

**TOWN OF MUNSTER
PLAN COMMISSION
STAFF REPORT
TUESDAY, DECEMBER 13, 2016, 7:30 PM**

1. **Petition PC 16-017**— Centennial Village LLC, c/o Jeff Ban, DVG, Inc., 11065 Broadway, Suite D, Crown Point, IN – requesting favorable recommendation for Preliminary Plat and Developmental Standards for the Centennial Village PUD.

Current Zoning is PUD.

The Petitioner has provided a Preliminary Plat and Developmental Standards for review. Staff has reviewed the Developmental Standards and believe them to be agreeable to the Commission and to the Council. However, the Petitioner has decided to not include the Formula Business Ordinance and has stated:

“Attached is the revised Design Standards including the few items we discussed Wednesday afternoon. In talking with our client, we did not include a section referencing the formula business ordinance. It was felt that since the ordinance does not formally exist, making reference to a document in the making wasn’t appropriate. When the ordinance is passed and the final details known, the Design Standards could then be amended.” (please see attached email).

Staff had additional comments that were shared with the Petitioner. Those comments are attached.

Staff recommends approval if the Formula Business Ordinance is added to the Developmental Standards document; otherwise Staff recommends to continue.

LEGAL DESCRIPTION:
PARCEL 1 (NORTH PARCEL)

A PARCEL OF LAND BEING ALL THAT PART OF SOUTHWEST QUARTER OF SECTION 30, TOWNSHIP 36 NORTH, RANGE 9 WEST OF THE SECOND PRINCIPAL MERIDIAN IN THE TOWN OF MUNSTER, LAKE COUNTY, INDIANA LYING EAST OF THE EAST RIGHT OF WAY LINE OF CALUMET AVENUE (50' EAST RIGHT OF WAY WIDTH), AND LYING SOUTH OF THE SOUTH LINE OF THE GRAND TRUNK CANADIAN NATIONAL (G.T.C.N.) RAILROAD, AND LYING NORTH OF THE NORTH LINE OF A 100 FOOT WIDE STRIP OF LAND, SAID STRIP DESCRIBED AS FOLLOWS: A 100 FOOT WIDE STRIP OF LAND LYING IN SAID SOUTHWEST QUARTER, THE CENTER LINE OF SAID STRIP BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER, THENCE NORTH 00 DEGREES 26 MINUTES 26 SECONDS EAST, 882.50 FEET ALONG THE WEST LINE OF SAID SOUTHWEST QUARTER TO THE POINT OF BEGINNING OF SAID CENTER LINE; THENCE SOUTH 89 DEGREES 33 MINUTES 34 SECONDS EAST, 353.51 FEET TO THE NORTHEASTERLY LINE OF THE FORMER PITTSBURGH, CINCINNATI, CHICAGO, AND ST. LOUIS (P.C.C.S.T.) RAILROAD; THENCE CONTINUING SOUTH 89 DEGREES 33 MINUTES 34 SECONDS EAST, 79.12 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTH, HAVING A RADIUS OF 750.00 FEET, AND A CHORD THAT BEARS NORTH 77 DEGREES 54 MINUTES 26 SECONDS EAST, 325.51 FEET; THENCE EAST ALONG SAID CURVE 328.12 FEET; THENCE NORTH 65 DEGREES 22 MINUTES 26 SECONDS EAST, 244.52 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTH, HAVING A RADIUS OF 750.00 FEET, AND A CHORD THAT BEARS NORTH 69 DEGREES 17 MINUTES 21 SECONDS EAST, 102.42 FEET; THENCE EAST 102.50 FEET ALONG SAID CURVE TO THE SOUTHERLY LINE OF SAID G.T.C.N. RAILROAD AND THE TERMINUS OF SAID CENTERLINE, SIDELINES OF SAID STRIP TO BE LENGTHENED AND SHORTENED TO MEET AT ANGLE POINTS AND TO TERMINATE ON THE WEST AT THE EAST LINE OF CALUMET AVENUE AND ON THE EAST AT SAID SOUTHERLY G.T.C.N. RAILROAD LINE.

SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE INTERSECTION OF THE NORTH LINE OF SAID 100 FOOT WIDE STRIP AND A LINE 15 FEET SOUTH OF AND PARALLEL WITH SAID SOUTHERLY LINE OF THE G.T.C.N. RAILROAD, THENCE SOUTHWESTERLY 21.70 FEET ALONG SAID NORTH LINE OF SAID 100 FOOT WIDE STRIP, BEING A CURVE CONCAVE SOUTHEASTERLY, HAVING A RADIUS OF 800.00 FEET, AND A CHORD THAT BEARS SOUTH 66 DEGREES 09 MINUTES 03 SECONDS WEST, 21.70 FEET; THENCE SOUTH 65 DEGREES 22 MINUTES 26 SECONDS WEST, 22.50 FEET ALONG SAID NORTH LINE OF SAID 100 FOOT WIDE STRIP TO THE POINT OF BEGINNING; THENCE NORTH 52 DEGREES 46 MINUTES 17 SECONDS WEST, 83.13 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTHWEST, HAVING A RADIUS OF 100.00 FEET AND A CHORD THAT BEARS NORTH 61 DEGREES 08 SECONDS WEST, 31.16 FEET; THENCE NORTHWESTERLY 31.29 FEET ALONG SAID CURVE TO SAID 15 FOOT PARALLEL LINE; THENCE NORTH 70 DEGREES 41 MINUTES 59 SECONDS WEST, 32.50 FEET ALONG SAID 15 FOOT PARALLEL LINE TO THE BEGINNING OF A CURVE CONCAVE NORTHEASTERLY, HAVING A RADIUS OF 5794.68 FEET AND A CHORD THAT BEARS NORTH 66 DEGREES 39 MINUTES 29 SECONDS WEST, 816.80 FEET; THENCE NORTHWESTERLY 817.49 FEET ALONG SAID 15 FOOT PARALLEL LINE TO THE BEGINNING OF A LINE 53.00 FEET EAST OF AND PARALLEL WITH THE WEST LINE OF SAID SOUTHWEST QUARTER; THENCE SOUTH 00 DEGREES 26 MINUTES 26 SECONDS WEST, 33.17 FEET ALONG SAID 61 FOOT PARALLEL LINE TO THE SOUTHWESTERLY LINE OF SAID FORMER P.C.C.S.T. RAILROAD; THENCE SOUTH 00 DEGREES 26 MINUTES 26 SECONDS WEST, 142.83 FEET ALONG SAID LINE TO THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER; THENCE SOUTH 00 DEGREES 26 MINUTES 26 SECONDS WEST, 24.36 FEET TO THE NORTH LINE OF SAID 100 FOOT WIDE STRIP; THENCE THE FOLLOWING FOUR COURSES AND DISTANCE ALONG THE NORTH LINE OF SAID 100 FOOT WIDE STRIP:
1.) SOUTH 89 DEGREES 33 MINUTES 34 SECONDS EAST, 235.95 FEET TO SAID NORTHEASTERLY LINE OF SAID FORMER P.C.C.S.T. RAILROAD;
2.) SOUTH 89 DEGREES 33 MINUTES 34 SECONDS EAST, 118.46 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTH, HAVING A RADIUS OF 700.00 FEET, AND A CHORD THAT BEARS NORTH 77 DEGREES 54 MINUTES 26 SECONDS EAST, 303.81 FEET;
3.) THENCE EAST ALONG SAID CURVE 306.25 FEET;
4.) NORTH 65 DEGREES 22 MINUTES 26 SECONDS EAST, 222.02 FEET TO THE POINT OF BEGINNING, SAID PARCEL CONTAINING 6.48 ACRES MORE OR LESS.

PARCEL 2 (SOUTH PARCEL)

A PARCEL OF LAND LYING IN THE SOUTHWEST QUARTER OF SECTION 30 AND IN THE NORTHWEST QUARTER OF SECTION 31, BOTH SECTIONS IN TOWNSHIP 36 NORTH, RANGE 9 WEST OF THE SECOND PRINCIPAL MERIDIAN, TOWN OF MUNSTER, LAKE COUNTY, INDIANA, SAID PARCEL LYING SOUTH OF THE SOUTH LINE OF A 100 FOOT WIDE STRIP OF LAND, SAID STRIP DESCRIBED AS FOLLOWS: A 100 FOOT WIDE STRIP OF LAND LYING IN SAID SOUTHWEST QUARTER, THE CENTER LINE OF SAID STRIP BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER, THENCE NORTH 00 DEGREES 26 MINUTES 26 SECONDS EAST, 882.50 FEET ALONG THE WEST LINE OF SAID SOUTHWEST QUARTER TO THE POINT OF BEGINNING OF SAID CENTER LINE; THENCE SOUTH 89 DEGREES 33 MINUTES 34 SECONDS EAST, 353.51 FEET TO THE NORTHEASTERLY LINE OF THE FORMER PITTSBURGH, CINCINNATI, CHICAGO, AND ST. LOUIS (P.C.C.S.T.) RAILROAD; THENCE CONTINUING SOUTH 89 DEGREES 33 MINUTES 34 SECONDS EAST, 79.12 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTH, HAVING A RADIUS OF 750.00 FEET, AND A CHORD THAT BEARS NORTH 77 DEGREES 54 MINUTES 26 SECONDS EAST, 325.51 FEET; THENCE EAST ALONG SAID CURVE 328.12 FEET; THENCE NORTH 65 DEGREES 22 MINUTES 26 SECONDS EAST, 244.52 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTH, HAVING A RADIUS OF 750.00 FEET, AND A CHORD THAT BEARS NORTH 69 DEGREES 17 MINUTES 21 SECONDS EAST, 102.42 FEET; THENCE EAST 102.50 FEET ALONG SAID CURVE TO THE SOUTHERLY LINE OF THE GRAND TRUNK CANADIAN NATIONAL (G.T.C.N.) RAILROAD AND THE TERMINUS OF SAID CENTERLINE, SIDELINES OF SAID STRIP TO BE LENGTHENED AND SHORTENED TO MEET AT ANGLE POINTS AND TO TERMINATE ON THE WEST AT THE EAST LINE OF CALUMET AVENUE AND ON THE EAST AT SAID SOUTHERLY G.T.C.N. RAILROAD LINE.

SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTH LINE OF THE SOUTH 27 FEET OF SAID SOUTHWEST QUARTER AND THE EAST LINE OF THE WEST 56.00 FEET OF SAID SOUTHWEST QUARTER, THENCE NORTH 88 DEGREES 40 MINUTES 46 SECONDS EAST, 312.15 FEET ALONG THE NORTH LINE OF SAID SOUTH 27 FEET; THENCE SOUTH 31 DEGREES 19 MINUTES 26 SECONDS EAST, 94.29 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTHEASTERLY, HAVING A RADIUS OF 305.00 FEET AND A CHORD THAT BEARS SOUTH 32 DEGREES 15 MINUTES 54 SECONDS EAST, 10.01 FEET; THENCE SOUTHEASTERLY 10.01 FEET ALONG SAID CURVE TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 240.00 FEET, AND A CHORD THAT BEARS NORTH 45 DEGREES 29 MINUTES 15 SECONDS EAST, 180.82 FEET; THENCE NORTHEASTERLY 185.39 FEET ALONG SAID CURVE; THENCE SOUTH 89 DEGREES 33 MINUTES 34 SECONDS EAST, 248.37 FEET TO A LINE 35 FEET SOUTHWEST OF AND MEASURED PERPENDICULAR TO THE SOUTHWESTERLY LINE OF SAID (100 FOOT WIDE) FORMER P.C.C.S.T. RAILROAD; THENCE SOUTH 37 DEGREES 45 MINUTES 19 SECONDS EAST, 196.86 FEET PARALLEL WITH SAID SOUTHWESTERLY LINE; THENCE NORTH 52 DEGREES 14 MINUTES 41 SECONDS EAST, 266.10 FEET; THENCE NORTH 19 DEGREES 18 MINUTES 01 SECONDS EAST, 913.12 FEET TO THE SOUTHERLY RIGHT OF WAY LINE OF SAID G.T.C.N. RAILROAD; THENCE NORTH 70 DEGREES 41 MINUTES 59 SECONDS WEST, 286.83 FEET ALONG SAID SOUTHERLY RIGHT OF WAY LINE TO THE SOUTH LINE OF SAID 100 FOOT WIDE STRIP; THENCE THE FOLLOWING 4 COURSES AND DISTANCES ALONG SAID SOUTH LINE OF SAID 100 FOOT WIDE STRIP:
1.) WEST 169.76 FEET ALONG A NON-TANGENT CURVE CONCAVE SOUTH HAVING A RADIUS OF 700.00 FEET AND A CHORD THAT BEARS SOUTH 72 DEGREES 19 MINUTES 17 SECONDS WEST, 169.34 FEET;
2.) SOUTH 65 DEGREES 22 MINUTES 26 SECONDS WEST, 244.52 FEET;
3.) WEST 350.00 FEET ALONG A TANGENT CURVE CONCAVE NORTH HAVING A RADIUS OF 800.00 FEET;
4.) NORTH 89 DEGREES 33 MINUTES 34 SECONDS WEST, 354.40 FEET; THENCE NORTH 45 DEGREES 26 MINUTES 26 SECONDS WEST, 31.43 FEET TO SAID EAST LINE OF THE WEST 56.00 FEET OF SAID SOUTHWEST QUARTER; THENCE SOUTH 00 DEGREES 26 MINUTES 26 SECONDS WEST, 761.54 FEET ALONG SAID EAST LINE TO THE POINT OF BEGINNING, CONTAINING 24.09 ACRES MORE OR LESS.

DEED OF DEDICATION:

IT, THE UNDERSIGNED, OWNER OF THE REAL ESTATE SHOWN AND DESCRIBED HEREIN, DO HEREBY CERTIFY THAT I HAVE LAID OFF, PLATTED AND SUBDIVIDED, AND DO HEREBY LAY OFF, PLAT AND SUBDIVIDE, SAID REAL ESTATE IN ACCORDANCE WITH THE PLAT HEREIN. THIS SUBDIVISION SHALL BE KNOWN AND DESIGNATED AS CENTENNIAL VILLAGE, A PLANNED UNIT DEVELOPMENT TO THE TOWN OF MUNSTER, LAKE COUNTY, INDIANA. ALL STREETS, ALLEYS AND EASEMENTS SHOWN AND NOT HERETOFORE DEDICATED, ARE HEREBY DEDICATED, TO THE TOWN OF MUNSTER, LAKE COUNTY, INDIANA.

FRONT YARD BUILDING SETBACK LINES ARE HEREBY ESTABLISHED AS SHOWN ON THIS PLAT. BETWEEN WHICH LINES AND THE PROPERTY LINES OF THE STREET, THERE SHALL BE ERRECTED OR MAINTAINED NO BUILDING OR STRUCTURE.

DRAINAGE EASEMENT: AN EASEMENT IS HEREBY GRANTED TO THE TOWN OF MUNSTER FOR THE INSTALLATION OF A DRAINAGE SWALE, DITCH, UNDERGROUND STORM WATER PIPE, DRAINAGE STRUCTURES OR WATERWAY UPON, UNDER, AND ALONG THE STRIP OR STRIPS OF LAND DESIGNATED HEREON AND MARKED "DRAINAGE EASEMENT" FOR THE PURPOSES OF HANDLING STORM WATER RUNOFF.

UTILITY EASEMENT: AN EASEMENT IS HEREBY RESERVED FOR THE USE OF PUBLIC UTILITIES FOR THE INSTALLATION OF WATER AND SEWER MAINS, POLES, DUCTS, LINES, AND WIRES, SUBJECT AT ALL TIMES TO THE PROPER AUTHORITIES, UPON, UNDER, AND ALONG THE STRIP OR STRIPS OF LAND DESIGNATED HEREON AND MARKED "UTILITY EASEMENT".

ACKNOWLEDGMENT

COUNTY OF _____ SS:
STATE OF _____

BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED _____ AND DOES ACKNOWLEDGE THE EXECUTION OF THE FOREGOING INSTRUMENT AS HIS VOLUNTARY ACT AND DEED, FOR THE PURPOSES HEREIN EXPRESSED. WITNESS MY HAND AND NOTARIAL SEAL THIS _____ DAY OF _____ 2016.

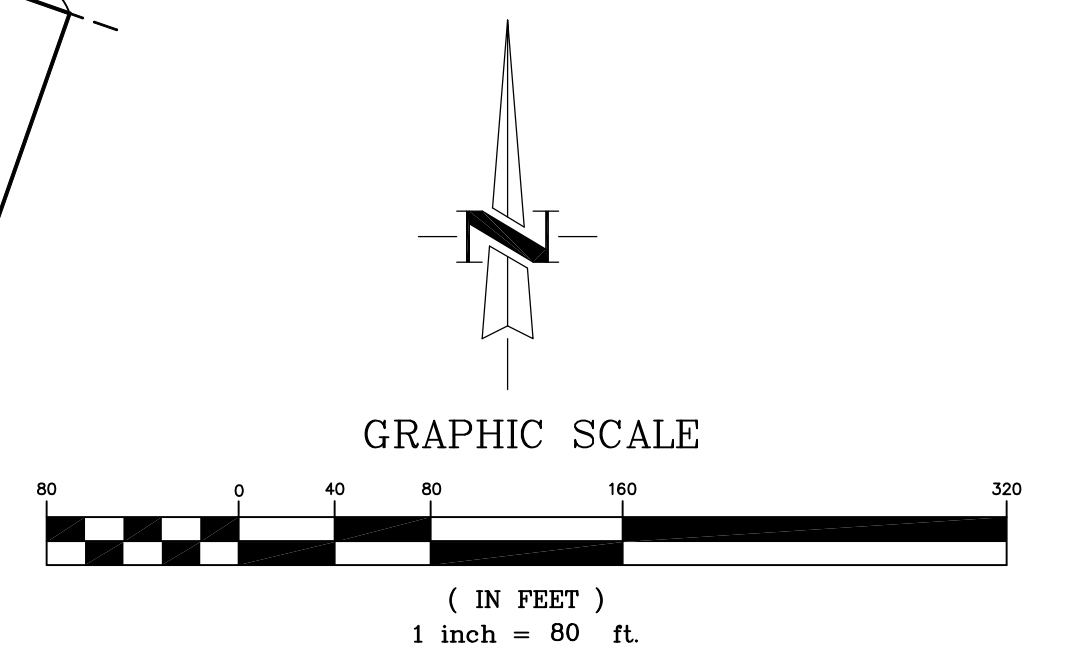
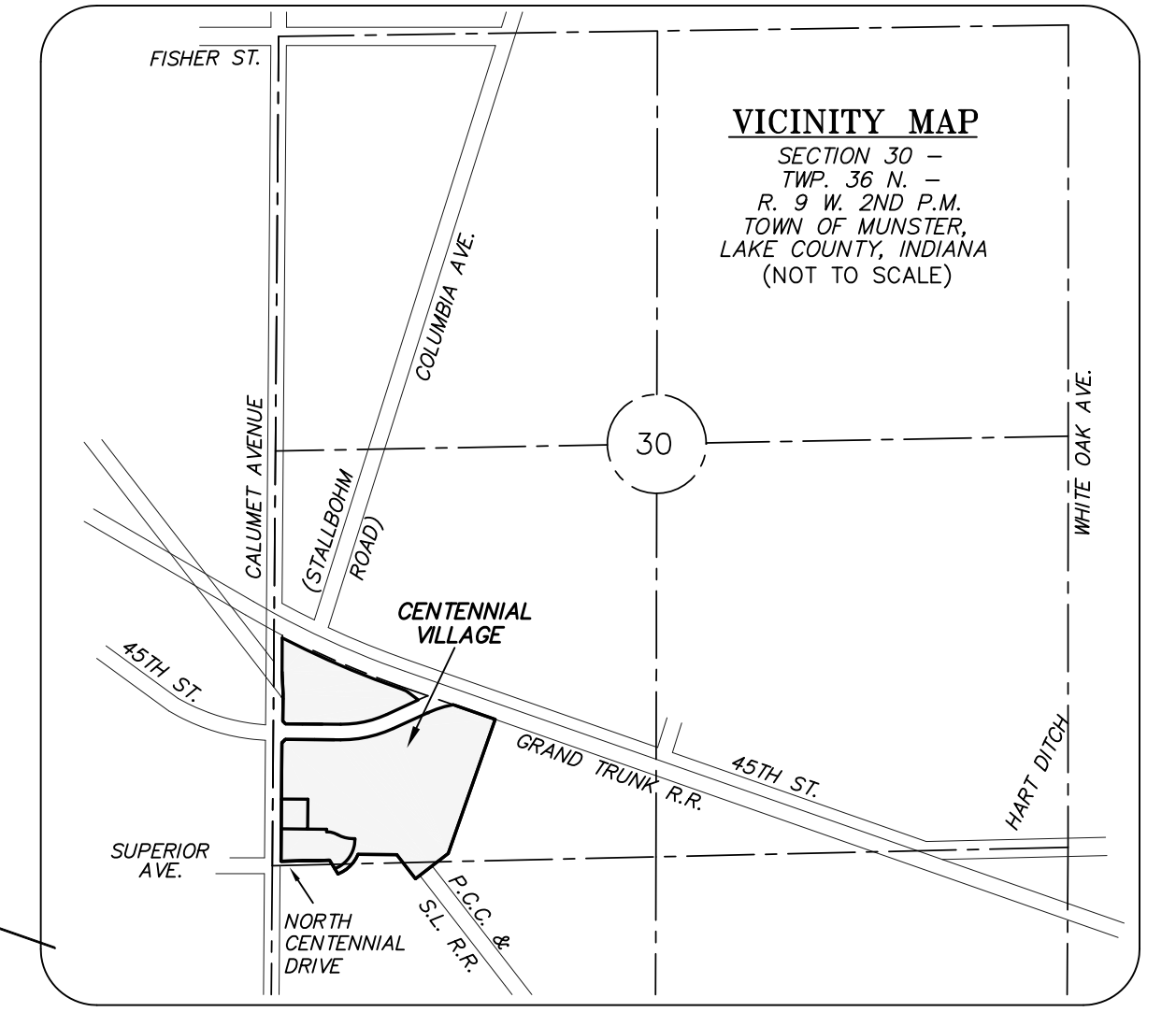
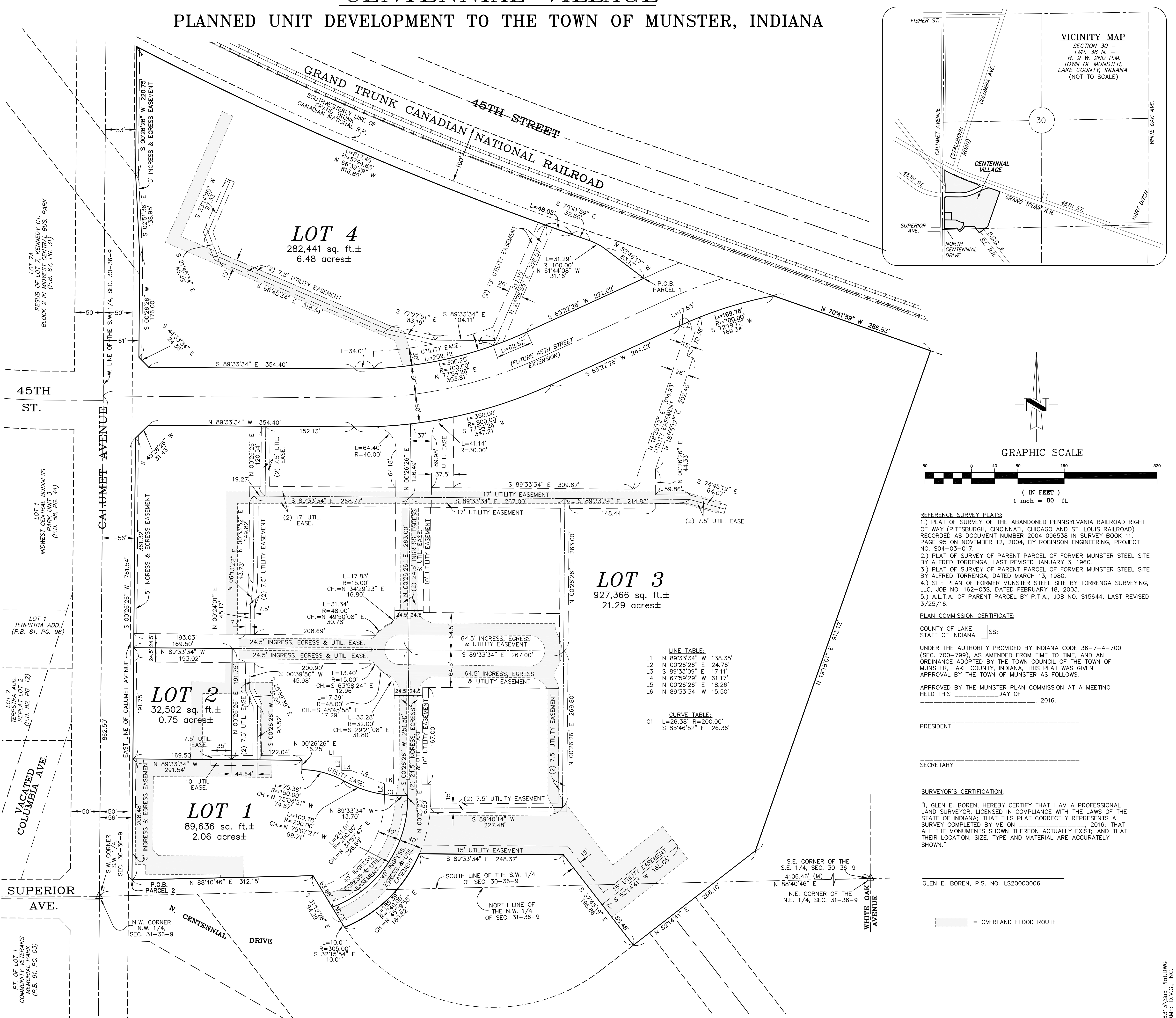
(SIGNATURE)

PRINTED NAME: _____
NOTARY PUBLIC
RESIDENT OF _____ COUNTY

COMMISSION EXPIRES: _____

CENTENNIAL VILLAGE

PLANNED UNIT DEVELOPMENT TO THE TOWN OF MUNSTER, INDIANA



REFERENCE SURVEY PLATS:
1.) PLAT OF SURVEY OF THE ABANDONED PENNSYLVANIA RAILROAD RIGHT OF WAY (PITTSBURGH, CINCINNATI, CHICAGO AND ST. LOUIS RAILROAD) RECORDED AS DOCUMENT NUMBER 2004 096538 IN SURVEY BOOK 11, PAGE 95 ON NOVEMBER 12, 2004, BY ROBINSON ENGINEERING, PROJECT NO. S04-03-017.
2.) PLAT OF SURVEY OF PARENT PARCEL OF FORMER MUNSTER STEEL SITE BY ALFRED TORRENZA, LAST REVISED JANUARY 3, 1960.
3.) PLAT OF SURVEY OF PARENT PARCEL OF FORMER MUNSTER STEEL SITE BY ALFRED TORRENZA, DATED MARCH 13, 1960.
4.) SITE PLAN OF FORMER MUNSTER STEEL SITE BY TORRENZA SURVEYING, LLC, JOB NO. 162-03S, DATED FEBRUARY 18, 2003.
5.) A.L.T.A. OF PARENT PARCEL BY P.T.A., JOB NO. S15644, LAST REVISED 3/25/16.

PLAN COMMISSION CERTIFICATE:
COUNTY OF LAKE _____ SS:
STATE OF INDIANA _____
UNDER THE AUTHORITY PROVIDED BY INDIANA CODE 36-7-4-700 (SEC. 700-799) AS AMENDED FROM TIME TO TIME, AND AN ORDINANCE ADOPTED BY THE TOWN COUNCIL OF THE TOWN OF MUNSTER, LAKE COUNTY, INDIANA, THIS PLAT WAS GIVEN APPROVAL BY THE TOWN OF MUNSTER AS FOLLOWS:
APPROVED BY THE MUNSTER PLAN COMMISSION AT A MEETING HELD THIS _____ DAY OF _____ 2016.

PRESIDENT _____
SECRETARY _____

SURVEYOR'S CERTIFICATION:
I, GLEN E. BOREN, HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, LICENSED IN COMPLIANCE WITH THE LAWS OF THE STATE OF INDIANA; THAT THIS PLAT CORRECTLY REPRESENTS A SURVEY COMPLETED BY ME ON _____ 2016; THAT ALL THE MONUMENTS SHOWN THEREON ACTUALLY EXIST; AND THAT THEIR LOCATION, SIZE, TYPE AND MATERIAL ARE ACCURATELY SHOWN.

GLEN E. BOREN, P.S. NO. LS20000006

OVERLAND FLOOD ROUTE

DRAWN BY: G.B.
DATE: 11/29/16
CHECKED BY: G.B.
DATE: 11/29/16
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ALL RIGHTS RESERVED

REVISIONS

PRELIMINARY PLAT
CENTENNIAL VILLAGE
PLANNED UNIT DEVELOPMENT
TO THE TOWN OF MUNSTER, IN

Plumb Tucket & Associates
SURVEYORS • ENGINEERS
64 West 67th Place • Merrillville, IN 46410
(219) 736-0555 • FAX (219) 769-0178

PLOT SCALE: 1"=80'

PRELIM. PLAT
CENTENNIAL VILLAGE
PLANNED UNIT DEV.
MUNSTER, IN

DRAWING NUMBER
1

SHEET: 1 OF: 1
JOB NO. S16313
SECTION: 30-36-9

FILE: V6313\Sub Plat.DWG
REF. NAME: D.V.G., INC.

Centennial Village - Phase 1A

Munster, Indiana

ADDENDUM 04 - 10/18/2016



LOCATION MAP
(No Scale)

PROJECT
LOCATION

BENCHMARKS

TOP OF CAPPED REBAR
APPROXIMATELY 449 FT. EAST OF CALUMET AVENUE CENTERLINE &
17 FT. NORTH OF SOUTH LINE OF SOUTHWEST QUARTER OF
SECTION 30-36-9

ELEVATION = 619.61 (NAVD88)

PROJECT CONTACTS

SCHOOL DISTRICT
SCHOOL TOWN OF MUNSTER
8616 COLUMBIA AVENUE
MUNSTER, IN 46321

CABLE UTILITY
COMCAST
844 169TH STREET
HAMMOND, INDIANA 46324
866-594-1234

WATER UTILITY
MUNSTER PUBLIC WORKS
508 FISHER STREET
MUNSTER, INDIANA 46321
219-836-6971

SANITARY SEWER UTILITY
MUNSTER PUBLIC WORKS
508 FISHER STREET
MUNSTER, INDIANA 46321
219-836-6971

ELECTRIC & GAS UTILITY
NIPSCO
801 E. 86TH AVE.
MERRILLVILLE, IN 46410
800-464-7726

TELEPHONE UTILITY
AT&T
302 S. EAST STREET
CROWN POINT, IN 46307

DEVELOPER
CENTENNIAL VILLAGE, LLC
9615 BOULEVARD DRIVE
HIGHLAND, INDIANA 46322



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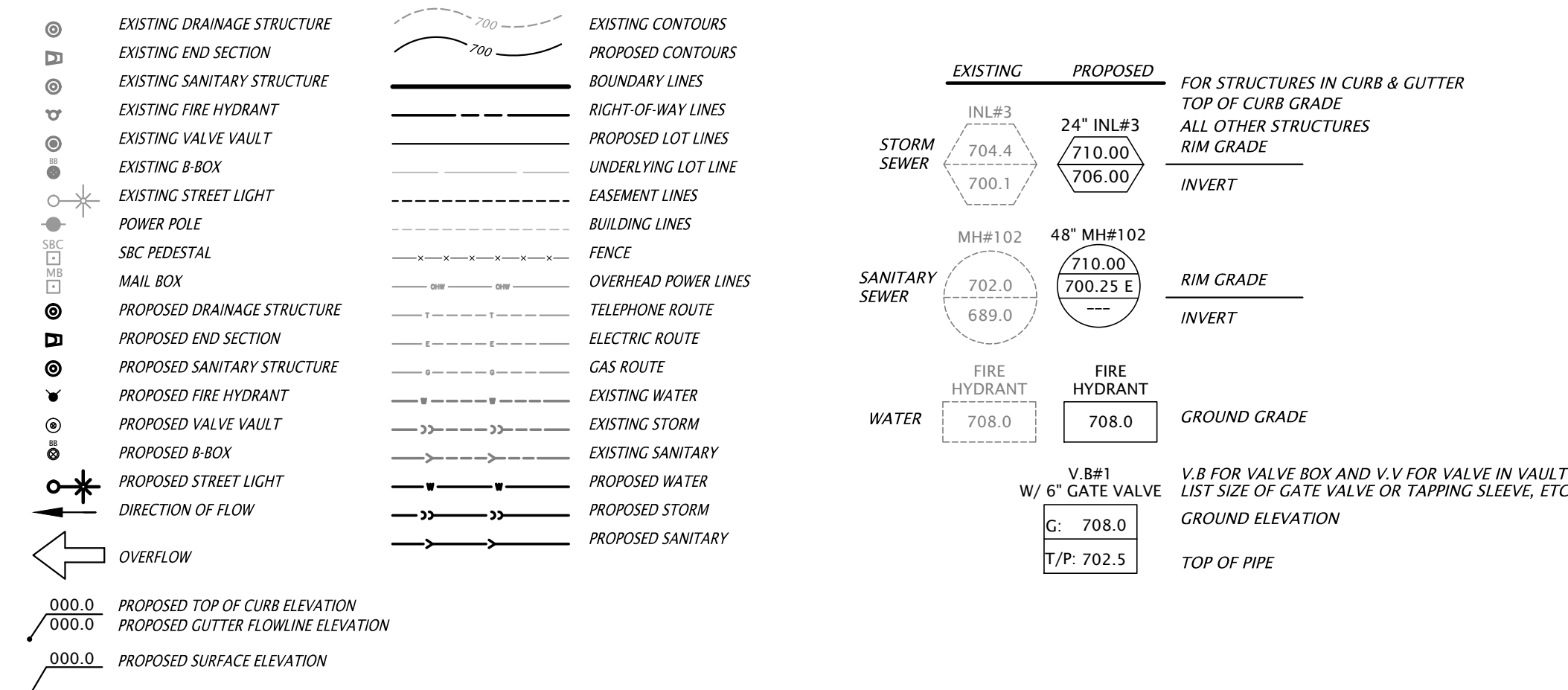
INDEX OF SHEETS

C001	COVER SHEET
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E201	LIGHTING EQUIPMENT & CONTROLS
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NOTE:

THESE PLANS HAVE BEEN DEVELOPED IN CONJUNCTION WITH SUBSURFACE GEOTECHNICAL REPORTS BY BOTH ALT WITZIG & ATC. THESE DOCUMENTS ARE PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT. THE PHASE 1A AREA IS KNOWN TO HAVE AREAS OF UN-SUITABLE FILL MATERIAL CONTAINED WITHIN THE SITE. THE UNSUITABLE FILL MATERIAL IS KNOWN TO CONTAIN MUNICIPAL SOLID WASTE, GRAVEL AND BRICK WASTE RUBBLE. ANY SUCH UNSUITABLE MATERIAL ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER (DVG). ALL EXCAVATION AND UNDERGROUND UTILITY CONSTRUCTION SHALL BE INSTALLED ON SUITABLE TRENCH SUBGRADE OR ON OTHER MEANS TO STRUCTURALLY STABILIZE THE TRENCH AS DEFINED IN THESE PLANS. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND/OR PLANS CERTIFIED BY AN INDIANA PROFESSIONAL ENGINEER TO BE APPROVED BY DVG PRIOR TO IMPLEMENTING THE STABILIZATION METHOD.

