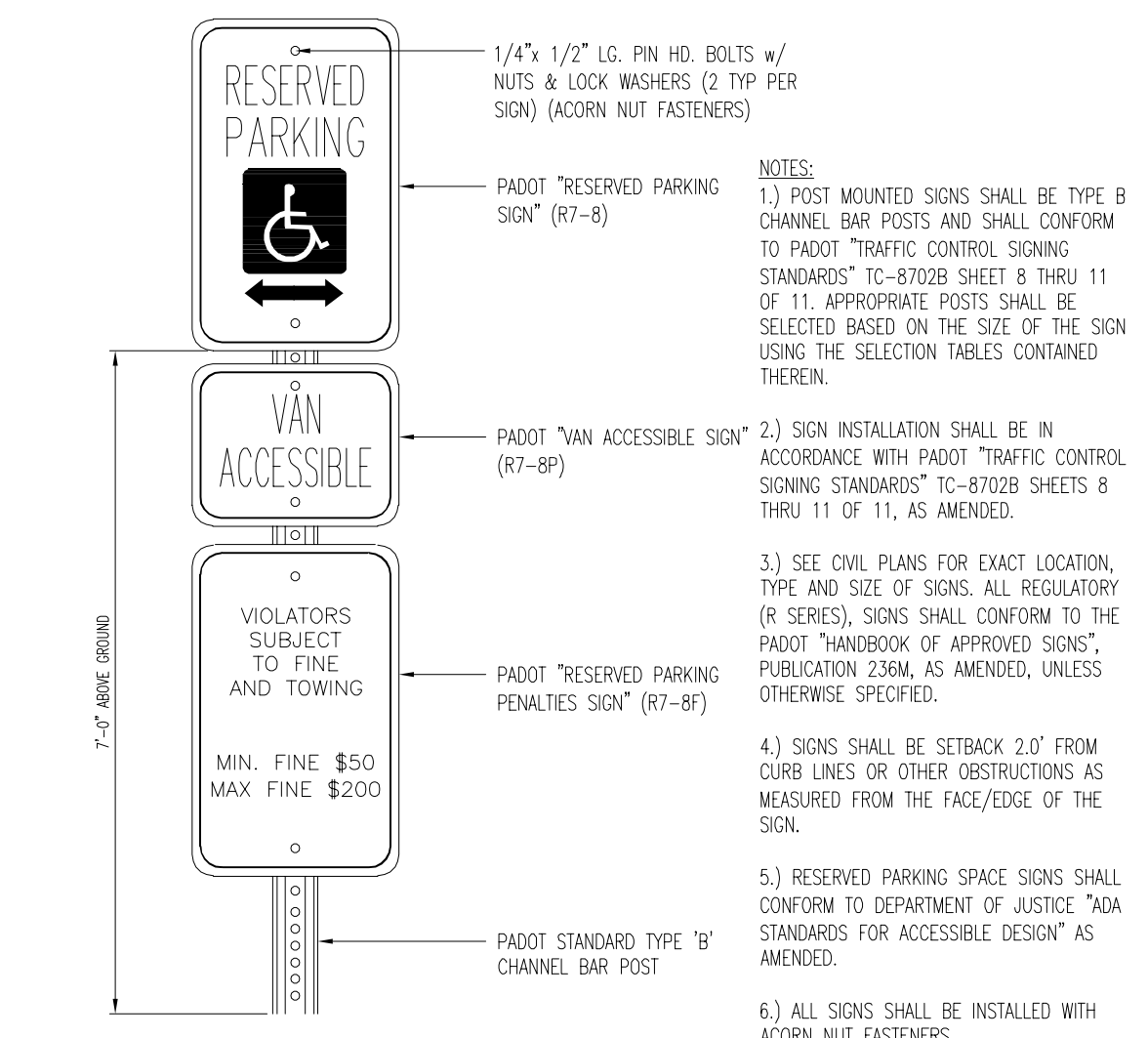
TYPICAL CONCRETE CURB DETAIL
 SCALE: N.T.S. REV: 2017.08.02



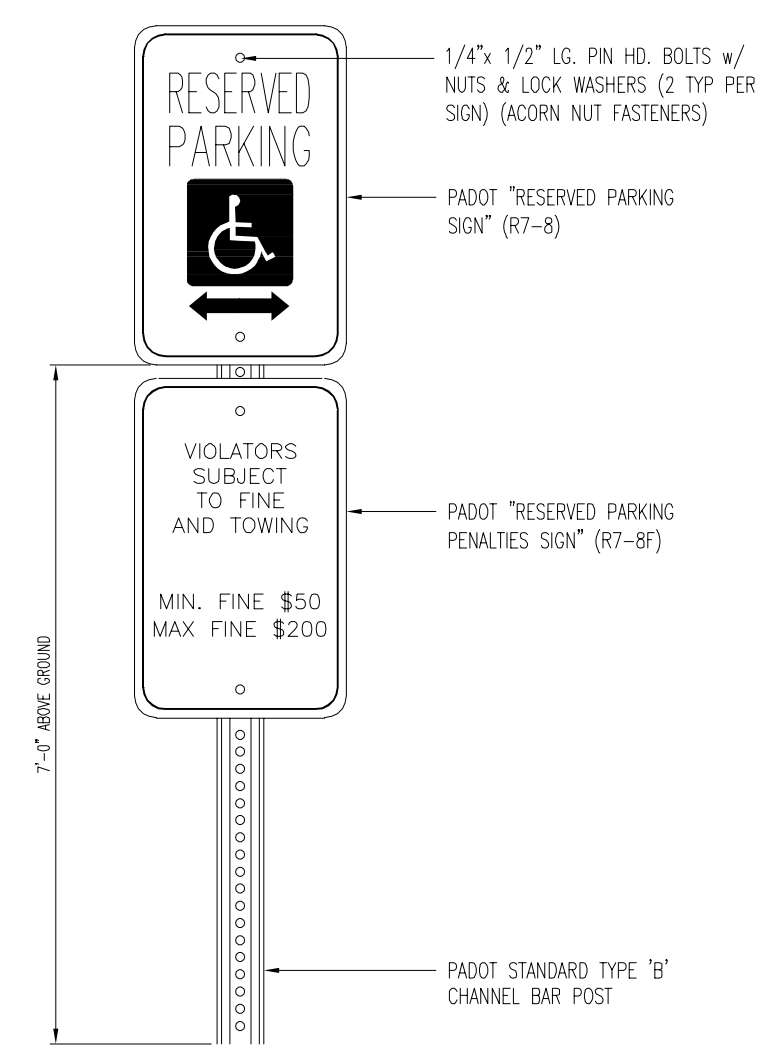
HIGH VISIBILITY CROSSWALK DETAIL (PERPENDICULAR TO INTERSECTION)
 SCALE: N.T.S. REV: 2015.03.09



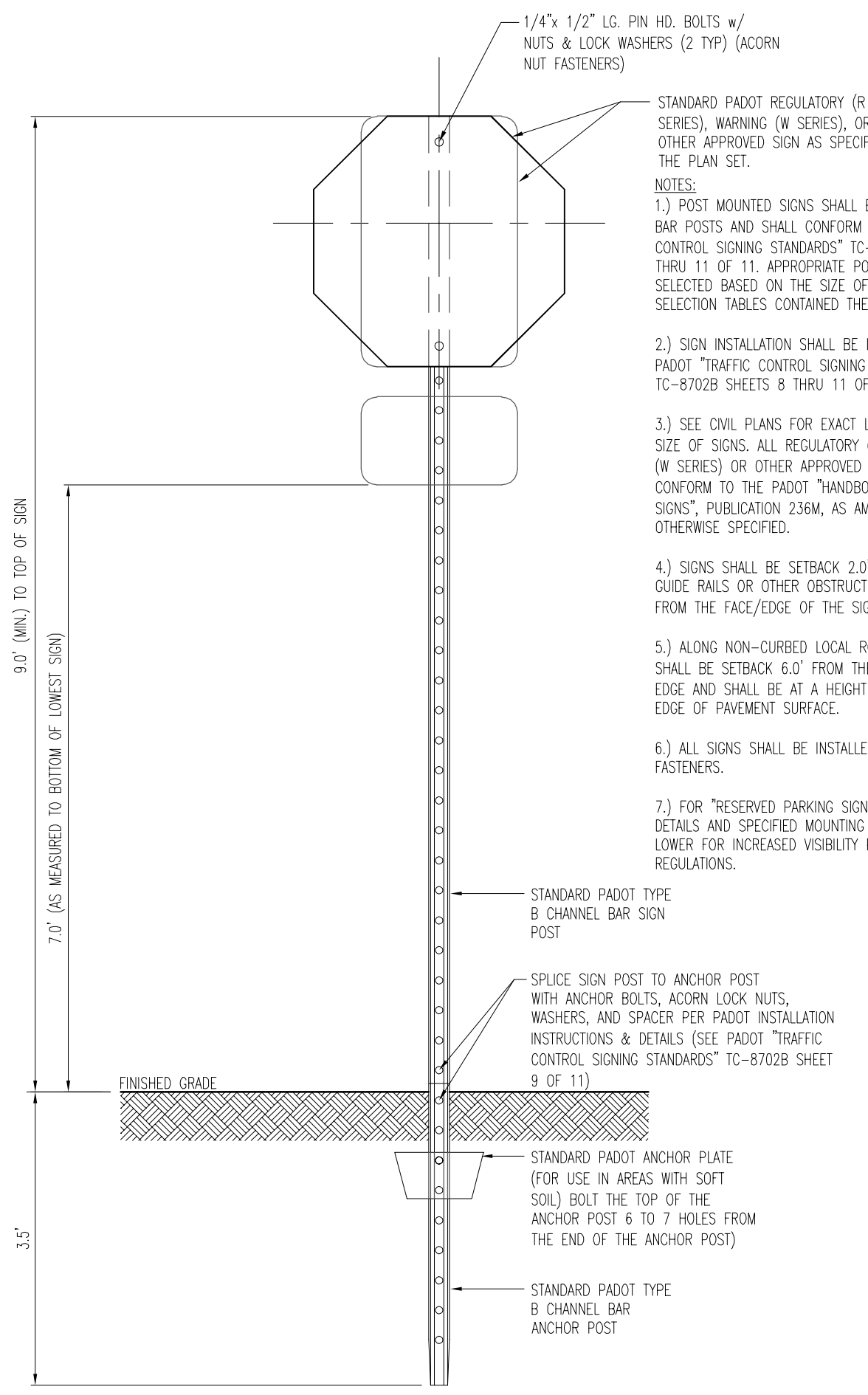
WHITE PAINTED STOP BAR DETAIL
 SCALE: N.T.S. REV: 2016.09.29



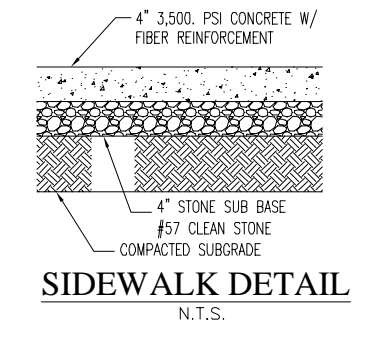
RESERVE PARKING SPACE w/ PENALTIES & VAN ACCESSIBLE SIGNS
 SCALE: N.T.S. REV: 2016.01.05



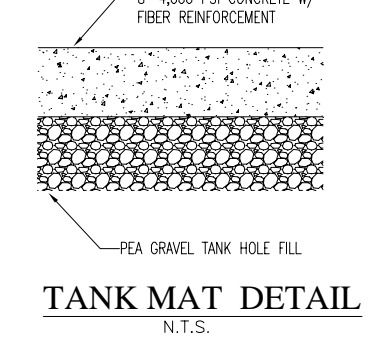
RESERVE PARKING SPACE & PENALTIES SIGNS
 SCALE: N.T.S. REV: 2016.01.05



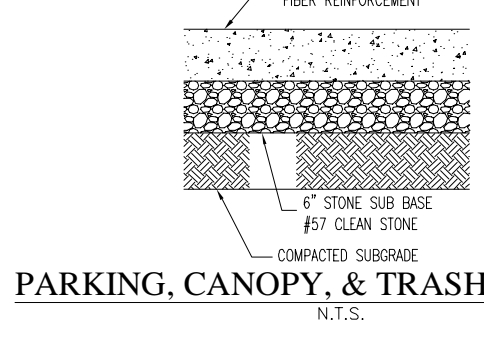
STANDARD POLE MOUNTED SIGN INSTALLATION DETAIL
 SCALE: N.T.S. REV: 2015.03.09



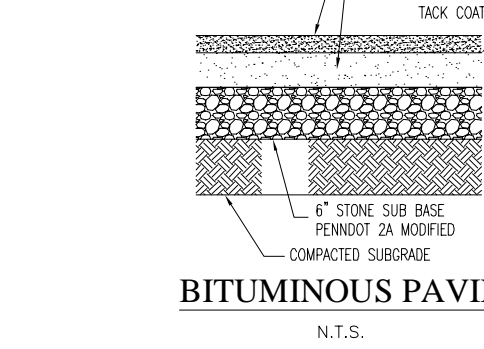
SIDEWALK DETAIL
 N.T.S.



TANK MAT DETAIL
 N.T.S.



PARKING, CANOPY, & TRASH MAT DETAIL
 N.T.S.