LEGEND



DVG Inc.
Project Management and
Development Consulting
11065 Broadway, Suite D
Crown Point, IN 46307
(219) 662-7710 Fax (219) 662-2740

10-18-2016

Centennial Village
L.L.C.
9615 Boulevard Drive
Highland, IN 46322

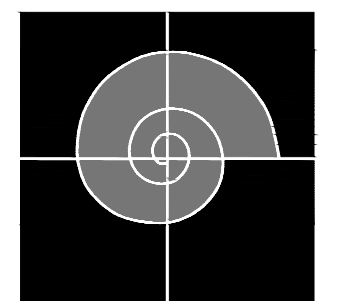
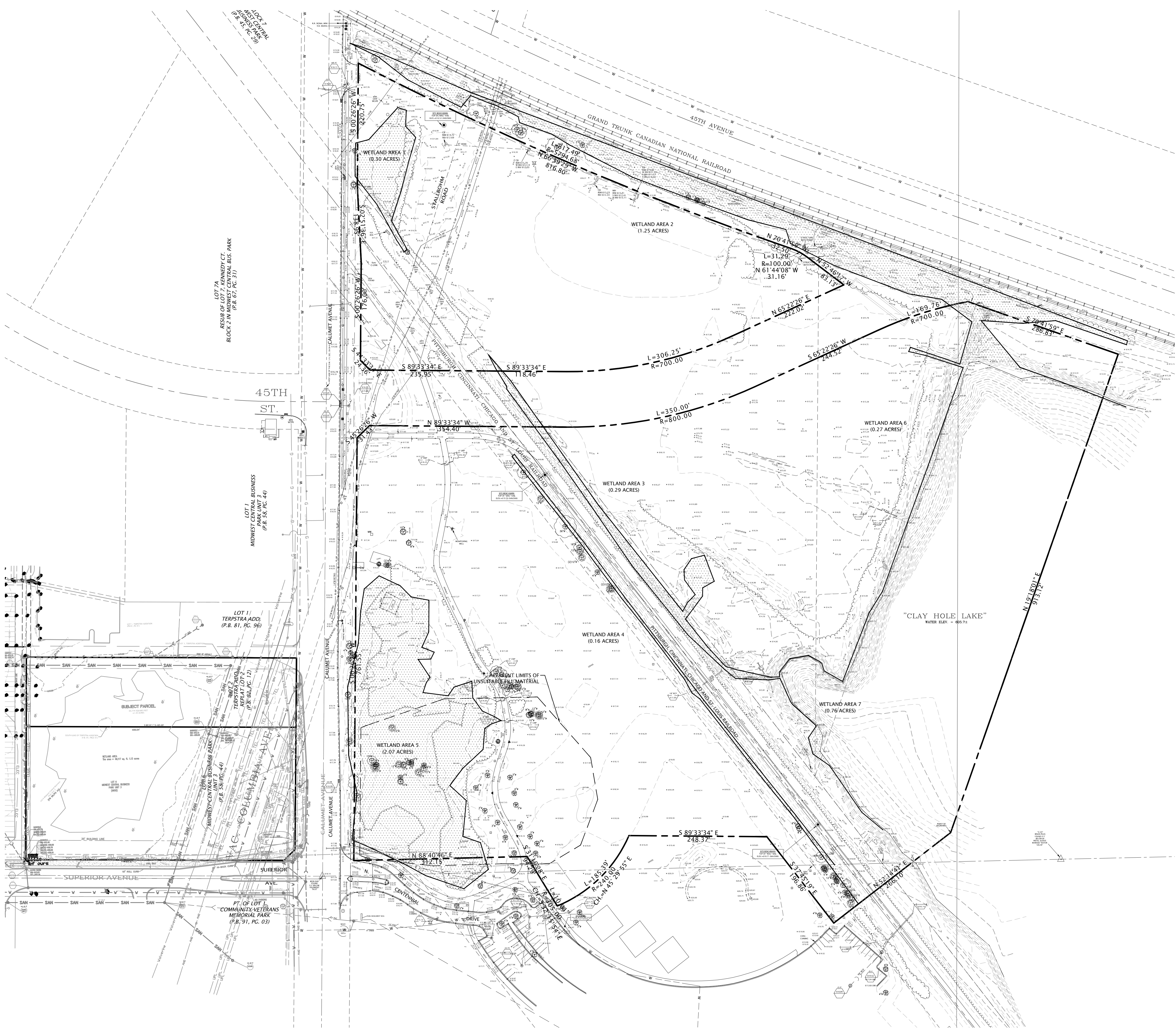
DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	
ADDENDUM #1	05-24-16
ADDENDUM #2	06-02-16
ADDENDUM #3	07-28-16
ADDENDUM #4	10-18-16

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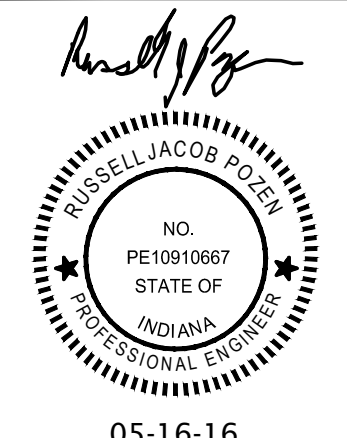
Centennial Village
Munster, Indiana
Engineering Plans
Phase 1A

SCALE: NTS
DESIGN BY: RJP
DRAWN BY: RJP
DATE: 05-24-16

C001



DVG Inc.
 Project Management and
 Development Consulting
 11065 Broadway, Suite D
 Crown Point, IN 46307
 (219) 662-7710 Fax (219) 662-2740



05-16-16

**Centennial Village
 L.L.C.**
 9615 Boulevard Drive
 Highland, Indiana 46322

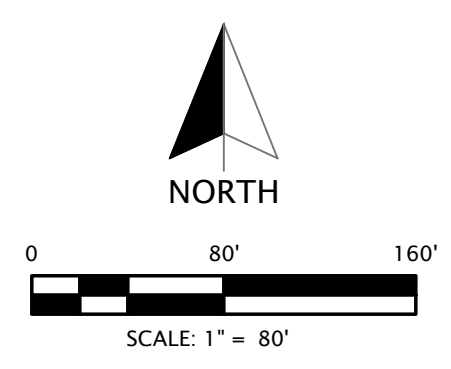
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REVISIONS AND NOTES:	

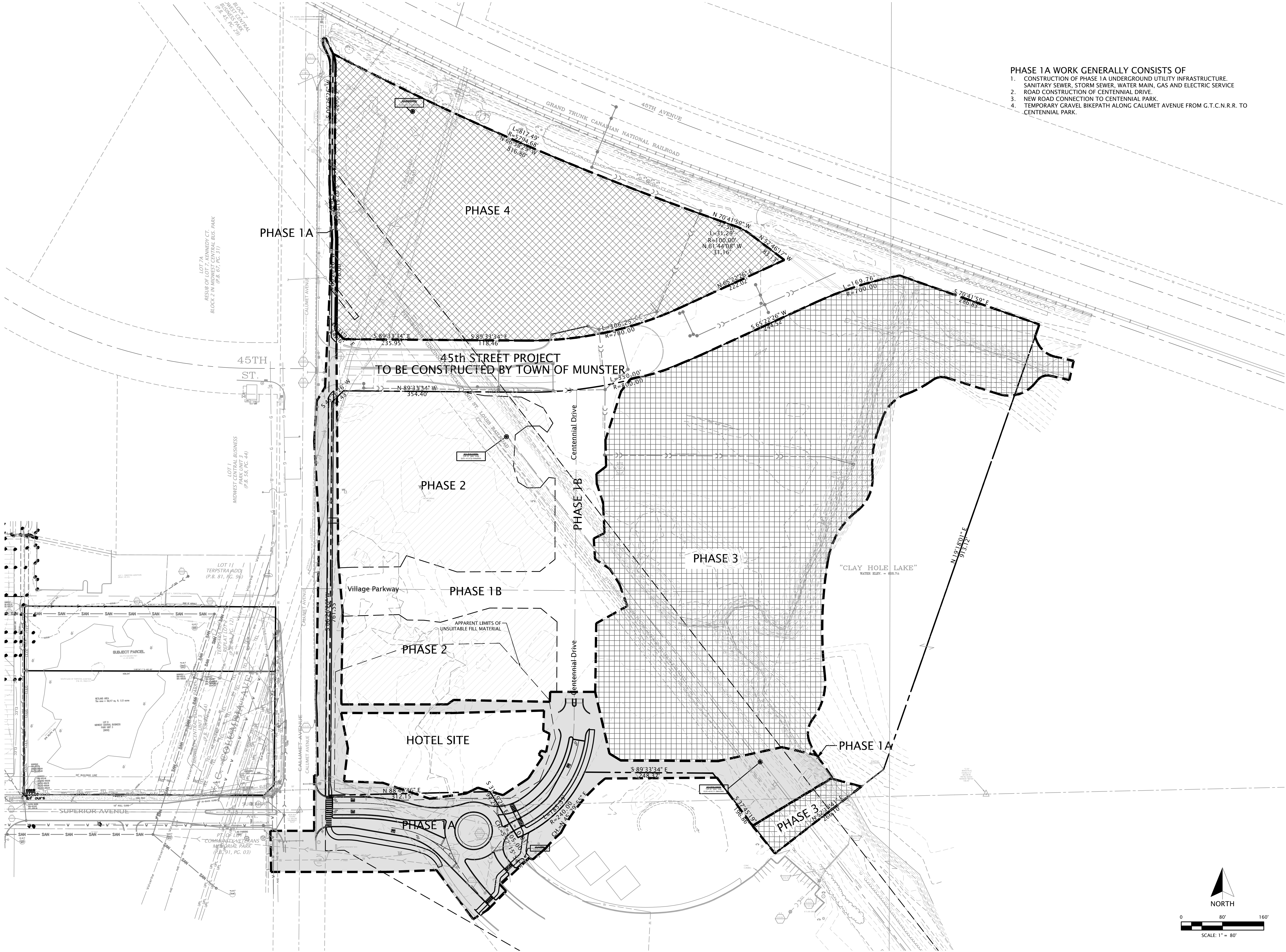
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**Centennial Village
 Infrastructure Plans**
**Existing Conditions
 Phase 1A**

SCALE: 1"=80'
 DESIGN BY: RJP
 DRAWN BY: RJP
 DATE: 05-16-16

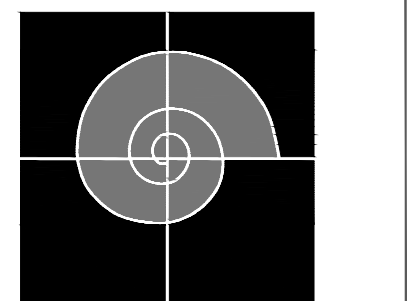
C101



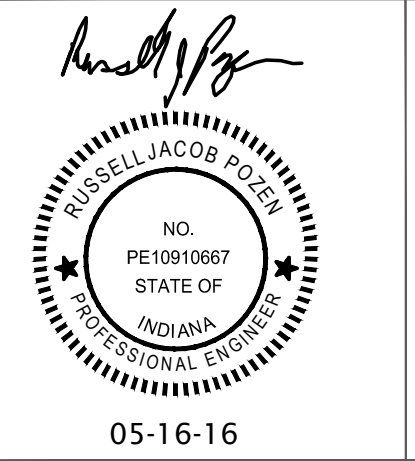


PHASE 1A WORK GENERALLY CONSISTS OF

1. CONSTRUCTION OF PHASE 1A UNDERGROUND UTILITY INFRASTRUCTURE. SANITARY SEWER, STORM SEWER, WATER MAIN, GAS AND ELECTRIC SERVICE.
2. ROAD CONSTRUCTION OF CENTENNIAL DRIVE.
3. NEW ROAD CONNECTION TO CENTENNIAL PARK.
4. TEMPORARY GRAVEL BIKEPATH ALONG CALUMET AVENUE FROM G.T.C.N.R.R. TO CENTENNIAL PARK.



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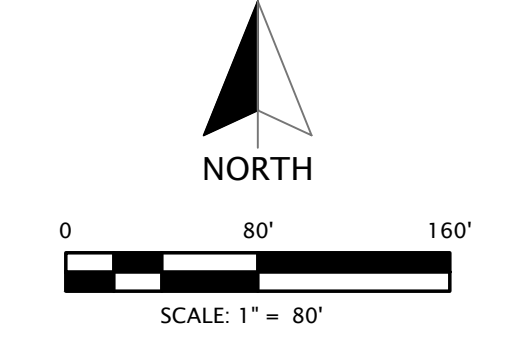
REVISIONS AND NOTES:	DATE:

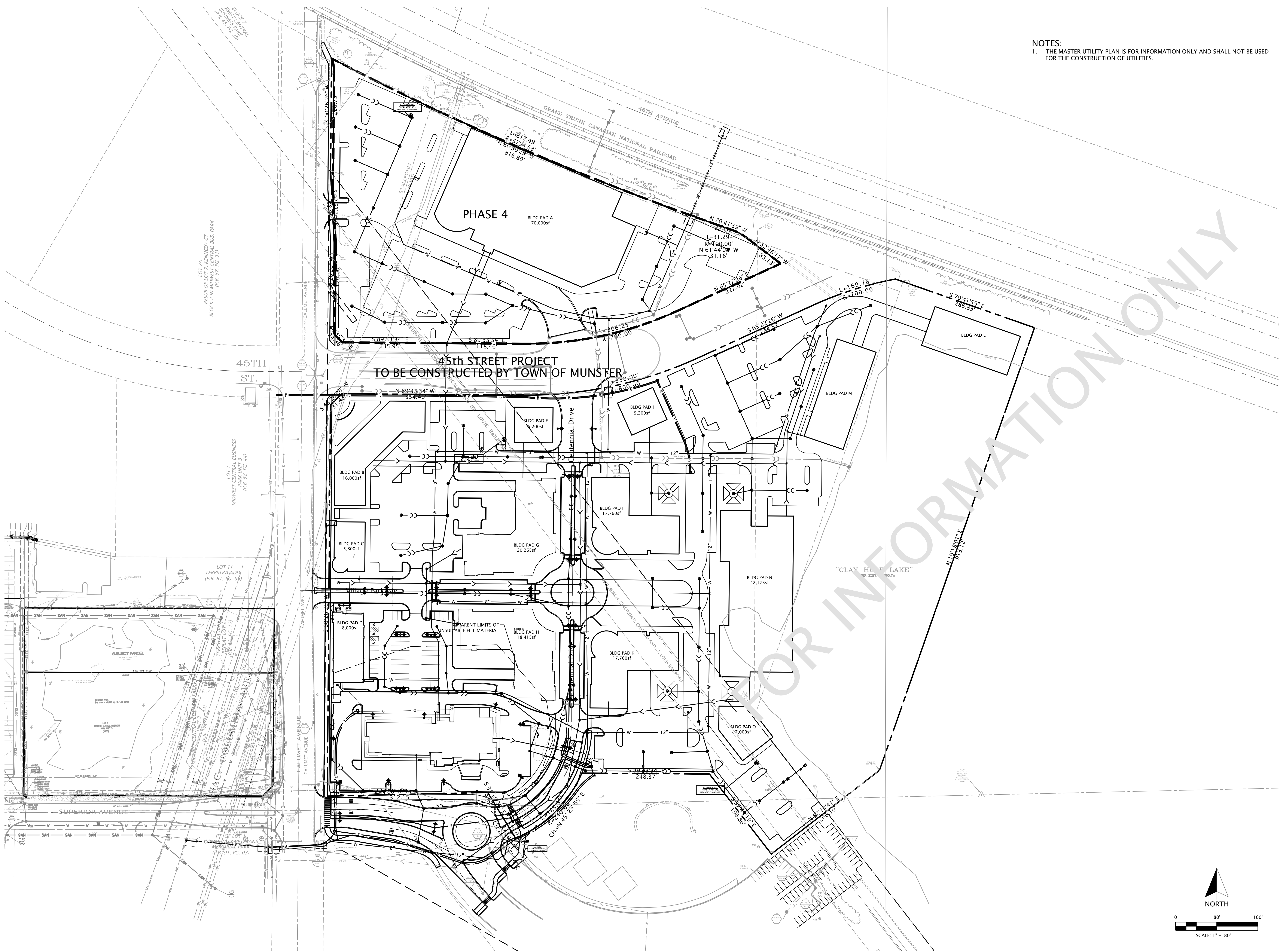
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**Centennial Village
Infrastructure Plans**
Overall Phasing Plan

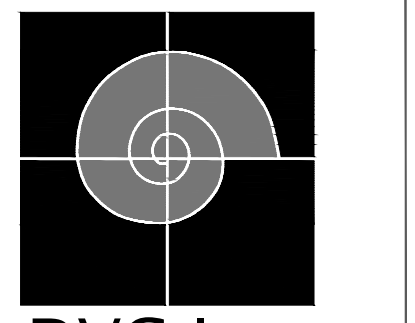
SCALE: 1"=80'
DESIGN BY: RNM
DRAWN BY: RNM
DATE: 05-16-16

C102

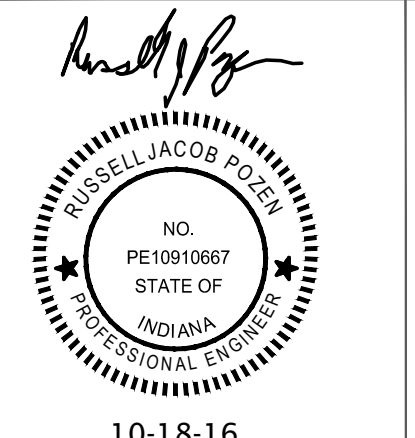




NOTES:
 1. THE MASTER UTILITY PLAN IS FOR INFORMATION ONLY AND SHALL NOT BE USED FOR THE CONSTRUCTION OF UTILITIES.



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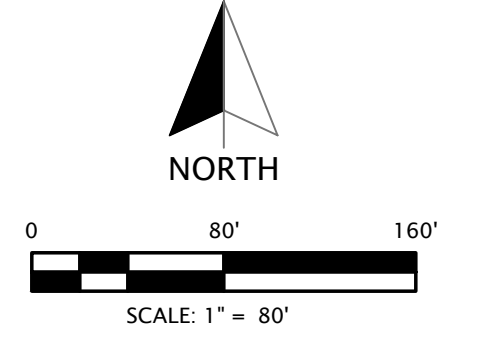
DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	10-18-16
ADDENDUM 04	

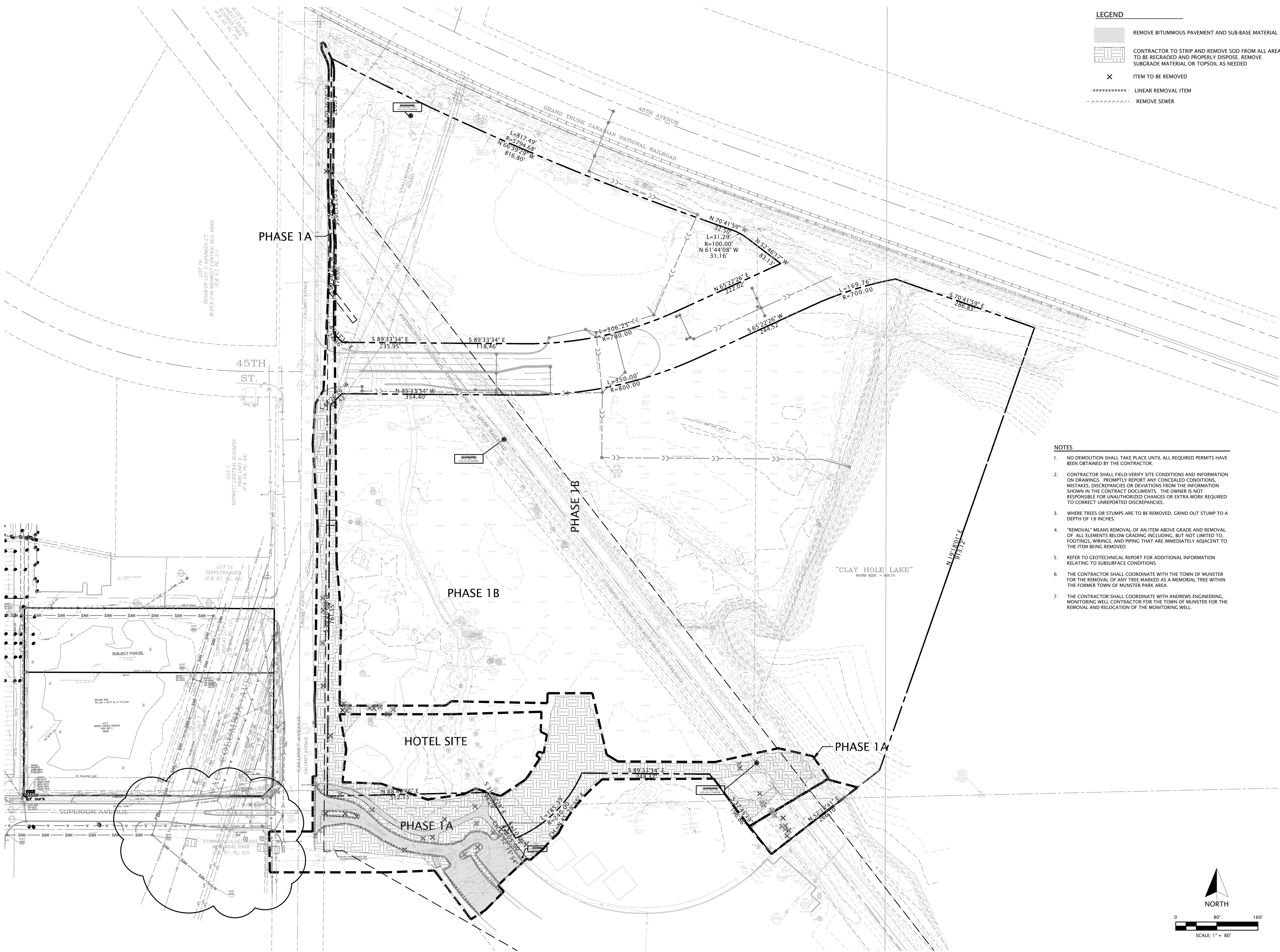
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**Centennial Village
 Infrastructure Plans**
Overall Master Utility Plan

SCALE: 1"=80'
 DESIGN BY: RJP
 DRAWN BY: RJP
 DATE: 10-10-16

C102A





- LEGEND**
- REMOVE BITUMINOUS PAVEMENT AND SUB-BASE MATERIAL
 - CONTRACTOR TO STRIP AND REMOVE SOD FROM ALL AREAS TO BE REGRADED AND PROPERLY DISPOSE. REMOVE SUBGRADE MATERIAL OR TOPSOIL AS NEEDED
 - ITEM TO BE REMOVED
 - LINEAR REMOVAL ITEM
 - REMOVE SEWER

- NOTES**
1. NO DEMOLITION SHALL TAKE PLACE UNTIL ALL REQUIRED PERMITS HAVE BEEN OBTAINED BY THE CONTRACTOR.
 2. CONTRACTOR SHALL FIELD-VERIFY SITE CONDITIONS AND INFORMATION ON DRAWINGS. PROMPTLY REPORT ANY CONCEALED CONDITIONS, MISTAKES, DISCREPANCIES OR DEVIATIONS FROM THE INFORMATION SHOWN IN THE CONTRACT DOCUMENTS. THE OWNER IS NOT RESPONSIBLE FOR UNAUTHORIZED CHANGES OR EXTRA WORK REQUIRED TO CORRECT UNREPORTED DISCREPANCIES.
 3. WHERE TREES OR STUMPS ARE TO BE REMOVED, GRIND OUT STUMP TO A DEPTH OF 18 INCHES.
 4. "REMOVAL" MEANS REMOVAL OF AN ITEM ABOVE GRADE AND REMOVAL OF ALL ELEMENTS BELOW GRADING INCLUDING, BUT NOT LIMITED TO, FOOTINGS, WIRINGS, AND PIPING THAT ARE IMMEDIATELY ADJACENT TO THE ITEM BEING REMOVED.
 5. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION RELATING TO SUBSURFACE CONDITIONS.
 6. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF MUNSTER FOR THE REMOVAL OF ANY TREE MARKED AS A MEMORIAL TREE WITHIN THE FORMER TOWN OF MUNSTER PARK AREA.
 7. THE CONTRACTOR SHALL COORDINATE WITH ANDREWS ENGINEERING, MONITORING WELL CONTRACTOR FOR THE TOWN OF MUNSTER FOR THE REMOVAL AND RELOCATION OF THE MONITORING WELL.

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 NO. PE1010667
 STATE OF INDIANA
 PROFESSIONAL ENGINEER
 10-18-2016

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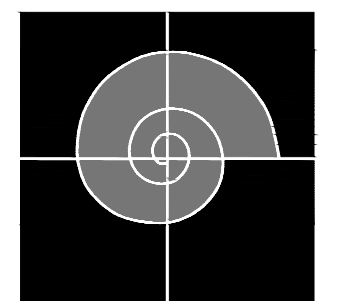
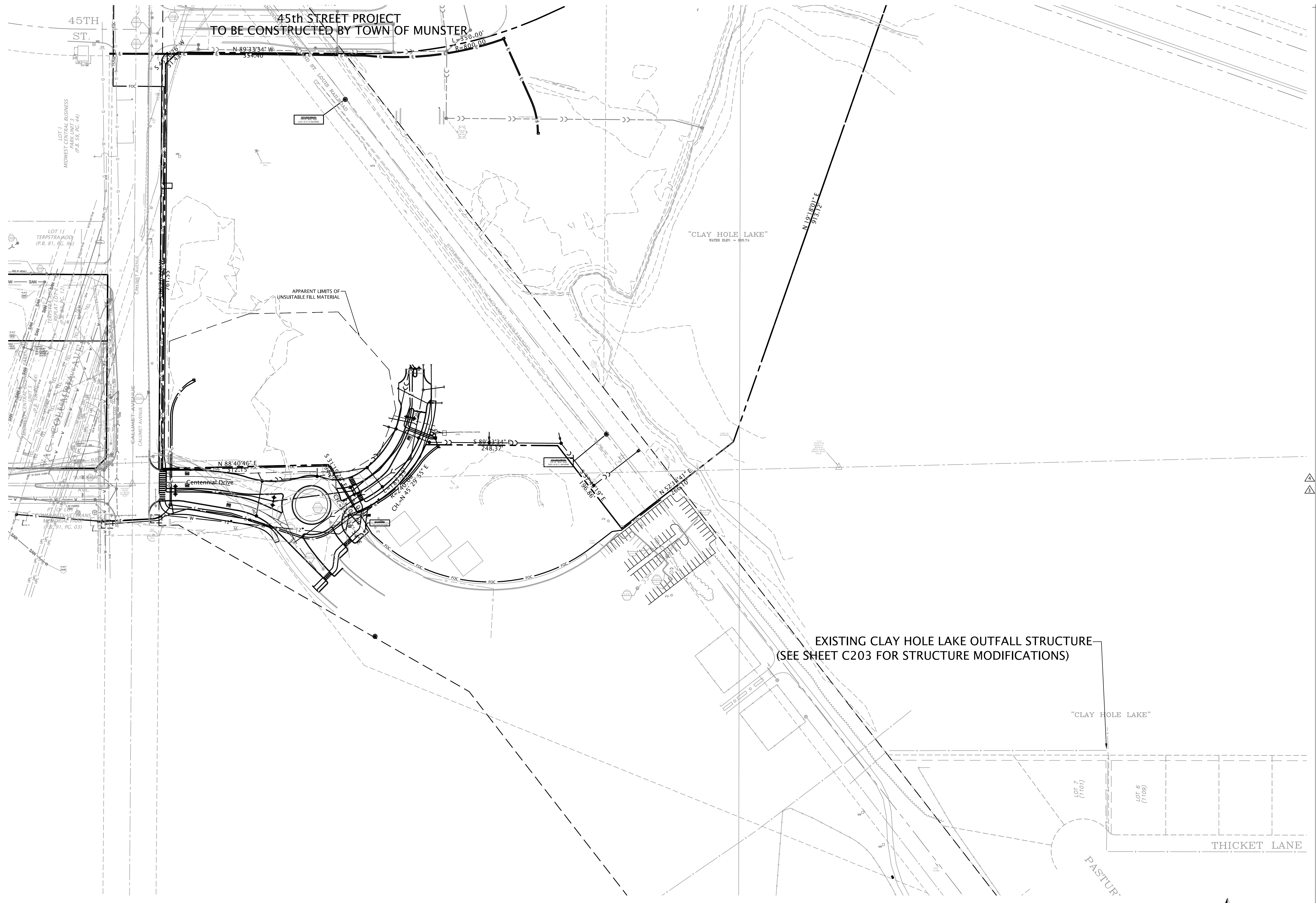
DVG # 14-C-1011	DATE:
REVISIONS AND NOTES:	06-02-2016
ADDENDUM #2	
ADDENDUM #4	10-18-2016

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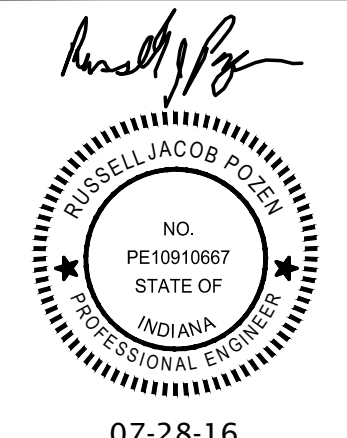
**Centennial Village
 Infrastructure Plans
 Demolition Plan
 Phase 1A**

SCALE: 1"=80'
 DESIGN BY: RNM
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 DATE: 05-16-16

C103



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DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	
ADDENDUM #4	06-01-16
ADDENDUM #3	07-28-16

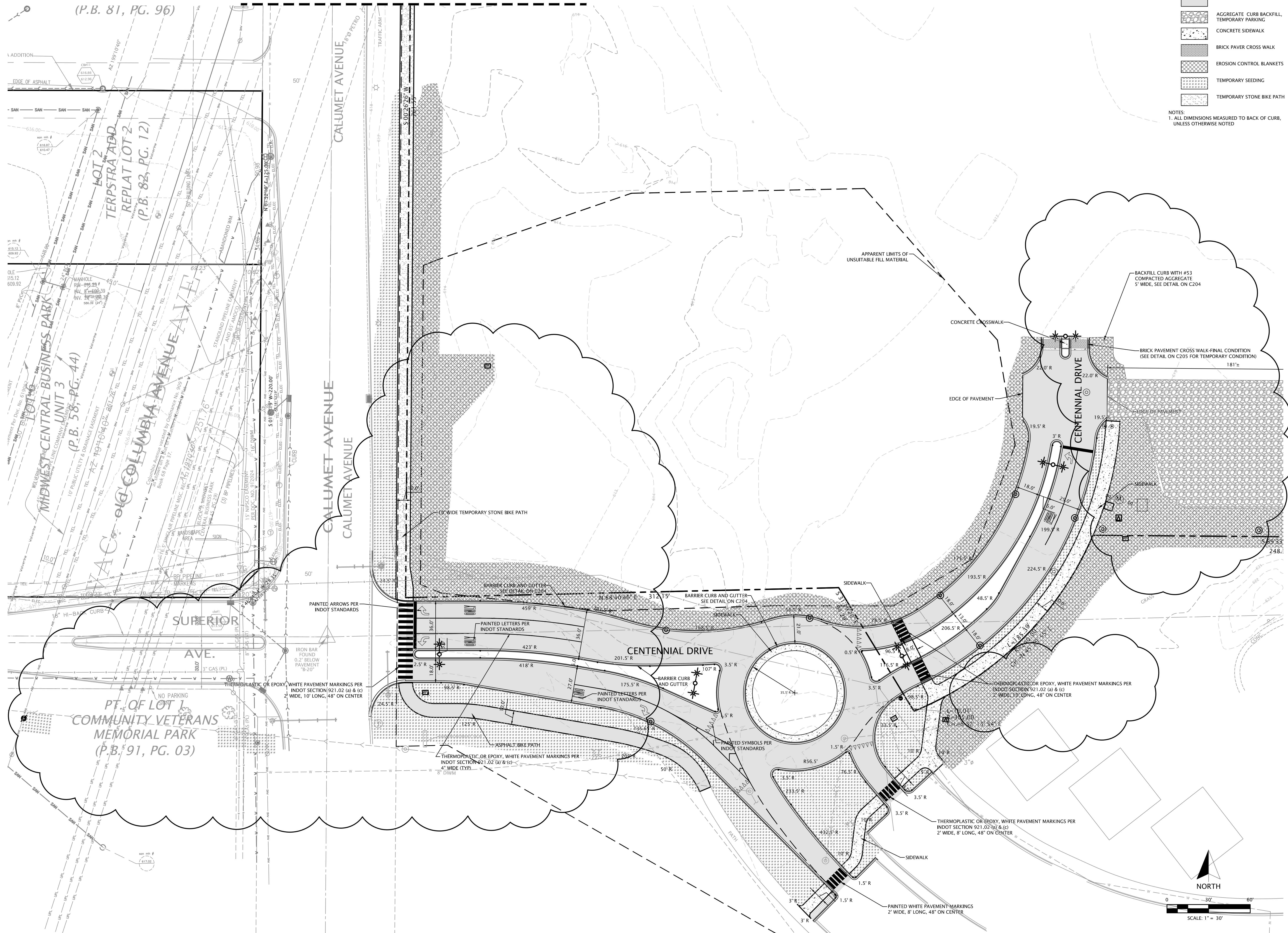
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**Centennial Village
 Infrastructure Plans**
**Overall Utility Plan
 Phase 1A**

SCALE: 1"=80'
 DESIGN BY: RNM
 DRAWN BY: RNM
 DATE: 05-16-16

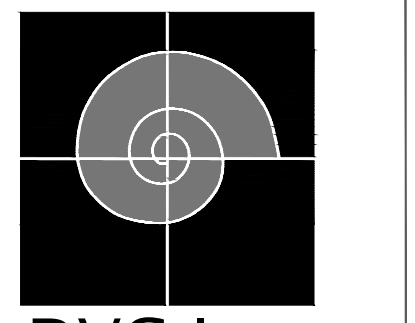
C104

SEE SHEET C107 FOR CONTINUATION

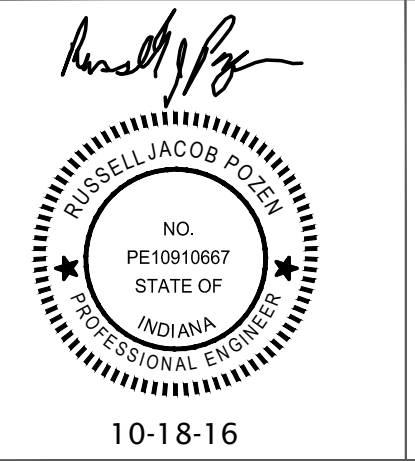


- LEGEND**
- ASPHALT PAVEMENT
 - AGGREGATE CURB BACKFILL, TEMPORARY PARKING
 - CONCRETE SIDEWALK
 - BRICK PAVER CROSS WALK
 - EROSION CONTROL BLANKETS
 - TEMPORARY SEEDING
 - TEMPORARY STONE BIKE PATH

NOTES:
1. ALL DIMENSIONS MEASURED TO BACK OF CURB, UNLESS OTHERWISE NOTED



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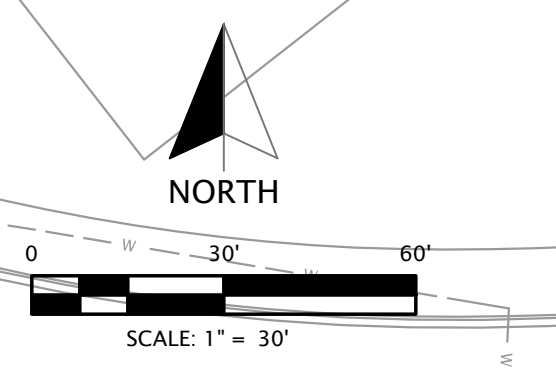
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ADDENDUM #3	10-18-16
ADDENDUM #4	

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**Centennial Village
Infrastructure Plans**
Site Plan
Phase 1A - SW Quadrant

SCALE: 1"=30'
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DRAWN BY: RNM
DATE: 05-16-16

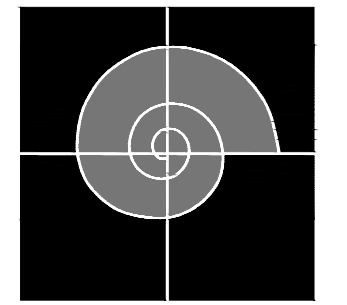
C105



"CLAY HOLE LAKE"
WATER ELEV. = 605.7±

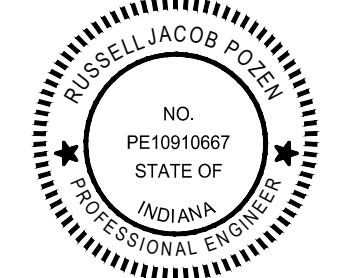
- LEGEND**
- ASPHALT PAVEMENT
 - AGGREGATE CURB BACKFILL, TEMPORARY PARKING
 - CONCRETE SIDEWALK
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DVG # 14-C-1011