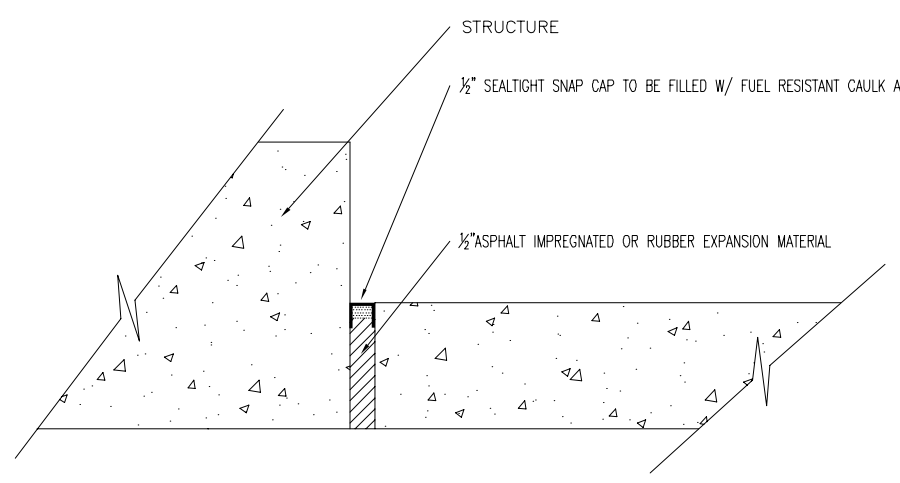


BITUMINOUS PAVING
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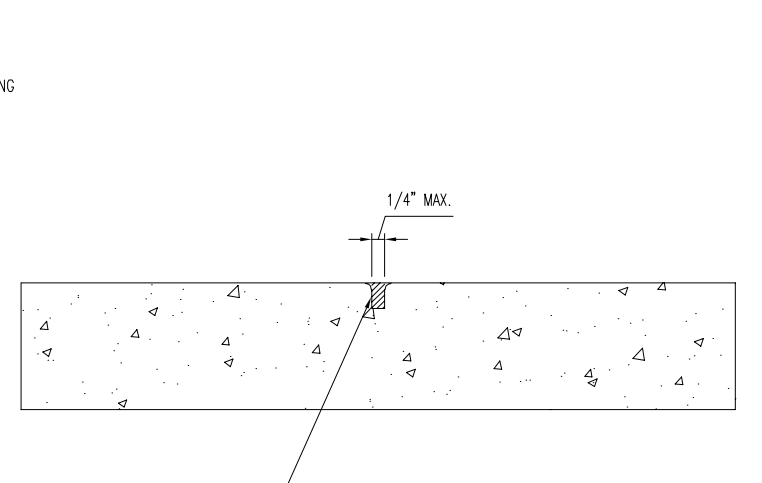
LIST OF APPLICABLE PADOT DETAILS

REFER TO PADOT STANDARD DETAILS AS FOLLOWS:
 SIGNAGE - PA D.O.T. PUBLICATION 236 (LATEST EDITION)
 DETAILS ARE ASSOCIATED WITH THE FOLLOWING PROPOSED
 SITE IMPROVEMENTS FROM PENNDOT PUBLICATION 72M

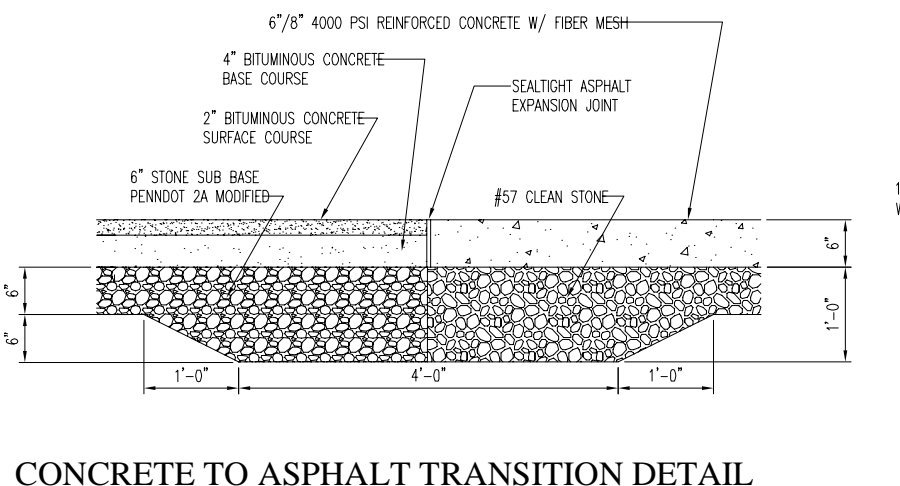
STANDARD DRAWING NUMBER	DESCRIPTION	DRAWING DATE
RC - 39M	MANHOLES	SEPTEMBER 15, 2016
RC - 45M	INLET TOPS & GRATES	SEPTEMBER 15, 2016
RC - 46M	INLET BOXES	SEPTEMBER 15, 2016
RC - 64M	CURBS & GUTTERS	JUNE 1, 2010
RC - 67M	CURB RAMPS	JUNE 10, 2013



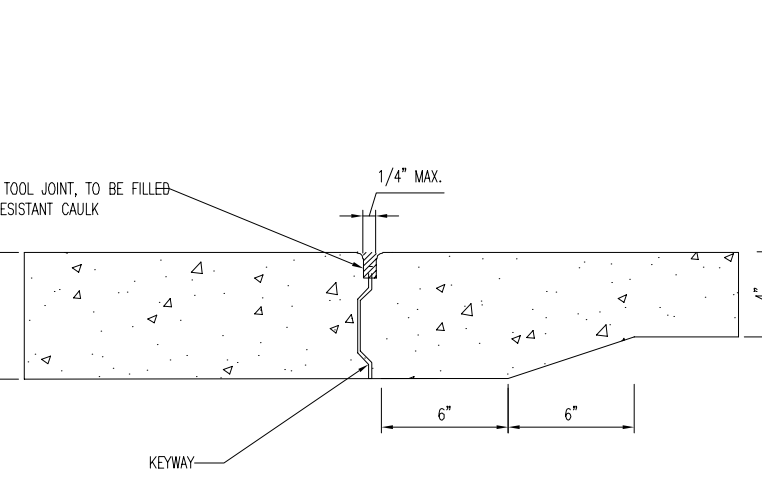
ISOLATION JOINT DETAIL
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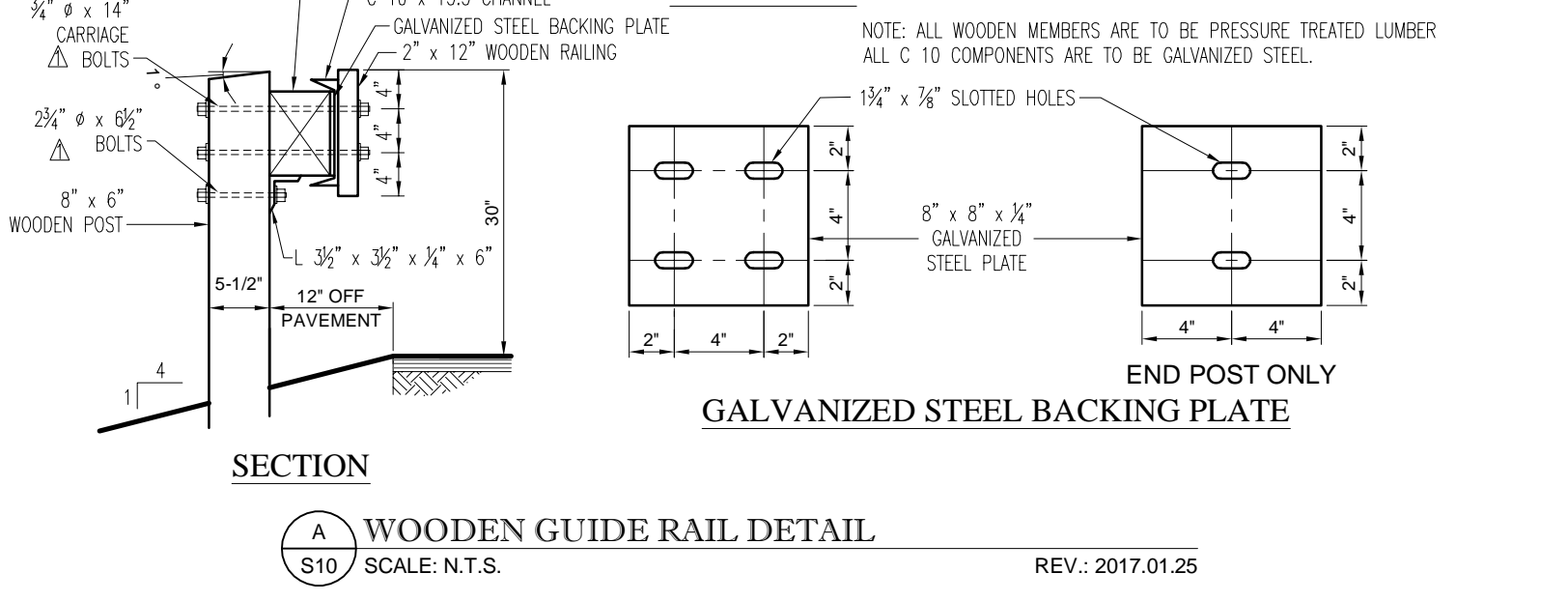
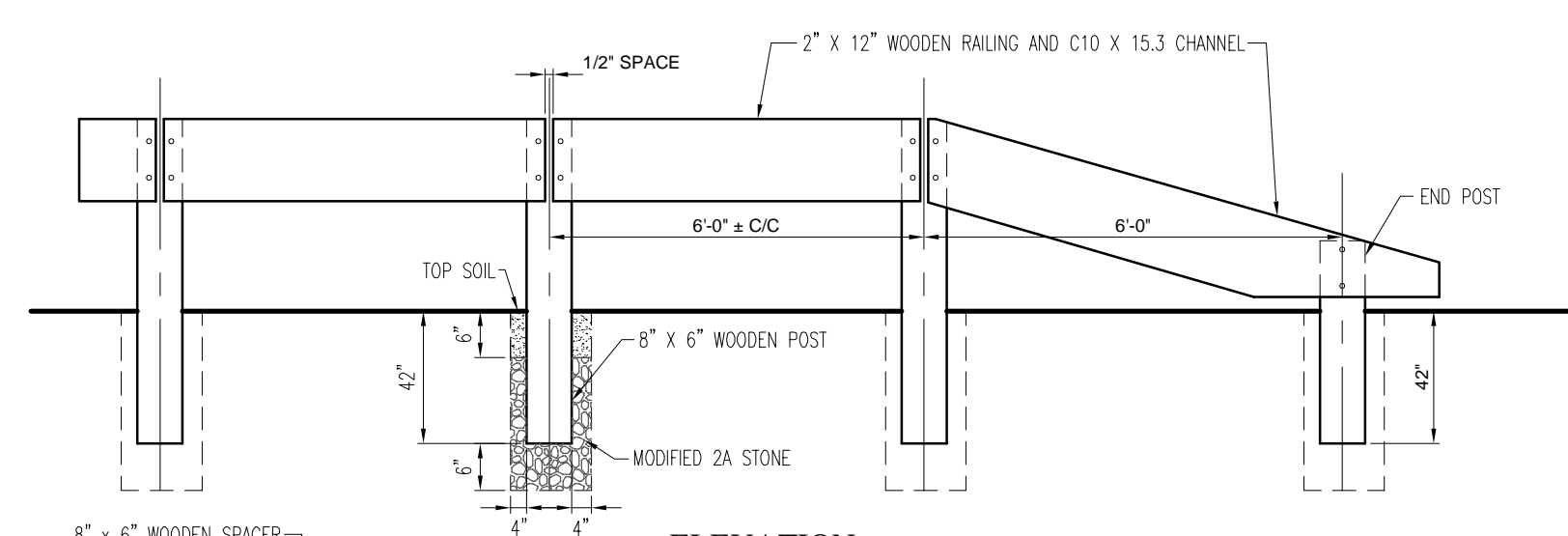
CONTROL JOINT DETAIL
 N.T.S.



CONCRETE TO ASPHALT TRANSITION DETAIL
 N.T.S.



CONSTRUCTION JOINT DETAIL
 N.T.S.



WOODEN GUIDE RAIL DETAIL
 SCALE: N.T.S. REV: 2017.01.25

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REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

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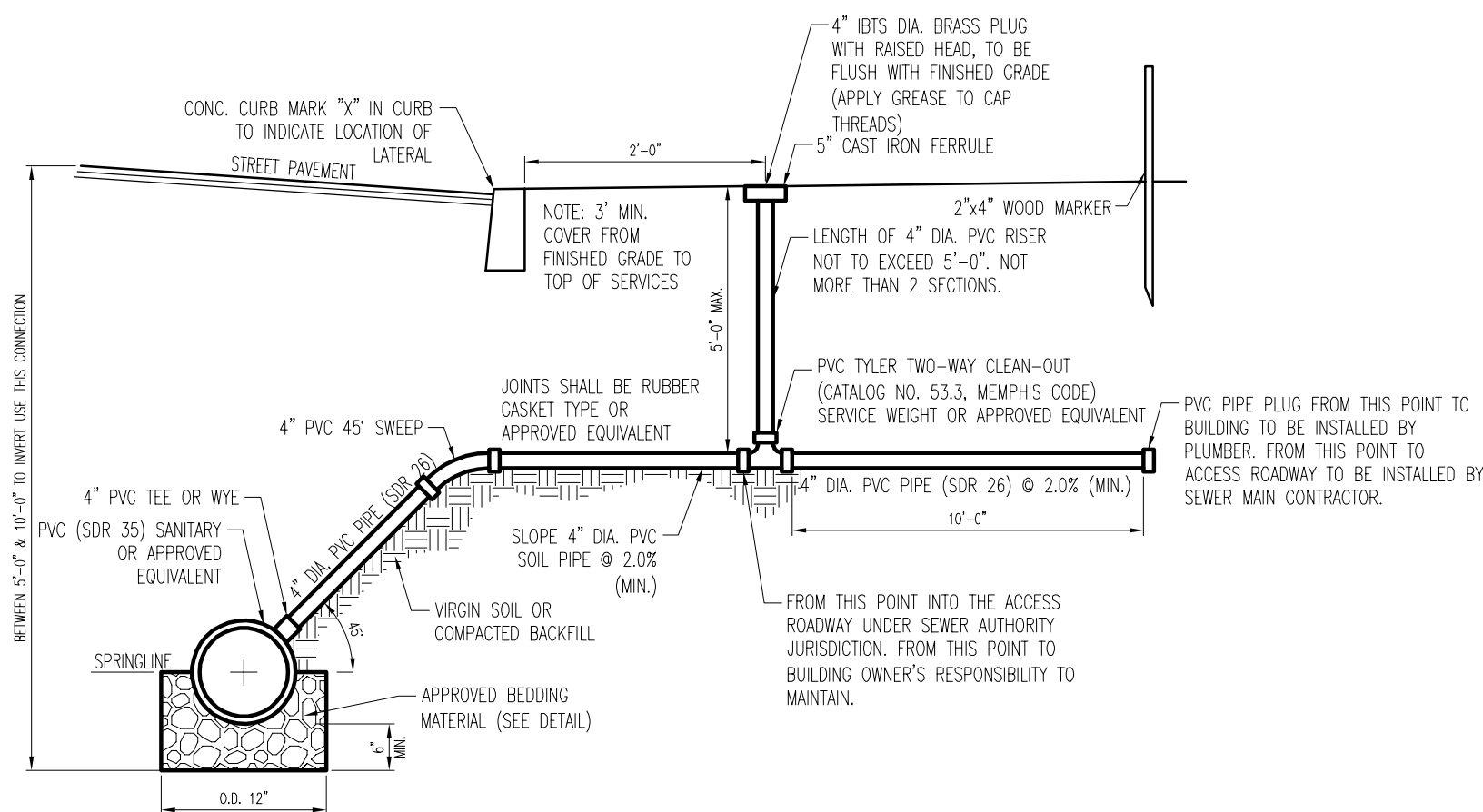
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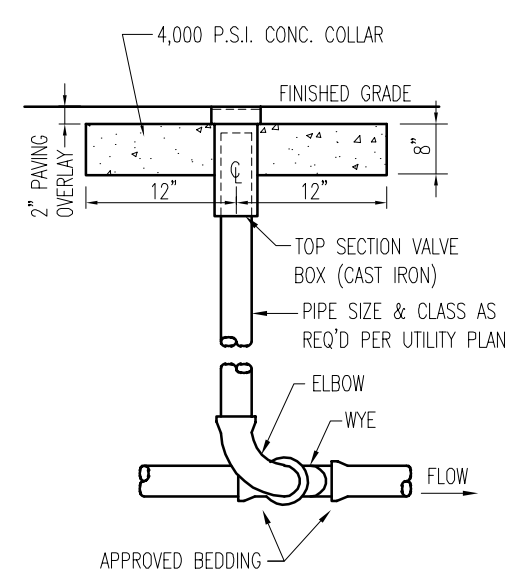
E.A. BRITZ
 PROFESSIONAL ENGINEER
 PENNSYLVANIA LICENSE # 0071643

SHEET TITLE:
DETAILS
 SHEET NUMBER:
16
 OF 19
 REVISION 1 - 2018.08.31

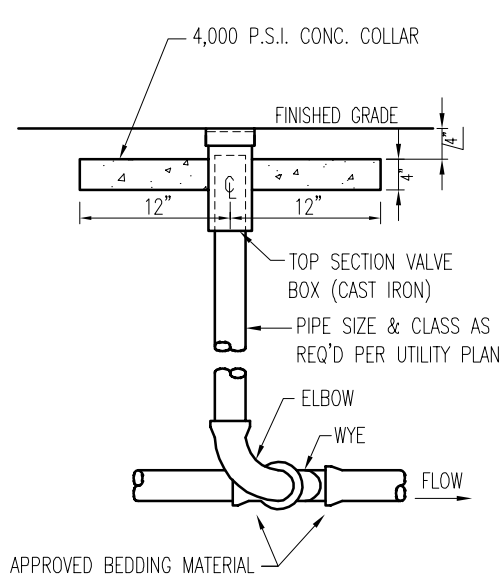
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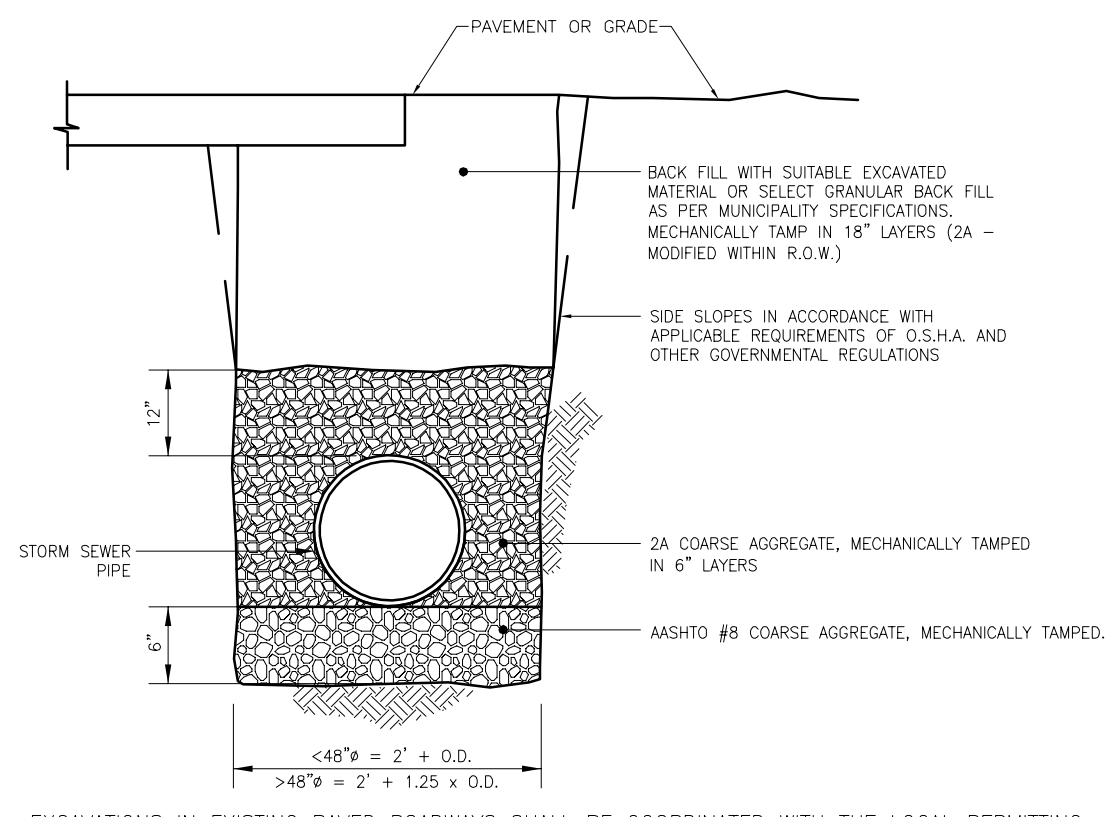
TYPICAL SANITARY SEWER LATERAL DETAIL
SCALE: N.T.S. REV: 2015.03.09



TYPICAL CLEANOUT DETAIL (PAVED AREAS)
SCALE: N.T.S. REV: 2015.03.09



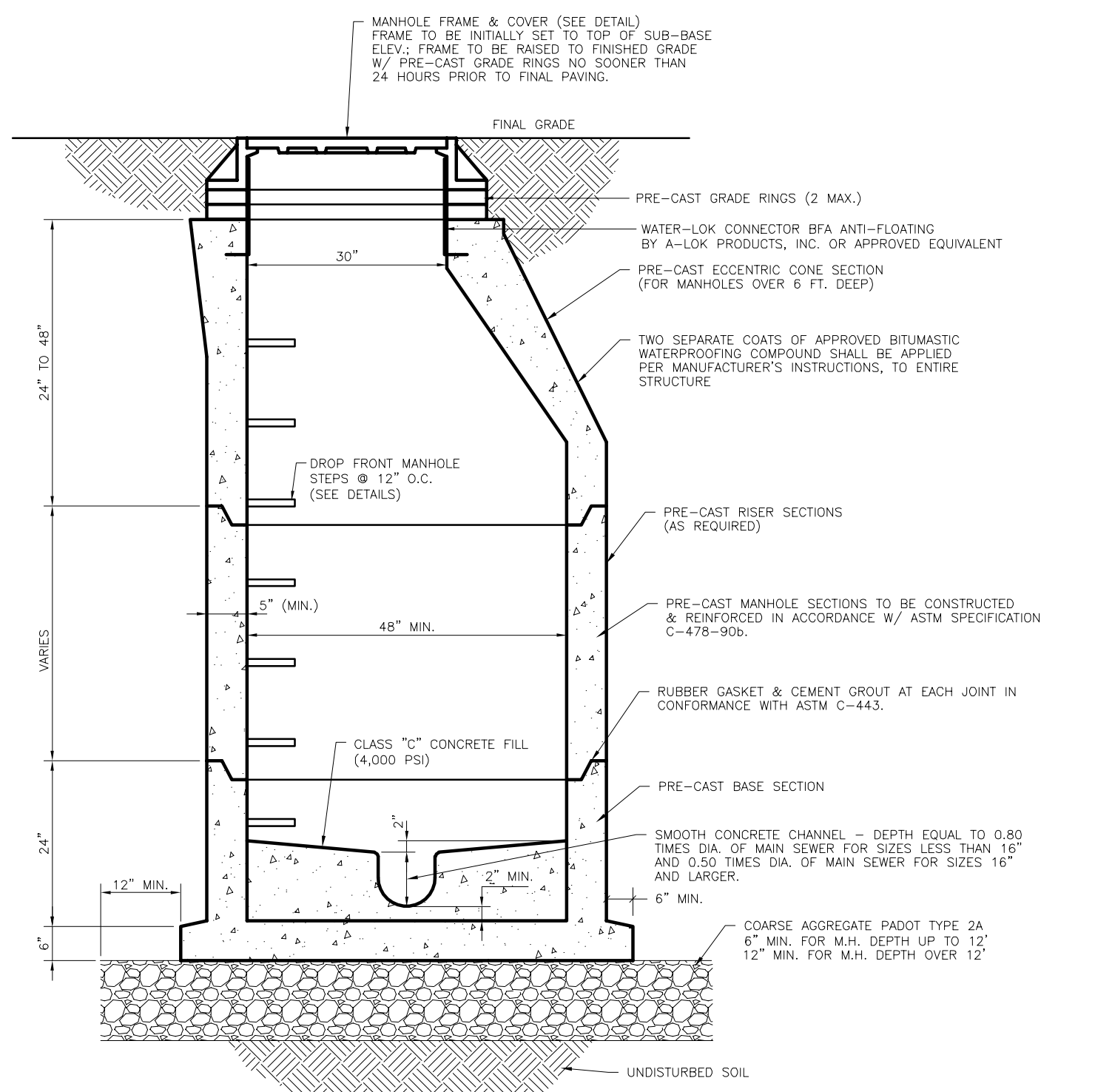
TYPICAL CLEANOUT DETAIL (LANDSCAPED AREAS)
SCALE: N.T.S. REV: 2015.03.09



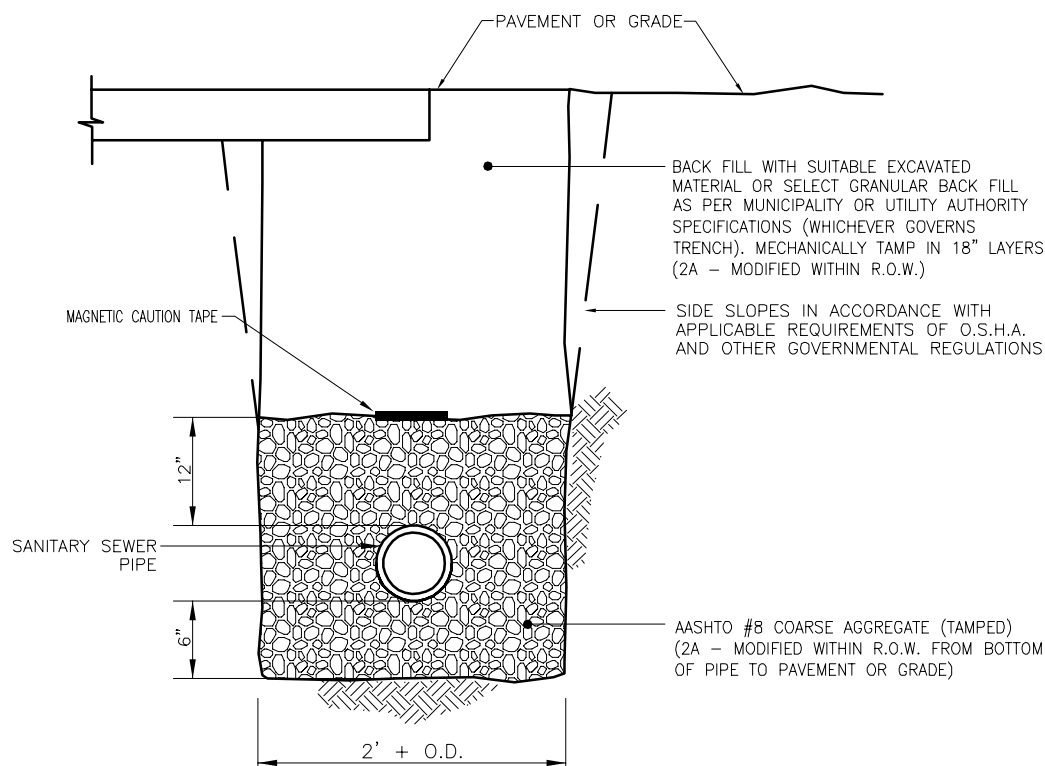
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THIS DETAIL IS NOT FOR USE WITHIN A STATE RIGHT-OF-WAY. REFER TO THE LATEST APPROVED DOT SPECIFICATIONS FOR TRENCH BEDDING WITHIN A STATE RIGHT-OF-WAY.

TRENCH BEDDING CLASSIFICATION (STORM)
SCALE: N.T.S. REV: 2015.03.09



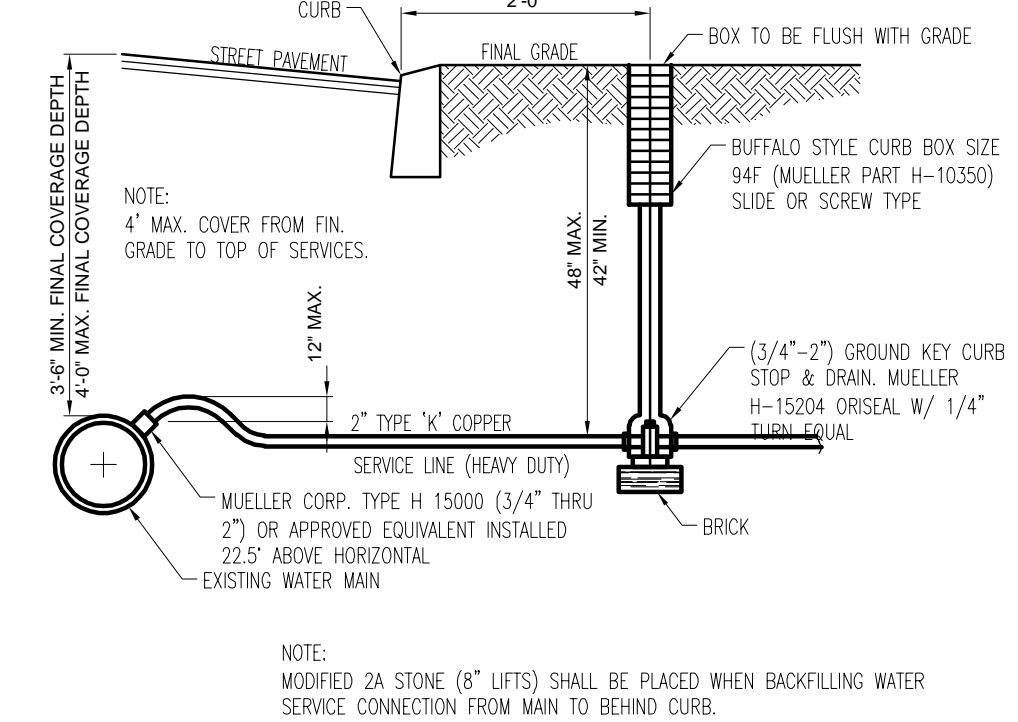
PRECAST SANITARY MANHOLE DETAILS
SCALE: N.T.S. REV: 2015.03.09