REVISIONS AND NOTES:	DATE:
ADDENDUM 04	10-18-16

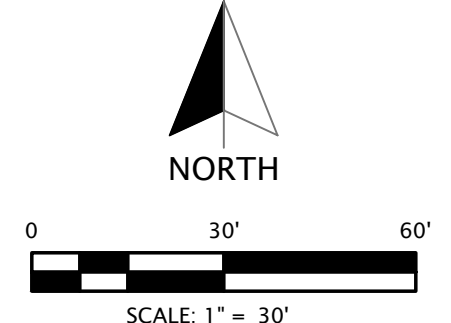
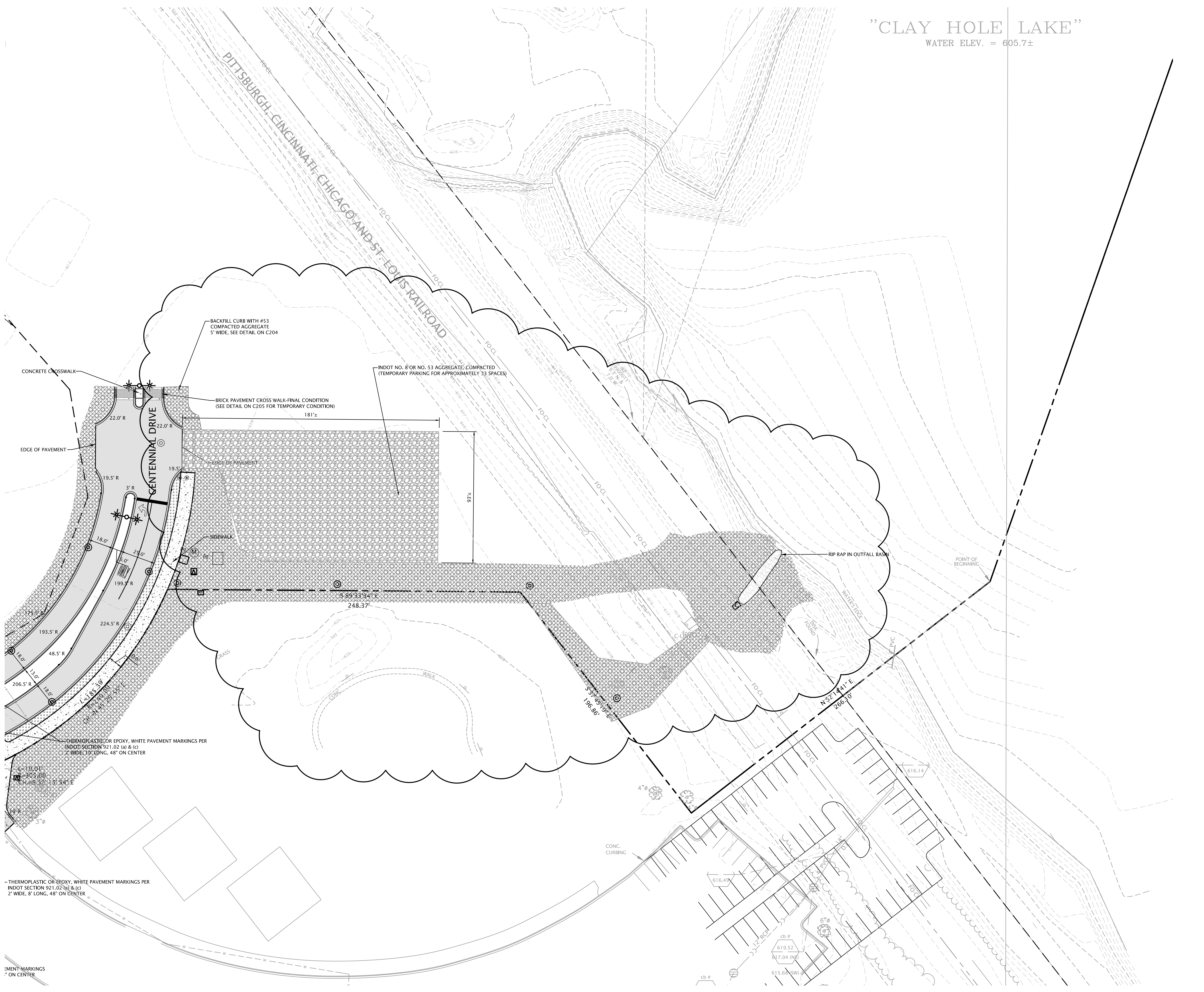
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**Centennial Village
Infrastructure Plans**

**Site Plan
Phase 1A - SE Quadrant**

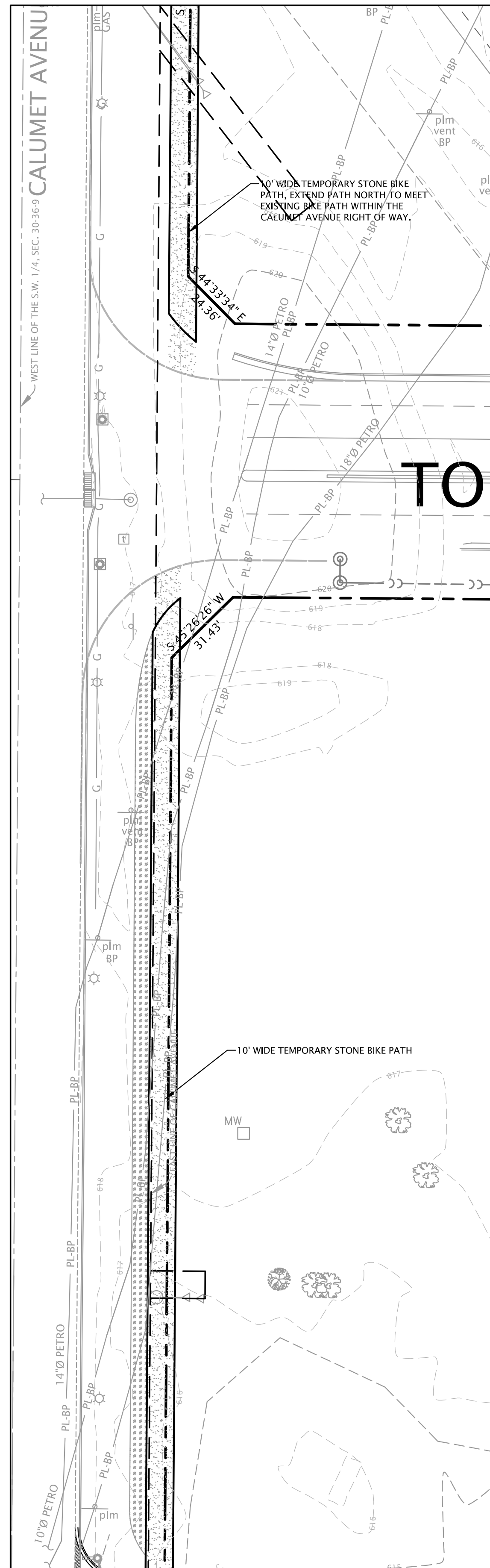
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DATE: 05-16-16

C106



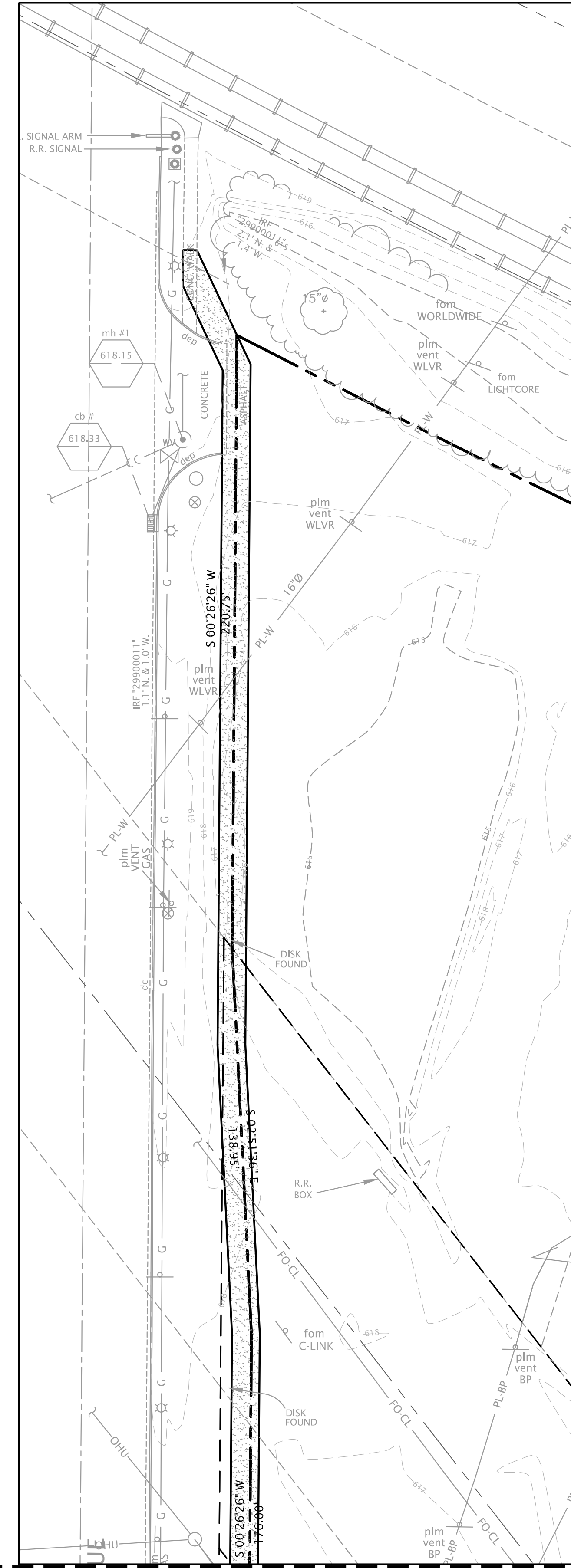
MENT MARKINGS
" ON CENTER

SEE RIGHT FOR CONTINUATION



SEE SHEET C105 FOR CONTINUATION

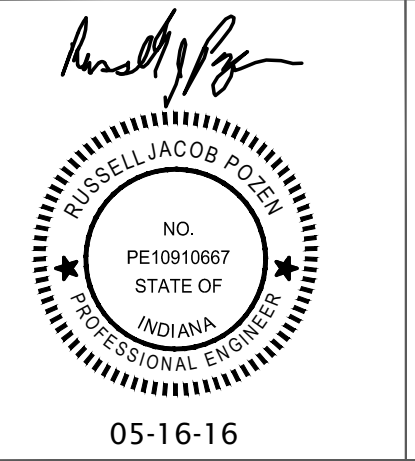
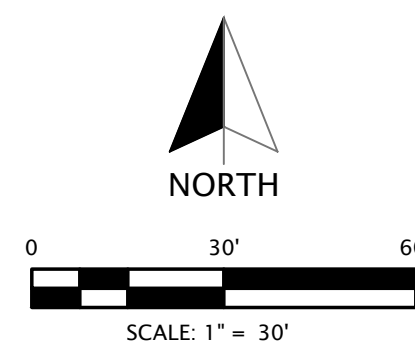
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SEE LEFT FOR CONTINUATION

- LEGEND**
- ASPHALT PAVEMENT
 - AGGREGATE CURB BACKFILL, TEMPORARY PARKING
 - CONCRETE SIDEWALK
 - BRICK PAVER CROSS WALK
 - EROSION CONTROL BLANKETS
 - TEMPORARY SEEDING
 - TEMPORARY STONE BIKE PATH

NOTES:
1. ALL DIMENSIONS MEASURED TO BACK OF CURB, UNLESS OTHERWISE NOTED



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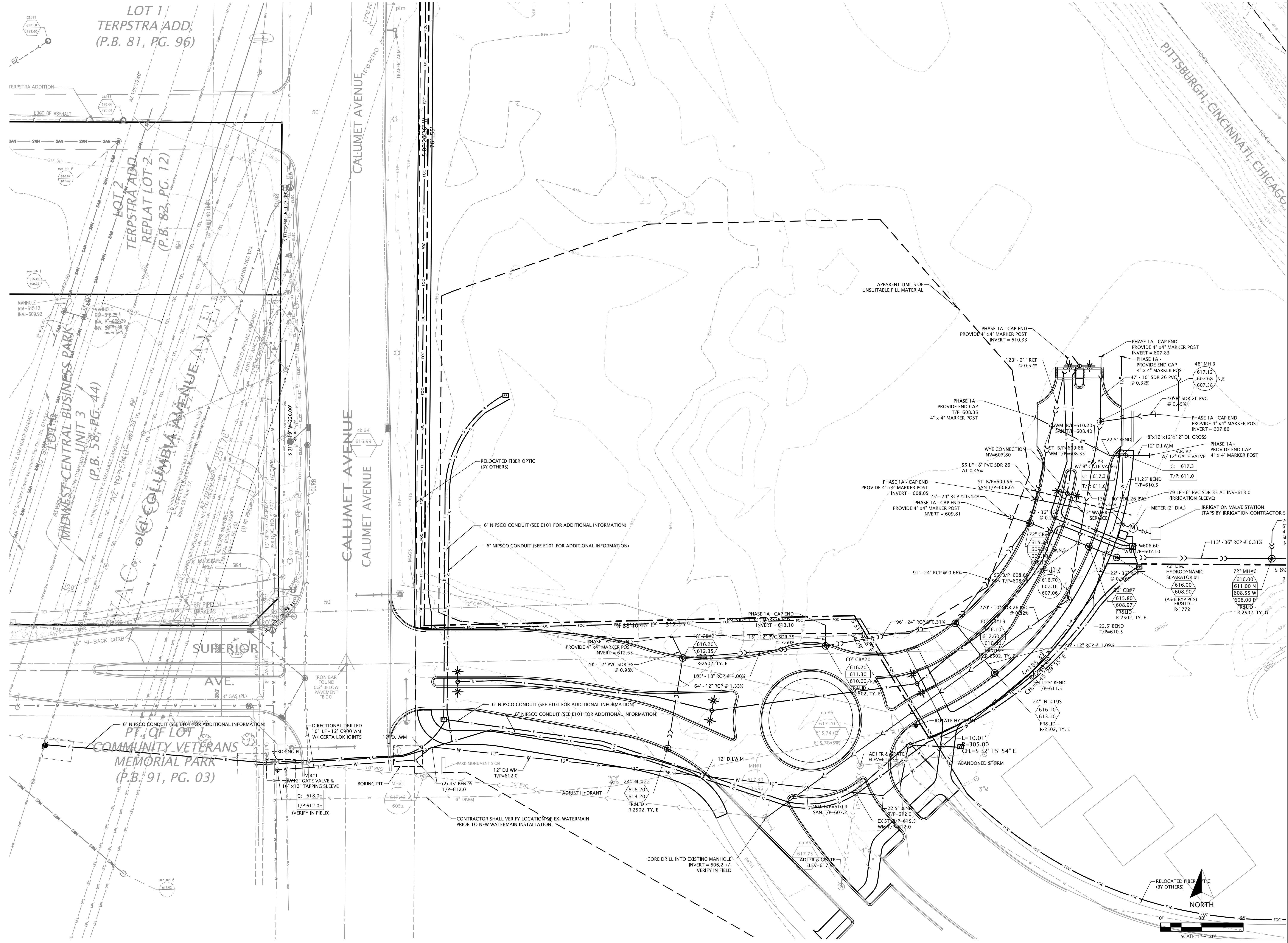
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Site Plan
Phase 1A - NW Quadrant

SCALE: 1" = 30'
DESIGN BY: RNM
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DATE: 05-16-16

C107



LOT 1
TERPSTRA ADD.
(P.B. 81, PG. 96)

REPLAT LOT 2
TERPSTRA ADD.
(P.B. 82, PG. 12)

LOT 3
MIDWEST CENTRAL BUSINESS PARK
UNIT 3
(P.B. 58, PG. 44)

PT. OF LOT 1
COMMUNITY VETERANS
MEMORIAL PARK
(P.B. 91, PG. 03)

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NO. PE1010667
STATE OF INDIANA
PROFESSIONAL ENGINEER
10-18-16

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Highland, Indiana 46322

DWG #	14-C-1011	DATE:	
REVISIONS AND NOTES:		DATE:	
ADDENDUM #2		DATE:	06-02-16
ADDENDUM #3		DATE:	09-09-2016
ADDENDUM #4		DATE:	10-18-16

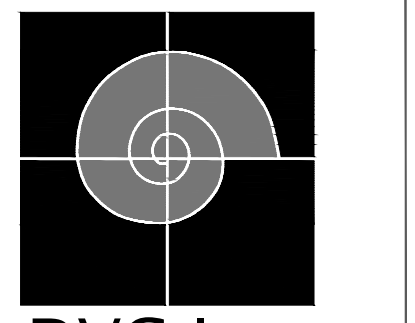
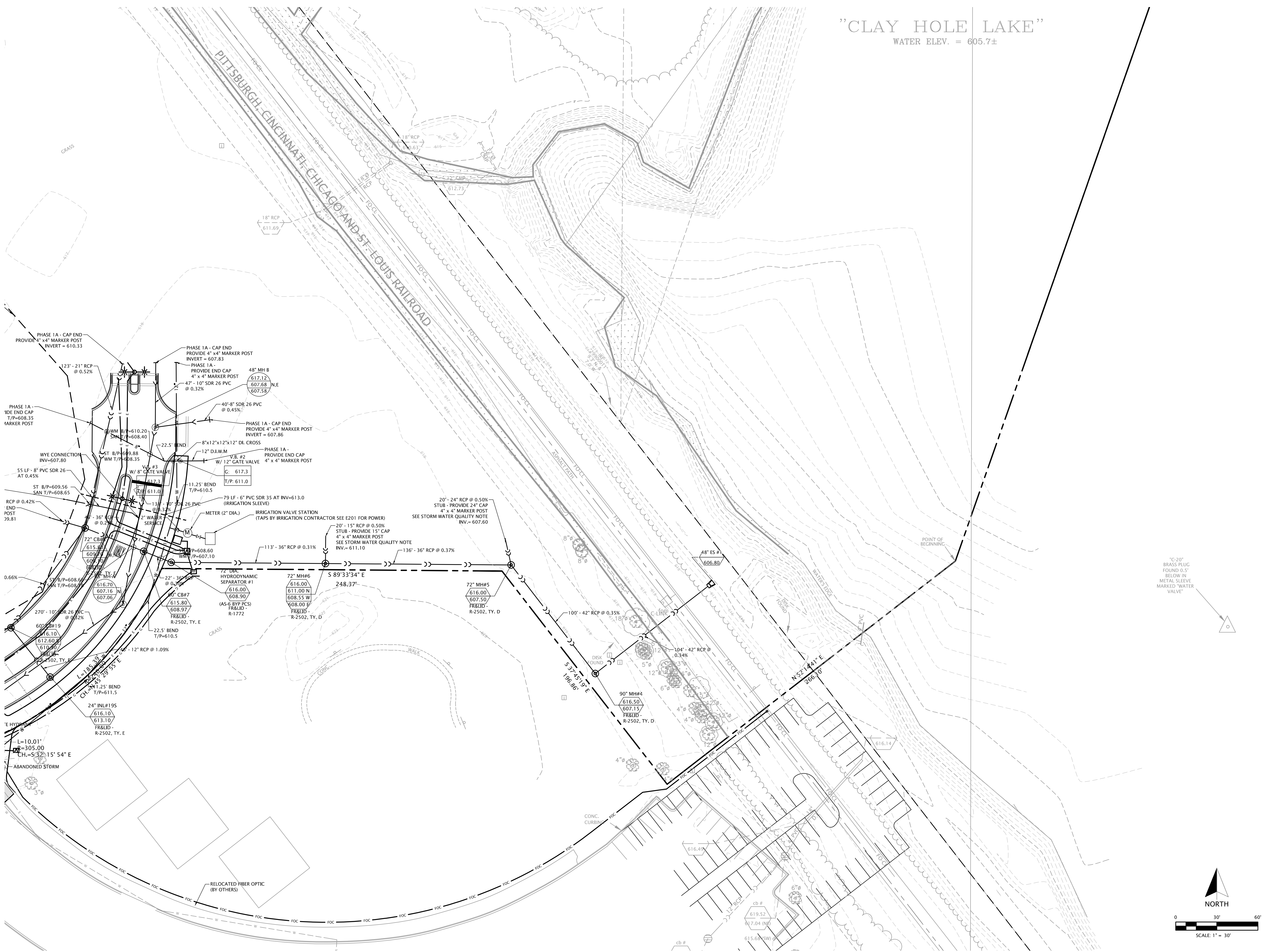
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Centennial Village
Infrastructure Plans
Utility Plan
Phase 1A - SW Quadrant

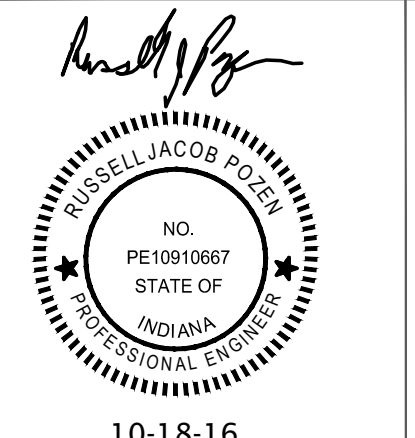
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C108

"CLAY HOLE LAKE"
WATER ELEV. = 605.7±



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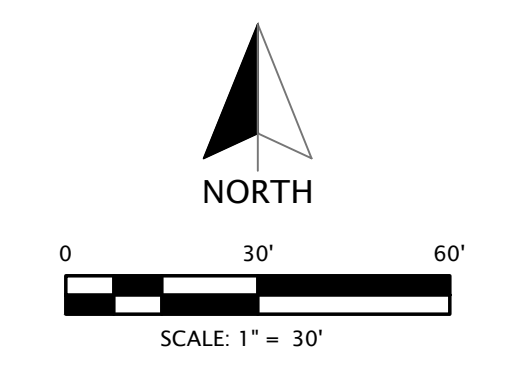
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REVISIONS AND NOTES:	06-02-16
ADDENDUM #2	10-18-16
ADDENDUM #4	

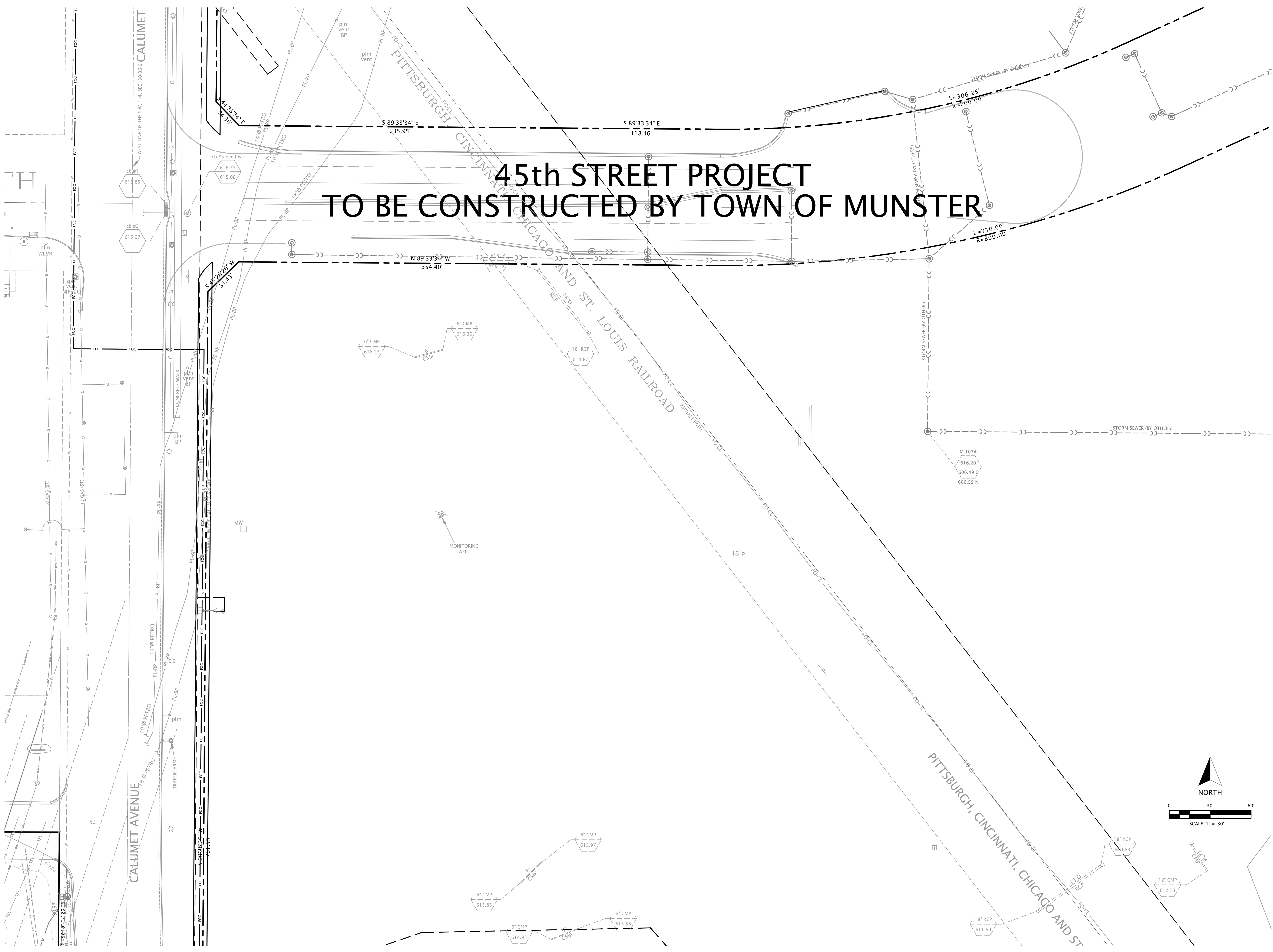
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**Centennial Village
Infrastructure Plans**
Utility Plan
Phase 1A - SE Quadrant

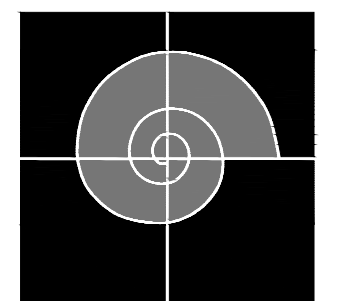
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DATE: 05-16-16

C109



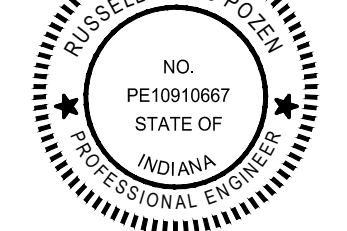


45th STREET PROJECT TO BE CONSTRUCTED BY TOWN OF MUNSTER



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05-16-16

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REVISIONS AND NOTES:	DATE:

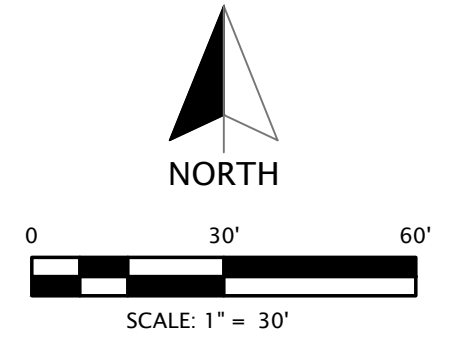
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Infrastructure Plans**

**Utility Plan
Phase 1A - NW Quadrant**

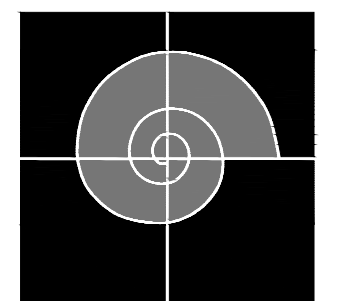
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C110

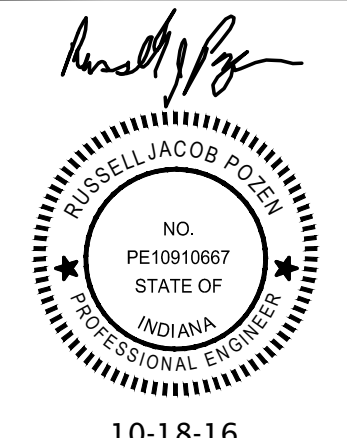




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DVG # 14-C-1011	DATE:
REVISIONS AND NOTES:	10-18-16
ADDENDUM 04	

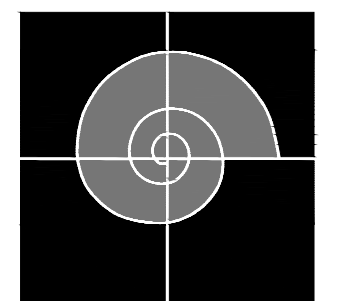
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 Infrastructure Plans**
Grading Plan
Phase 1A - SW Quadrant

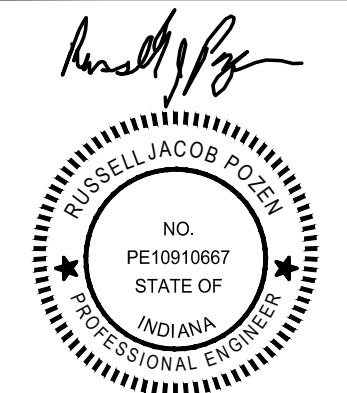
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DRAWN BY: RNM
DATE: 05-16-16

C111

"CLAY HOLE LAKE"
WATER ELEV. = 605.7±



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10-18-16

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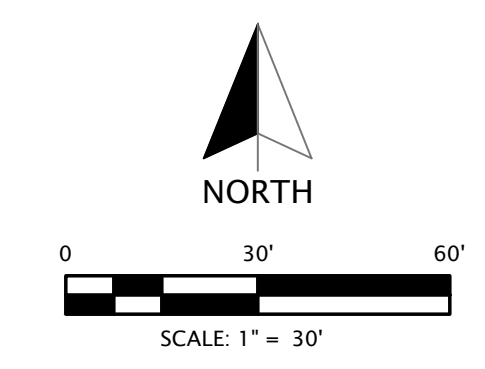
DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	10-18-2016
ADDENDUM 04	

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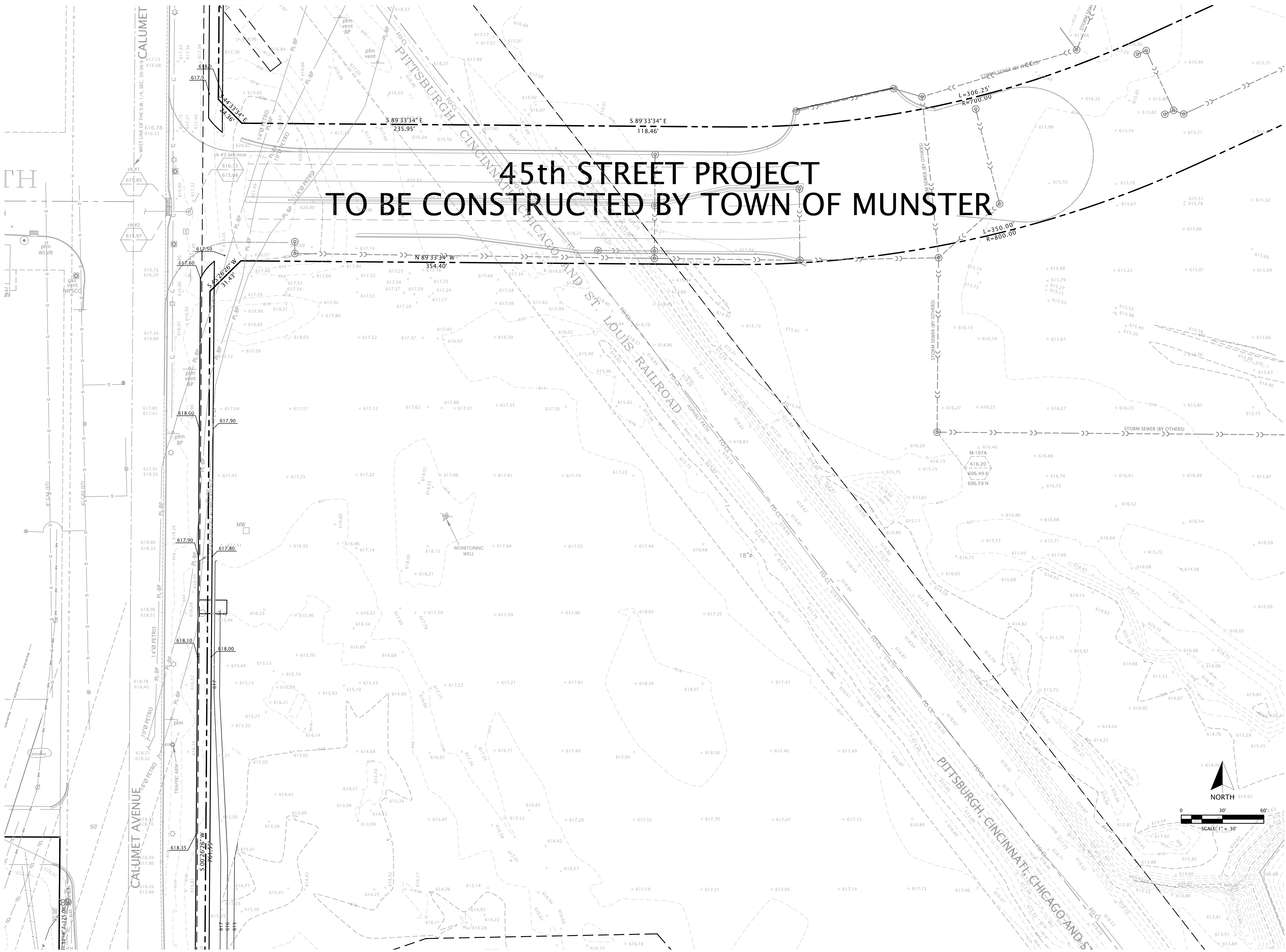
**Centennial Village
Infrastructure Plans**
Grading Plan
Phase 1A - SE Quadrant

SCALE: 1"=30'
DESIGN BY: RNM
DRAWN BY: RNM
DATE: 05-16-16

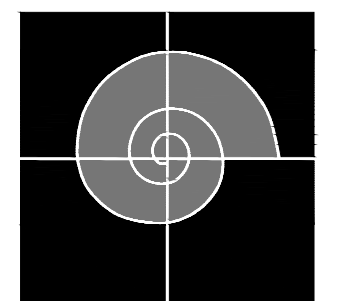
C112



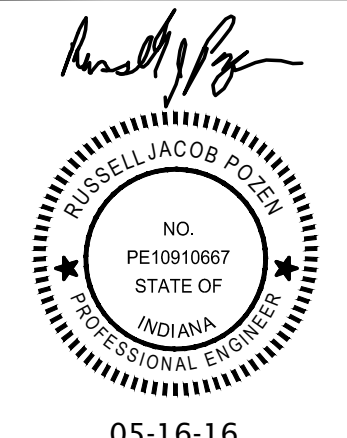
"C-20"
BRASS PLUG
FOUND 0.5'
BELOW IN
METAL SLEEVE
MARKED "WATER
VALVE"



45th STREET PROJECT TO BE CONSTRUCTED BY TOWN OF MUNSTER



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Project Management and
Development Consulting
11065 Broadway, Suite D
Crown Point, IN 46307
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Highland, Indiana 46322

DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	

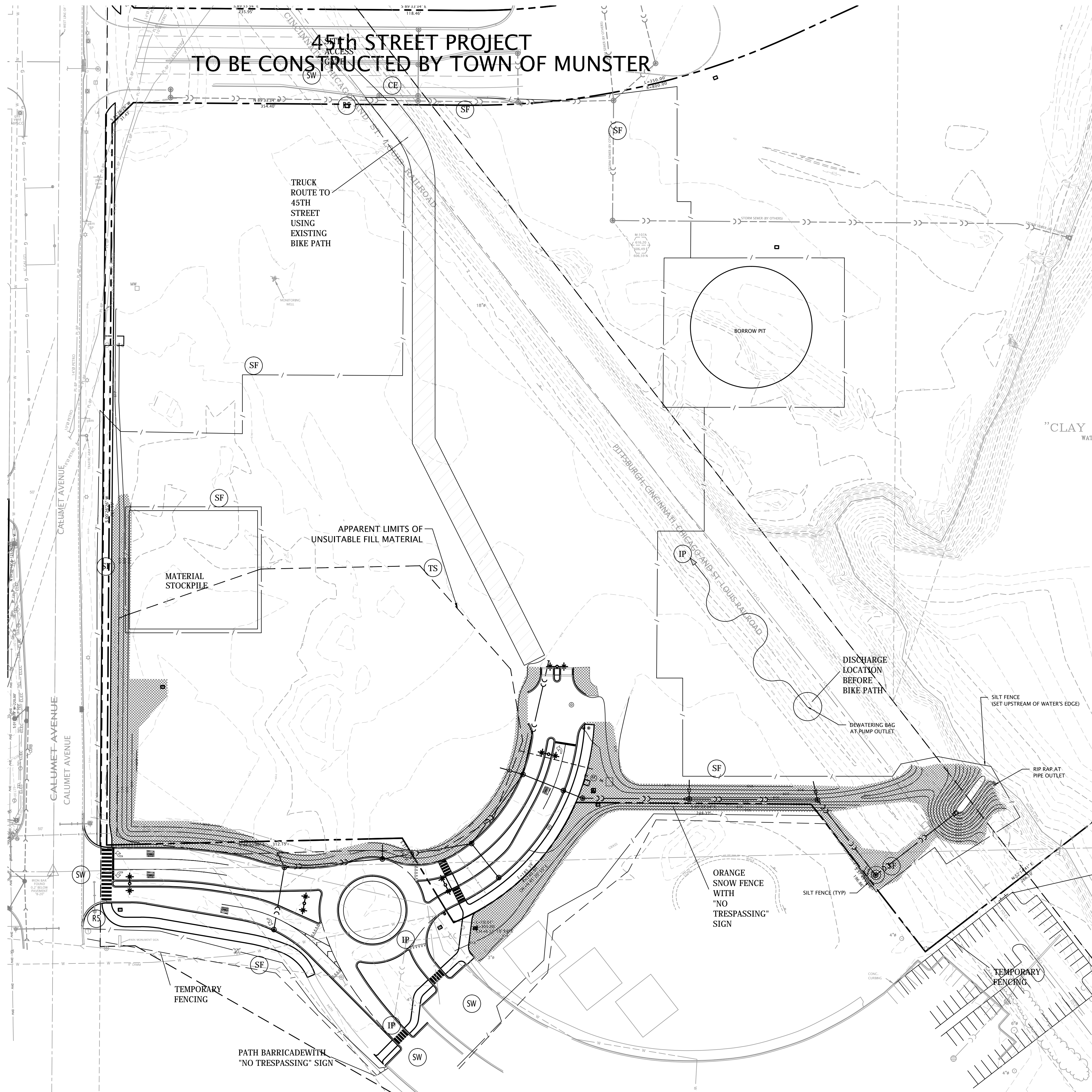
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**Centennial Village
Infrastructure Plans**
Grading Plan
Phase 1A - NW Quadrant

SCALE: 1"=30'
DESIGN BY: RNM
DRAWN BY: RNM
DATE: 05-16-16

C113

45th STREET PROJECT TO BE CONSTRUCTED BY TOWN OF MUNSTER



S.W.P.P. NOTES:

THE SITE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN DURING CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND/OR CLEANING TO THE STRUCTURE OR FEATURE. CORRECTIVE WORK INCURRED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE S.W.P.P.P. ANY FINES OR PUNATIVE MEASURES INCURRED BY THE PROJECT DUE TO FAILURE TO COMPLY WITH THE S.W.P.P.P. ARE THE RESPONSIBILITY OF THE CONTRACTOR. THESE COSTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT, AND SHALL NOT BE CONSIDERED AN EXTRA.