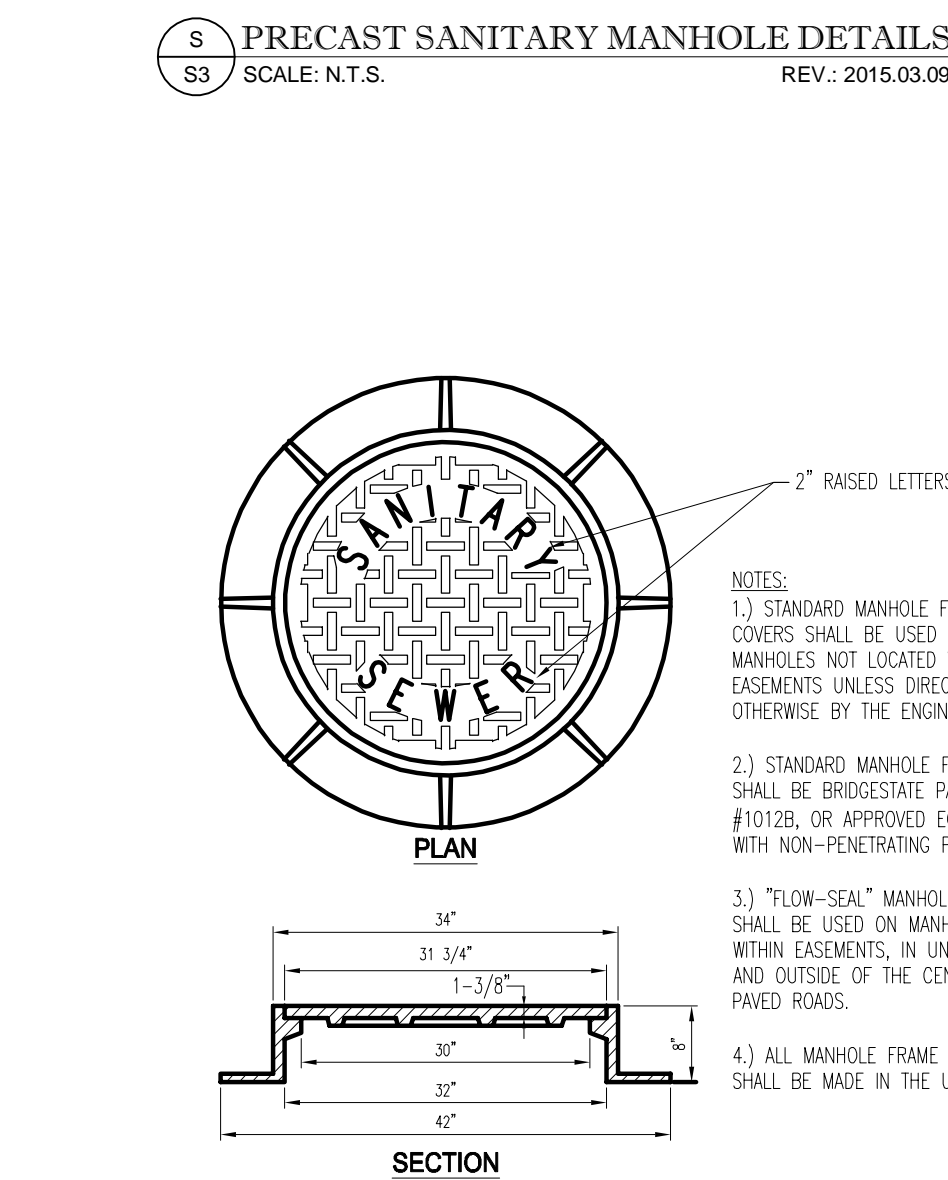
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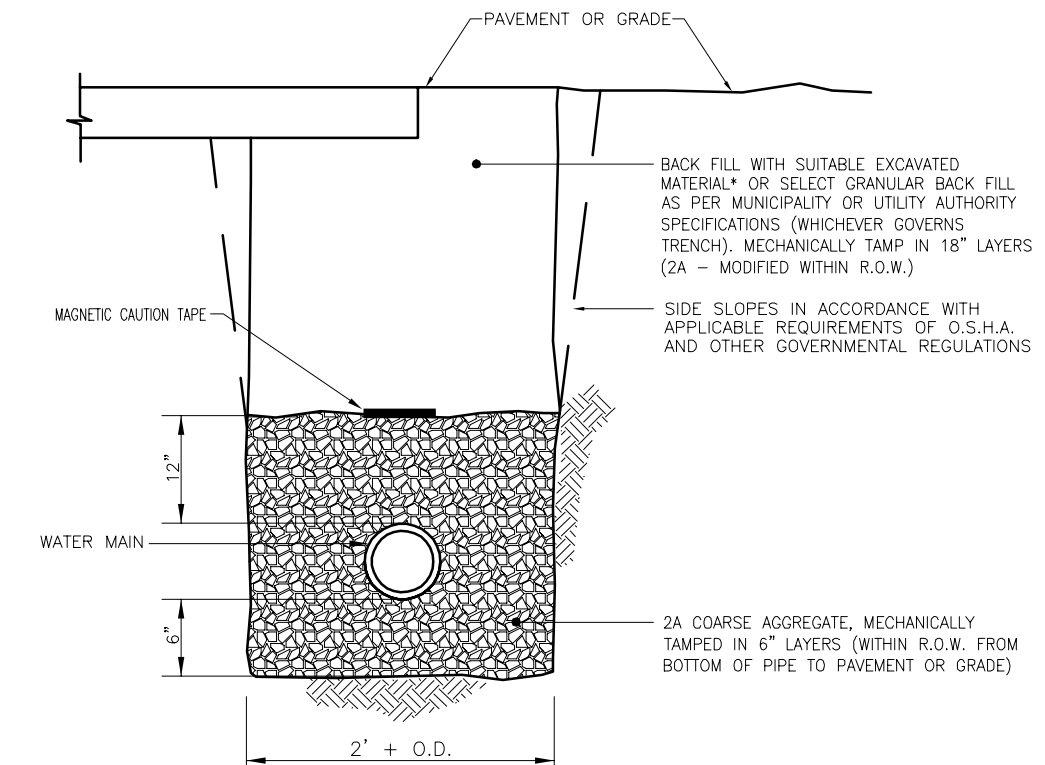
TRENCH BEDDING CLASSIFICATION (SANITARY MAIN)
SCALE: N.T.S. REV: 2015.03.09



WATER SERVICE CONNECTION DETAIL
SCALE: N.T.S. REV: 2015.03.09



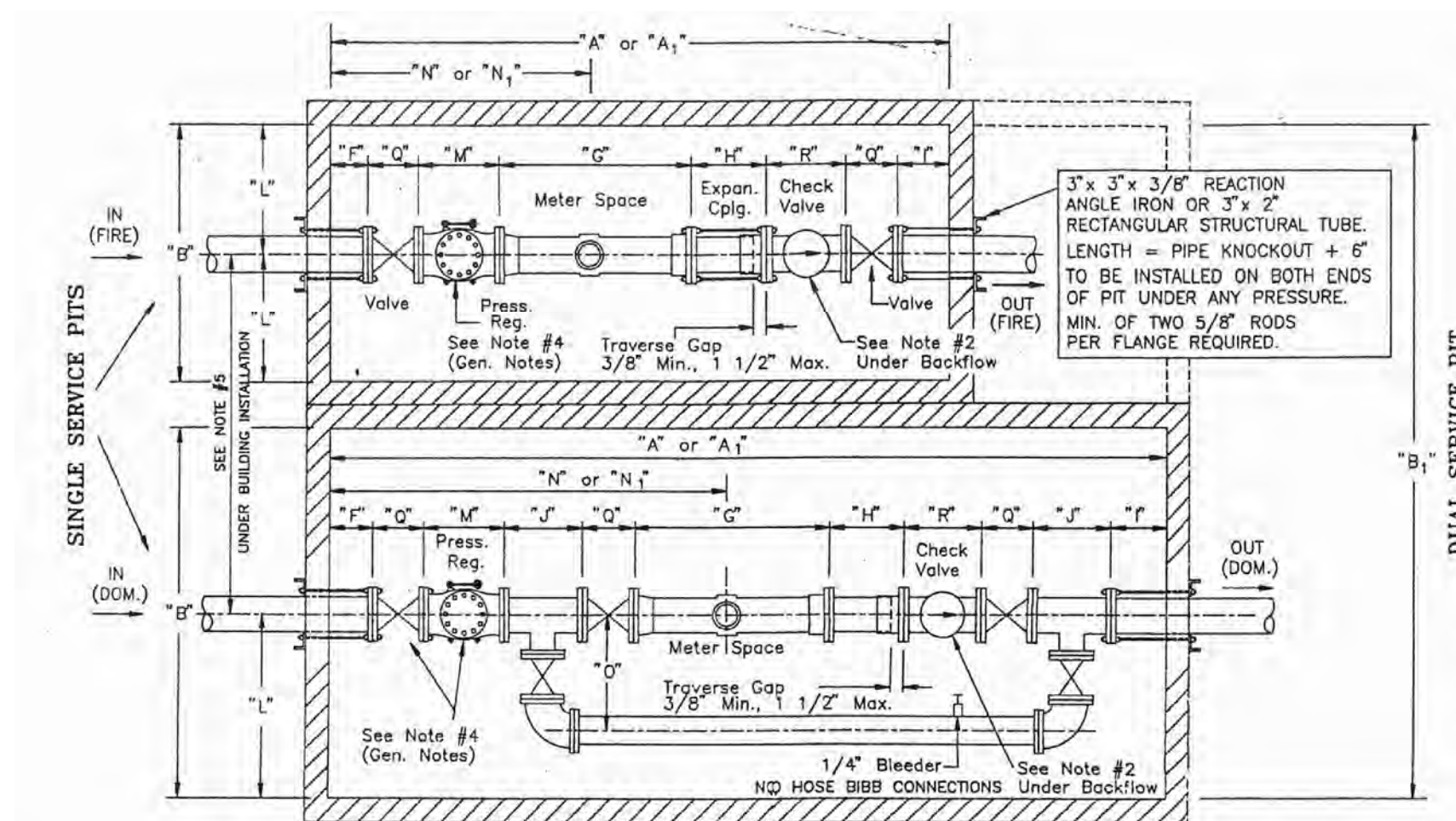
MANHOLE FRAME DETAIL
SCALE: N.T.S. REV: 2015.03.09



EXCAVATIONS IN EXISTING PAVED ROADWAYS SHALL BE COORDINATED WITH THE LOCAL PERMITTING AGENCY, AND ALL EXCAVATION SHALL BE PAVED WITH TEMPORARY BITUMINOUS PAVEMENT FROM THE DATE OF ORIGINAL EXCAVATION UNTIL PERMANENT PAVEMENT IS INSTALLED. (MINIMUM = 90 DAYS, MAXIMUM = 120 DAYS)

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TRENCH BEDDING CLASSIFICATION (WATER MAIN)
SCALE: N.T.S. REV: 2015.03.09



SUFFICIENT PATHWAY TO AND AROUND METER SPACE MUST BE PROVIDED AND MAINTAINED AT ALL TIMES, FOR INSTALLATION AND MAINTENANCE OF METER.

PIT INSTALLATION: For details and notes, refer to PSW Co. Plan C-5555.

SINGLE - SERVICE PIT DIMENSIONS (MINIMUM)

DESCRIPTION	FIRE								DOMESTIC (STANDARD)								
	1 1/2"	2"	4"	6"	8"	10"	1 1/2"	2"	4"	6"	8"	10"	1 1/2"	2"	4"	6"	8"
LENGTH (HIGH PRESSURE)	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"
LENGTH (LOW PRESSURE)	"R"	"S"	"T"	"U"	"V"	"W"	"X"	"Y"	"Z"	"AA"	"AB"	"AC"	"AD"	"AE"	"AF"	"AG"	"AH"
ACCESS DOOR	"I"	"J"	"K"	"L"	"M"	"N"	"O"	"P"	"Q"	"R"	"S"	"T"	"U"	"V"	"W"	"X"	"Y"
MAX LENGTH OFF WALL (INLET)	"1"	"2"	"3"	"4"	"5"	"6"	"7"	"8"	"9"	"10"	"11"	"12"	"13"	"14"	"15"	"16"	"17"
LAYING LENGTH OF METER (SEE GENERAL NOTE #6)	"18"	"19"	"20"	"21"	"22"	"23"	"24"	"25"	"26"	"27"	"28"	"29"	"30"	"31"	"32"	"33"	"34"
EXPANSION COUPLING	"35"	"36"	"37"	"38"	"39"	"40"	"41"	"42"	"43"	"44"	"45"	"46"	"47"	"48"	"49"	"50"	"51"
MIN. LENGTH OFF WALL (OUTLET)	"52"	"53"	"54"	"55"	"56"	"57"	"58"	"59"	"60"	"61"	"62"	"63"	"64"	"65"	"66"	"67"	"68"
BY-PASS TEE	"69"	"70"	"71"	"72"	"73"	"74"	"75"	"76"	"77"	"78"	"79"	"80"	"81"	"82"	"83"	"84"	"85"
PIPE TO FLOOR	"86"	"87"	"88"	"89"	"90"	"91"	"92"	"93"	"94"	"95"	"96"	"97"	"98"	"99"	"100"	"101"	"102"
PIPE TO SIDE WALL	"103"	"104"	"105"	"106"	"107"	"108"	"109"	"110"	"111"	"112"	"113"	"114"	"115"	"116"	"117"	"118"	"119"
AVG. LAYING LENGTH OF PRESSURE REGULATOR	"120"	"121"	"122"	"123"	"124"	"125"	"126"	"127"	"128"	"129"	"130"	"131"	"132"	"133"	"134"	"135"	"136"
METER TO FRONT WALL (HIGH PRESS.)	"137"	"138"	"139"	"140"	"141"	"142"	"143"	"144"	"145"	"146"	"147"	"148"	"149"	"150"	"151"	"152"	"153"
METER TO FRONT WALL (LOW PRESS.)	"154"	"155"	"156"	"157"	"158"	"159"	"160"	"161"	"162"	"163"	"164"	"165"	"166"	"167"	"168"	"169"	"170"
AVG. LAYING LENGTH OF VALVE	"171"	"172"	"173"	"174"	"175"	"176"	"177"	"178"	"179"	"180"	"181"	"182"	"183"	"184"	"185"	"186"	"187"
AVG. LAYING LENGTH OF CHECK VALVE	"188"	"189"	"190"	"191"	"192"	"193"	"194"	"195"	"196"	"197"	"198"	"199"	"200"	"201"	"202"	"203"	"204"
PIPE TO BY-PASS	"205"	"206"	"207"	"208"	"209"	"210"	"211"	"212"	"213"	"214"	"215"	"216"	"217"	"218"	"219"	"220"	"221"