DURING THE COURSE OF CONSTRUCTION THE LOCAL ENFORCEMENT OF THE S.W.P.P.P. MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES TO BE INSTALLED TO ADDRESS SITE SPECIFIC ITEMS NOT ANTICIPATED BY THIS PLAN. THESE ITEMS ARE CONSIDERED AN EXTRA TO THE CONTRACT, BUT ONLY TO THE EXTENT OF INITIAL INSTALLATION. CORRECTIVE WORK AND MAINTENANCE SHALL BE CONSIDERED INCIDENTAL, AND SHALL NOT BE CONSIDERED AN EXTRA.

THE SITE CONTRACTOR SHALL INSTALL THE CONSTRUCTION ENTRANCE, POST THE RULE 5 AND PLACE PERIMETER SILT FENCING PRIOR TO COMMENCING ANY SOIL DISTURBANCE. SEE LEGEND AND SITE PLAN FOR LOCATIONS.

DURING SOIL DISTURBING ACTIVITIES THE CONTRACTOR SHALL CREATE DIVERSION SWALES, INSTALL DITCH CHECKS SO THAT ALL SITE RUNOFF PASSES THROUGH AN EROSION CONTROL MEASURE PRIOR TO BEING DISCHARGED OFF-SITE.

UPON COMPLETION OF THE ROUGH GRADING ALL AREAS EFFECTED BY CONSTRUCTION SHALL BE TEMPORARILY SEEDED WITHIN 14 DAYS, AND EROSION CONTROL BLANKETS INSTALLED ON SIDE SLOPES THAT EXCEED 5:1.

UPON COMPLETION OF THE STORM SEWER SYSTEM, INLET PROTECTION SHALL BE INSTALLED, CHECK DAMS INSTALLED IN THE SWALES, AND TEMPORARY RIPRAP WITH SETTLING BASINS PLACED AT THE OUTFALLS OF ALL PIPE.

ALL UTILITY TRENCHES WILL BE TEMPORARILY OR PERMANENTLY STABILIZED AFTER THEY ARE BACKFILLED.

ALL ACTIVE DRAIN TILES ENCOUNTERED DURING CONSTRUCTION THAT APPEAR TO SERVE OFF-SITE PROPERTIES SHOULD BE TIED INTO THE PROPOSED STORMWATER MANAGEMENT SYSTEM. THESE DRAIN TILES SHOULD ALSO BE ADEQUATELY MARKED (IN THE FIELD AND/OR ON THE PLAN SET) FOR FUTURE DEVELOPERS IF PORTIONS OF THE TILES WILL BE MAINTAINED ON-SITE TO PROHIBIT DAMAGING REMAINING LATERALS.

- LEGEND**
- CE TEMPORARY CONSTRUCTION ENTRANCE
 - IP INLET BARRIER PROTECTION
 - TS TEMPORARY SEEDING
 - SF SILT FENCE
 - SW STREET SWEEPING SHALL BE PERFORMED WHENEVER TRACKING OF MUD, DIRT, CONSTRUCTION DEBRIS OCCURS ON THE PUBLIC ROAD.
 - RS POSTED RULE 5 NOI FORM, LOCAL SWPPP APPROVAL LETTER, AND IDEM NOI PERMIT NUMBER

- S.W.P.P. LOGISTICS PLAN:**
1. RE-ROUTE OF BIKE PATH
 2. MATERIAL STOCKPILE LOCATION
 3. DRAINAGE DIRECTION
 4. MATERIAL DELIVERY
 5. SCHEDULE:
 - A. TEMPORARY FENCE - 12/01/2015 - 3 DAYS
 - B. EROSION CONTROL FENCE - 12/01/2015 - 3 DAYS
 - C. SUMP PIT - 12/01/2015 - 1 DAY
 - D. DE-WATERING - 12/04/2015 - 3 DAYS
 - E. TREE REMOVAL - 12/05/2015 - 4 DAYS

DVG Inc.
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Development Consulting
11065 Broadway, Suite D
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(219) 662-7710 Fax (219) 662-2740

NO. PE1010667
STATE OF INDIANA
PROFESSIONAL ENGINEER
05-16-16

**Centennial Village
L.L.C.**
9615 Boulevard Drive
Highland, Indiana 46322

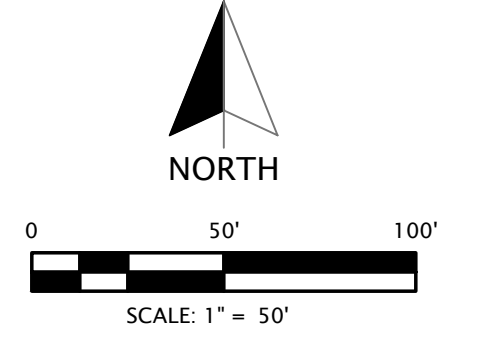
DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	04/07/2016
PERMIT RE-SUBMITTAL	

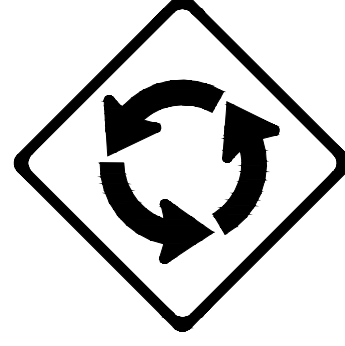
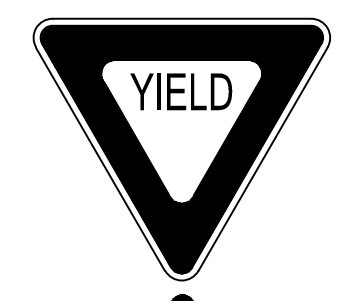
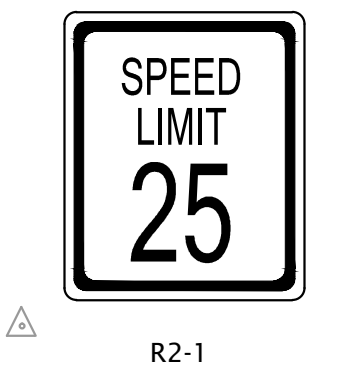
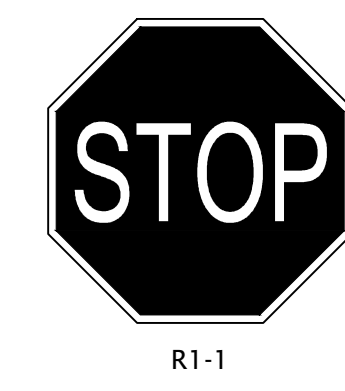
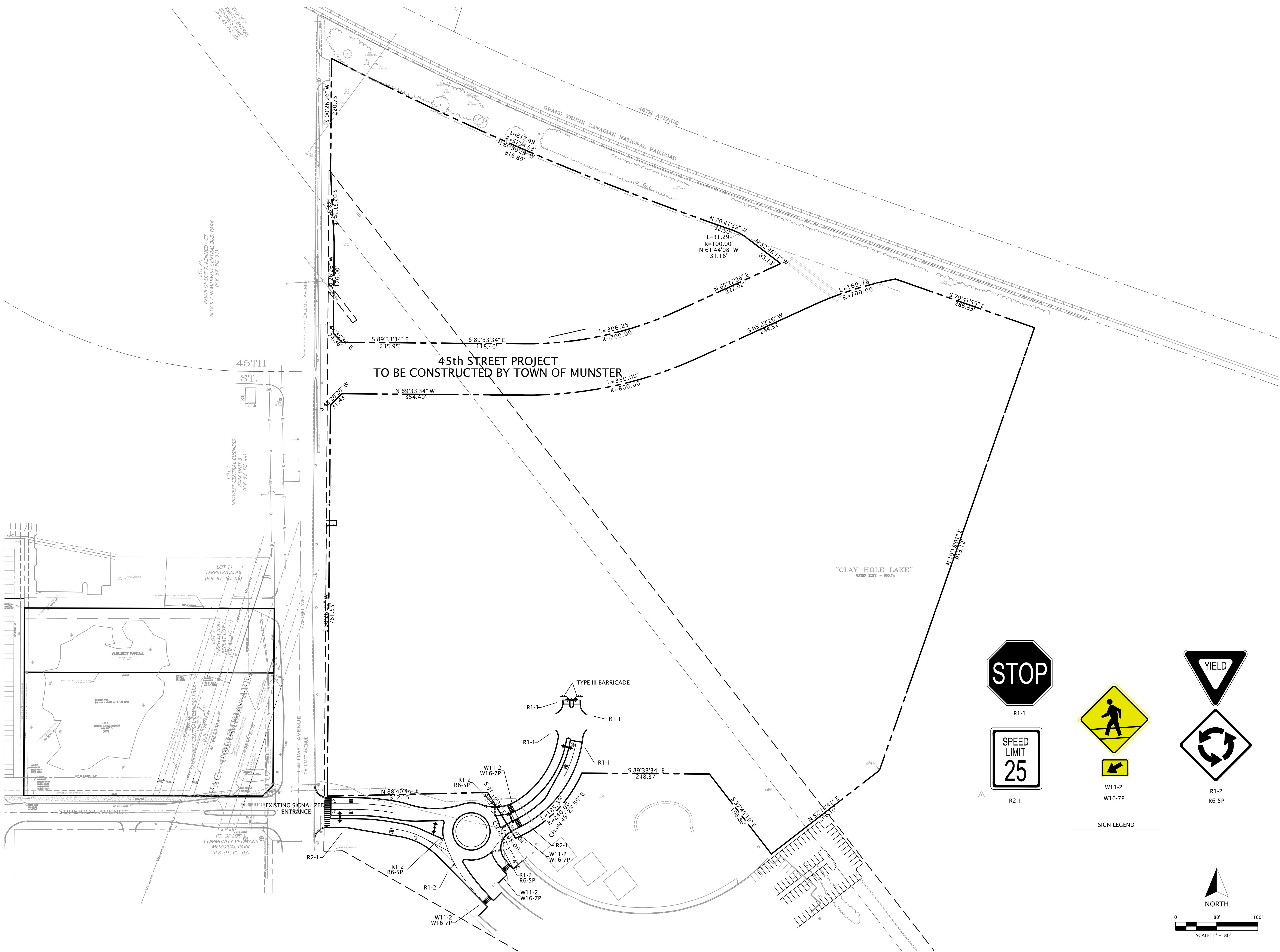
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**Centennial Village
Infrastructure Plans**
**Stormwater Pollution
and Prevention Plan**

SCALE: 1"=50'
DESIGN BY: RNM
DRAWN BY: RNM
DATE: 05-16-16

C114

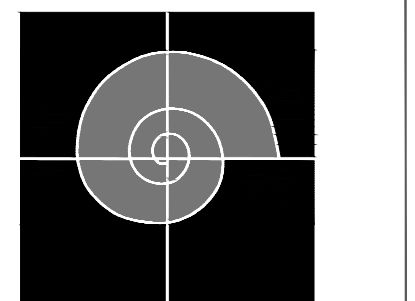
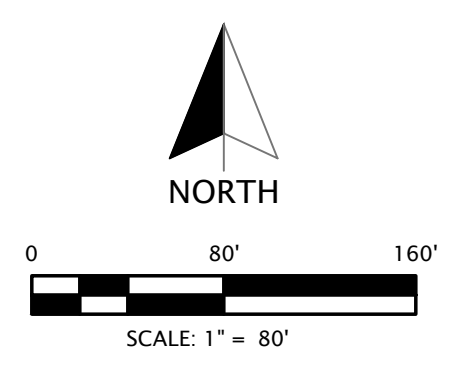




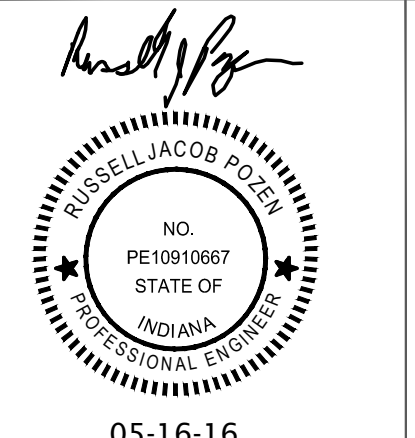
W11-2
W16-7P

R1-2
R6-5P

SIGN LEGEND



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Highland, Indiana 46322

DWG # 14-C-1011

REVISIONS AND NOTES:	DATE:

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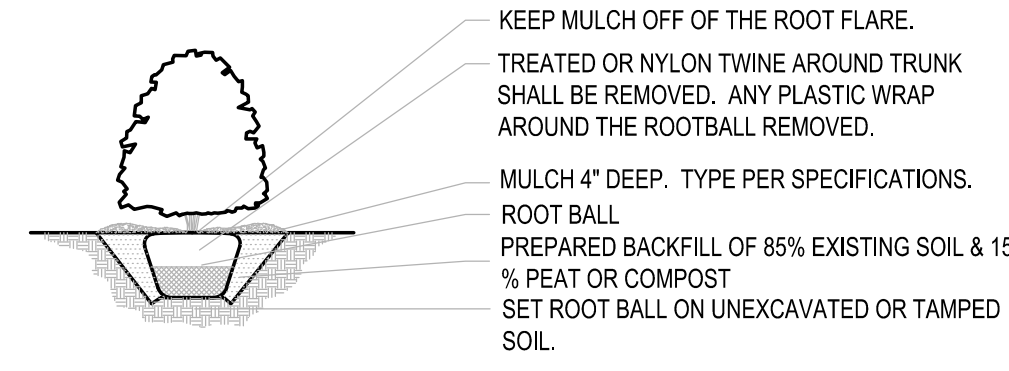
**Centennial Village
Infrastructure Plans**

**Signage Plan
Phase 1A**

SCALE: 1"=80'
DESIGN BY: RNM
DRAWN BY: RNM
DATE: 05-16-16

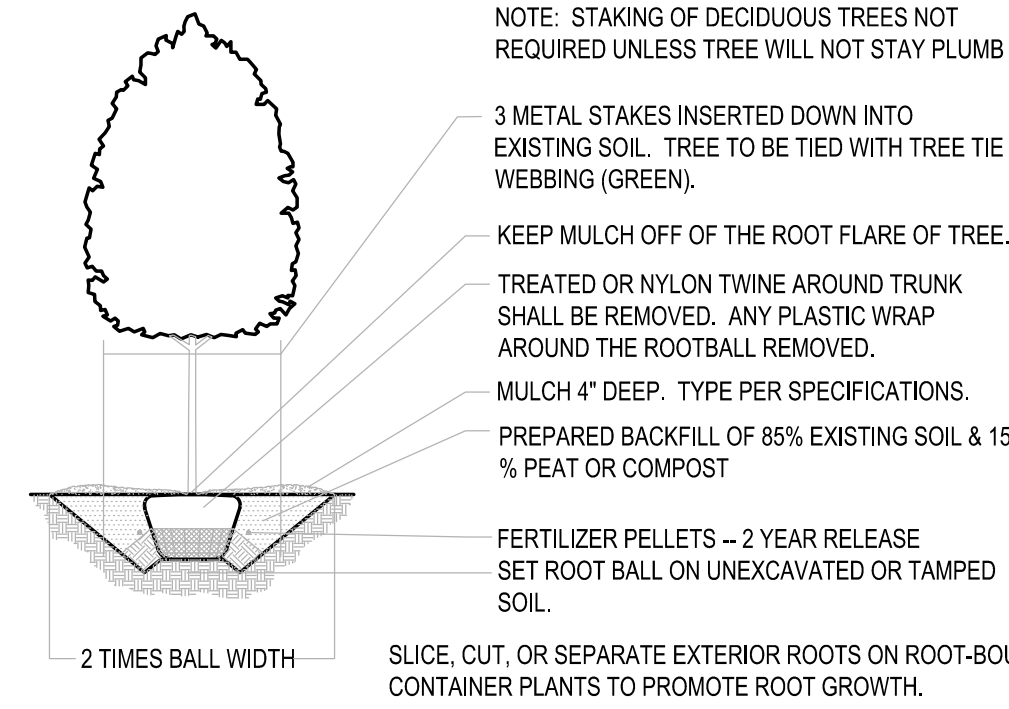
C115

LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. SHRUB PIT WIDTH TO BE TWO TIMES THE WIDTH OF THE ROOT BALL. PRUNE OFF ALL DEAD, BROKEN OR SCARRED BRANCHES, AND SHAPE PRUNE AS DIRECTED BY THE LANDSCAPE ARCHITECT. LOCATE ROOT FLARE IN ROOT BALL AND SET SHRUB HEIGHT SO THAT ROOT FLARE IS FLUSH OR SLIGHTLY HIGHER THAN FINISH GRADE DEPENDING ON EXISTING SOIL CONDITIONS. WATER IN THE PLANTING MIX THOROUGHLY, WHILE KEEPING THE SHRUB PLUMB. STRAIGHTEN SHRUB IF SETTLING OCCURS. MULCH LIMITS FOR SHRUBS TO EXTEND TO ALL EDGES OF PLANTING BEDS, SEE PLANS FOR BED LAYOUTS.



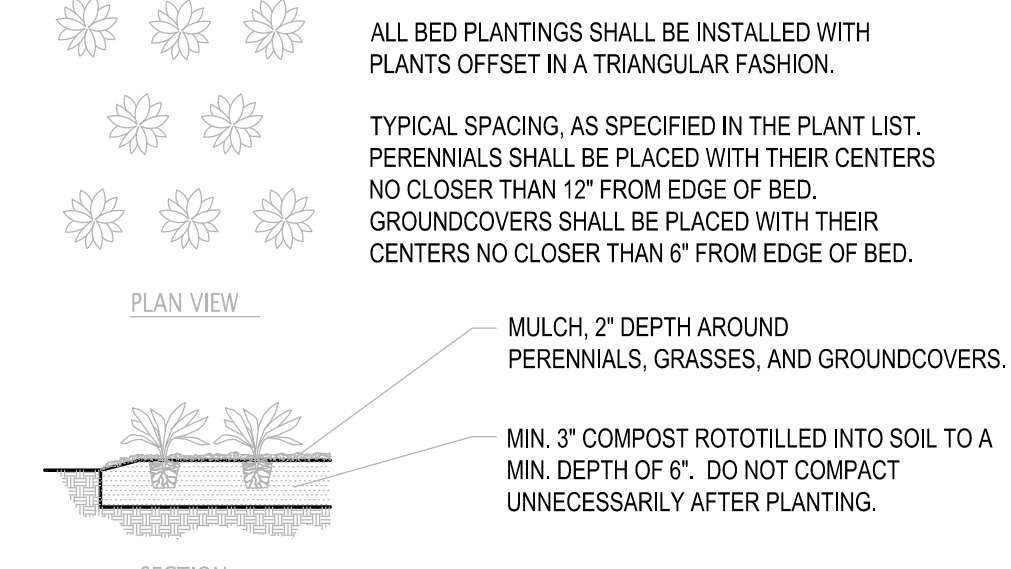
1 SHRUB PLANTING DETAIL
NOT TO SCALE

LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. TREE PIT WIDTH TO BE TWO TIMES THE WIDTH OF THE ROOT BALL. PRUNE OFF ALL DEAD, BROKEN OR SCARRED BRANCHES, AND SHAPE PRUNE AS DIRECTED BY THE LANDSCAPE ARCHITECT. LOCATE ROOT FLARE IN ROOT BALL AND SET TREE HEIGHT SO THAT ROOT FLARE IS FLUSH OR SLIGHTLY HIGHER THAN FINISH GRADE DEPENDING ON EXISTING SOIL CONDITIONS. WATER IN THE PLANTING MIX THOROUGHLY, WHILE KEEPING THE TREE PLUMB. STRAIGHTEN TREE IF SETTLING OCCURS.



2 DECIDUOUS & EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

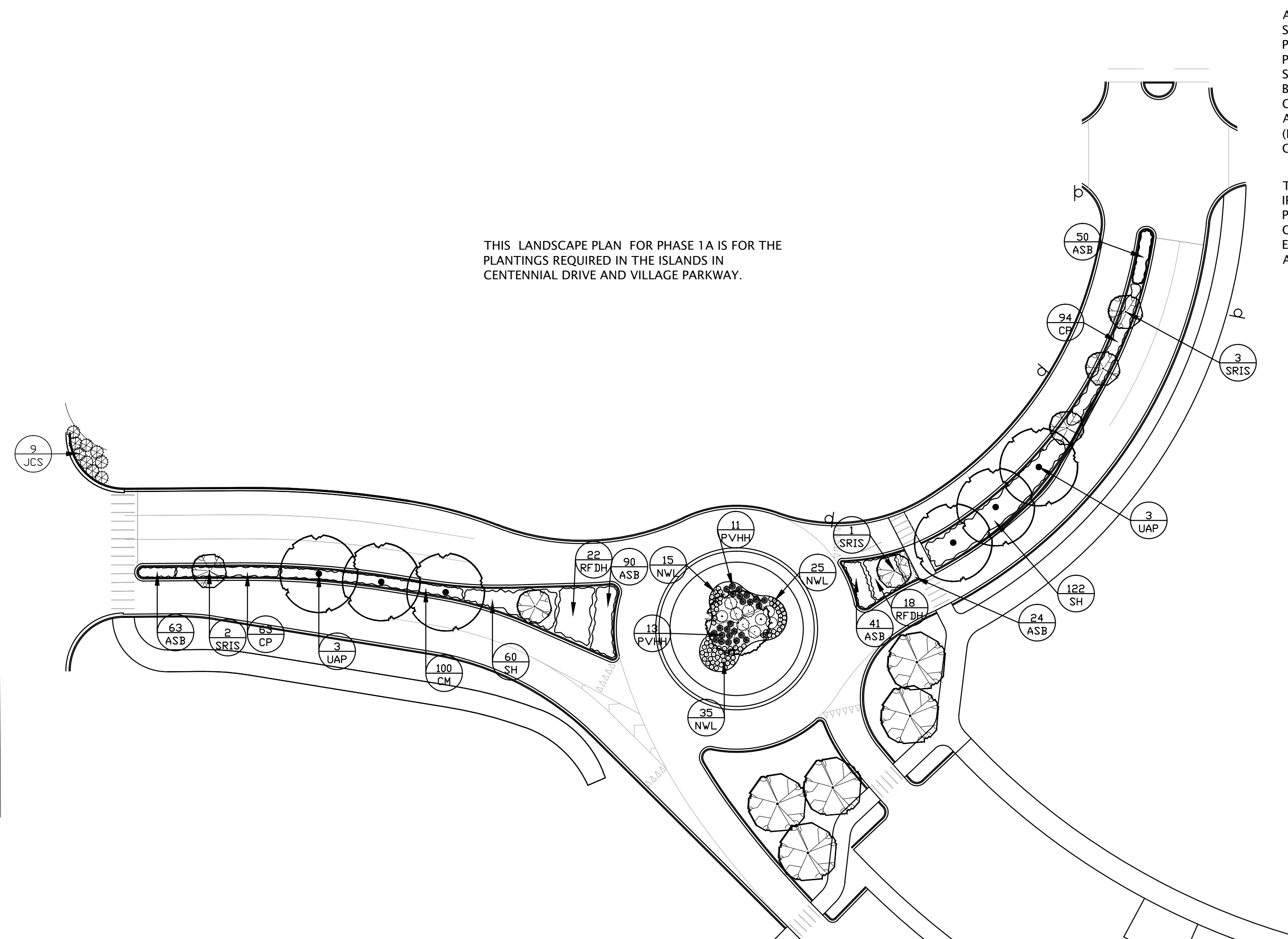
LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. AMEND PLANTING BED SOIL WITH COMPOST PRIOR TO PLANT INSTALLATION. BED HEIGHT IS TO BE 2\"/>



3 PERENNIAL, GROUND COVER, AND ANNUAL PLANTING DETAIL
NOT TO SCALE

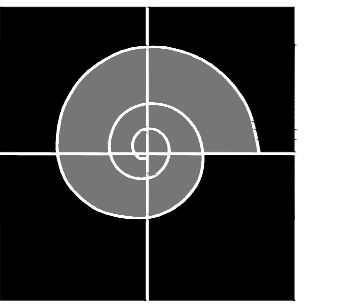
TREES						
Count	Symbol	Botanical Name	Common Name	Size	Mature Size	Remarks
6	SRIS	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2"	20' x 15'	
6	UAP	Ulmus americana 'Princeton'	Princeton Elm	2"	65'x50'	
5	LT	Liriodendron tulipifera	Tulip Tree	2"	75'x50'	
1	ARF	Acer rubrum 'Franksred'	Red Sunset Maple	3"	50'x40'	
EVERGREENS						
Count	Symbol	Botanical Name	Common Name	Size	Mature Size	Remarks
9	JCS	Juniperus chinensis 'Sargentii'	Green Sargent Juniper	#3	2' x 6'	
SHRUBS						
Count	Symbol	Botanical Name	Common Name	Size	Mature Size	Remarks
5	HPL	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	#5	8' x 7'	
40	RFDH	Rosa 'Frau Dagmar Hartopp'	Frau Dagmar Hartopp Rose	#3	4'x4'	36" O.C.
4	RTB	Rhus typhina Baitiger	Tiger Eyes Cutleaf Staghorn Sumac	#5	2' x 8'	
PERENNIALS AND GRASSES						
Count	Symbol	Botanical Name	Common Name	Size	Mature Size	Remarks
298	ASB	Allium Summer Beauty	Summer Beauty Onion	#1	12-18" x 12-18"	18" O.C.
157	CP	Carex pennsylvanica	Common Oak Sedge	#1	12"x24"	24" O.C.
100	CM	Carex musicingumensis	Palm Sedge	#1	24" x 36"	24" O.C.
75	NWL	Nepeta ralemos 'Walkers Low'	Walkers Row Catmint	#1	2' x 2'	24" O.C.
24	PVHH	Panicum virgatum 'Haense Herms'	Haense Herms Switchgrass	#1	6' x 3'	36" O.C.
182	SH	Sporobolus heterolepis	Prairie Dropseed	#1	3-4' x 36"	36" O.C.

THIS LANDSCAPE PLAN FOR PHASE 1A IS FOR THE PLANTINGS REQUIRED IN THE ISLANDS IN CENTENNIAL DRIVE AND VILLAGE PARKWAY.



AN IRRIGATION SYSTEM SHALL BE INSTALLED AS PART OF THE LANDSCAPE PLAN. THE IRRIGATION SYSTEM SHALL BE DESIGN BUILD, WITH THE FINAL CONSTRUCTION PLANS APPROVED BY THE ENGINEER (DVG) PRIOR TO CONSTRUCTION.

THE POWER FOR THE IRRIGATION CONTROLLER IS PROVIDED IN THE LIGHTING CONTROL PANEL. SEE E101-103 FOR LOCATION AND PANEL DETAILS.



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L.L.C.
9615 Boulevard Drive
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DVG # 14-C-1011

REVISIONS AND NOTES: DATE:

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Centennial Village
Infrastructure Plans

Landscaping Plan
Phase 1A

SCALE: 1" = 40'

DESIGN BY: LK

DRAWN BY: JH

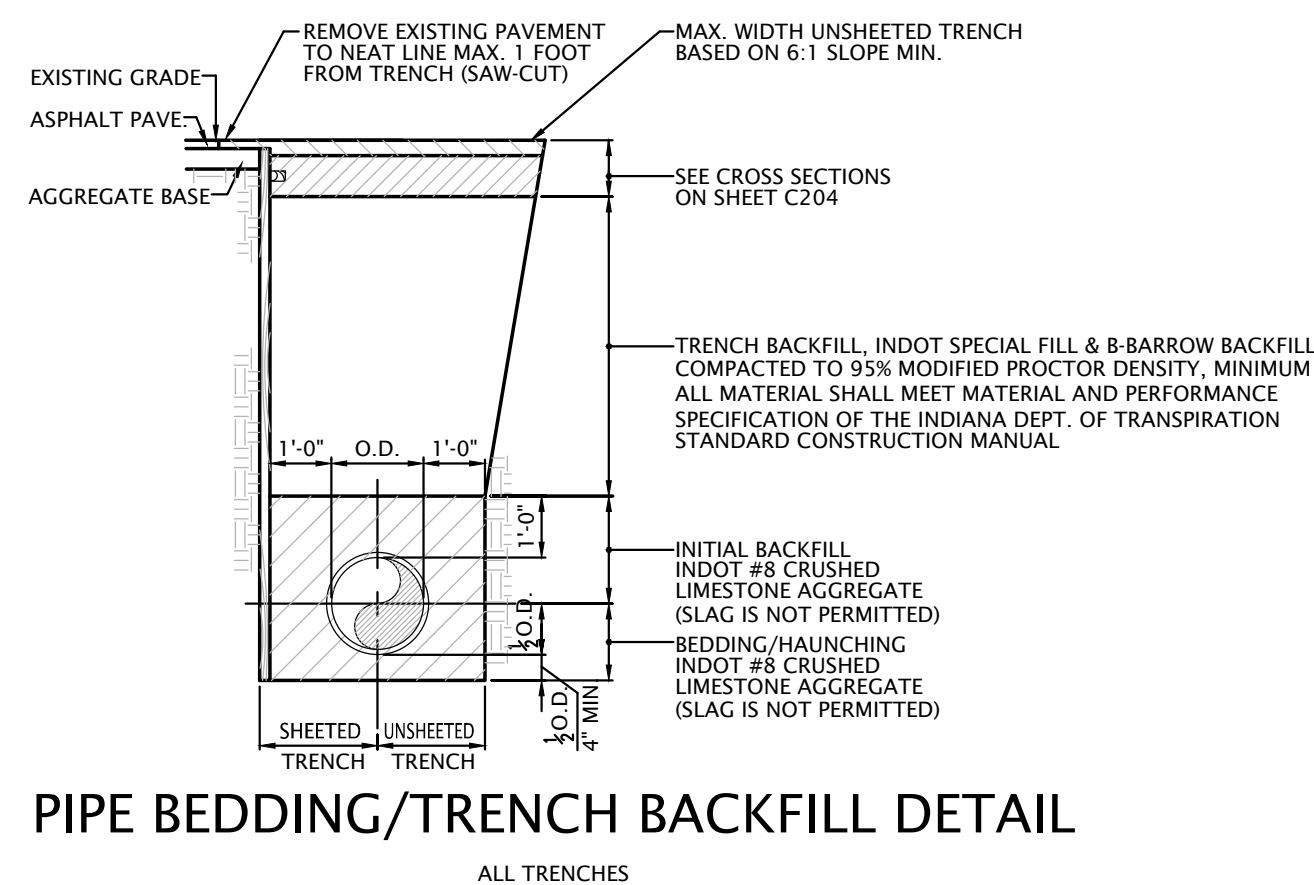
DATE: 05-16-16



L116

SITE DEVELOPMENT GENERAL NOTES

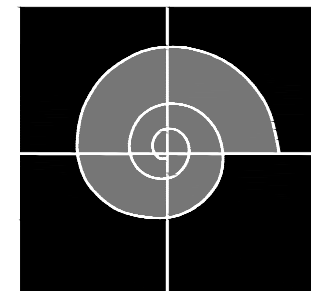
1. The Town of Munster, Development Visions Group (Engineer) and any Utility Company affected must be notified at least two working days prior to commencement of work. Prior to construction the contractor is to call Indiana 811 toll free at 1-800-382-5544.
2. Elevation Datum is U.S.G.C.S.
4. The locations of existing underground utilities, such as water mains, sewer, gas lines, etc., as shown on the plans have been determined from the best available information and is given for the convenience of the contractor. However, the engineer and the owner do not assume responsibility for the accuracy of the locations shown. It shall be the responsibility of the contractor to contact all utility companies and their facilities shall be located prior to commencement of any work.
5. Wherever obstructions not shown on the plans are encountered during the progress of the work and interfere to such an extent that alteration in the plans is required, the engineer shall be notified prior to any changes and any changes shall only be as approved via written instruction by the Engineer and also the local Municipal Engineer.
6. As-built drawings shall be prepared by the contractor and submitted to the engineer as soon as the project is completed. Any change in the length, location or alignment shall be shown in red. "AS BUILT" drawings shall be forwarded to the appropriate utility organizations. Four (4) copies shall be submitted to the Town Engineer.
7. All proposed sanitary sewer, storm sewer, water main and service lines under and within 5' of pavement, curbs, and sidewalk shall be backfilled with crushed limestone (gradation #53) or material consistent with Class I or II material as described in ASTM D2231 placed in 8" maximum layers and mechanically compacted to 95% modified proctor density. Slag is not permitted.
8. Materials used for water, sanitary sewer, storm sewer and streets shall conform to the Town of Munster standards and specifications.
9. Any existing public improvements (sidewalks, curb and gutter, etc.), disturbed during construction shall be replaced in kind, or per current Town of Munster specifications as directed by the Town of Munster engineer.
10. All public street construction shall meet performance standards of the current edition of the Indiana Department of Transportation Standard Specifications.
11. Street signage shall be included in accordance with the MUCTD requirements applicable at the time of construction.



COMMON EXCAVATION AND EARTHWORK GENERAL NOTES

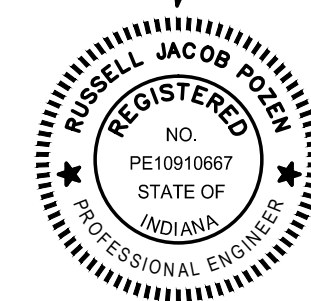
THESE PLANS HAVE BEEN DEVELOPED IN CONJUNCTION WITH SUBSURFACE GEOTECHNICAL REPORTS BY BOTH ALT WITZIG & ATC. THESE DOCUMENTS ARE PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT. THE PHASE 1 AREA IS KNOWN TO HAVE POCKETS OF UNSUITABLE FILL MATERIAL CONTAINED WITHIN THE SITE. THE UNSUITABLE FILL MATERIAL IS KNOWN TO CONTAIN MUNICIPAL SOLID WASTE, GRAVEL AND BRICK WASTE RUBBLE. ANY SUCH UNSUITABLE MATERIAL ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION OF THE UNDERGROUND UTILITIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER (DVG). ALL EXCAVATION AND UNDERGROUND UTILITY CONSTRUCTION SHALL BE INSTALLED ON SUITABLE TRENCH SUBGRADE OR ON OTHER MEANS TO STRUCTURALLY STABILIZE THE TRENCH AS DEFINED IN THESE PLANS. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND/OR PLANS CERTIFIED BY AN INDIANA PROFESSIONAL ENGINEER TO BE APPROVED BY DVG PRIOR TO IMPLEMENTING THE STABILIZATION METHOD.