* SEE NOTE #8 UNDER GENERAL NOTES

- GENERAL NOTES FOR ALL INSTALLATIONS:
- All meters and strainers to be supplied, maintained, owned and installed by PSW Co.
 - For all domestic and fire service lines 3" and larger, a minimum of two 2" x 1000 adjustable pipe supports, or equal, shall be installed by owner. They shall be placed under the inlet & outlet flanges of the meter space, prior to the meter being set. Adfl supports may be used.
 - All meters must be set level in a horizontal plane.
 - On fire service lines 2" and smaller, and domestic service lines, when pressure may exceed 100 psi, a pressure regulator and an outlet valve on the inlet side of the fire line are req'd. On fire service lines over 2", when pressure may exceed 150 psi, a pressure regulator is req'd. By-pass around regulator not allowed.
 - On domestic service lines, 1 1/2" and larger, a by-pass is required. P.S.W. Co. will determine the exceptions.
 - Where domestic meter size is smaller than service size, the meter opening "G" dim. shall be the "G" dim. of the meter size plus the laying length of the reducers. Avg. laying length of reducers: 3/4" (11), 1" (11), 1 1/2" (12), 2" (12), 3" (12).
 - Expansion couplings are req'd for pit installations. On expansion pipe 3" and larger, a Smith Blair #912 adaptor w/flanged tail pipe or a Ford flanged coupling adaptor style FFCA w/flanged tail pipe or equal, shall be used (tail piece must abut meter) on 2" and smaller, a Ford Lock-Flac capg, or equal, in req'd, except when using a "Special Custom Setter" or equal.
 - For 1 1/2" and 2" meters (low pressure), a 3/8" dia. pit made of Rigid PVC Pipe (Ribbed Const.) may be used, along with a Ford "Special Custom Setter. See PSW Co. plan No. G-18119.
 - Butterfly valves are NOT permitted in meter arrangement.
 - Victaulic flanges and joints are NOT acceptable in the meter arrangement, or in meter pits.
- BUILDING INSTALLATION:**
- Expansion coupling not req'd for meters set inside buildings.
 - When the dom. meter is installed in the building, the by-pass line must be installed either on the wall side and parallel to the meter, or above the meter.
 - The meter location shall NOT be within a closet, crawl space, garage, unheated area or any enclosure not approved by PSW Co.
 - In buildings, concrete blocking under bends are to be poured AFTER meter is set.
 - The distance between the domestic and fire lines (when laid parallel) shall be twice the "L" dimension of the fire line.
- BACKFLOW PREVENTERS:**
- If a backflow prevention device is required, as indicated on the meter service application form, and/or service approval letter, please contact PSW Co. Cross-Connection Dept. for type of device, location and installation information.
 - On all service lines, if a backflow prevention device is required (protecting the entire service line) then the check valve by the meter is not required.
 - Backflow preventers are to be installed downstream of the meter and before any outlet or branch connections.
- NOTE: IF BUILDER SELECTS TO USE A DUAL-SERVICE PIT, THEN DIM. "A" OR "A1" OF THE DUAL-SERVICE PIT SHALL BE "A" OR "A1" DIM. FOR FIRE AND DOMESTIC LINE PIT "A" OR "A1" DIM. FOR FIRE AND DOMESTIC LINE. (Combination Dom. and Fire)

DUAL-SERVICE PIT - "B" DIM. (MINIMUM)
(Combination Dom. and Fire)

SIZE	1 1/2"	2"	4"	6"	8"	10"
DEPTH	1 1/2"	2"	4"	6"	8"	10"
WIDTH	1 1/2"	2"	4"	6"	8"	10"
LENGTH	1 1/2"	2"	4"	6"	8"	10"
HEIGHT	1 1/2"	2"	4"	6"	8"	10"

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FOCUS SERIAL NUMBER

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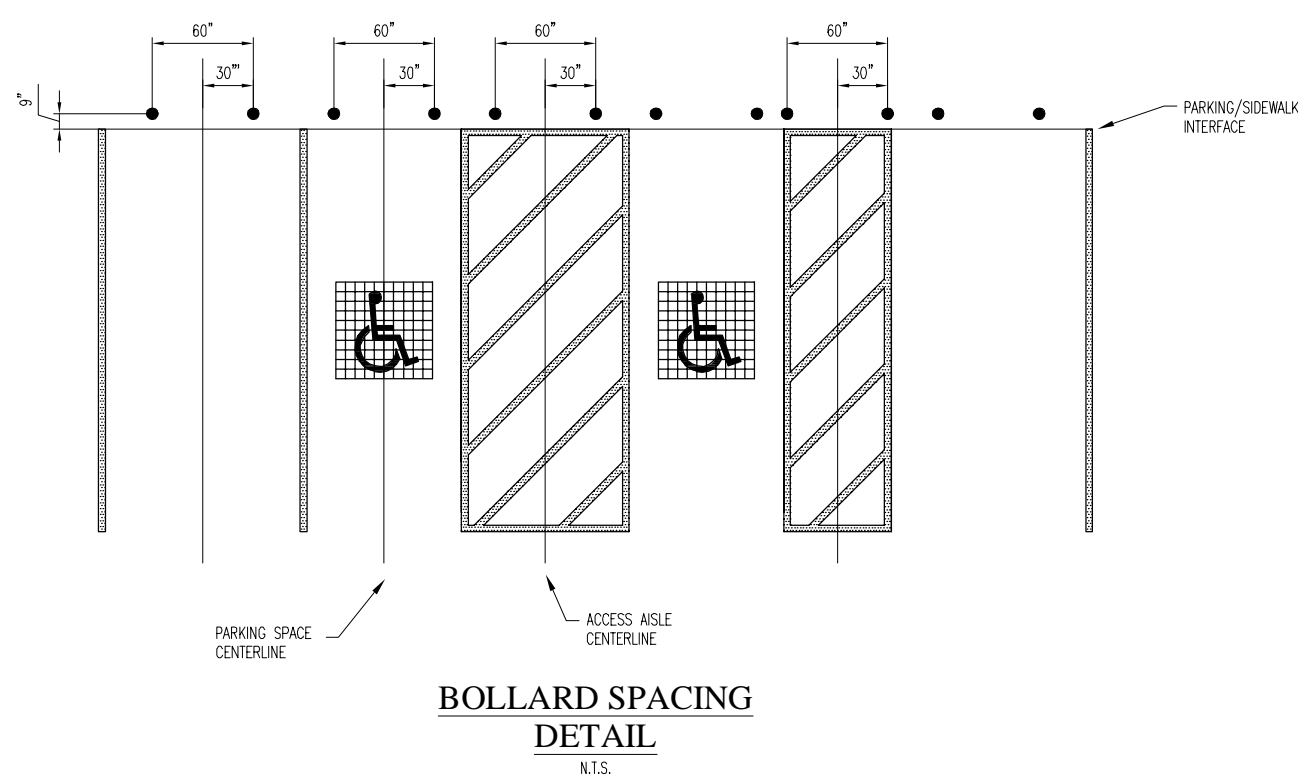
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DETAILS

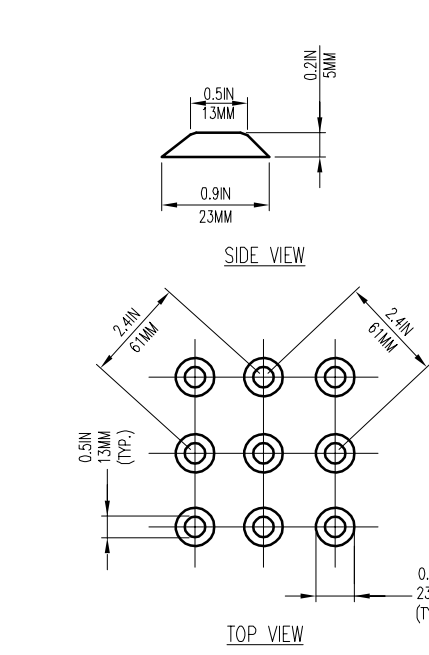
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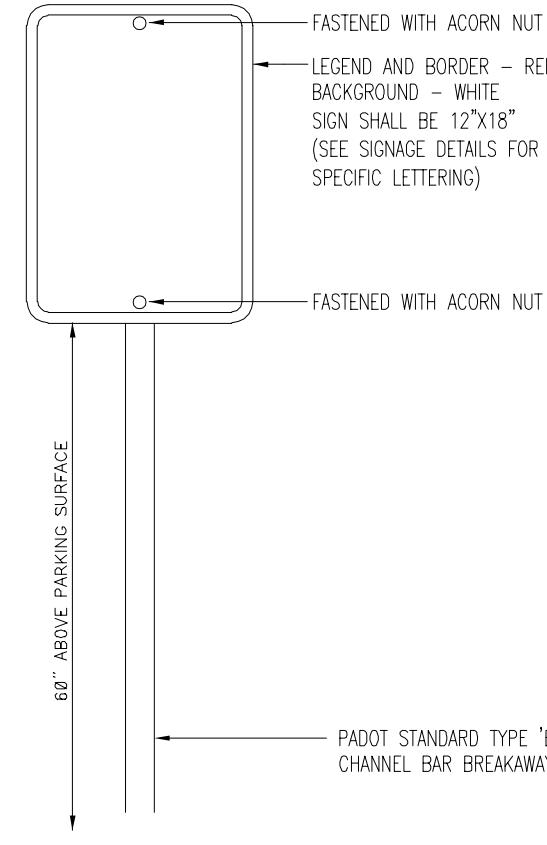


BOLLARD SPACING DETAIL
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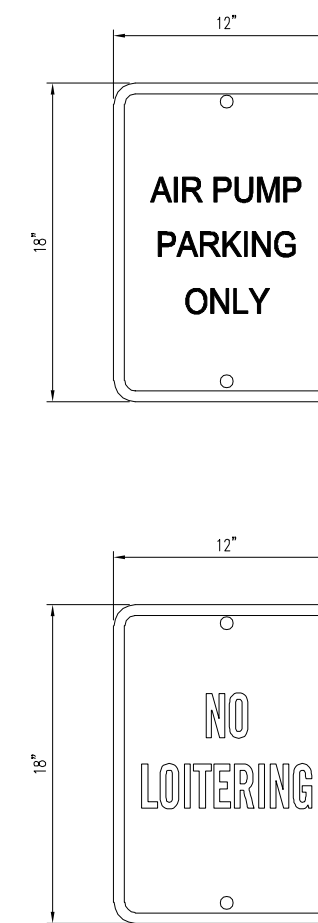
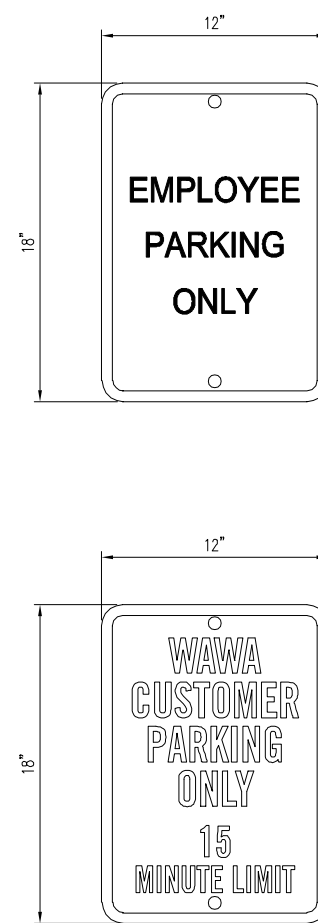
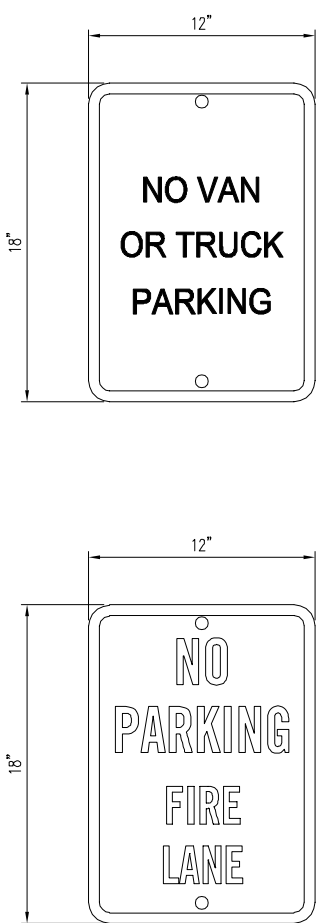
NOTES:
1.) DETECTABLE WARNING SURFACES SHALL BE A PRE-MANUFACTURED ARMOUR-TILE TACTILE SYSTEM OR APPROVED EQUIVALENT.
2.) CONTRACTOR TO COORDINATE SPECIFIC SYSTEM AND MATERIALS TO BE UTILIZED WITH THE ENGINEER TO ENSURE LOCAL, STATE AND A.D.A. COMPLIANCE PRIOR TO CONSTRUCTION.

TRUNCATED DOME PATTERN FOR A.D.A. DETECTABLE WARNING SURFACES (FOR USE IN DOT ROADWAYS)
SCALE: N.T.S. REV: 2017.04.20

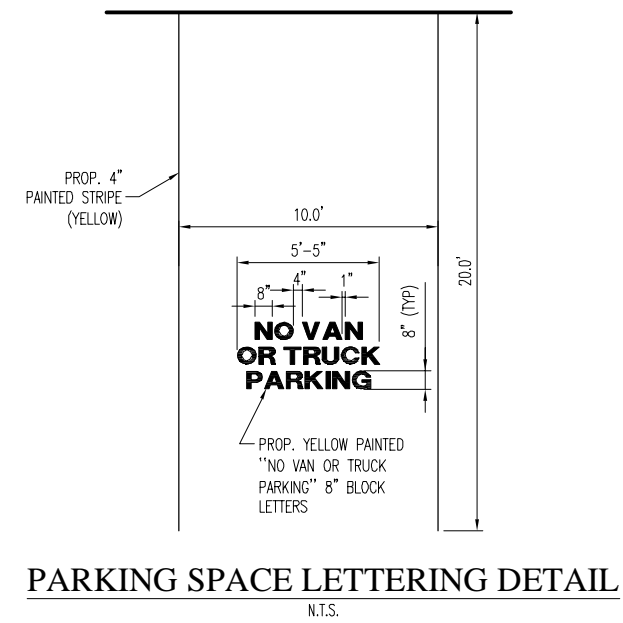


SIGN MOUNTING DETAIL
N.T.S.