- 1.0 Quality Assurance:
 1. Contractor shall notify the Construction Manager, Architect, Engineer and testing laboratory inspector when common excavation and earthwork is scheduled. Earthwork operations which require inspecting and testing by testing laboratory inspector shall not be performed unless testing laboratory inspector is present.
 2. Contractor shall provide a 1-year warranty against settlement and damage caused by settlement for common excavation and earthwork.
 3. If settlement occurs within 1 year after the date of Substantial Completion, the Contractor shall remove the affected surface feature, provide additional suitable fill, thoroughly compact and restore the surface feature to its original undisturbed condition.
- 2.0 Testing:
 1. An inspector from the Owner's soils testing laboratory shall, during the common excavation work operations, provide the following services:
 - a. Test & Classify on-site excavated soils for reuse as topsoil, common site fill, embankment fill and structural fill.
 - b. Test materials furnished from any off-site sources to verify compliance with specified requirements.
 - c. Observe proofing rolling of exposed subsoil in areas where grades will be raised and provide recommendations for soil correction to ensure that unstable materials have been removed.
 - d. Inspect placement and compaction of common site fill, embankment fill and structural fill to ensure the material being compacted is in accordance with specified requirements. For each lift, a minimum of 1 density test for every 10,000 square feet of lawn surface area, and 5,000 square feet of paved surface area, and 500 square feet of proposed building area is required.
 - e. Density tests are required for all subgrade/subsoil in areas that have been cut to rough grade elevations, after soils have been compacted to ensure soil compaction density is in accordance with the specified requirements. Test frequency shall be as described above in sub-paragraph 1.d..
 2. Tests and analysis of fill materials shall be performed in the laboratory in accordance with ASTM D1557.
 3. Testing shall be performed as directed by the Soils Report Engineer. Compaction Testing shall be performed in accordance with ASTM D2922 and D3017.
- 3.0 Special Weather Protection:
 1. Construction shall be limited during cold weather to prevent the formation of frost and snow accumulation to occur in materials used for site fill or in soils where site excavation is taking place. All areas that are scheduled for excavation activity shall be protected from freezing and snow accumulation. Any frozen material shall be removed and disposed of off site.
- 4.0 Clearing & Grubbing:
 1. Contractor shall provide all clearing, grubbing, removal and disposal of all vegetation and debris related to the existing site conditions.
 2. Vegetation debris shall be removed from site and transported to a local and state authorized disposal sites.
- 5.0 Top Soil Stripping:
 1. The project assumes a depth of topsoil variation throughout the site of approximately 12-inches. The Contractor shall strip and stockpile all topsoil at the location designated in the Site Development Drawings.
 2. Topsoil removal material shall consist of fertile, friable, organic surface soil stripped from the site and shall be free of subsoil, brush, turf grasses, weeds, roots, stumps, stones larger than 1-inch in diameter and other contaminated matter."
 3. Topsoil shall be stockpiled so that it may be reused and re-spread on site over Lawn and Landscaped areas.
 4. The topsoil stockpile area shall be properly protected against soil erosion into the adjacent drainage system.
- 6.0 Borrow Material/Embankment & Structural Fill Material:
 1. Borrow material for structural fill shall be first excavated from on site source locations as defined by the Soils Report Engineer.
 2. Structural fill material shall be placed under all utility trench corridors, building pad locations, paved parking, driveway, sidewalk and roadway areas.
 3. Common site and embankment fill shall be placed under lawn, landscape and detention pond areas.
 4. Maintain moisture content of structural fill within plus or minus 3 percent of the optimum moisture content as determined by the Modified Proctor Test.
 5. Contractor shall provide subgrade conditions meeting the design grades for pavements, exterior walks, curbs and building pads.
 6. Contractor shall only place approved fill material under proposed building pads and parking areas
 7. Contractor shall undercut any areas that do not meet the requirements for structural fill and shall replace with structural fill.
- 7.0 Excavation:
 1. Protect all existing natural features on site.
 2. Install soil erosion prevention measures in accordance with local and state ordinances and in accordance with the soil erosion control project drawings.
 3. All proposed contours shown on this set of plans are proposed subgrade. All fill shall be placed as structural fill for buildings and parking lots.
- 8.0 Compaction:
 1. Exercise care when compacting exposed soils relative to water table, rain or other moisture conditions.
 2. Maintain moisture content of embankment material and structural fill material near optimum as recommended by the soils testing laboratory and Soil Boring Engineer. Maintain optimum moisture content of backfill and fill material to attain the required compaction density.
 3. Backfill common site fill, embankment fill, structural fill and utility trenches to contours and elevations defined on the project site development plans.
 4. Systematically backfill to allow maximum time for optimum compaction and do not backfill over porous, wet or spongy subgrade surfaces.
 5. Employ a soils placement and compaction method that does not disturb or damage work performed and that maximizes soil compaction.
 6. All common site, embankment and structural fill shall be place and compacted in continuous layers/lifts not exceeding 8-inches loose depth.
 7. Compact subsoil for structural fill to 97% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all building pad locations.
 8. Compact subsoil for structural fill to 95% of Modified Proctor Maximum Dry Density (ASTM D1557) beneath all pavement areas and utility corridor trenches.
 9. Compact subsoil for common site fill and embankment fill to 90% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all lawn, landscape and detention pond areas.
 10. Compact subsoil under building pad area to achieve soil-bearing capacities of 3,000 psf at a distance of 4-feet below the proposed finish floor elevations of all building ads.
 11. If tests indicated work does not meet specified requirements, all sub-standard work shall be immediately removed, replaced and retested at no expense to the Owner.



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 Development Consulting
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 Crown Point, IN 46307
 (219) 662-7710 Fax (219) 662-2740

Handwritten signature



04-19-16

**Centennial Village
 L.L.C.**
 9615 Boulevard Drive
 Highland, IN 46322

DVG # 14-C-1011	DATE:
REVISIONS AND NOTES:	

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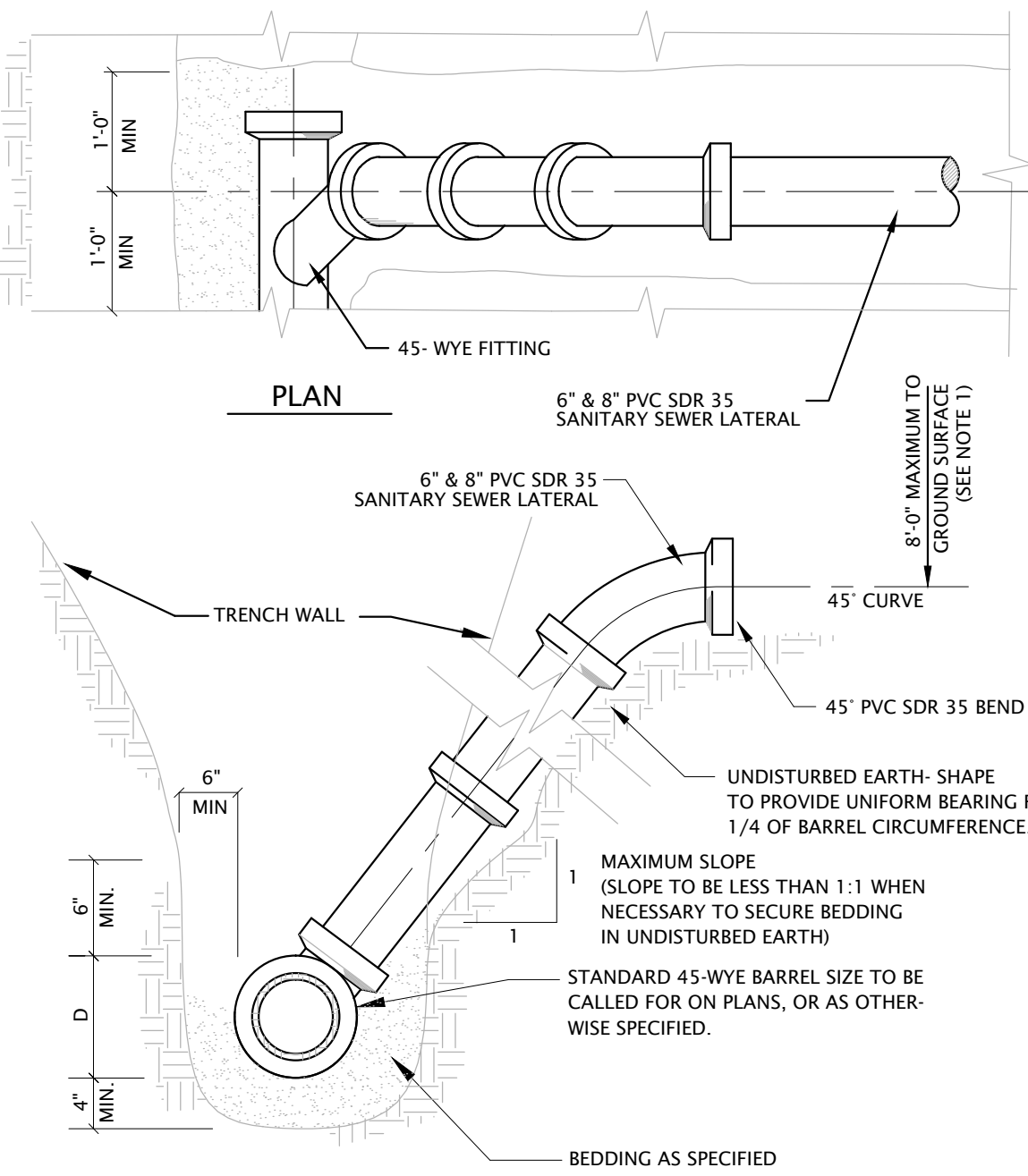
**Centennial Village
 Munster, Indiana**
Construction Details

SCALE: NTS
DESIGN BY: DVG
DRAWN BY: DVG
DATE: 04-19-16

C201

SANITARY SEWER GENERAL NOTES

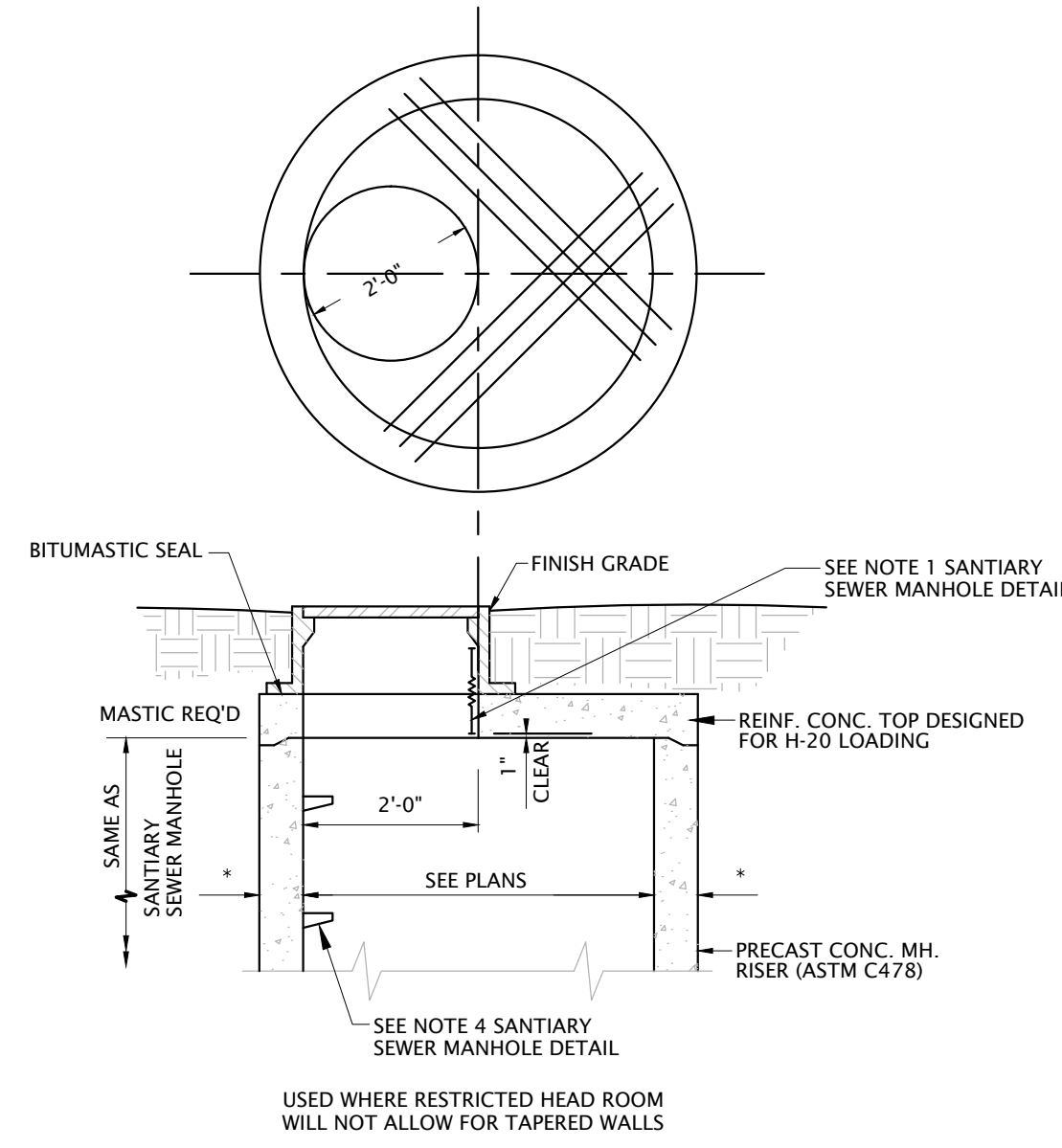
1. All Floor Drains shall discharge to the sanitary sewer.
2. Sanitary sewer pipe shall be PVC (SDR 26) ASTM D-3034 with push-on rubber gasket joints and shall be in accordance with ASTM C-3212, unless otherwise noted on the plans for portions to be PVC (SDR 21).
3. All sanitary sewer manholes shall be air tested for leaks in accordance with ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test.
4. Where ductile iron pipe is used for sanitary sewer, the pipe shall be in accordance with ANSI A-21.51 and the joints in accordance with ANSI A-21.11.
5. A deflection test shall be performed on each flexible pipe following the elapse of thirty (30) days after the placement of the final backfill. No pipe shall exceed a deflection of five percent (5%) or greater. The diameter of the rigid ball or mandrel used for a deflection test shall be no less than ninety-five percent (95%) of the base inside diameter of the pipe to be tested dependent on what is specified in the corresponding ASTM standard. The test shall not be performed with the aid of a mechanical pulling device.
6. A leakage test shall be performed using one of the following leakage test types.
 - a.) A hydrostatic test shall be performed with a minimum of two (2) feet of positive head. The rate of exfiltration or infiltration shall not exceed two hundred (200) gallons per inch of pipe diameter per linear mile per day.
 - b.) An air test shall conform to ASTM F1417-92, Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, for plastic pipe.
7. All sanitary sewer shall be inspected by the Town of Munster.



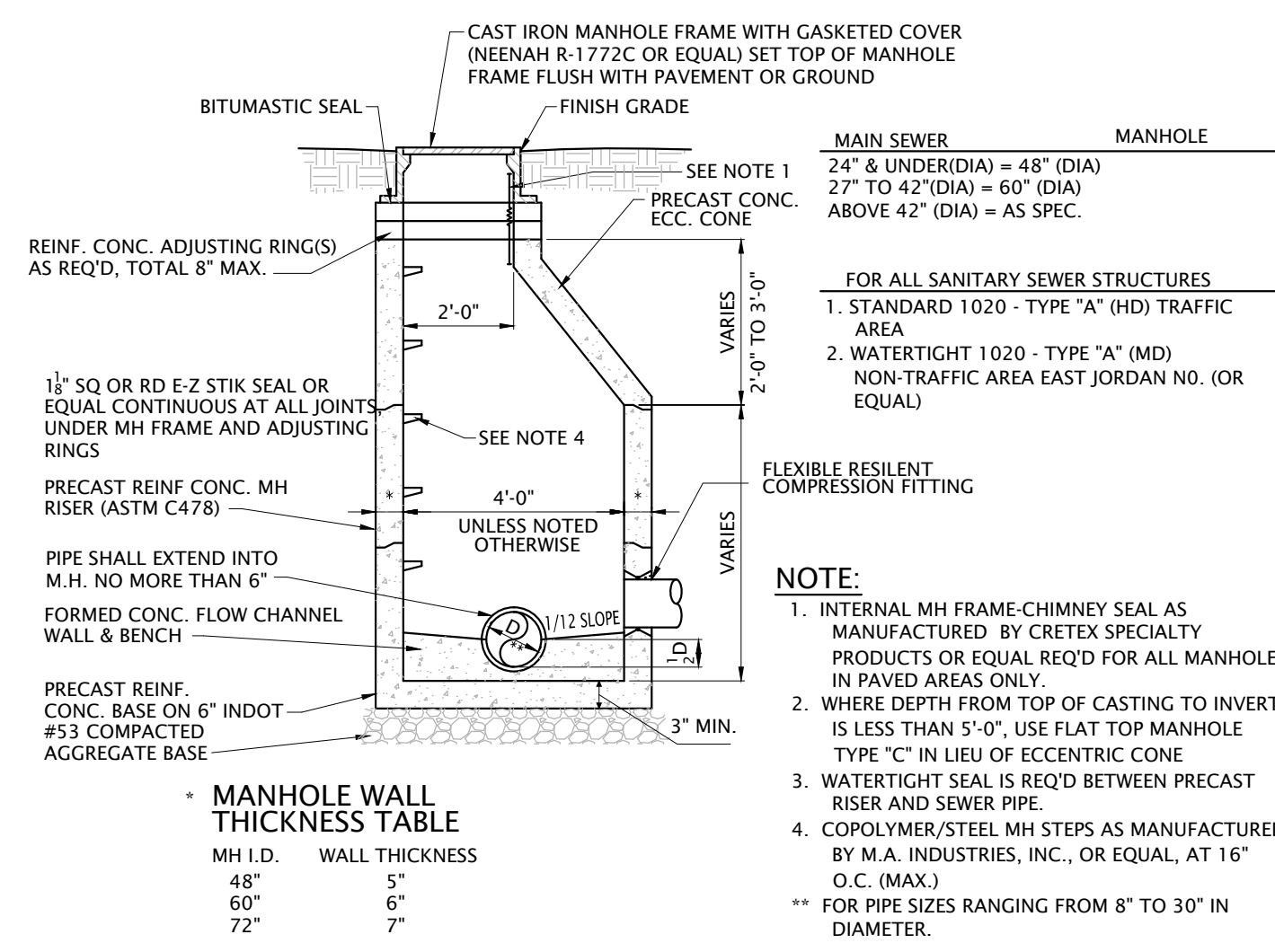
- NOTES:
1. RISERS TO BE CONSTRUCTED IN LIEU OF WYES WHERE SEWER DEPTH EXCEEDS 10'-0". FOR PIPE MATERIAL AND CONCRETE SEE SPECIFICATIONS.
 2. ALL SANITARY SEWER SERVICE LATERALS SHALL BE PLUGGED WITH A WATERTIGHT CAP & SHALL BE LOCATED WITH 4"x4" WOOD MARKERS TO IDENTIFY THE LATERAL END

SANITARY SEWER SERVICE DETAIL

SEE PLANS FOR SERVICE SIZE
NOT INCLUDED IN WORK (CONTRACTOR TO CONNECT TO SERVICE ALREADY PROVIDED)



MANHOLE TOP (FLAT TOP)



SANITARY SEWER MANHOLE

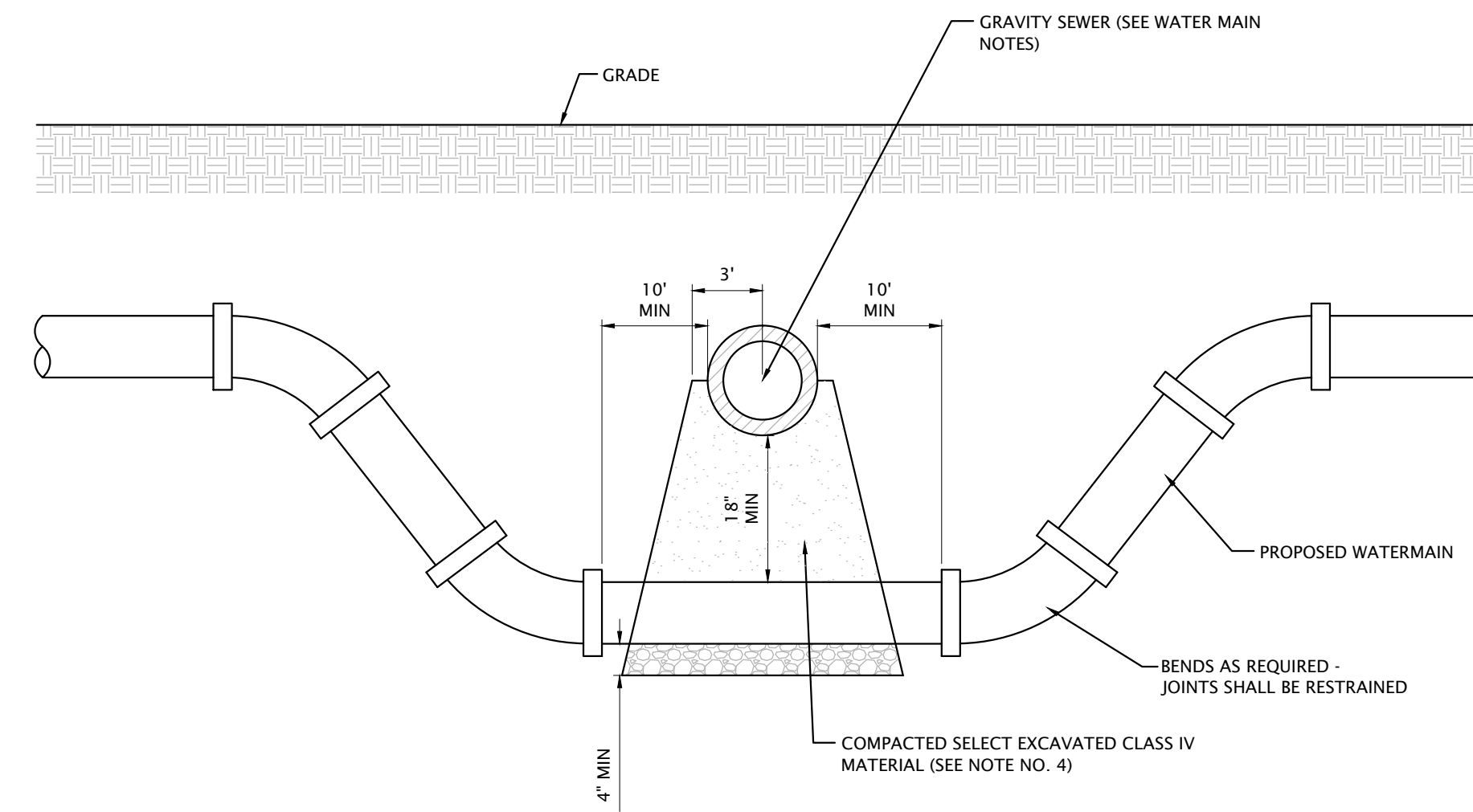
WATER MAIN GENERAL NOTES

1. All water mains, fittings, and valves shall be ductile iron cement lined pressure class 350 with rubber gasket push-on joints in accordance with ANSI A-21.51 & AWWA C 151. Water main joints shall conform to the requirements of AWWA C 111. Mechanical joints shall be restrained and shall use Meg-A-Lug as manufactured by EBA Iron Sales (or equal).
2. Water mains shall be laid at least 10' horizontally from any existing or proposed sanitary sewer, storm sewer, sewer manhole, drain or service connection as measured from outside edge of the water main to outside edge of the sewers or manhole. If local conditions prevent horizontal separation of 10 feet, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).
3. When water mains cross any existing or proposed sanitary or storm sewers (sewers), there shall be at least 18 inches vertical separation between the outside edge of the water main and the outside edge of the sewer. This shall be the case where water mains cross above or below sewers. This crossing must be at a minimum angle of forty-five (45) degrees measured from the centerline of each. All these conditions specified shall be maintained for a minimum distance of ten (10) feet from either side of the water main. If vertical separation specified herein cannot be met, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).
4. For additional separation requirements between water mains and sewers, the Contractor shall refer to the Indiana Administrative Code 327 IAC 8 and IAC 3.
5. All water main shall be installed in accordance with IAC 8-3.2-17. The contractor shall provide pressure and leak testing results conforming to IAC 8-3.2-17(a).
6. All water main shall be disinfected in accordance with IAC 8-3.2-18.
7. Water services shall be installed as required at the time of individual lot development. Service sizes to be determined by building requirements.
8. Water services shall have an outside shut-off valve located per the direction of the Municipal Utility Director. Separate services and shut-offs are required for domestic service and fire protection.

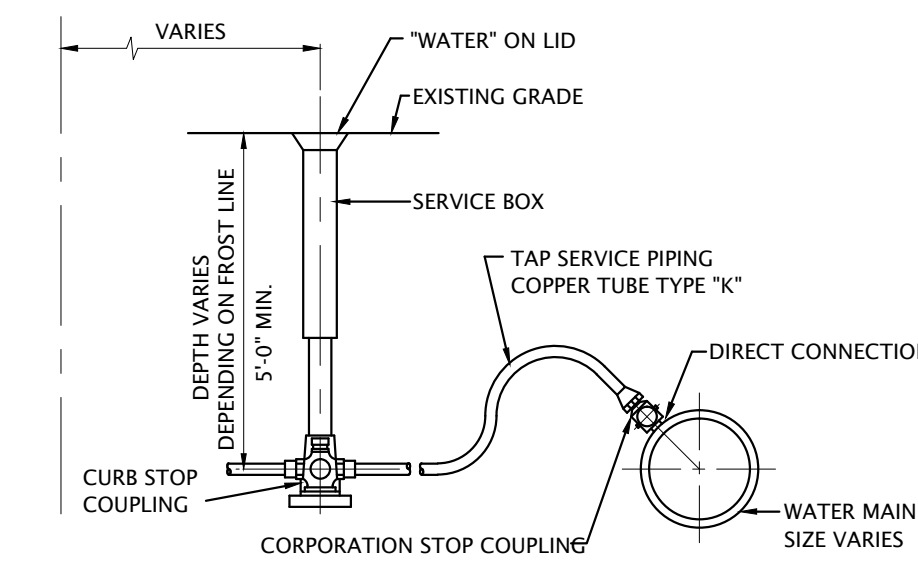
PIPE SIZE (INCHES)	TEE* BRANCH	90° ELBOW	45° ELBOW	22 1/2° ELBOW	11 1/4° ELBOW	DEAD ENDS
4	0	15	6	3	2	20
6	9	22	9	4	2	28
8	18	27	11	5	3	37
10	25	33	14	7	3	44
12	33	39	16	8	4	52
14	41	44	18	9	4	60
16	48	50	21	10	5	68
18	56	55	23	11	5	75
20	63	61	25	12	6	82
24	77	71	29	14	7	96
30	97	86	36	17	8	116
36	116	100	41	20	10	135

* ONE FULL LENGTH (18') OF PIPE ON BOTH SIDES OF BRANCH TO BE RESTRAINED.
INCREASE ALL LENGTHS IN TABLE BY 75% FOR USE ON POLYETHYLENE WRAPPED DUCTILE IRON PIPE OR PVC PIPE.
TEST PRESSURE BASED ON 150 PSI.

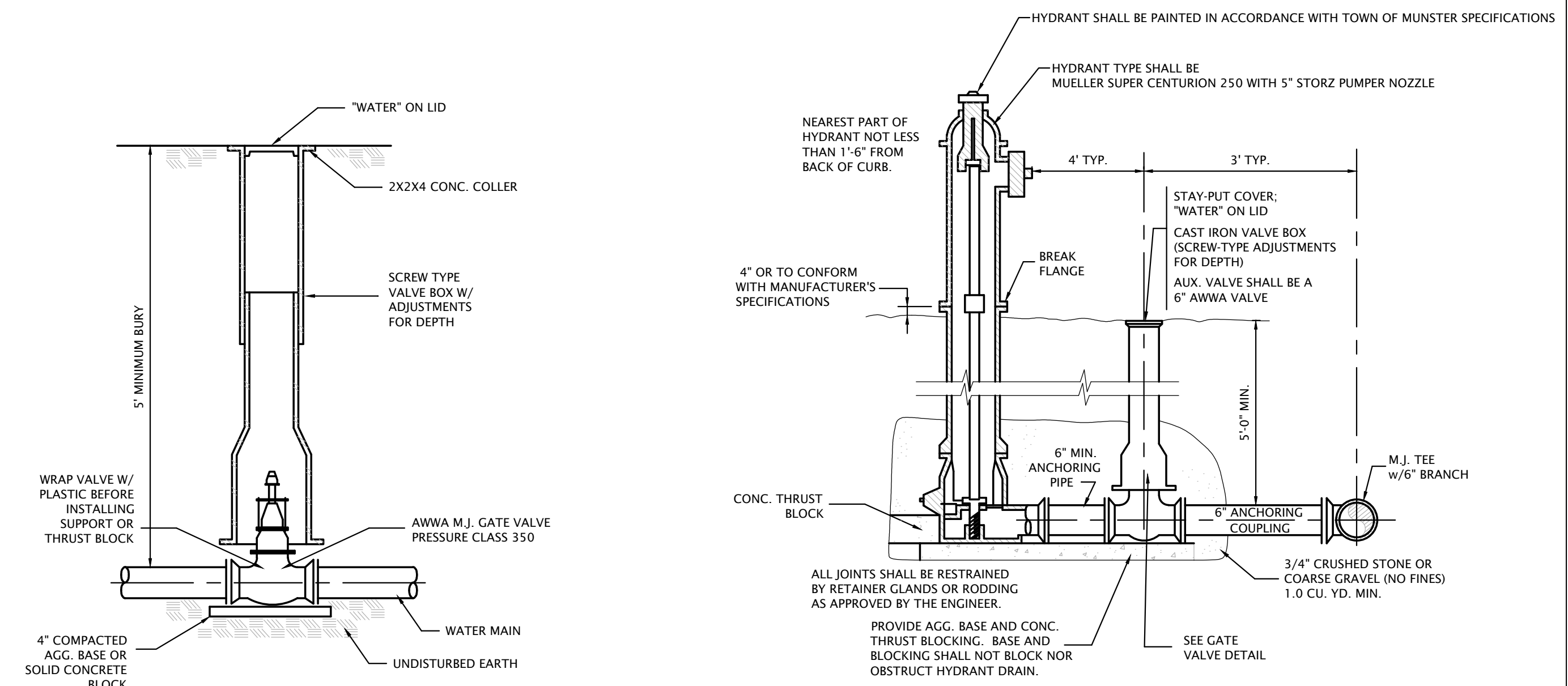
RESTRAINED PIPE LENGTH TABLE



SANITARY/STORM SEWER & WATER MAIN CROSSING



TYPICAL TAP SERVICE PIPING



MAIN LINE WATER VALVE, 12" OR SMALLER

FIRE HYDRANT ASSEMBLY (TYPE "A")

DVG Inc.
Project Management and Development Consulting
11065 Broadway, Suite D
Crown Point, IN 46307
(219) 662-7710 Fax: (219) 662-2740

04-19-16

Centennial Village
L.L.C.
9615 Boulevard Drive
Highland, IN 46322

DWG #	14-C-1011
REVISIONS AND NOTES:	DATE:

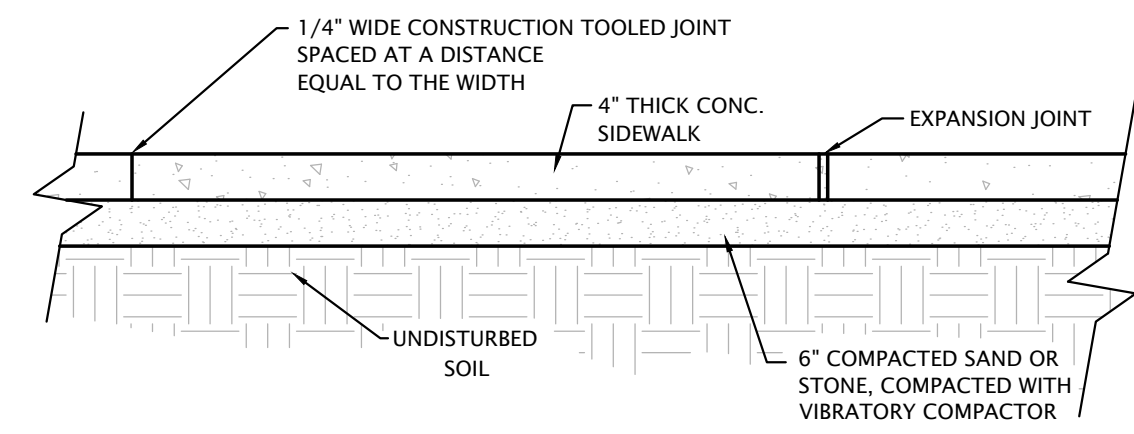
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Centennial Village
Munster, Indiana
Construction Details

SCALE: NTS
DESIGN BY: DVG
DRAWN BY: DVG
DATE: 04-19-16

C202

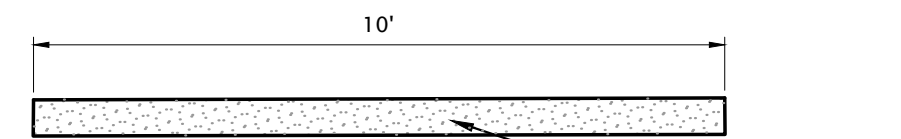
ASPHALT AND CONCRETE WORK DETAILS



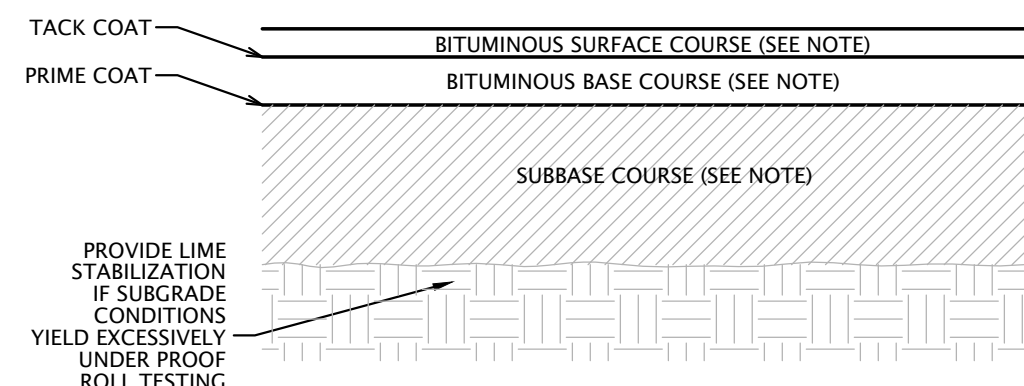
SIDEWALK DETAIL

CONCRETE FLAT WORK NOTES

1. PROVIDE 3/4 INCH EXPANSION JOINT CONFORMING TO ASTM D 1751 ALONG BACK OF CURBS, DRIVEWAYS, STEPS, WALLS AND ACROSS THE SIDEWALK AT INTERVALS NOT TO EXCEED 40 FEET.
2. EXTEND EXPANSION JOINT MATERIAL FULL DEPTH OF THE SLAB.
3. PROVIDE TOOLED "V-GROOVE" CONTROL JOINT SPACED AT A DISTANCE EQUAL TO THE WIDTH OF THE WALK BUT NO OVER 8 FEET APART, OR AS SPECIFIED ON THE ARCHITECTURAL SITE PLAN.
4. CONCRETE SHALL BE CLASS A MEETING THE REQUIREMENTS OF THE MOST RECENT INDOT STANDARD SPECIFICATIONS MANUAL.
5. ALL CONCRETE FLAT WORK SHALL BE REINFORCED WIRE MESH 6"x6"x10/10, OR BE FIBER MESH REINFORCED CONCRETE.