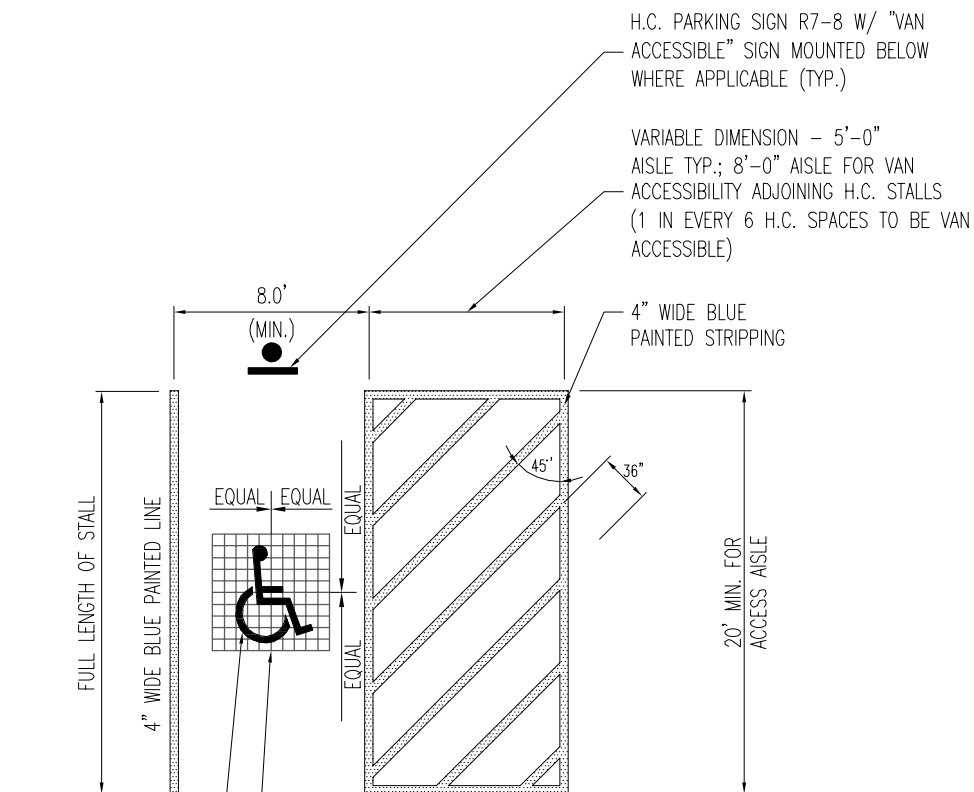
NOTES:
1.) POST MOUNTED SIGNS SHALL BE TYPE B CHANNEL BAR POSTS AND SHALL CONFORM TO PAODT 'TRAFFIC CONTROL SIGNING STANDARDS' TC-87028 SHEET 8 THRU 11 OF 11. APPROPRIATE POSTS SHALL BE SELECTED BASED ON THE SIZE OF THE SIGN USING THE SELECTION TABLES CONTAINED THEREIN.
2.) SIGN INSTALLATION SHALL BE IN ACCORDANCE WITH PAODT 'TRAFFIC CONTROL SIGNING STANDARDS' TC-87028 SHEETS 8 THRU 11 OF 11, AS AMENDED.
3.) SEE CIVIL PLANS FOR EXACT LOCATION, TYPE AND SIZE OF SIGNS. ALL REGULATORY (R SERIES), SIGNS SHALL CONFORM TO THE PAODT 'HANDBOOK OF APPROVED SIGNS', PUBLICATION 3396, AS AMENDED, UNLESS OTHERWISE SPECIFIED.
4.) SIGNS SHALL BE SETBACK 2.0' FROM CURB LINES OR OTHER OBSTRUCTIONS AS MEASURED FROM THE FACE/EDGE OF THE SIGN.
5.) ALL SIGNS SHALL BE INSTALLED WITH ACORN NUT FASTENERS.



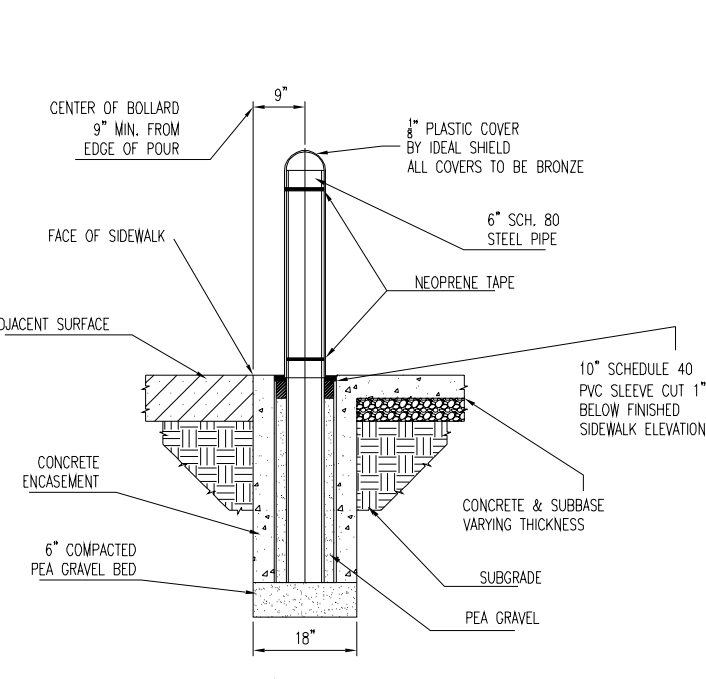
SIGN LETTERING DETAILS
N.T.S.



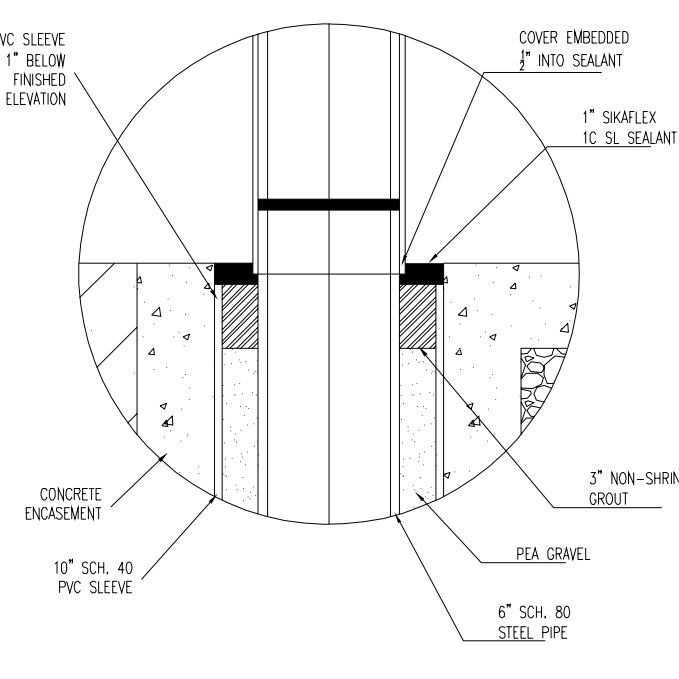
PARKING SPACE LETTERING DETAIL
N.T.S.



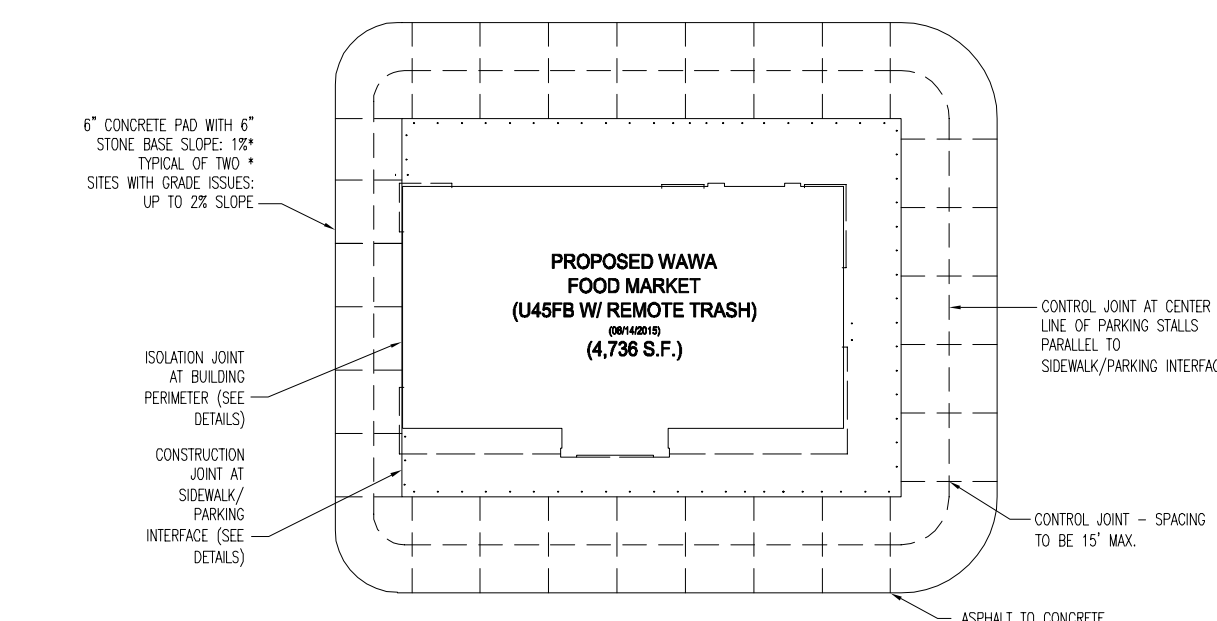
A.D.A. PAINTED MARKINGS
N.T.S.



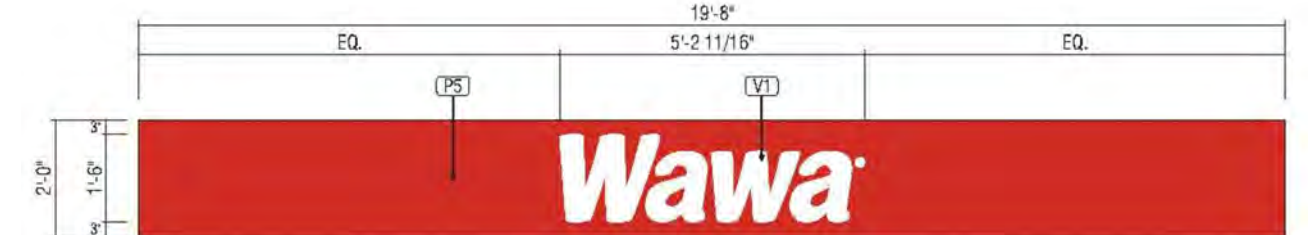
CONCRETE AREAS



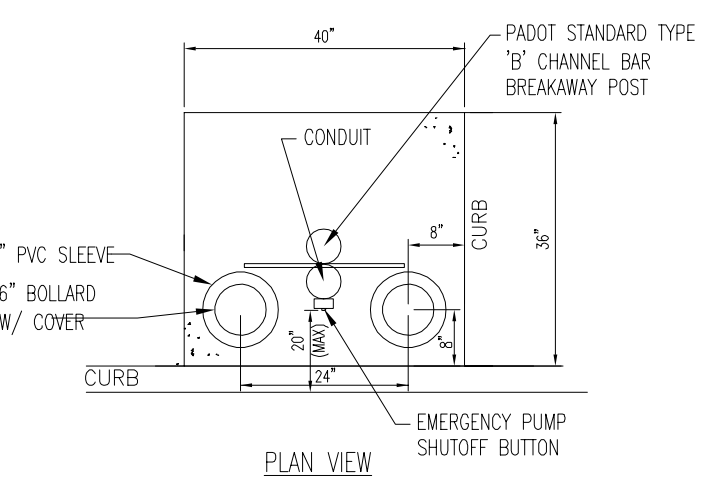
GENERAL DETAILS AND CAULK/GROUT DETAIL FOR CONCRETE AREAS



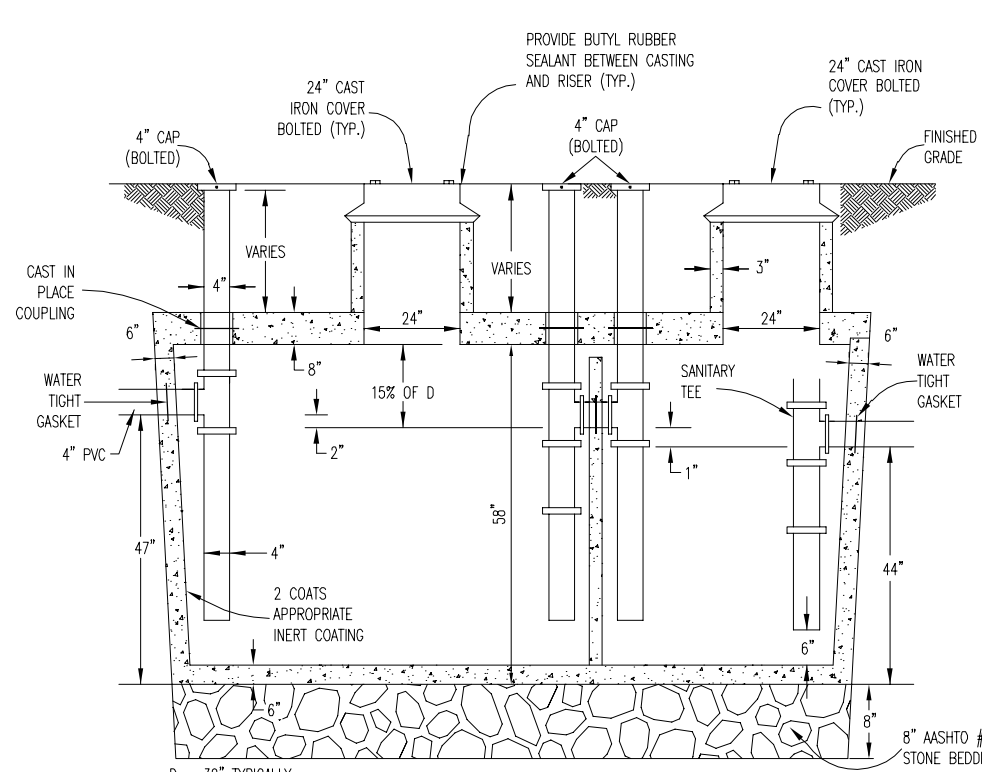
DETAIL OF TYPICAL CONCRETE PAVING AROUND BUILDING (STUCCO U45 F/B TOWER W/ STRIPED ISLANDS)
N.T.S.



PROPOSED GAS PUMP SPANNER (STACKED PUMPS)
TOTAL AREA = 7.84 S.F.