TEMPORARY STONE BIKE PATH

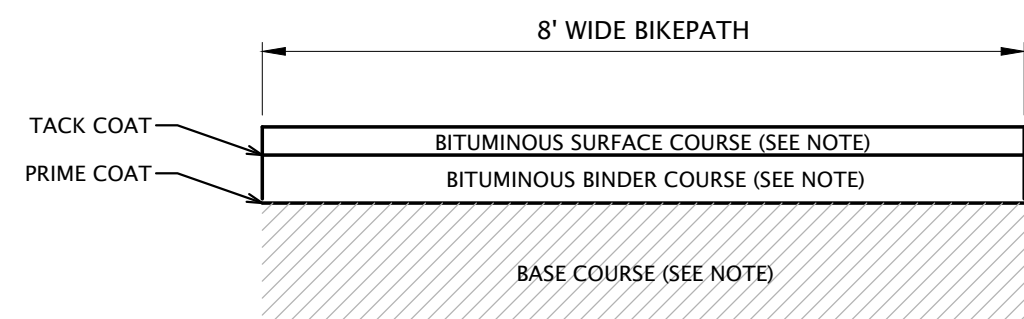


SURFACE COURSE
SURFACE COURSE SHALL BE 1 1/2" INDOT HMA, Surface, 9.5mm, Type A

BASE COURSE
SURFACE COURSE SHALL BE 3" INDOT HMA, Base, 25.0mm, Type A

SUBBASE COURSE
BASE COURSE SHALL BE 10" OF NO. 53 AGGREGATE OVER GEOGRID BX 1100 OR EQUAL OVER APPROVED PROOF-ROLLED SUBGRADE

PAVEMENT CROSS SECTION

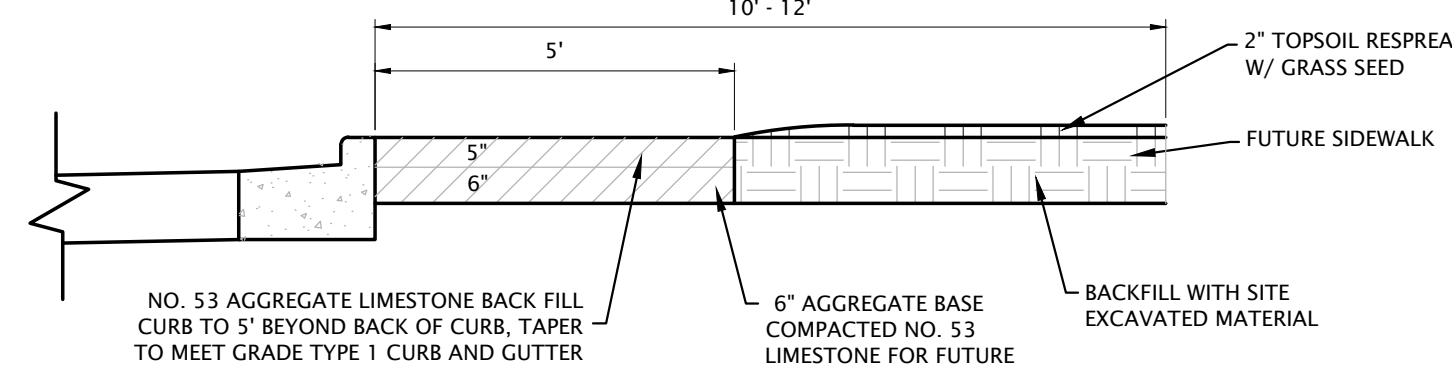
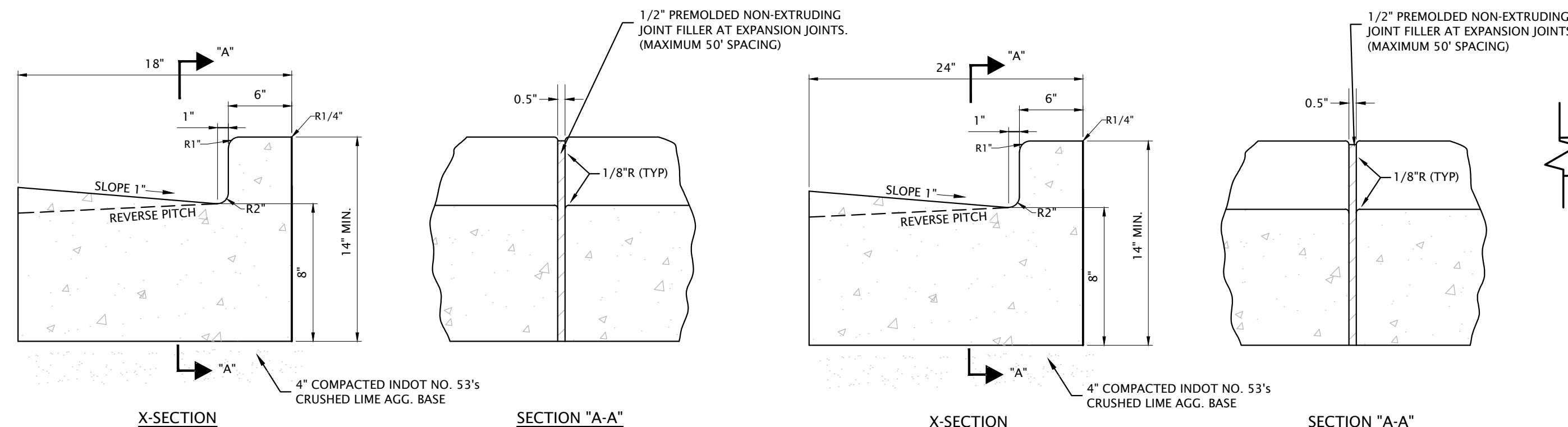


SURFACE COURSE
SURFACE COURSE SHALL BE 1 1/2" INDOT HMA, Surface, 9.5mm, Type A

BASE COURSE
SURFACE COURSE SHALL BE 2" INDOT HMA, Base, 25.0mm, Type A

SUBBASE COURSE
BASE COURSE SHALL BE 8" OF NO. 53 LIMESTONE AGGREGATE OVER NON-WOVEN, NEEDLE PUNCHED GEOFABRIC OVER APPROVED PROOF-ROLLED SUBGRADE

ASPHALT BIKE PATH CROSS SECTION



CURB BACKFILL DETAIL

A.D.A. NOTES AND DETAILS

A CURB RAMP(S) MUST BE PROVIDED ALONG AN ACCESSIBLE PATH FROM THE PARKING LOT TO OWNERS CURBED SIDEWALK.

A CURB RAMP(S) MUST ALSO BE PROVIDED IN THE PARKING LOT AT ALL INTERMEDIATE AND PERIMETER CURBS ALONG THE ACCESSIBLE ROUTE CONNECTING TO PUBLIC SIDEWALKS.

A RAMP IS ANY SLOPE GREATER THAN 1:20 (5%) AND SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.33%). THE MAXIMUM SLOPE IS 1" OF RISE PER FOOT OF DISTANCE TRAVELED.

A RAMP SHALL HAVE A DETECTABLE SURFACE IDENTIFYING THE AREA OF THE RAMP. THIS IS MOST COMMONLY DONE WITH PERPENDICULAR LINES SPACED 2" ON CENTER SCORED INTO THE SURFACE OF THE CONCRETE RAMP, A MINIMUM OF .3" DEEP.

CURB RAMP(S) OR SIDEWALK RAMP(S) LEADING DOWN INTO A PATH OF VEHICLE TRAFFIC MUST HAVE A DETECTABLE WARNING FEATURE EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP (MID-WALK "IN-LINE" RAMP(S) ONLY NEED DETECTABLE WARNINGS AT WALK/PARKING TRANSITION). THE DETECTABLE SURFACE MUST CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES, A HEIGHT OF NOMINAL 0.2 INCHES AND A CENTER TO CENTER SPACING OF NOMINAL 2.35 INCHES. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

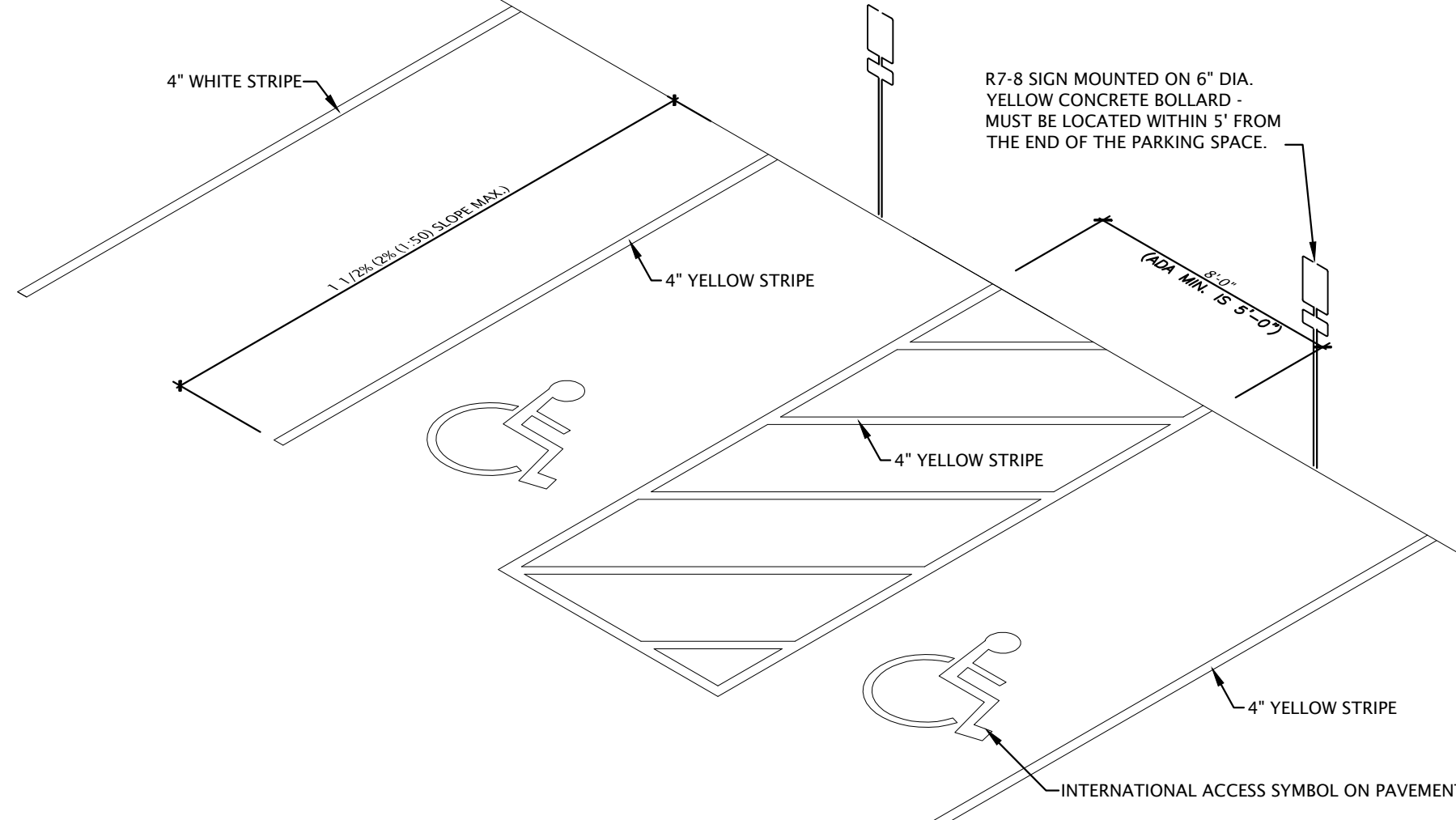
ADA DETECTABLE WARNING STRIPS SHALL BE A CAST IN PLACE DETECTABLE/TACTILE WARNING TILE. THE TILE MUST MEET ALL ADA REQUIREMENTS, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. A 5-YEAR WARRANTY SHALL BE PROVIDED BY THE MANUFACTURER FOR THE INSTALLED TILE FOR COLORFASTNESS AND DURABILITY. DETECTABLE/TACTILE WARNING TILE SHALL BE ARMOR-TILE, ACCESS-TILE OR AN APPROVED VENDOR.

ADA DETECTABLE WARNING TILE SHALL BE ORIENTATED PERPENDICULAR TO THE PEDESTRIAN TRAVEL DIRECTION. SKEWED PLACEMENT TO MATCH A RADIUS IS NOT ALLOWED.

THE LEADING EDGE OF THE DETECTABLE WARNING TILE MUST BE CLOSER THAN 5' FROM THE VEHICLE SURFACE, AND HAVE A MINIMUM OF 24" LENGTH ALONG THE PEDESTRIAN TRAVEL DIRECTION. THE TILE MAY BE CUT TO MATCH A RADIUS AT THE CURB IF ONE END OF THE RAMP EXCEEDS THE 5' MINIMUM.

THE CLEAR WIDTH OF ANY RAMP MEASURED PERPENDICULAR TO THE PEDESTRIAN TRAVEL DIRECTION IS A MINIMUM OF 36".

THERE ARE LOCAL JURISDICTIONS THAT SPECIFICALLY REQUIRE DETECTABLE WARNINGS ON THE SIDE FLARES OR TOP OF RAMP (CA). THERE ARE LOCAL JURISDICTIONS THAT HAVE REDEFINED DETECTABLE WARNINGS (E.G. EXPOSED CONTRASTING COLOR AGGREGATE, GROOVES IN A PARALLEL OR DIAMOND PATTERN ETC.). ACCESSIBILITY GUIDELINES DEFINED BY LOCAL ORDINANCE SHOULD SUPERSEDE WHEN MORE STRINGENT THAN ADAAG. IN THE ABSENCE OF A DEFINITION, FOLLOW ADAAG.



TYPICAL ADA PARKING SPACE PLAN

ACCESSIBLE PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING ENTRANCE.

THE ACCESS AISLE SHALL BE DESIGNATED WITH HIGH QUALITY YELLOW DIAGONAL SURFACE PAINT STRIPING.

RAMP(S) MUST NOT EXTEND OUT FROM THE CURB INTO THE ACCESS AISLE OF ANY ACCESS PARKING SPACE.

ADA ALLOWS TWO PARKING SPACES TO SHARE AN ACCESS AISLE.

- STRIPING NOTES:**
1. PAINTED CROSSWALKS SHALL BE WHITE 18" WIDE STRIPES 6' LONG, SPACED 36" ON CENTER ACROSS THE ENTIRE LENGTH OF THE CROSSING.
 2. PAINT 2" BLACK OUTLINE AROUND ARROWS AND LETTERS IN AREAS OF CONCRETE SURFACE.
 3. PARKING SPACES ARE TO BE "WHITE" - 4" WIDE STRIPES
 4. ADA SPACES, ADA MARKING, AND ADA ACCESS SPACE ARE TO BE "BLUE" - 4" WIDE STROKES.

ACCESSIBLE SPACE REQUIREMENTS

TOTAL OFF STREET PARKING SPACES PROVIDED	NUMBER OF ACCESSIBLE PARKING SPACES REQUIRED
1 TO 25	1
26 TO 50	2
51 TO 75	3
76 TO 100	4
101 TO 150	5
151 TO 200	6
201 TO 300	7
301 TO 400	8
401 TO 500	9
501 TO 1000	2% OF TOTAL
OVER 1000	2% PLUS 1 FOR EACH 100 OVER 1000

PARKING STALL NOTES:
EACH ACCESSIBLE PARKING SPACE IS TO BE A MINIMUM OF 8 FEET WIDE AND HAVE A 96" MINIMUM ACCESS AISLE FOR VANS OR 60" ACCESS AISLE FOR CARS ADJACENT TO THE SPACE. THE ACCESS AISLE MAY BE ON EITHER THE DRIVER'S SIDE OR THE PASSENGER'S SIDE OF THE ACCESSIBLE SPACE. THIS APPLIES TO 45, 60, AND 90° PARKING.

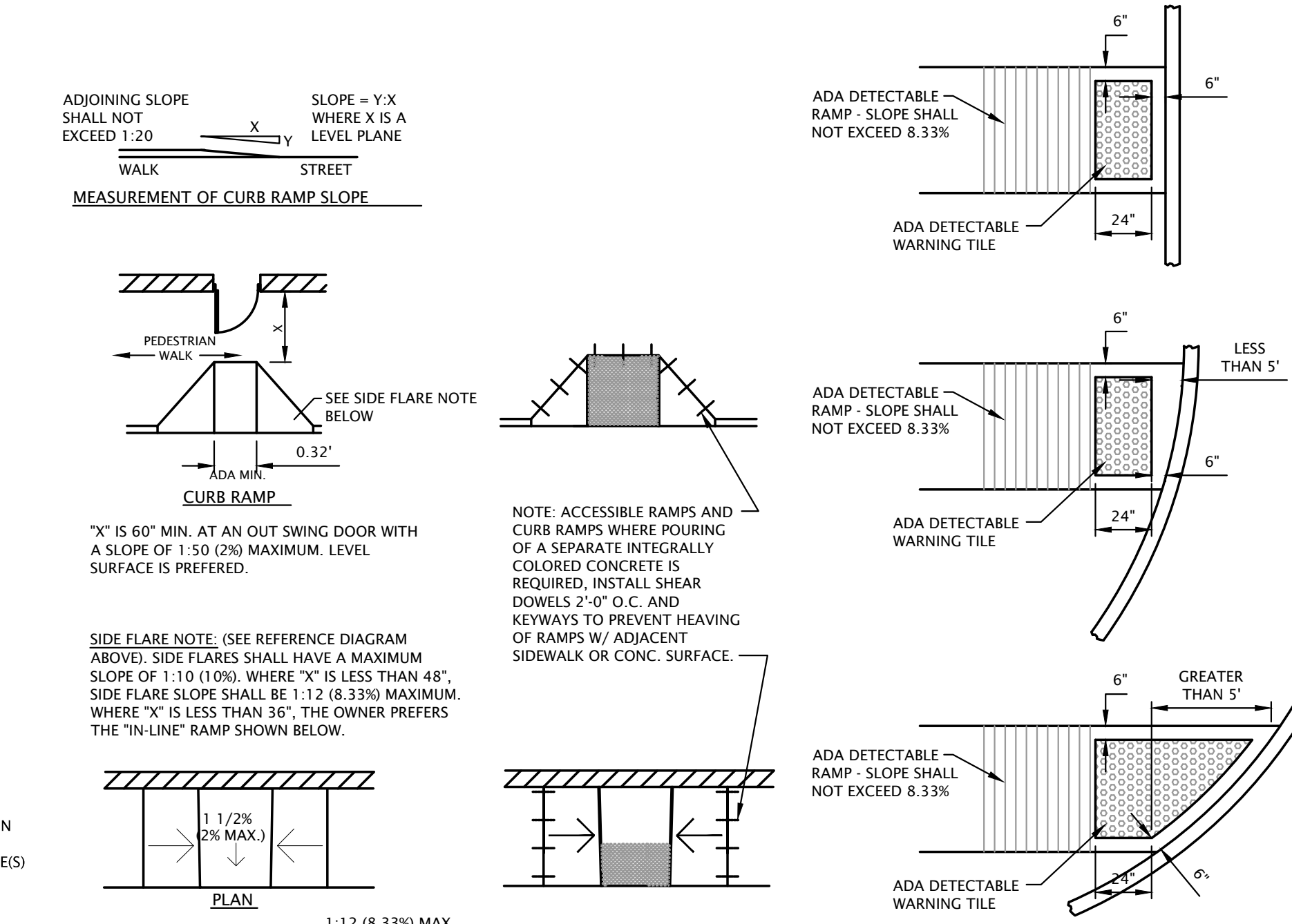
ACCESSIBLE PARKING SPACES ARE TO BE LOCATED AS CLOSE TO THE BUILDING ENTRANCE AS POSSIBLE AND SHALL BE IDENTIFIED WITH A SIGN.

ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH A SLOPE BETWEEN 1.5% AND 2% OR 1:50 IN ALL DIRECTIONS. THIS INCLUDES BOTH "RUNNING SLOPES" AND "CROSS SLOPES."

EACH PARKING SPACE ACCESS AISLE MUST CONNECT TO A COMMON LEVEL WITH AN ACCESSIBLE ROUTE... I.E., EACH ACCESS AISLE NEXT TO A PARKING SPACE MUST HAVE A CURB RAMP AT SIDEWALK OR BLEND TO A LEVEL WALKWAY LEADING TO THE ENTRANCE.

THE ADA REQUIRES ONE VAN ACCESSIBLE PARKING SPACE WITH 96" ACCESS AISLE FOR ONE IN EVERY EIGHT ACCESSIBLE SPACES, BUT NOT LESS THAN ONE.

ACCESSIBLE PARKING-SIZE AND MARKINGS

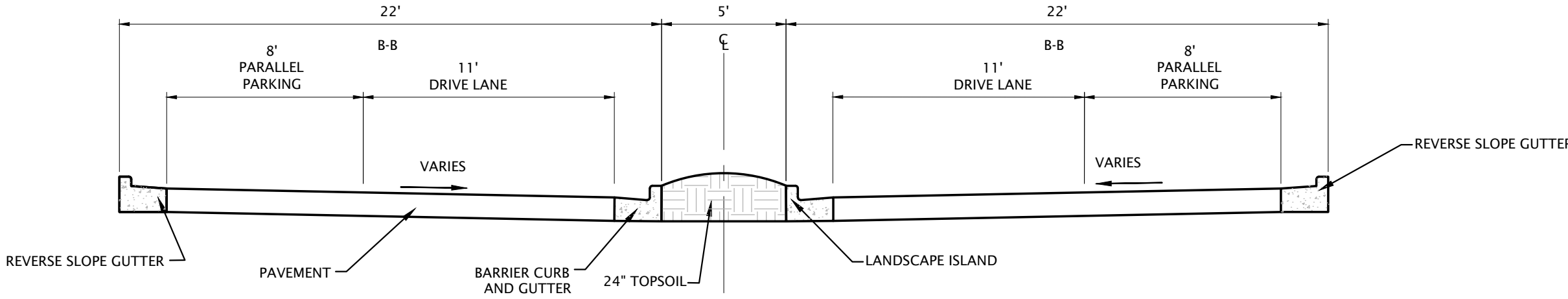


BARRIER CURB & GUTTER

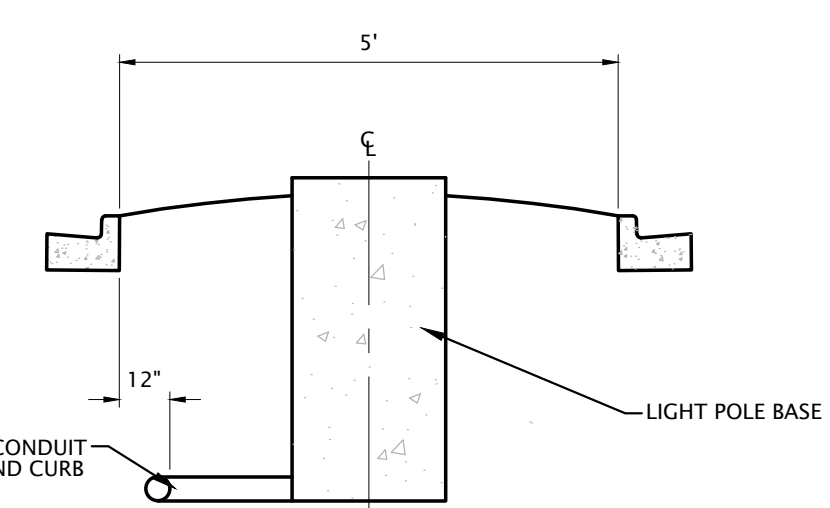
- NOTE:**
1. CONTRACTION JOINTS - CONTRACTION JOINTS SHALL BE PLACED AT EQUAL SPACES BETWEEN NORMAL EXPANSION JOINTS. CONTRACTION JOINTS SHALL BE SAW CUT IN THE UPPER 1/3 OF CURB AND GUTTERS WITHIN 7 DAYS OF PLACEMENT.
 2. 1/2" EXPANSION JOINTS AT MAXIMUM 50 FEET.
 3. CONTRACTION JOINTS AT MAXIMUM 20 FEET.

24" BARRIER CURB & GUTTER

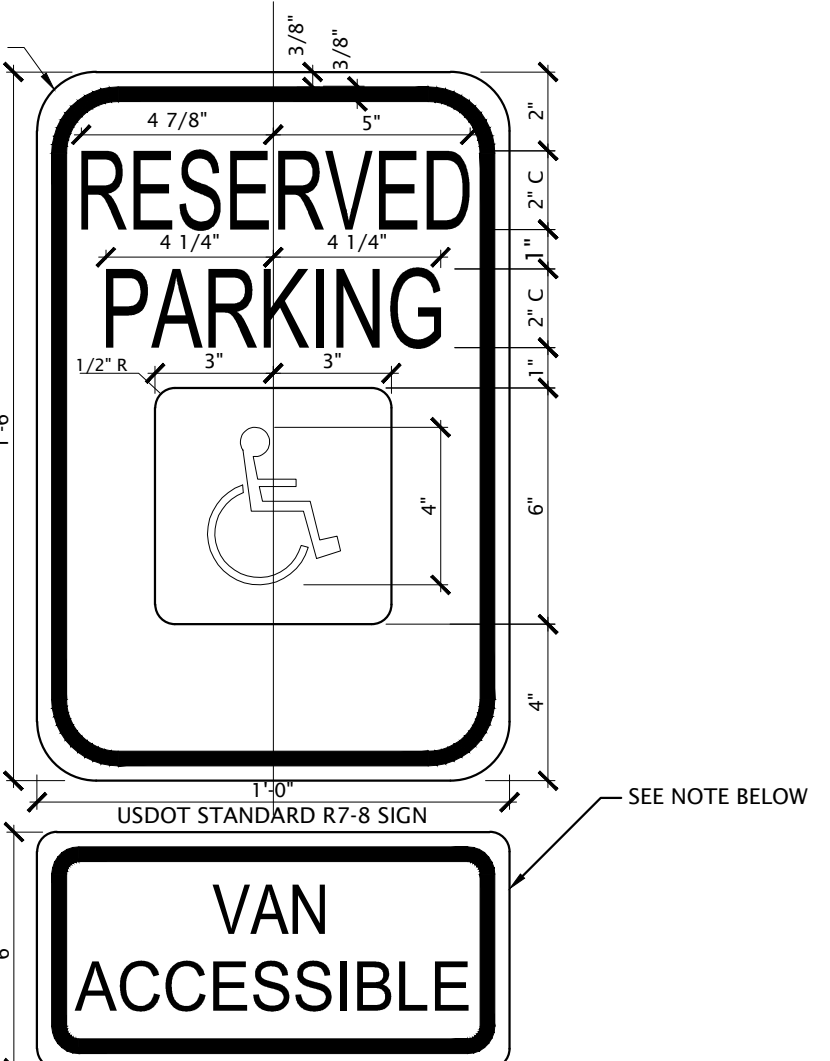
- NOTE:**
1. CONTRACTION JOINTS - CONTRACTION JOINTS SHALL BE PLACED AT EQUAL SPACES BETWEEN NORMAL EXPANSION JOINTS. CONTRACTION JOINTS SHALL BE SAW CUT IN THE UPPER 1/3 OF CURB AND GUTTERS WITHIN 7 DAYS OF PLACEMENT.
 2. 1/2" EXPANSION JOINTS AT MAXIMUM 50 FEET.
 3. CONTRACTION JOINTS AT MAXIMUM 20 FEET.



TYPICAL CROSS SECTIONS - CENTENNIAL DRIVE/VILLAGE PARKWAY



LANDSCAPE ISLAND SECTION



NOTE (R7-8 SIGN): THIS IS A STANDARD SIGN AND MAY BE ORDERED FROM ANY TRAFFIC SIGN SUPPLIER BY NUMBER. THE SIGN MUST BE SUPPLEMENTED WITH A "VAN ACCESSIBLE" SIGN AS APPLICABLE AND/OR AMOUNT OF THE FINE FOR ILLEGALLY PARKING IN THE RESERVED SPACES A MUNICIPALITY MAY IMPOSE. CONFIRM WITH LOCAL REGULATIONS.

A U.S. DEPARTMENT OF TRANSPORTATION R7-8 (RESERVED PARKING) AND SUPPLEMENTAL SIGNS AS NOTED ABOVE MUST BE MOUNTED ON A PERMANENT POST NO LOWER THAN FOUR FEET FROM THE PAVEMENT. THE POST MUST BE MOUNTED IN THE CENTER OF THE 8 FOOT WIDE ACCESSIBLE PARKING SPACE, NO MORE THAN 5 FEET FROM THE FRONT OF THE PARKING SPACE. SEE ILLUSTRATION ABOVE.

ADA SIGNAGE

ADA RAMPS

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Project Management and Development Consulting
11065 Broadway, Suite D
Crown Point, IN 46307
(219) 662-7710 Fax: (219) 662-2740

REGISTERED PROFESSIONAL ENGINEER
RUBEN JACOB POZAN
NO. PE10910667
STATE OF INDIANA
10-18-16

Centennial Village L.L.C.
9615 Boulevard Drive
Highland, IN 46322

DWG #: 14-C-1011

REVISIONS AND NOTES:	DATE:
ADDENDUM 04	10-18-2016

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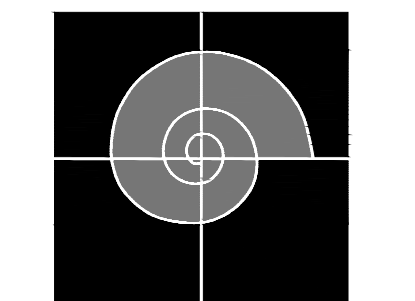
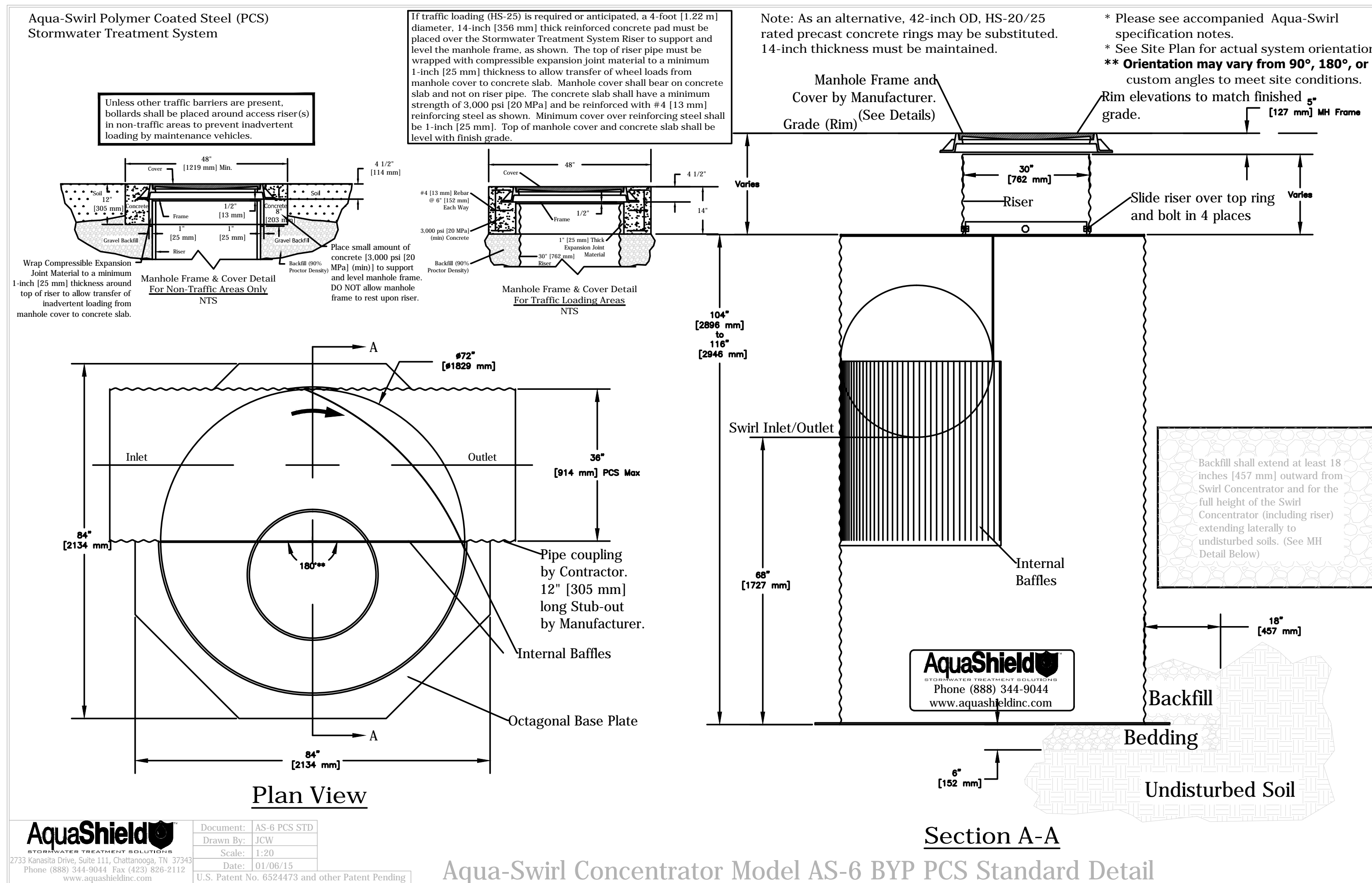
Centennial Village
Munster, Indiana

Construction Details

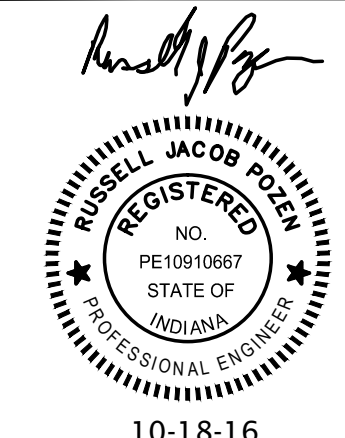
SCALE: NTS
DESIGN BY: DVG
DRAWN BY: DVG
DATE: 04-19-16

C204

HYDRODYNAMIC SEPARATOR DETAILS



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Crown Point, IN 46307
(219) 662-7710 Fax (219) 662-2740



Centennial Village L.L.C.
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Highland, IN 46322

DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	10-18-2016
ADDENDUM 04	

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Centennial Village Munster, Indiana
Construction Details

SCALE: NTS
DESIGN BY: DVG
DRAWN BY: DVG
DATE: 04-19-16

C206

EROSION CONTROL MEASURES

CHEMICAL STABILIZATION

MATERIAL: Soft pliable matting such as jute, coir or burlap, Applied Polymer Systems, "Silt Stop" dry powder (or Approved Equal)
COVERGE: "Silt Stop" dry powder is a soil specific material, a soil sample must be submitted to the manufacturer to determine proper application rates.

INSTALLATION:
 1. Prepare the site by filling in gullies, rills, low spots.
 2. Apply Silt Stop powder dry over dry ground with a seed/fertilizer spreader
 3. Select the type and weight of erosion control blanket to fit the site conditions (e.g., slope, channel, flow velocity).

MAINTENANCE:
 1. During vegetative establishment, inspect after storm events for any erosion.
 2. If any area shows erosion, repair the grade and reapply Silt Stop powder and re-lay and staple the blanket.
 3. After vegetative establishment, check the treated area periodically.

GEOTEXTILES

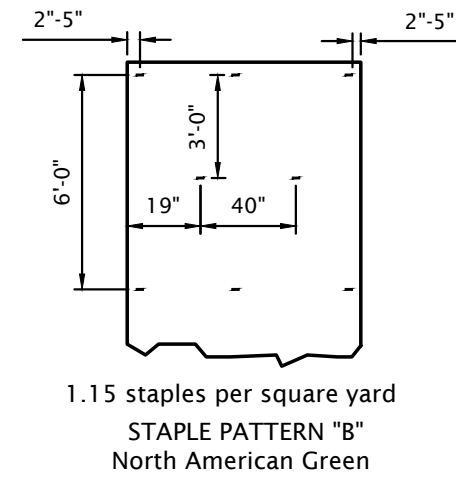
MATERIAL: North American Green - S 150 or DS 150 Blanket
 S 150 when placement occurs in the fall, and winter durability is required
 DS 150 degrades more rapidly allowing for sooner mowing of the stabilized area.

EROSION CONTROL BLANKET (SURFACE-APPLIED)

ANCHORING: Staples as recommended by the manufacturer. For North American Green use Staple pattern "B" - see chart below.

INSTALLATION:
 1. Select the type and weight of erosion control blanket to fit the site conditions (e.g., slope, channel, flow velocity).
 2. Install any practices needed to control erosion and runoff, such as temporary or permanent diversion, sediment basin or trap, silt fence, and straw bale dam.
 3. Grade the site as specified in the construction plan.
 4. Add topsoil where appropriate.
 5. Prepare the seedbed, fertilize (and lime, if needed), and seed the area immediately after grading.
 6. Follow manufacturer's directions, lay the blankets on the seeded area such that they are in continuous contact with the soil and that the upslope or upstream ones overlap the lower ones by at least 8 in.
 7. Tuck the uppermost edge of the upper blankets into a check slot (slit trench), backfill with soil, and tamp down.
 8. Anchor the blankets as specified by the manufacturer.

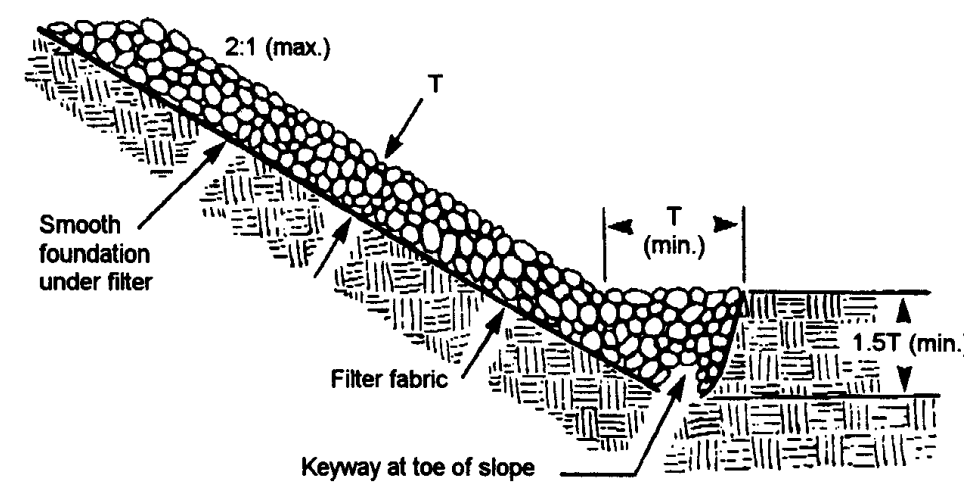
MAINTENANCE:
 1. During vegetative establishment, inspect after storm events for any erosion below the blanket.
 2. If any area shows erosion, pull back that portion of the blanket covering it, add soil, re-seed the area, and re-lay and staple the blanket.
 3. After vegetative establishment, check the treated area periodically.



RIP-RAP - Scour Protection

MATERIAL: Hard, angular, and weather-resistant, having a specific gravity of at least 2.5
GRADATION: Well-graded stone, 50% (by weight larger than the specified d_{50}), however, the largest pieces should not exceed two times the specified d_{50} , and no more than 15% of the pieces (by weight) should be less than 3 in.
FILTER: Use geotextile fabric for stabilization and filtration or sand/gravel layer placed under all permanent riprap installations.
SLOPE: 2:1 or flatter, unless approved in the erosion and sediment control plan.
MINIMUM THICKNESS: Two times the specified d_{50} stone diameter.

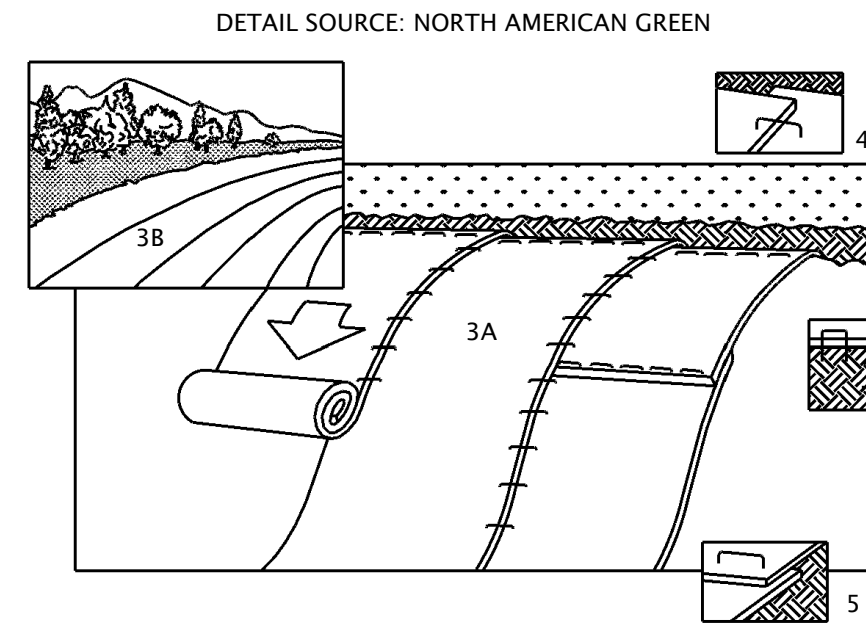
SUBGRADE PREPARATION:
 1. Remove brush, trees, stumps, and other debris.
 2. Excavate only deep enough for both filter and riprap. Over-excavation increases the amount of spoil considerably.
 3. Compact any fill material to the density of the surrounding undisturbed soil.



4. Cut keyway in stable material at the base of the slope to reinforce the toe. Keyway depth should be 1 1/2 times the design thickness of the riprap and should extend a horizontal distance equal to the design thickness.
 5. Smooth the graded foundation.

FILTER PLACEMENT:
 1. If using geotextile fabric, place it on the smoothed foundation, overlap the edges at least 12 in., and secure with anchor pins spaced every 3 ft. along the overlap.
 2. If using a sand/gravel filter, spread the well-graded aggregate in a uniform layer to the required thickness (6 in. min.); if two or more layers are specified, place the layer of smaller gradation first, and avoid mixing the layers.
RIPRAP PLACEMENT:
 1. Immediately after installing the filter, add the riprap to full thickness in one operation. (Do not dump through chutes or use any method that causes segregation of rock sizes or that will dislodge or damage the underlying filter material.)
 2. If fabric is damaged, remove the riprap and repair by adding another layer of fabric, overlapping the damaged area by 12 in.
 3. Place smaller rock in voids to form a dense, uniform, well-graded mass. (Selective loading at the quarry and some hand placement may be needed to ensure an even distribution of rock material.)
 4. Blend the rock surface smoothly with the surrounding area to eliminate protrusions or over-falls.
MAINTENANCE:
 1. Inspect periodically for displaced rock material, slumping, and erosion at edges, especially down-stream or down-slope.

EROSION CONTROL BLANKET (SIDE SLOPE APPLICATION)



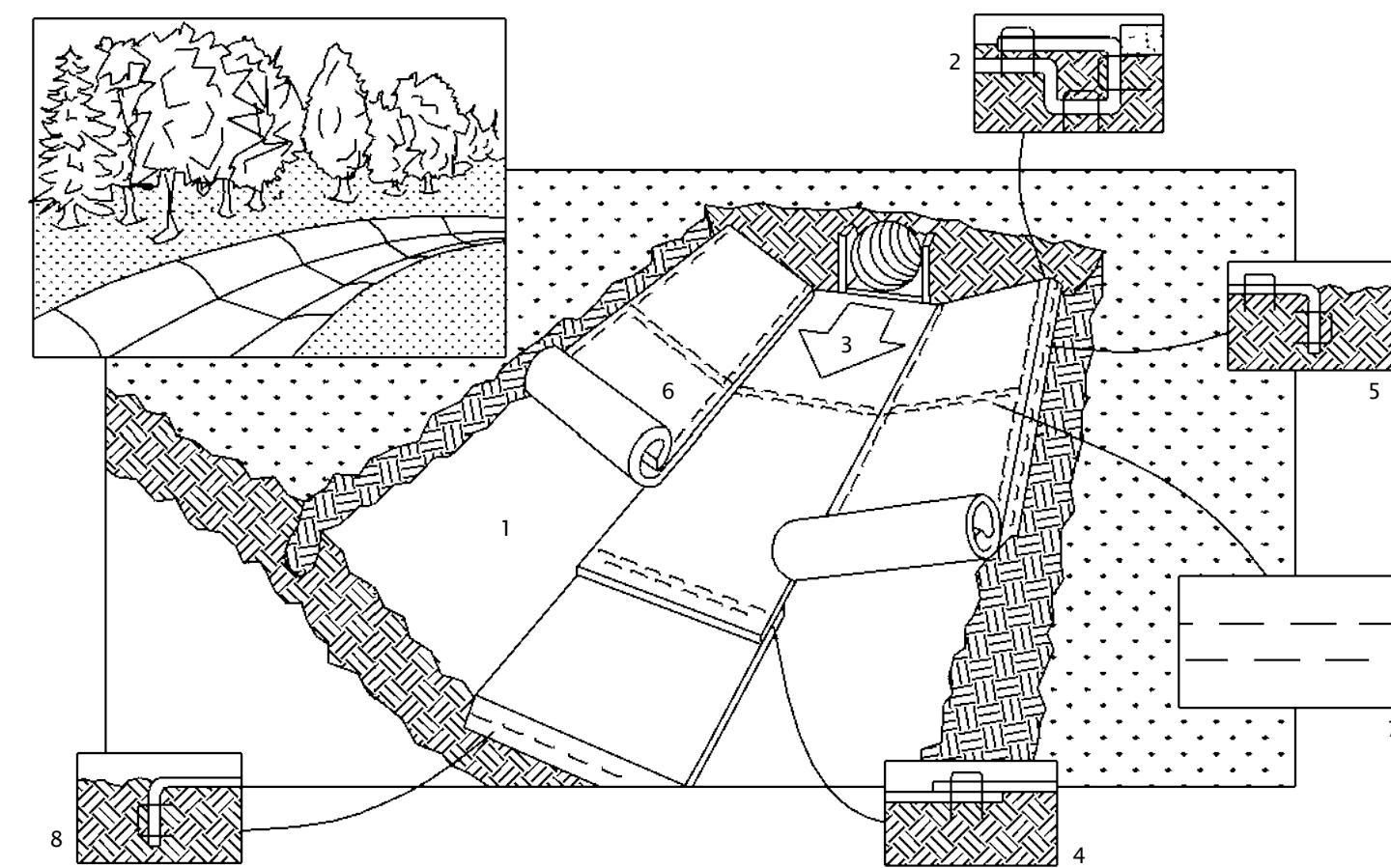
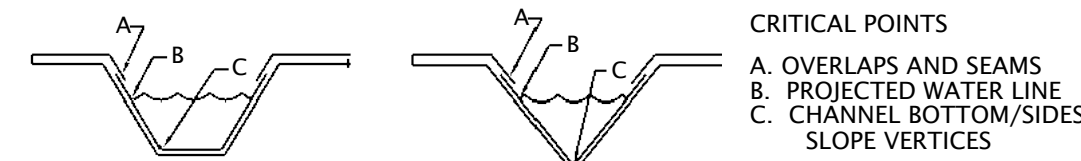
NOTE: Refer to general staple pattern guide for correct staple recommendations for channels.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS. INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
 5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

EROSION CONTROL BLANKET (CHANNEL APPLICATION)

DETAIL SOURCE: NORTH AMERICAN GREEN

NOTE: Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.
 Refer to general staple pattern guide for correct staple recommendations for channels.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS. INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
 4. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
 5. FULL LENGTH EDGE OF BLANKETS AT THE TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 6. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER OF BLANKET AND STAPLED (2" FOR C350 MATTING).
 7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
 8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

RIP RAP AT PIPE OUTLET

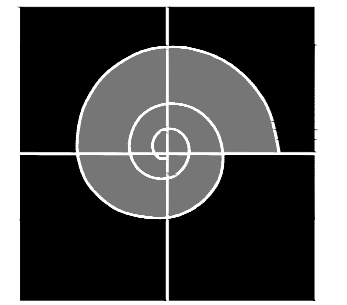
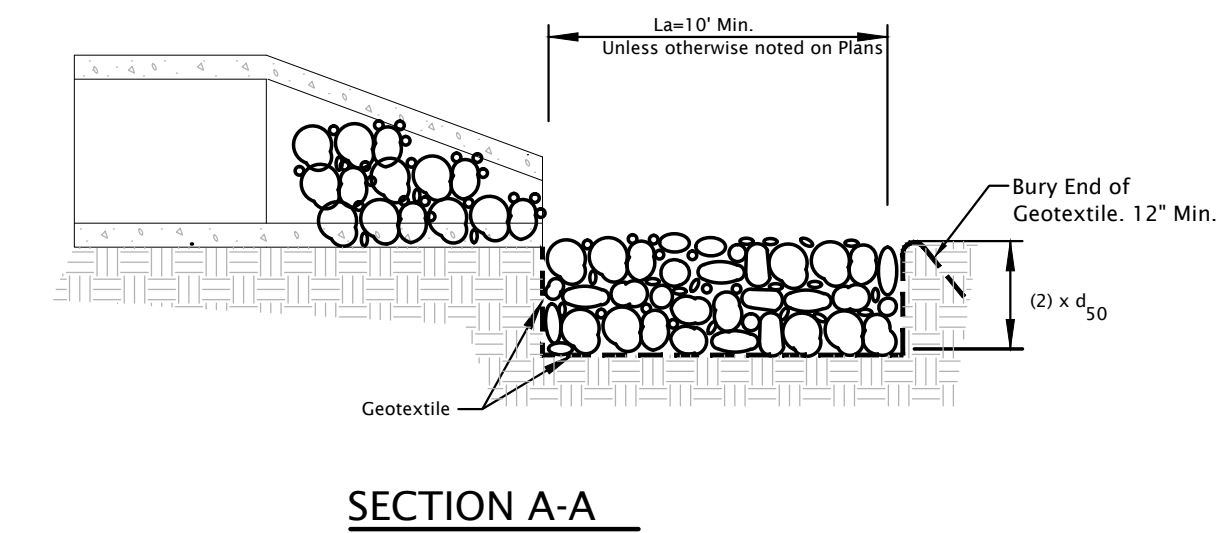
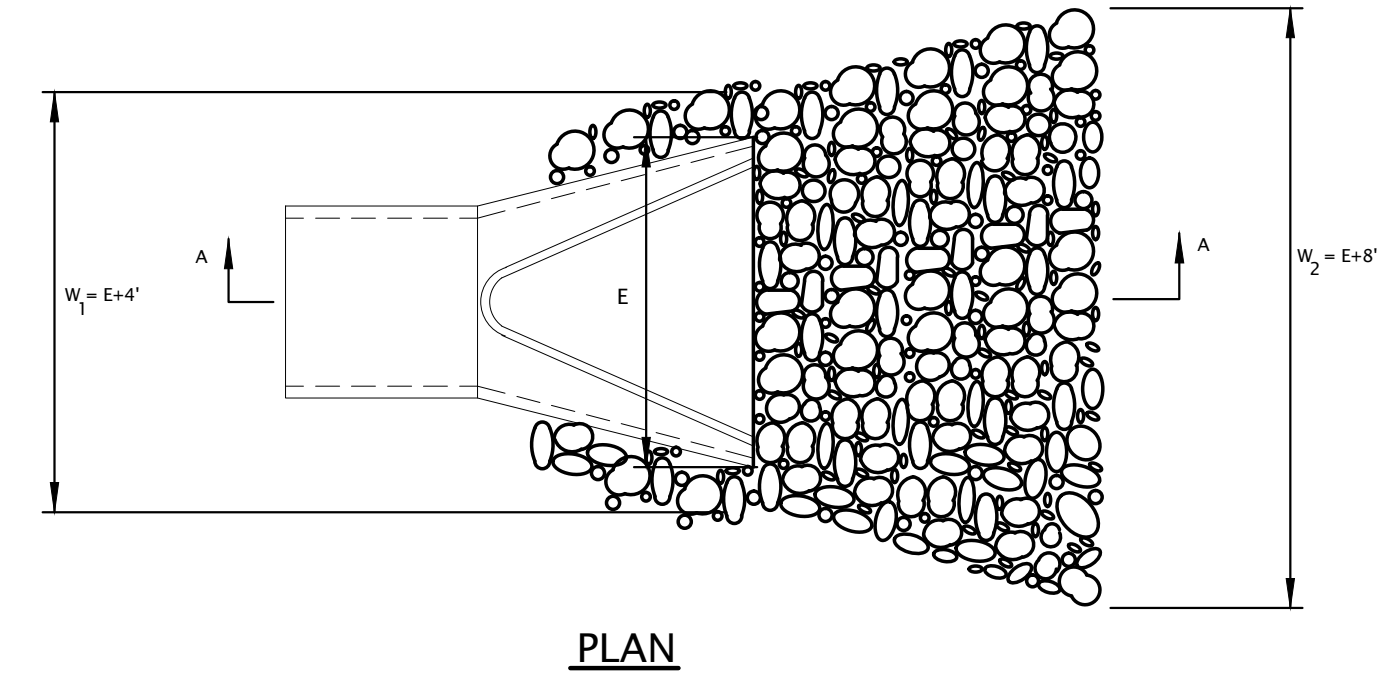
MATERIAL: Hard, angular, and weather-resistant, having a specific gravity of at least 2.5
GRADATION: Well-graded stone, 50% (by weight larger than the specified d_{50}), however, the largest pieces should not exceed two times the specified d_{50} , and no more than 15% of the pieces (by weight) should be less than 3 in.
FILTER: Use geotextile fabric for stabilization and filtration or sand/gravel layer placed under all permanent riprap installations.
SLOPE: 2:1 or flatter, unless approved in the erosion and sediment control plan.

SUBGRADE PREPARATION
 1. Remove brush, trees, stumps, and other debris.
 2. Excavate only deep enough for both filter and riprap. Over-excavation increases the amount of spoil considerably.
 3. Compact any fill material to the density of the surrounding undisturbed soil.
 4. Smooth the graded foundation.

FILTER PLACEMENT
 1. If using geotextile fabric, place it on the smoothed foundation, overlap the edges at least 12 in., and secure with anchor pins spaced every 3 ft. along the overlap.
 2. If using a sand/gravel filter, spread the well-graded aggregate in a uniform layer to the required thickness (6 in. min.); if two or more layers are specified, place the layer of smaller gradation first, and avoid mixing the layers.

RIPRAP PLACEMENT
 1. Immediately after installing the filter, add the riprap to full thickness in one operation. (Do not dump through chutes or use any method that causes segregation of rock sizes or that will dislodge or damage the underlying filter material.)
 2. If fabric is damaged, remove the riprap and repair by adding another layer of fabric, overlapping the damaged area by 12 in.
 3. Place smaller rock in voids to form a dense, uniform, well-graded mass. (Selective loading at the quarry and some hand placement may be needed to ensure an even distribution of rock material.)
 4. Blend the rock surface smoothly with the surrounding area to eliminate protrusions or over-falls.

MAINTENANCE
 1. Inspect periodically for displaced rock material, slumping, and erosion at edges, especially down-stream or down-slope.



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DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	04/07/2016
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Centennial Village
 Munster, Indiana
 Storm Water Pollution
 Prevention Plan

SCALE: NTS
DESIGN BY: DVG
DRAWN BY: DVG
DATE: 04-19-16

C302

EROSION CONTROL MEASURES (continued)

MULCHING

MATERIAL: Straw, hay, wood fiber, cellulose, or excelsior, or erosion control blankets or turf reinforcement mats, as specified in the erosion and sediment control plan.
COVERAGE: At least 75% of the soil surface.
ANCHORING: Required for straw or hay mulch, and sometimes excelsior to prevent displacement by wind and/or water.

MATERIAL	RATE	COMMENTS
Straw or hay	1 1/2 to 2 tons/acre	Should be dry, unchopped, free of undesirable seeds. Spread by hand or anchored. Must be crimped or anchored.
Wood fiber or cellulose	1 ton/acre	Apply with a hydromulcher and use with tacking agent.
Long fiber wood (excelsior)	1/2 to 3/4 ton/acre	Anchor in areas subject to wind.

INSTALLATION:
 1. Apply mulch at the recommended rate.
 2. Spread uniformly by hand, hay fork, mulch blower, or hydromulcher. After spreading, no more than 25% of the ground surface should be visible.
 3. If straw or hay is used, anchor it immediately in one of the following ways.

ANCHORING METHOD	HOW TO APPLY
Mulch anchoring tool, or Farm disk (dull, serrated and set straight)	Crimp or punch the straw or hay into the soil 2-4 in. operate machinery on the contour of the slope.
Cleating with dozer tracks	Operate dozer up and down slope, not across or else the tracks will form rills.
Wood hydromulch fibers	Apply 1-2 tons/acre using a hydromulcher at a rate of 750 lbs/acre with a tacking agent (or according to contractor specifications). Do not use in areas of concentrated flow.
Asphalt emulsion	Emulsified asphalt should conform to the requirements of ASTM Spec. #977. Apply with suitable equipment at a rate of 0.05 gal/sy. Do not use in areas of concentrated flow.
Synthetic tackifier, binder or soil stabilizer	Apply according to manufacturer's recommendations.
Biodegradable netting (polypropylene or similar material)*	Apply over mulch and staple with 6-8 in. wire staples. Follow manufacturer's recommendations for installation. Best suited to slope application.

* Install the netting immediately after applying the mulch. In areas of concentrated water flow, lay it parallel to the direction of flow; on other slopes, lay it either parallel or perpendicular to direction of flow. Edges of adjacent netting strips should overlap 4-6 in., with the strip on the upgrade side of any lateral water flow on top. Installation details are site specific, so follow manufacturer's directions.

MAINTENANCE:
 1. Inspect after storm events to check for movement of mulch or for erosion.
 2. If washout, breakage, or erosion is present, repair the surface, then re-seed, re-mulch and, if applicable, install new netting.
 3. Continue inspections until vegetation is firmly established.

SOIL ROUGHENING

DESCRIPTION:
 Soil roughening is a temporary erosion control practice often used in conjunction with grading. Soil roughening involves increasing the relief of a bare soil surface with horizontal grooves by either stair-stepping (running parallel to the contour of the land) or using construction equipment to track the surface. Slopes that are not fine graded and left in a roughened condition can also reduce erosion. Soil roughening reduces runoff velocity, increases infiltration, reduces erosion, traps sediment, and prepares the soil for seeding and planting by giving seed an opportunity to take hold and grow.

APPLICABILITY:
 Soil roughening is appropriate for all slopes, but works especially well on slopes greater than 3:1, on piles of excavated soil, and in areas with highly erodible soils. This technique is especially appropriate for soils that are frequently disturbed, because roughening is relatively easy. To slow erosion, roughen the soil as soon as possible after the vegetation has been removed from the slope or immediately after grading activities have ceased (temporarily or permanently). Use this practice in conjunction with seeding, planting, and temporary mulching to stabilize an area. A combination of surface roughening and vegetation is appropriate for steeper slopes and slopes that will be left bare for longer periods of time.

SITING AND DESIGN CONSIDERATIONS:
 Roughened slope surfaces help establish vegetation, improve infiltration, and decrease runoff velocity. A rough soil surface allows surface ponding that protects lime, fertilizer, and seed and decreases erosion potential. Grooves in the soil are cooler and provide more favorable moisture conditions than hard, smooth surfaces. These conditions promote seed germination and vegetative growth.

Avoid excessive soil compaction, because this inhibits vegetation growth and causes higher runoff velocity. Limit roughening with tracked machinery to sandy soils that do not compact easily; also, avoid tracking on heavy clay soils, especially when wet. Seed roughened areas as quickly as possible, and follow proper procedures.

Depending on the type of slope and the available equipment, use different methods for roughening soil on a slope. These include stair-step grading, grooving, and tracking. When choosing a method, consider factors such as slope steepness, mowing requirements, whether the slope is formed by cutting or filling, and available equipment. Choose from the following methods for surface roughening:

- **Cut slope roughening for areas that will not be mowed.** Use stair-step grades or groove-cut slopes for gradients steeper than 3:1. Use stair-step grading on any erodible material that is soft enough to be ripped with a bulldozer. Also, it is well suited for slopes consisting of soft rock with some subsoil. Make the vertical cut distance less than the horizontal distance, and slope the horizontal portion of the step slightly toward the vertical wall. Keep individual vertical cuts less than 2 feet deep in soft materials and less than 3 feet deep in rocky materials.
- **Grooving.** This technique uses machinery to create a series of ridges and depressions that run across the slope along the contour. Make grooves using any appropriate implement that can be safely operated on the slope, such as disks, tillers, spring harrows, or the teeth on a front-end loader bucket. Make the grooves less than 3 inches deep and less than 15 inches apart.
- **Fill slope roughening for areas that will not be mowed.** Fill slopes with a gradient steeper than 3:1 should be placed in lifts less than 9 inches, and properly compact each lift. The face of the slope should consist of loose, uncompacted fill 4 to 6 inches deep. If necessary, roughen the face of the slopes by grooving the surface as described above. Do not blade or scrape the final slope face.
- **Cuts, fills, and graded areas that will be mowed.** Make mowed slopes no steeper than 3:1. Roughen these areas with shallow grooves less than 10 inches apart and deeper than 1 inch using normal tilling, disking, or harrow equipment (a cultipacker-seeder can also be used). Excessive roughness is undesirable where mowing is planned.
- **Roughening with tracked machinery.** To avoid undue compaction of the soil surface, limit roughening with tracked machinery only to sandy soils. Operate tracked machinery perpendicularly to the slope to leave horizontal depressions in the soil. Tracking is generally not as effective as other roughening methods.

LIMITATIONS:
 Soil roughening is not appropriate for rocky slopes. Tracked machinery can excessively compact the soil. Typically, soil roughening is effective only for gentle or shallow depth rains. If roughening is washed away in a heavy storm, re-roughen the surface and reseed.

MAINTENANCE CONSIDERATIONS:
 Inspect roughened areas after storms to see if re-roughening is needed. Regular inspection should indicate where additional erosion and sediment control measures are needed. If rills (small watercourses that have steep sides and are usually only a few inches deep) appear, fill, regrade, and reseed them immediately. Use proper methods.

EFFECTIVENESS:
 Soil roughening provides moderate erosion protection for bare soils while vegetative cover is being established. It is inexpensive and simple for short-term erosion control when used with other erosion and sediment controls.

TOPSOIL (SALVAGE AND UTILIZATION)

SALVAGING AND STOCKPILING:
 1. Determine depth and suitability of topsoil at the site.
 2. Prior to stripping topsoil, install any site-specific downslope practices needed to control runoff and sedimentation.
 3. Remove the soil material no deeper than what the county soil survey describes as "surface soil" (i.e., A or Ap horizon).
 4. Stockpile the material in accessible locations that neither interfere with other construction activities nor block natural drainage; and install silt fences, straw bales, or other barriers to trap sediment. (Several smaller piles around the construction site are usually more efficient and easier to contain than one large pile.)
 5. If soil is stockpiled for more than 6 mos., it should be temporarily seeded or covered with a tarp or surrounded by a sediment barrier.

SPREADING TOPSOIL:
 1. Prior to applying topsoil, grade the subsoil and roughen the top 3-4 in. by disking. This helps the topsoil bond with the subsoil.
 2. Do not apply topsoil when the site is wet, muddy or frozen, because it makes spreading difficult, inhibits bonding, and can cause compaction problems.
 3. Apply topsoil evenly to a depth of at least 4 in. (8-12 in. if the underlying material is bedrock, loose sand, rock fragments, gravel or other unsuitable soil material) Compact slightly to improve contact with the subsoil.
 4. After spreading, grade and stabilize.

MAINTENANCE:
 1. Inspect newly topsoiled areas frequently until vegetation is established.
 2. Repair eroded or damaged areas and replant.

TEMPORARY SEEDING

SITE PREPARATION:
 1. These installation practices are needed to control erosion, sedimentation, and water runoff, such as temporary and permanent diversions, sediment traps or basins, silt fences, and triangular silt dikes.
 2. Grade the site as specified in the construction plan.

SEEDBED PREPARATION:
 1. Fertilize as required.
 2. Work the fertilizer into the soil 2-4 in. deep with a disk or rake operated across the slope.

SEEDING:
 1. Select a seeding mixture and rate from the table and plant at depth and on dates shown.
 2. Apply seed uniformly with a drill or cultipacker-seeder or by broadcasting, and cover to the depth shown.
 3. If drilling or broadcasting, firm the seedbed with a roller or cultipacker.
 4. Mulch seeded areas to increase seeding success.

MAINTENANCE:
 1. Inspect periodically after planting to see that vegetative stands are adequately established, re-seed if necessary.
 2. Check for erosion damage after storm events and repair, reseed and mulch if necessary.
 3. Topdress fall seeded wheat or rye seeding with 50 lbs./acre of nitrogen in February or March if nitrogen deficiency is apparent.

TEMPORARY SEEDING RECOMMENDATIONS

SEED SPECIES*	RATE/ACRE	PLANTING DEPTH	OPTIMUM DATES**
Wheat or rye	150 lbs.	1 to 1 1/2 in.	9/15 to 10/30
Spring oats	100 lbs.	1 in.	3/1 to 4/15
Annual ryegrass	40 lbs.	1/4 in.	3/1 to 5/1 8/1 to 9/1
German millet	40 lbs.	1 to 2 in.	5/1 to 6/1
Sudangrass	35 lbs.	1 to 2 in.	5/1 to 7/30

* Perennial species may be used as a temporary cover, especially if the area to be seeded will remain idle for more than a year.
 ** Seeding done outside the optimum dates increases the chance of seeding failure.

PERMANENT SEEDING

PERMANENTLY SEED ALL FINAL GRADE AREAS (e.g., landscape berms, drainage swales, erosion control structures, etc.) AS EACH IS COMPLETED AND ALL AREAS WHERE ADDITIONAL WORK IS NOT SCHEDULED FOR A PERIOD OF MORE THAN A YEAR.

SITE PREPARATION:
 1. These installation practices are needed to control erosion, sedimentation, and water runoff, such as temporary and permanent diversions, sediment traps or basins, silt fences, and triangular silt dikes.
 2. Grade the site as specified in the construction plan and fill in depressions that can collect water.
 3. Add topsoil to achieve needed depth for establishment of vegetation.

SEEDBED PREPARATION:
 1. Fertilize as required.
 2. Till the soil to obtain a uniform seedbed, working the fertilizer into the soil 2-4 in. deep with a disk or rake operated across the slope.

SEEDING:
 Optimum seeding dates are March 1-May 10 and August 10-September 30. Permanent seeding done between May 10 and August 10 may need to be irrigated. As an alternative, use temporary seeding until the preferred date for permanent seeding.
 1. Select a seeding mixture and rate from the table and plant at depth and on dates shown.
 2. Apply seed uniformly with a drill or cultipacker-seeder or by broadcasting, and cover to the depth shown.
 3. If drilling or broadcasting, firm the seedbed with a roller or cultipacker.
 4. Mulch seeded areas. Use erosion control blankets on sloping areas. If seeding is done with a hydroseeder, fertilizer and mulch can be applied with the seed in a slurry mixture.

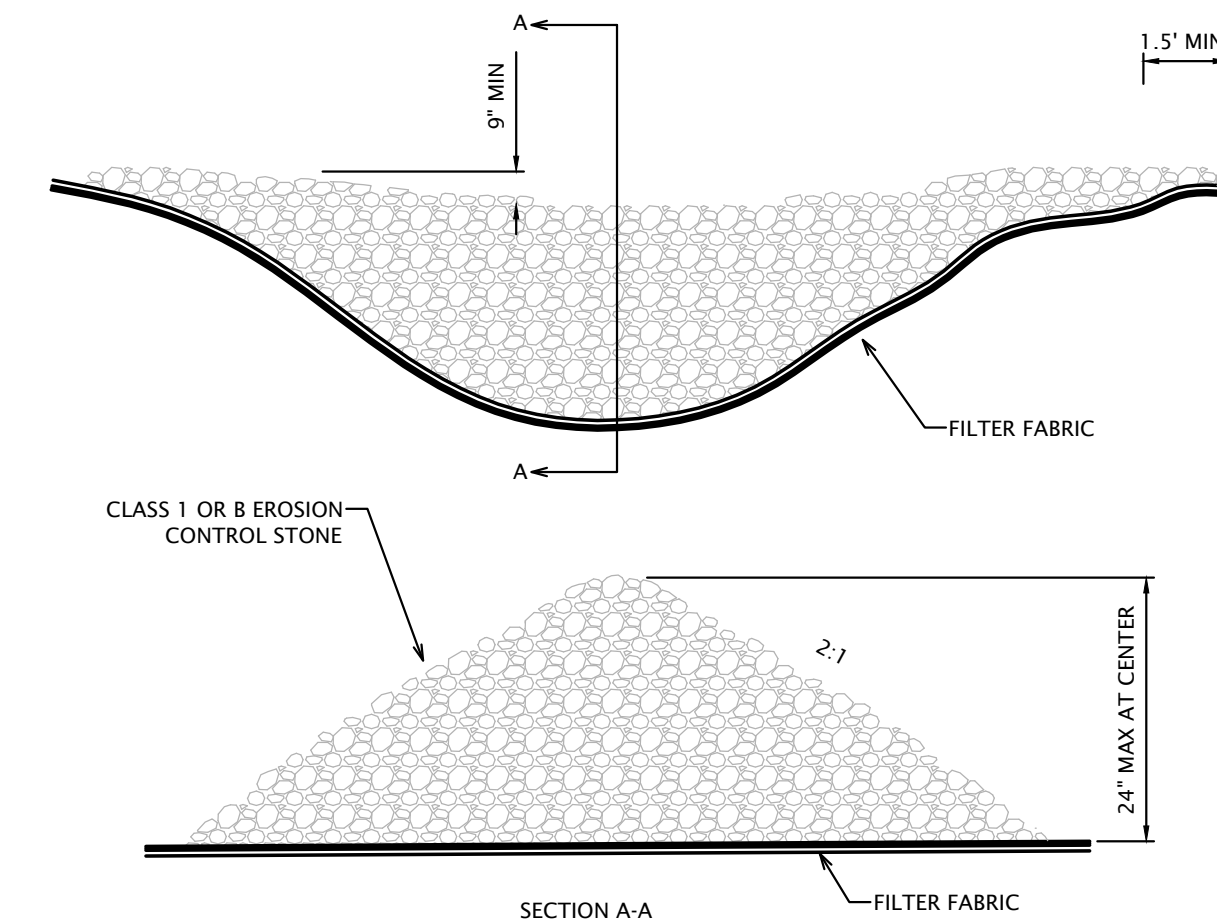
MAINTENANCE:
 1. Inspect periodically after planting to see that vegetative stands are adequately established, re-seed if necessary.
 2. Check for erosion damage after storm events and repair, reseed and mulch if necessary.

PERMANENT SEEDING RECOMMENDATIONS:
 This table provides several seeding options. Additional seed species and mixtures are available commercially. When selecting a mixture, consider site conditions, including soil properties (e.g., soil pH and drainage), slope aspect and the tolerance of each species to shade and drought.

SEED SPECIES AND MIXTURES	RATE/ACRE	OPTIMUM SOIL pH
OPEN AND DISTURBED AREAS (REMAINING IDLE FOR MORE THAN ONE YEAR).		
1. Perennial ryegrass	35-50 lbs.	5.6 to 7.0
+ white or ladino clover	1 to 2 lbs.	
1. Kentucky bluegrass	20 lbs.	5.5 to 7.5
+ smooth bromegrass	10 lbs.	
+ switchgrass	3 lbs.	
+ timothy	4 lbs.	
+ perennial ryegrass	10 lbs.	
+ white or ladino clover	1 to 2 lbs.	

RUN-OFF CONTROL MEASURES

RIP-RAP CHECK DAMS



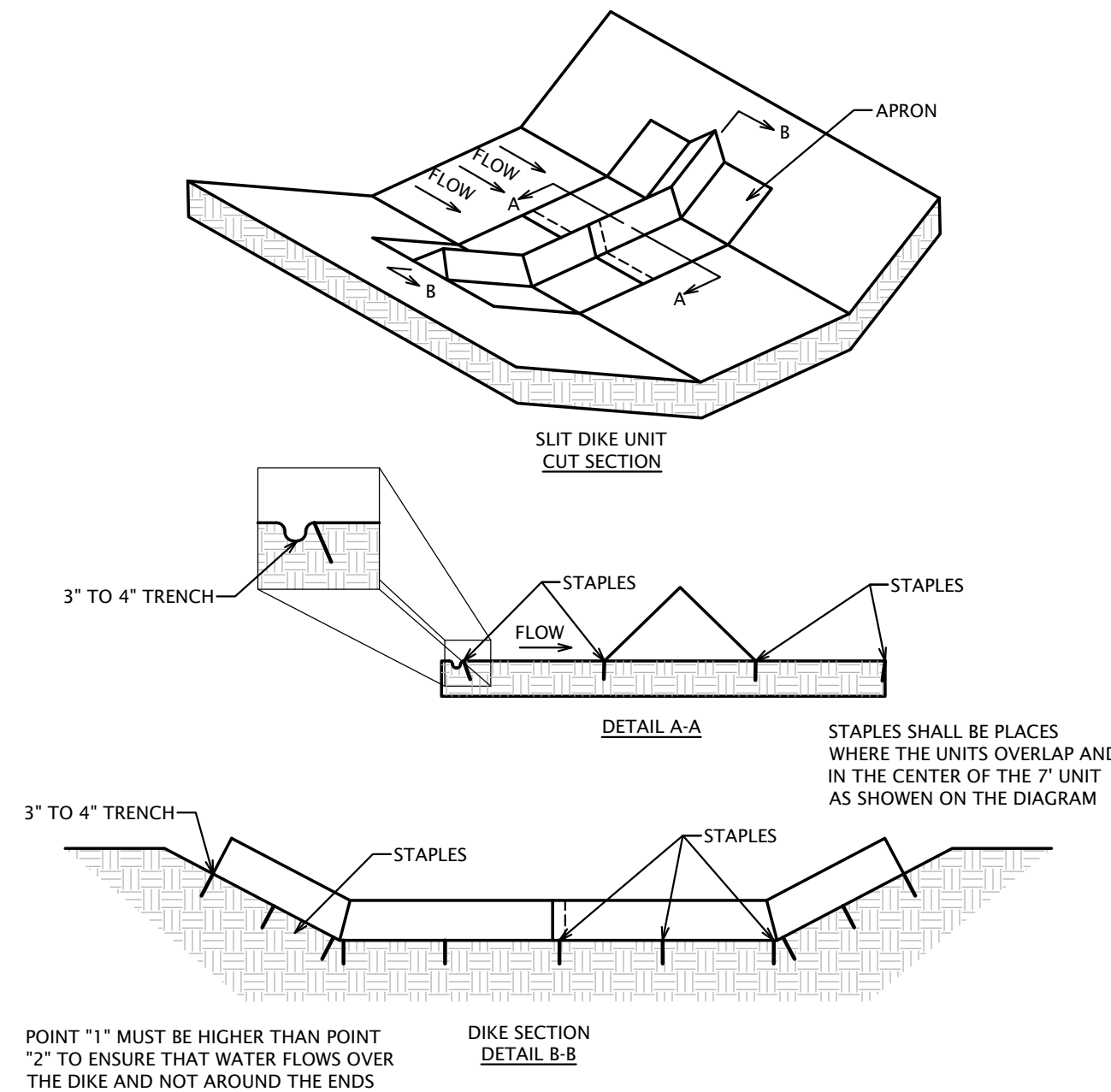
MAINTENANCE:
 1. Inspect after each storm event.
 2. Remove built-up sediment and repair/replace the check dams as needed.