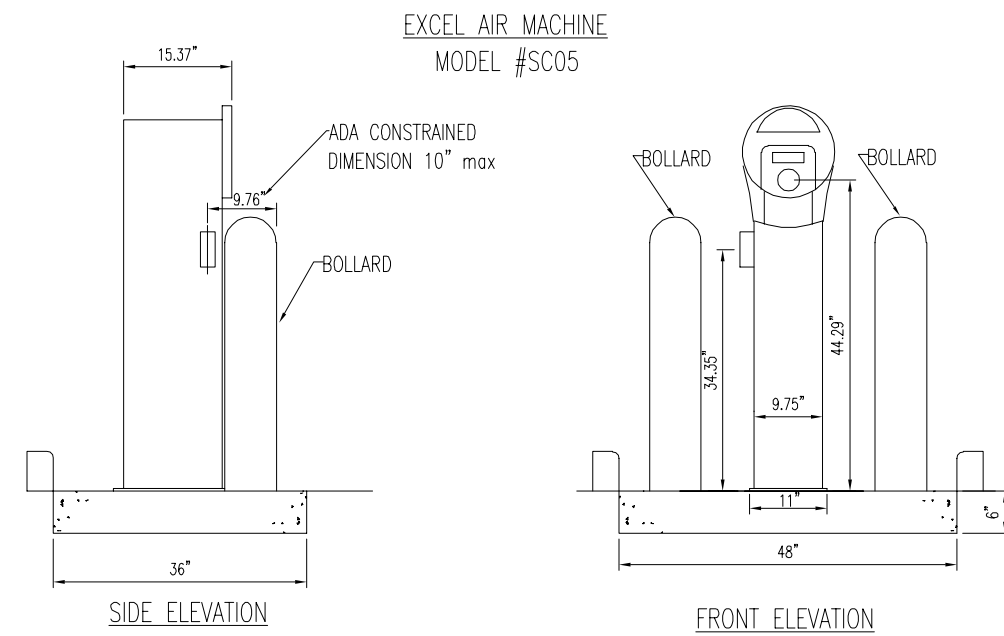
EMERGENCY FUEL PUMP SHUTOFF



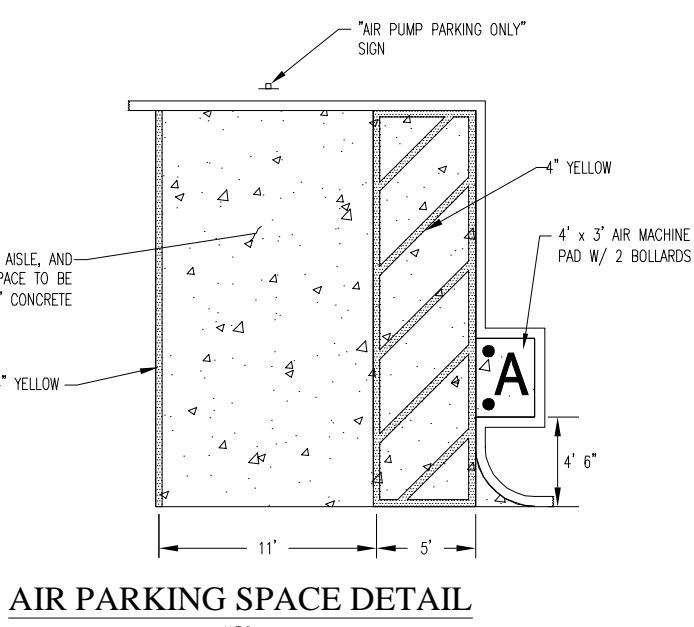
ALL INLET AND OUTLET PIPES SHALL BE INSTALLED NO MORE THAN 6" FROM THE BOTTOM OF THE GREASE TRAP. TANK TAPERS TOP TO BOTTOM AND IS TRAPEZOIDAL IN CROSS SECTION. TANK IS 5000 PSI CONCRETE-STEEL REINFORCED (Ø 28 DAYS) CONCRETE CONFORMS TO ACI 318-16-4.5.1 AND 318-16-4.5.2, ASTM A615 AND A185
-DIMENSION: 151" INTERIOR/ 163" EXTERIOR LENGTH x 72" INTERIOR/ 84" EXTERIOR WIDTH

NOTES:
1) WHEN LOCATED IN DRIVEWAYS OR PAVED AREAS, GREASE TRAP TO BE DESIGNED FOR APPROPRIATE LOAD BEARING CONDITIONS. GREASE TRAP SHALL BE CAPABLE OF WITHSTANDING HS-20 LOADING.
2) ALL PIPE PENETRATIONS SHALL BE WATERTIGHT.
3) GREASE TRAP SHALL BE PROVIDED WITH GAS-TIGHT MANHOLE COVERS, IN ACCORDANCE WITH TOWNSHIP STANDARD SPECIFICATIONS.
4) PRECAST CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH 5000 PSI.
5) EXTERIOR CONCRETE SURFACES BELOW GRADE SHALL HAVE 2 COATS OF COAL TAR EPOXY.
6) SPECIFIC SEALANT DETAIL AT CONCRETE RISER TO CONCRETE VAULT INTERFACE SHALL BE WATERTIGHT. AT A MINIMUM, THE JOINT SHALL BE SEALED WITH BUTYL RUBBER SEALANT (KENT SEAL #2 OR APPROVED EQUIVALENT) AND THE EXTERIOR OF THE JOINT SHALL BE SEALED WITH NON-SHRINK GROUT IN CONFORMANCE WITH THE TOWNSHIP STANDARD GREASE TRAP DETAIL.
7) TANK SHALL BE TESTED FOR WATER TIGHTNESS BY FILLING FOR 24 HRS. TO SOAK, THEN TOPPED OFF, AND THEN WATCHED FOR 24 HRS. NO DROP IN WATER IS ALLOWED.
8) CAST IRON SHALL BE BOLTED TO CONCRETE WITH MASTIC TAPE (KENT SEAL OR APPROVED EQUIVALENT) SEALANT.
9) MAXIMUM EARTH COVER=5.0', HS-20 LOADING.
10) INLET AND OUTLET EQUIPPED WITH PIPE SEALS.

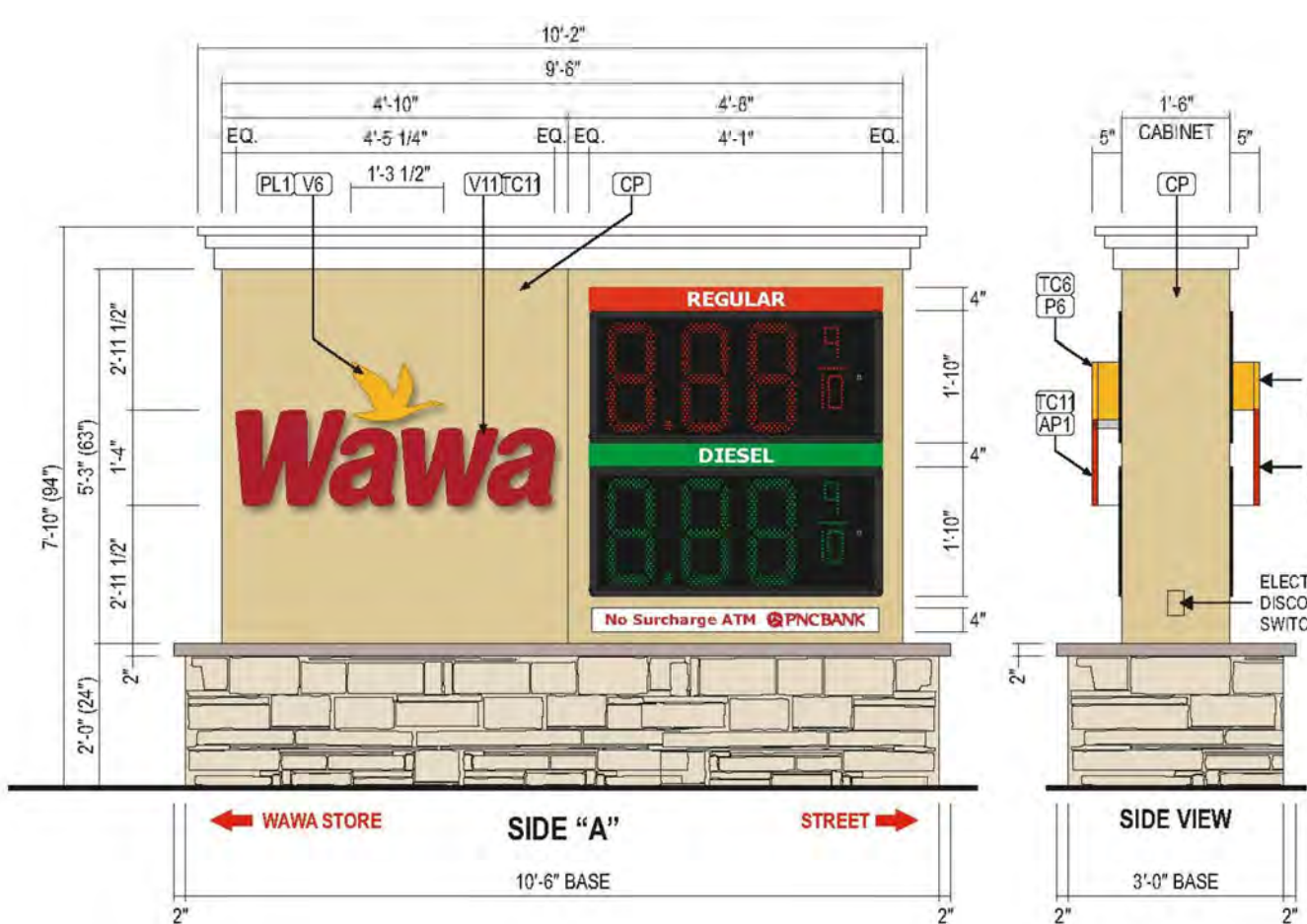
GREASE TRAP
1500 GALLON (2 COMPARTMENT) TANK



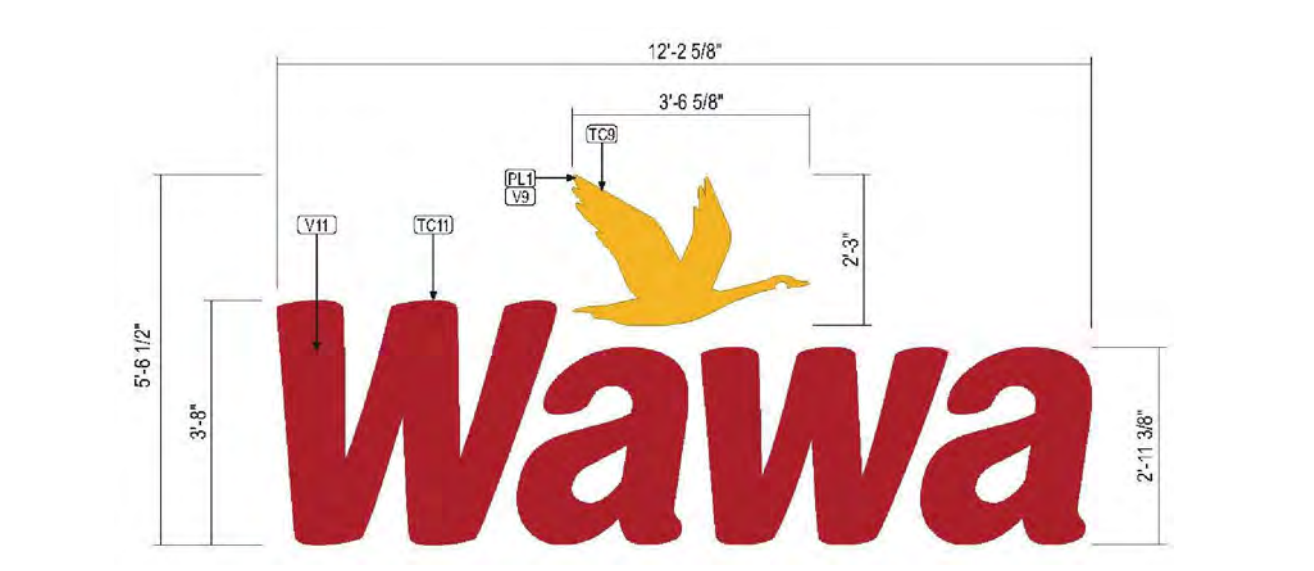
AIR PUMP STAND



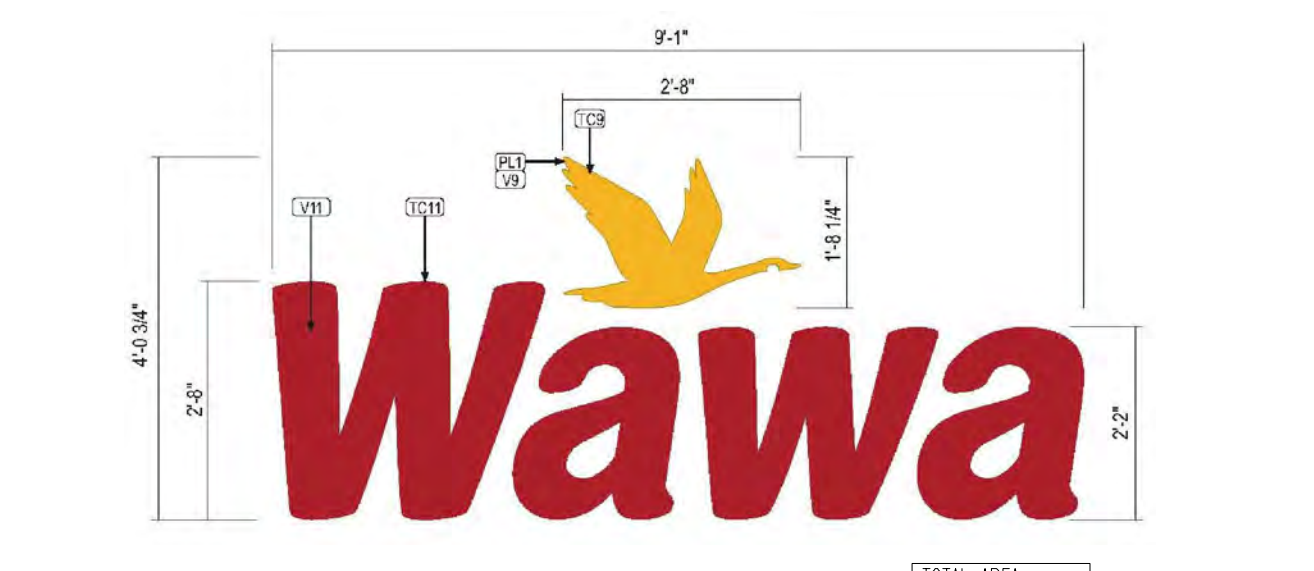
AIR PARKING SPACE DETAIL
N.T.S.



PROPOSED DOUBLE FACED INTERNALLY ILLUMINATED WAWA MONUMENT SIGN W/L.E.D. PRICE CHANGER
N.T.S.



PROPOSED 44" INDIVIDUAL ILLUMINATED CHANNEL LETTERS & LOGO
N.T.S.



PROPOSED 32" INDIVIDUAL ILLUMINATED CHANNEL LETTERS & LOGO
N.T.S.

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REVISIONS

REV	DATE	COMMENT	BY
1	08/31/2018	PER DOT COMMENTS	MCM

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL

PAI
1-800-242-1776

NOT APPROVED FOR CONSTRUCTION

PROJECT No.: PC181016
DRAWN BY: MCM
CHECKED BY: EAB
DATE: 2018.07.13
SCALE: AS NOTED
CAD I.D.: PC181016 DETAILS-1

PRELIMINARY LAND DEVELOPMENT PLANS
FOR
WAYNE PROPERTY ACQUISITION INC.

ROUTE 30 (LANCASTER AVE) & ABERDEEN AVE
RADNOR TOWNSHIP
DELAWARE COUNTY, PA

BOHLER ENGINEERING
1600 MANOR DRIVE, SUITE 200
CHALFONT, PENNSYLVANIA 18914
Phone: (215) 996-9100
Fax: (215) 996-9102
www.BohlerEngineering.com

EA BRITZ
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE #6-PR071643

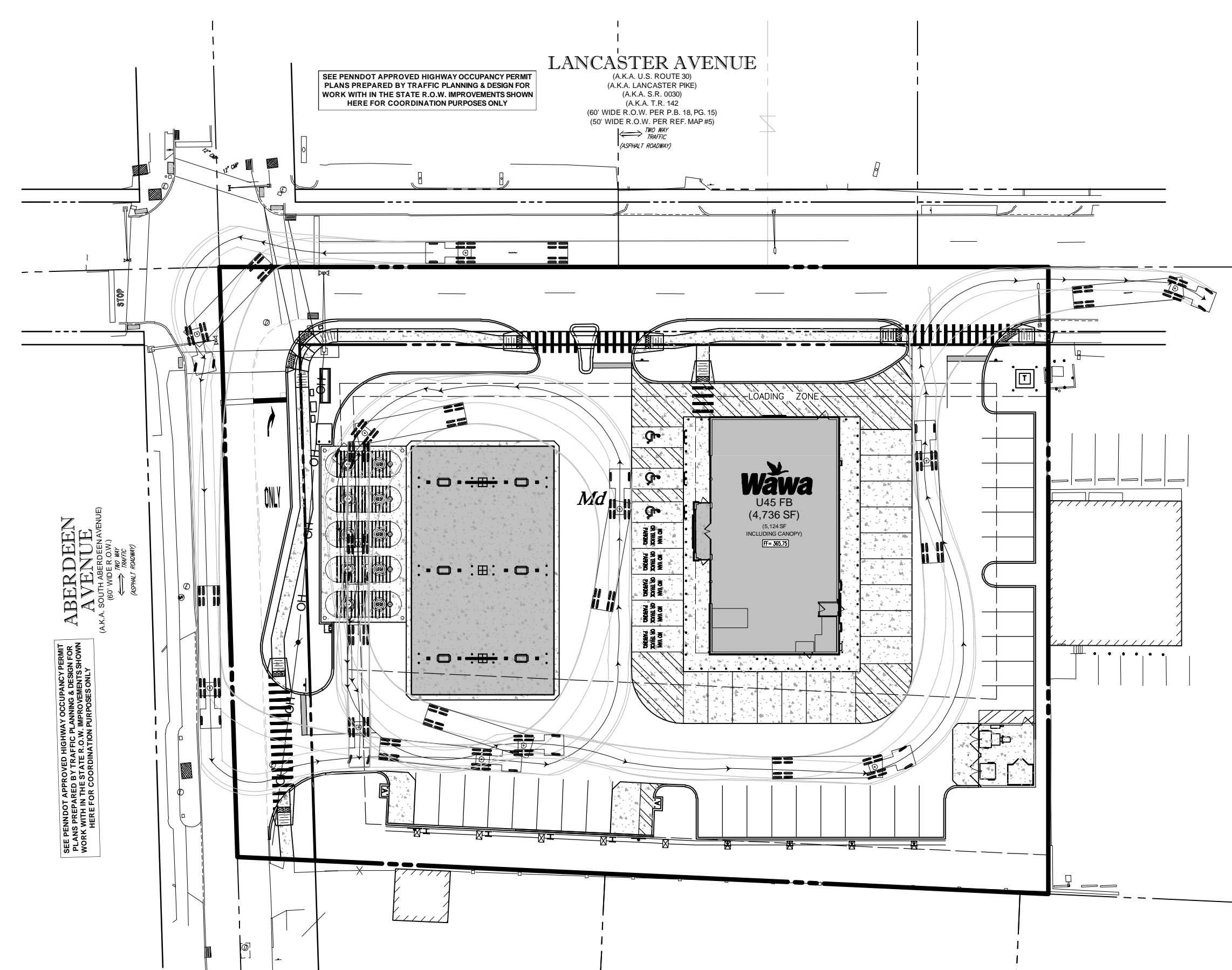
SHEET TITLE:
DETAILS

SHEET NUMBER:
18
OF 19

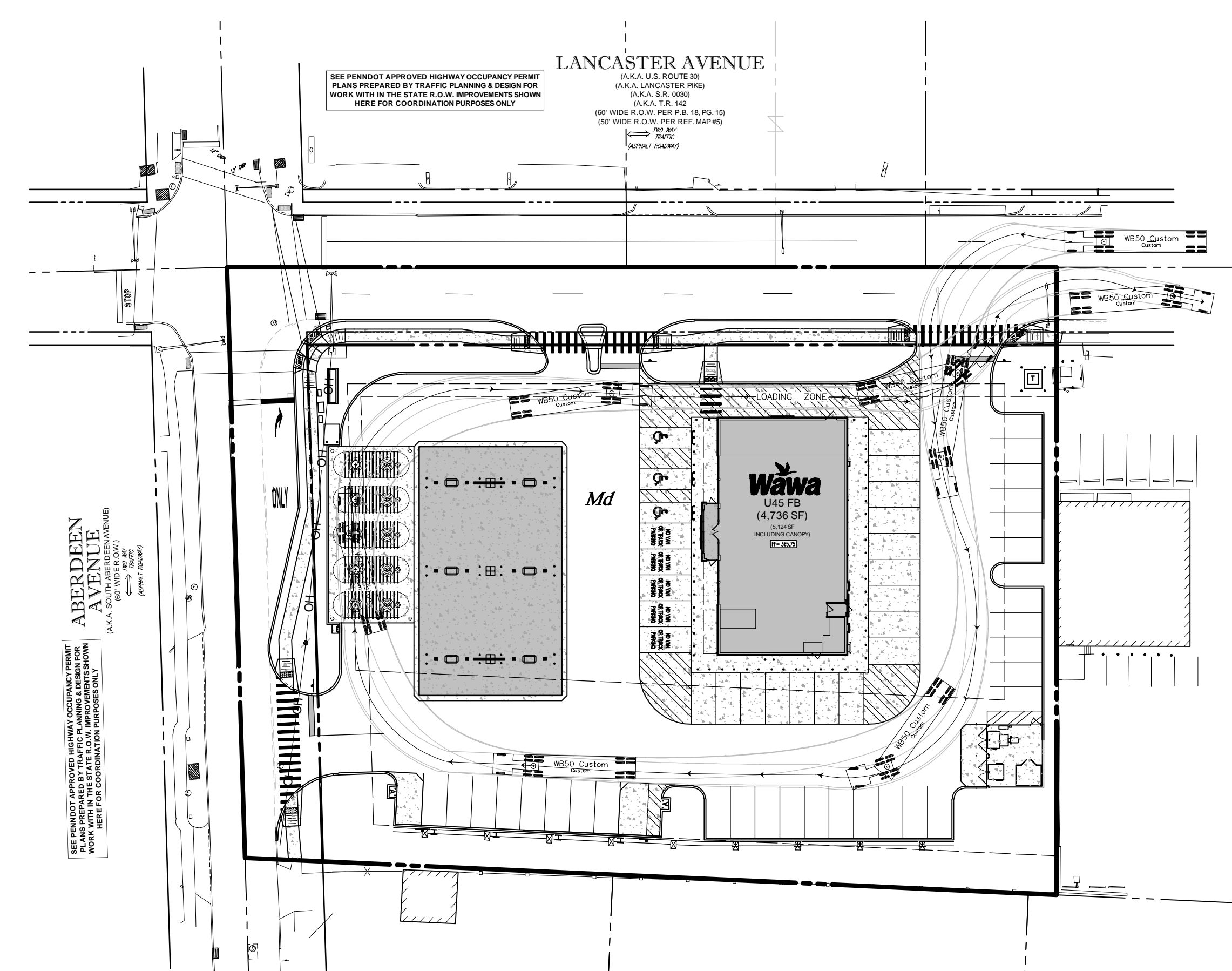
REVISION 1 - 2018.08.31

R:\PROJECTS\181016\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 DETAILS\1-LAYOUT-18-DETAILS

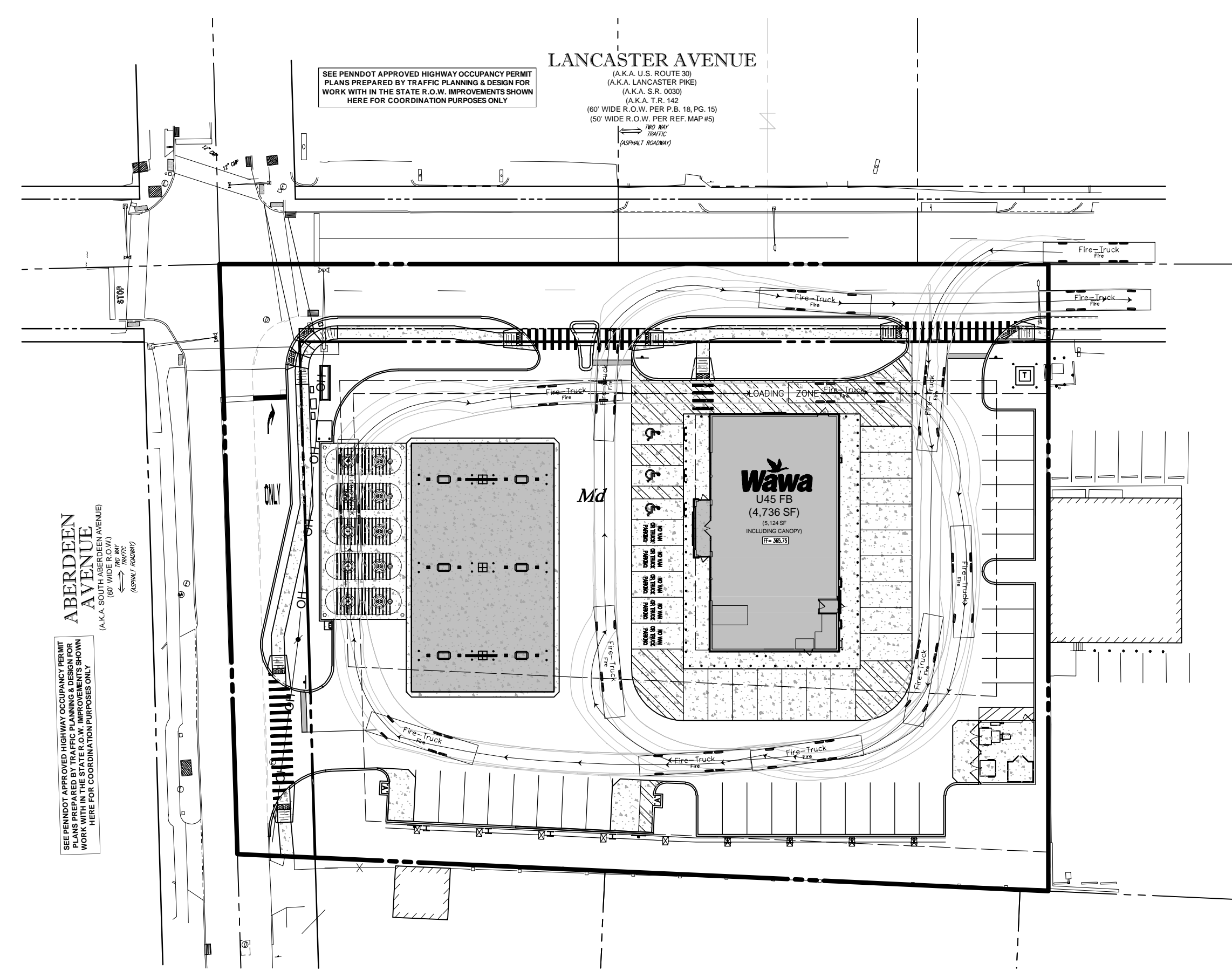
R:\181016\DRAWINGS\PLAN SETS\LAND DEV\REV\PC181016 SITE-1---LAYOUT-19-TRUCK



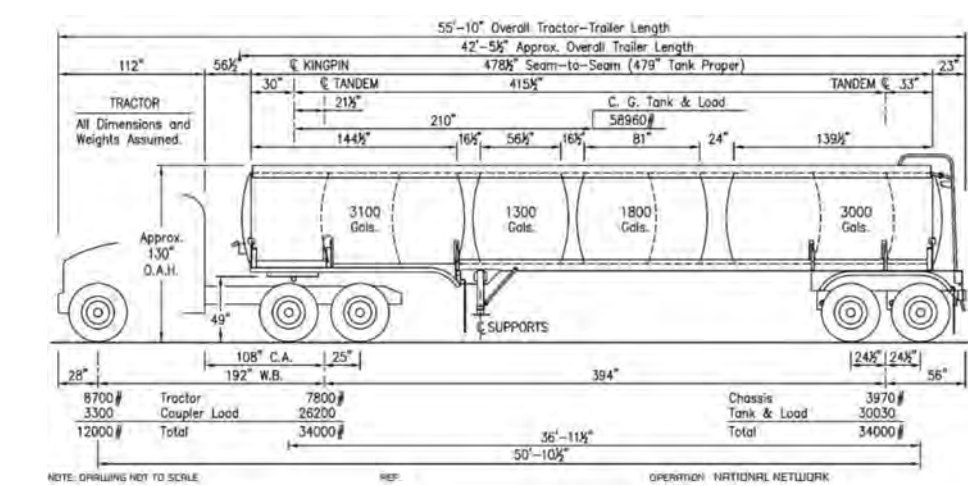
WAWA (FUEL DELIVERY TANKER)
SCALE: 1" = 40'



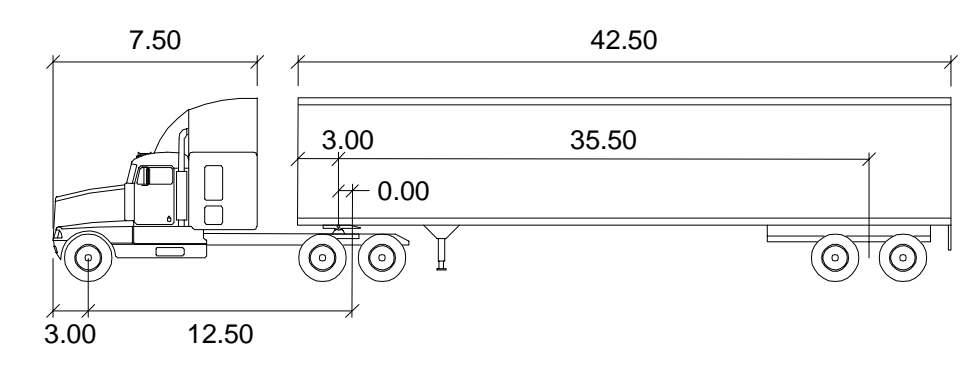
WAWA (WB-50)
SCALE: 1" = 40'



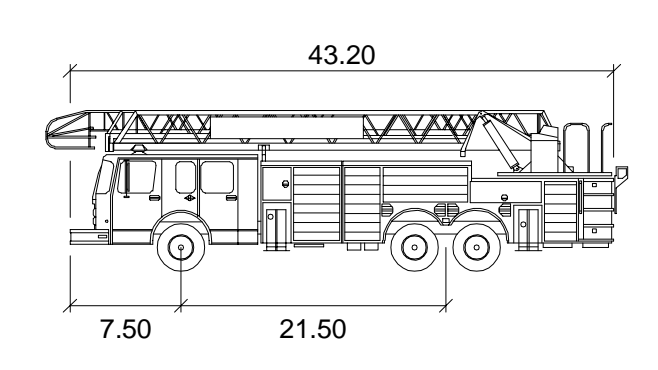
FIRETRUCK
SCALE: 1" = 40'



Tanker-Wawa			
	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		



WB50 2016			
	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 48.0
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.00		



Fire-Truck	
	feet
Width	: 7.83
Track	: 7.83
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

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E.A. BRITZ

PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE NO. PE017643

SHEET TITLE:
TRUCK TURNING PLAN

SHEET NUMBER:
19
OF 19

REVISION 1 - 2018.08.31