TRIANGULAR SILT FENCE DIKE - CHECK DAMS

MATERIAL: The triangular-shaped inner material shall be urethane foam. The outer cover shall be a woven geotextile fabric placed around the inner material and allowed to extend beyond both sides of the triangle two to three (2' - 3') feet.

ANCHORING: The Dikes shall be attached to the ground with Wire Staples. The Staples shall be No. 11 gauge wire and be at least six to eight (6" - 8") inches long. Staples shall be placed as indicated on the installation detail.

INSTALLATION:
 1. Place triangular silt fence dike as required.
 2. Attach dikes to the ground with staples as indicated on the detail.



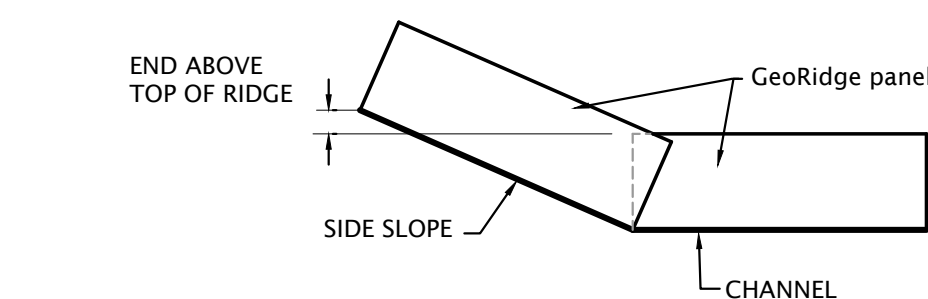
MAINTENANCE:
 1. Inspect after each storm event.
 2. Remove built-up sediment and repair/replace the silt dikes as needed.

GEORIDGE DITCH BERM - CHECK DAMS

MATERIAL: GeoRidge or GeoRidge Bio by Nilex Products
 a HDPE product that serves to dissipate water energy within a ditch or channel.

GeoRidge is to be used in applications where the measure will be removed after the channel is stabilized. GeoRidge Bio can be used when the measure can be left to decompose in lieu of being removed.

INSTALLATION:
 1. Place an erosion control blanket (ECB), laid parallel with the channel direction, in the area where the GeoRidge is to be placed. ECB shall be appropriate for the channel slope, volume and velocity. ECB shall be secured with a 4" trench at the upstream edge, with min. 6" staples placed 21" o.c. along the upstream and downstream edges.
 2. Place GeoRidge berm in the middle of the ECB, perpendicular to the channel flow direction, and anchor with 10" spiral spikes. A minimum of 3 anchors shall be used on the upstream side and 2 anchors on the downstream side. If more than one GeoRidge berm panel is required to span the channel, line up the anchoring holes for installation of the anchors.
 3. When placing the GeoRidge panel on the side slope of the channel, the bottom of the panels should meet with the ridge being overlapped. This will prevent water from passing through the berm. Additionally the outside edge of the panel on the side slope should be installed so that it is higher than the top of the panel in the channel bottom.



SPACING:
 The spacing is calculated by dividing the height of the GeoRidge by the gradient of the channel slope.
 9'/.02 gradient = 450' or 37.5'

MAINTENANCE:
 1. Inspect after each storm event.
 2. Remove built-up sediment when it reaches 1/2 the height of the GeoRidge.
 3. Repair/replace the GeoRidge and the ECM as needed.

SEDIMENT CONTROL MEASURES

POLYMER SYSTEMS

MATERIAL: APS 700 Series Flocc Log

INSTALLATION:
 1. The Flocc Log vendor shall sample the water that is to be treated with the system. This sample shall be used to determine the site-specific polymer mix that should be used.
 2. In applications where the objective of this measure is to meet the Total Suspended Solids requirements prior to completion of the detention pond, i.e. the side slopes are not fully stabilized, dewatering the pond for further expansion, etc., the Flocc Log should be installed at the end of the outfall pipe and a temporary material such as Geotube should be placed downstream of the Flocc Log providing a sediment settling area. (See plans for specific installation locations)
 3. In applications where the objective of this measure is to meet the Total Suspended Solids requirements after the detention pond is completed, the Flocc Log should be installed at the end of the inlet pipes into the detention pond. This will cause the sediment to settle more quickly in the wet detention pond, providing a cleaner discharge. (See plans for specific installation locations)
 4. Following the use of the Flocc Log, the settled sediment will need to be removed. This temporary settling means that sediment pond might need to be cleaned if sediment settling has significantly reduced the pond volume.

MAINTENANCE:
 1. Inspect after storm events to check for movement of mulch or for erosion.
 2. If washout, breakage, or erosion is present in the sediment settling media, repair the media.
 3. Be sure the Flocc Log is secure attached at the installed location, verify that storm water is having contact with the Flocc Log.

FIBER ROLLS

MATERIAL: Tube shaped fiber rolls filled with straw, flax, rice, coconut fiber material, mulch, or composted material. Each roll is wrapped with UV-degradable polypropylene netting for longevity or with 100 percent biodegradable materials like burlap, jute, or coir.

INSTALLATION:
 1. Install rolls parallel with the slope contour, with the ends slightly lower than the mid-section, to prevent water ponding at the mid-section. Turn the ends slightly upslope to prevent water from bypassing the measure.
 2. Excavate a trench with a width and depth equal to one-fourth the diameter of the log.
 3. Where applicable install the measure upslope of a curb or sidewalk. Placing the measure against the curb will provide additional stability and resistance to surface flow.
 4. Place rolls end to end to form a continuous barrier.
 5. Hardwood stakes shall be driven through the rolls, spaced no greater than 5' to a depth of 18".
 6. The fiber rolls should be fastened to the hardwood stakes with rope.
 7. Backfill the trench with excavated soil to ground level on the down-slope side and 2" above ground level on the up-slope side of the roll.

MAINTENANCE:
 1. The rolls should be inspected weekly and after each rainfall event. Inspection should include if the material's diameter is less than specification and if the outer netting has been degraded or broken.
 2. Remove accumulated sediment when it reaches one-quarter of the height of the roll.
 3. Repair eroded and damaged areas.
 4. If ponding becomes excessive, rolls should be removed and either reconstructed or new product installed.

SEDIMENT BASINS

MATERIAL: Depressional areas constructed at the outfall of pipes, end of channels, or end of surface sheet flow, which serves to settle out the suspended solids.

INSTALLATION:
 1. At locations shown on the plans, the contractor shall excavate a small basin. The basin size shall be shown on the plans and is determined by the volume of water tributary to the basin. The basin overflow elevation shall be lower than the incoming water, by a minimum of 12 inches.
 2. The basin shall be lined with a geotextile fabric, 9" of 4" riprap shall be placed all around the inside of the basin.

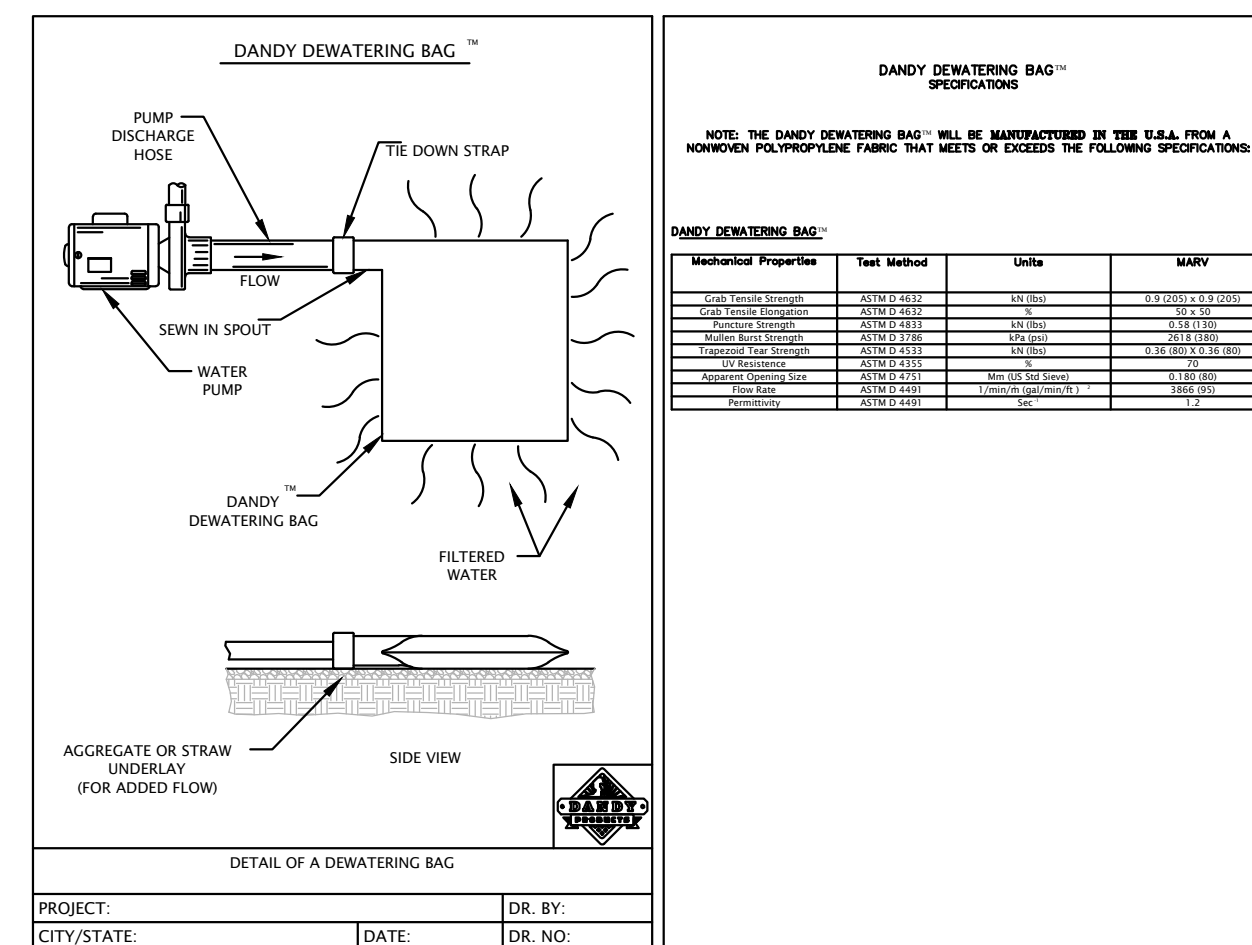
MAINTENANCE:
 1. The basins should be inspected weekly and after each rainfall event.
 2. Replace and restore any basin bank erosion.
 3. Repair or replace any displaced riprap.
 4. Reexcavate and replace the basin when it becomes more than 50% full of sediment.

DEWATERING BAGS

MATERIAL: "Dandy" Dewatering Bag or "Pump-It" Dewatering Bag

INSTALLATION:
 1. At location of the dewatering pump outfall.
 2. Size the bag to the discharge rate, the maximum bag size may limit the discharge rate of the pump.
 3. Connect bag to pump outfall per manufacturer's instructions.
 4. Install bag upstream of the receiving structure location.
 5. Outlet to grass area if possible.

MAINTENANCE:
 1. The basins should be inspected prior to each use.
 2. Replace bag when it is half full.



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REVISIONS AND NOTES:	DATE:
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Centennial Village
 Munster, Indiana
 Storm Water Pollution
 Prevention Plan

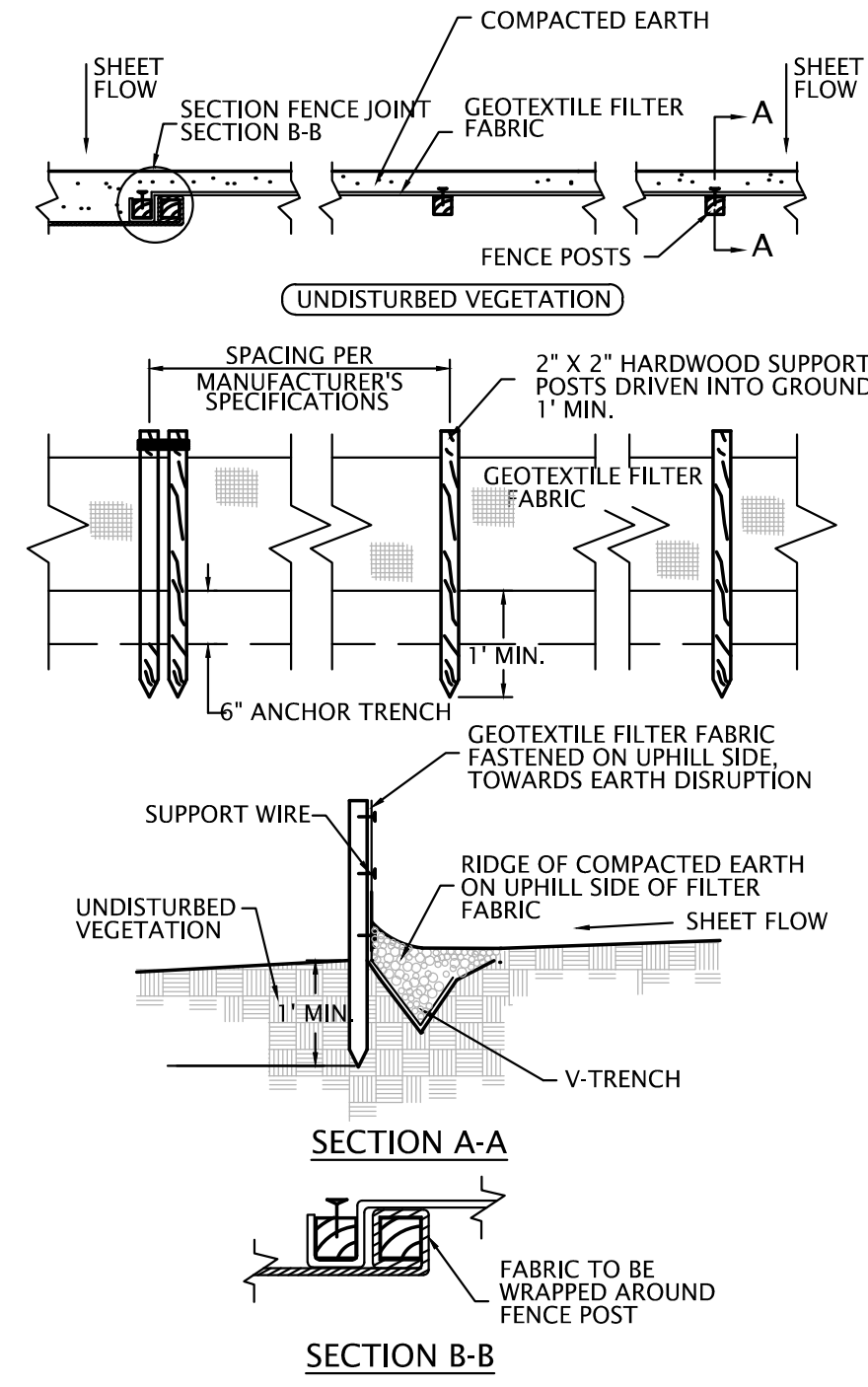
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DATE: 04-19-16

C303

SEDIMENT CONTROL MEASURES (continued)

SILT FENCE

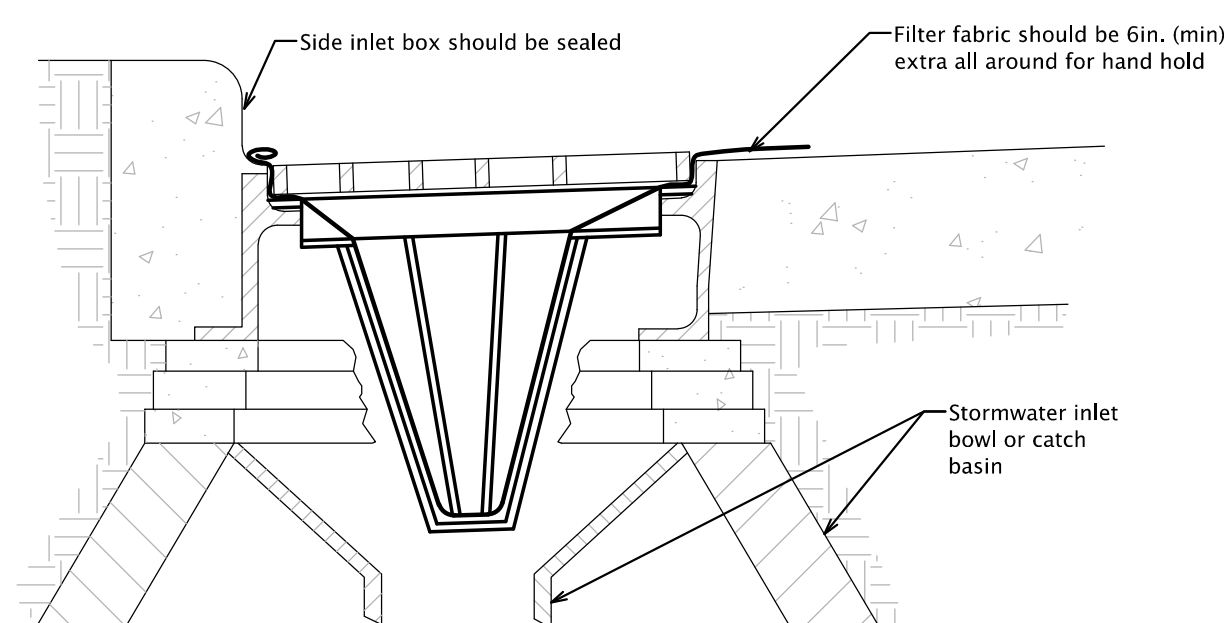
- APPROACH:** Pool area flat (less than 1% slope), with sediment storage of 945 cu.ft./acre disturbed.
- MATERIAL:** Amoco No. 2130 silt stop with posts, manufactured by Mid-West Construction Products at 1-800-426-9647 or 1-317-781-2380, or approved equal.
- When construction will be on going for more than 90 days, SS-700 SiltSaver Belted fence, or approved equal should be considered for longevity.
 - 2 x 2 in. hardwood stakes with a length equal to the height of the silt fence plus 1 ft.
- ANCHORING:**
- INSTALLATION**
- Drive stakes 1 ft. min. into ground and attach fabric to stakes with stapler.
 - Bottom of fabric shall be placed under 6 inches of compacted soil to prevent sediment flow underneath the fence.
 - Ensure that all supporting posts are on the down slope side of the fencing.



- MAINTENANCE**
- Inspect after each storm event.
 - Remove built-up sediment and repair/replace the silt fence as needed.
- ADDITIONAL CONSIDERATIONS**
- When protecting slopes, fences should be installed parallel to the slope contour.
 - On slopes the steepness of grade will determine the maximum distance between parallel fences.
- | | |
|-------------------|---|
| less than 2% | 100ft maximum |
| between 2% and 5% | 75ft maximum |
| greater than 5% | additional surface stabilization shall be provided. |

BASKET CURB INLET PROTECTION

- CONTRIBUTING DRAINAGE AREA:** 1/4 acre maximum.
- LOCATION:** At curb inlets where barriers surrounding them would be impractical or unsafe.
- MATERIAL:** CATCH-ALL STORMWATER INLET PROTECTOR or approved equal. Marathon Materials, Inc. 1-800-983-9493 or www.marathonmaterials.com
- CAPACITY:** Runoff from a 2-yr frequency, 24-hr duration storm event entering a storm drain without by-pass flow.
- BASKET:** Fabricated metal with top width-length dimensions such that the basket fits into the inlet without gaps.
- GEOTEXTILE FABRIC:** for filtration.
- INSTALLATION**
- Install basket curb inlet protections as soon as inlet boxes are installed in the new development or before land disturbing activities begin in a stabilized area.
 - If necessary, adapt basket dimensions to fit inlet box dimensions, which vary according to the manufacturer and/or model.
 - Seal the side inlets on those types of inlet boxes that have them.
 - Remove the grate and place the basket in the inlet.
 - Cut and install a piece of filter fabric large enough to line the inside of the basket and extend at least 6 inches beyond the frame.
 - Replace the inlet grate, which also serves to anchor the fabric.

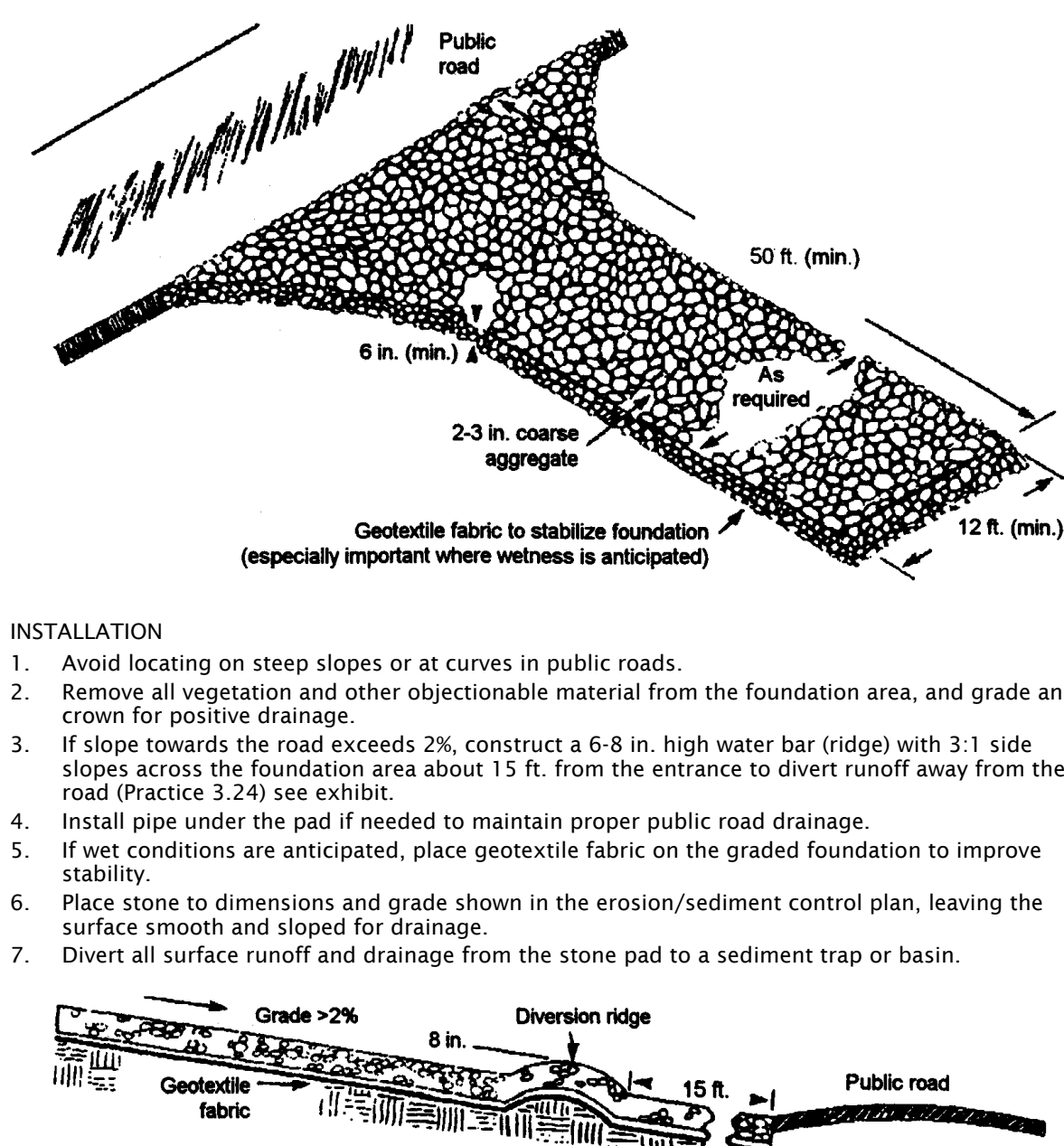


- MAINTENANCE**
- Inspect after each storm event.
 - Remove built-up sediment and replace the geotextile fabric after each storm event.
 - Periodically remove sediment and tracked-on soil from the street (but not by flushing with water) to reduce the sediment load on this curb inlet practice.

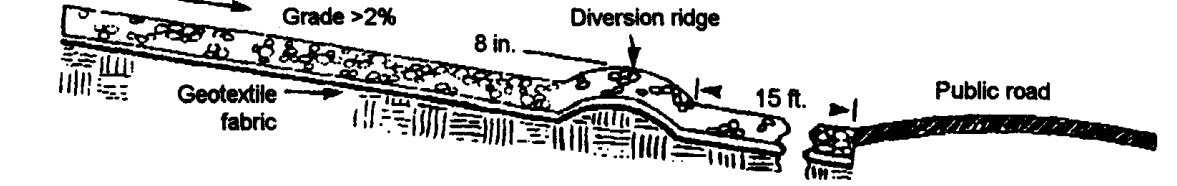
- COMMON CONCERNS**
- Sediment not removed and geotextile fabric not replaced following a storm event - results in increased sediment, tracking, traffic hazard, and excessive ponding.
 - Geotextile fabric permittivity too low - results in rapid clogging, thus severe ponding, sediment enters the drain if the fabric breaks.
 - Drainage area too large - results in sediment overload and severe ponding; sediment enters the drain if the fabric breaks.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT PAD

- MATERIAL:** 2-3 in. washed stone (INDOT CA No. 2) over a stable foundation.
- THICKNESS:** 6 in. minimum.
- WIDTH:** 12 ft. minimum or full width of entrance/exit roadway, whichever is greater.
- LENGTH:** 50 ft. minimum. The length can be shorter for small sites such as for an individual home.
- WASHING FACILITY (optional):** Level area with 3 in. washed stone minimum or a commercial rack, an waste water diverted to a sediment trap or basin (Practice 3.72).
- GEOTEXTILE FABRIC UNDERLINER:** May be used under wet conditions or for soils within a high seasonal water table to provide greater bearing strength.



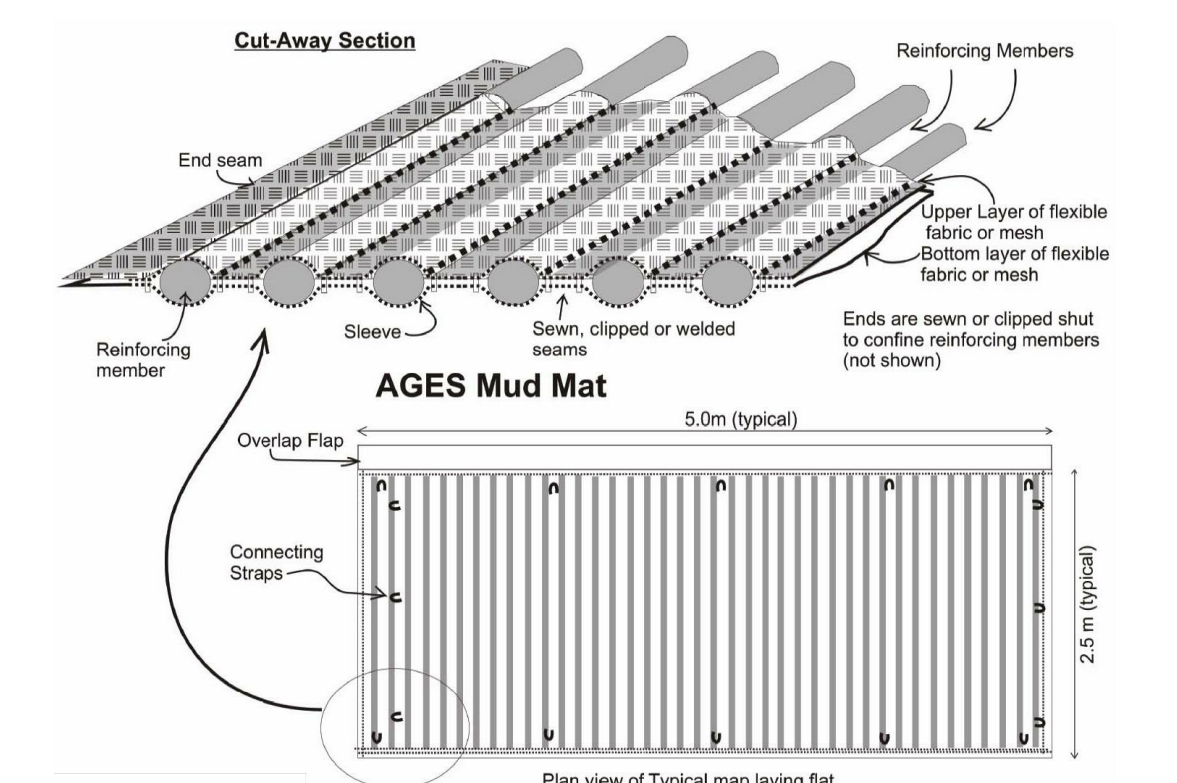
- INSTALLATION**
- Avoid locating on steep slopes or at curves in public roads.
 - Remove all vegetation and other objectionable material from the foundation area, and grade and crown for positive drainage.
 - If slope towards the road exceeds 2%, construct a 6-8 in. high water bar (ridge) with 3:1 side slopes across the foundation area about 15 ft. from the entrance to divert runoff away from the road (Practice 3.24) see exhibit.
 - Install pipe under the pad if needed to maintain proper public road drainage.
 - If wet conditions are anticipated, place geotextile fabric on the graded foundation to improve stability.
 - Place stone to dimensions and grade shown in the erosion/sediment control plan, leaving the surface smooth and sloped for drainage.
 - Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.



- MAINTENANCE**
- Inspect entrance pad and sediment disposal area weekly and after storm events or heavy use.
 - Reshape pad as needed for drainage and runoff control.
 - Topdress with clean stone as needed.
 - Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.
 - Repair any broken road pavement immediately.

MUD MATS - ENTRANCE STABILIZATION

MATERIAL: MUD MAT BY AGES, REUSEABLE SOIL STABILIZATION SYSTEM



- INSTALLATION**
- Avoid locating on steep slopes or at curves in public roads.
 - Remove all vegetation and other objectionable material from the foundation area, and grade and crown for positive drainage.
 - Install per manufacturer's recommendations. Unroll, connect mats together to form area of protection and properly anchor to ground.
 - Divert all surface runoff and drainage from the mud mat to a sediment trap or basin.
 - Minimum size of the mat is 12' wide and 50' long.

- MAINTENANCE**
- Inspect entrance pad daily and remove built-up debris as necessary.
 - Inspect entrance pad for breaks and tears in the material. Repair or replace as necessary.
 - Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.
 - Repair any broken road pavement immediately.

MATERIAL MANAGEMENT MEASURES (HOUSEKEEPING)

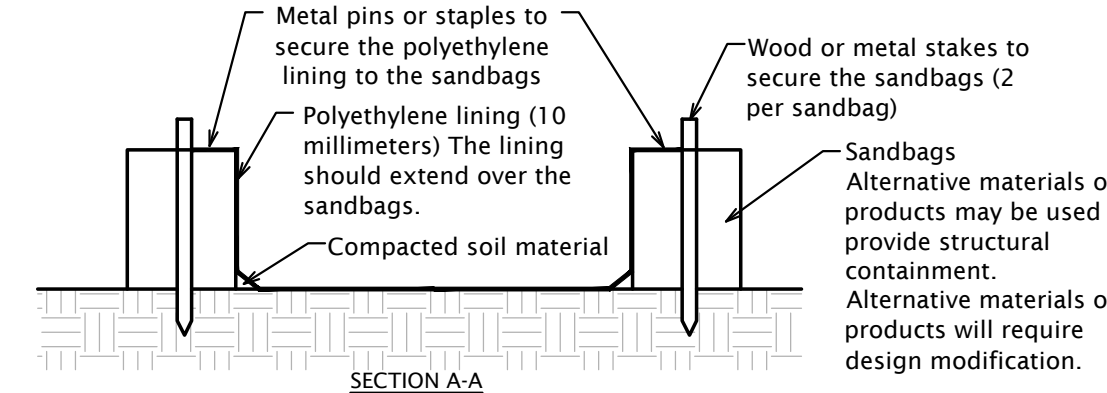
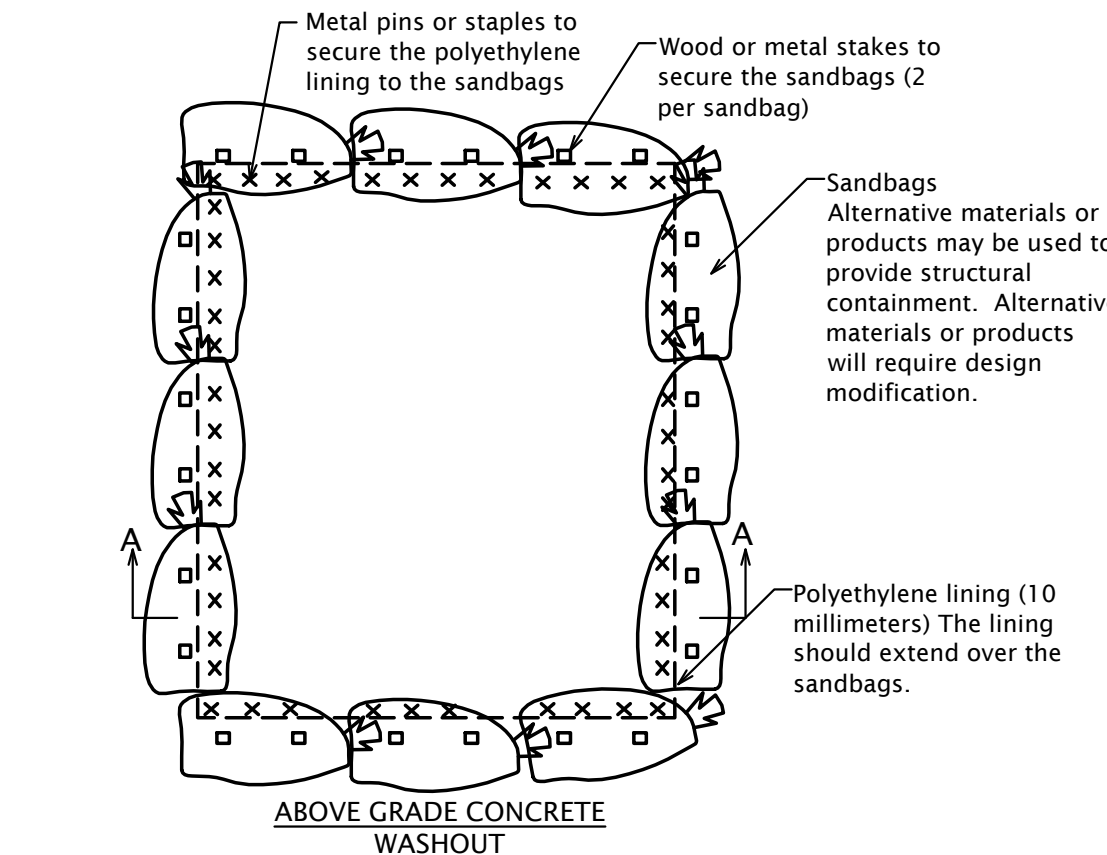
CONCRETE WASHOUT

- LOCATION**
- Locate concrete washout systems at least 50 feet from any creeks, wetlands, ditches, karst features, or storm drains/manmade conveyance systems.
 - Locate concrete washout systems in relatively flat areas that have established vegetative cover and do not receive runoff from adjacent land areas.
 - Locate away from other construction traffic in areas that provide easy access for concrete trucks.

- MATERIALS**
- Minimum of ten millimeter polyethylene sheeting, free of holes, tears, and other defects.
 - Orange safety fencing or equivalent.
 - Sandbags
 - Metal pins or staples six inches in length minimum.

- INSTALLATION**
- A base shall be constructed and prepared that is free of rocks and other debris that may cause tears or punctures in the polyethylene lining.
 - Install the polyethylene lining. For excavated systems, the lining should extend over the entire excavation. The lining for bermed systems should be installed over the pooling area with enough material to extend the lining over the berm or containment system. The lining should be secured with pins, staples, or other fasteners.
 - Place flags, safety fencing, or equivalent to provide a barrier to construction equipment and other traffic.
 - Install signage that identifies concrete washout areas.
 - Where necessary, provide stable ingress and egress or alternative approach pad.

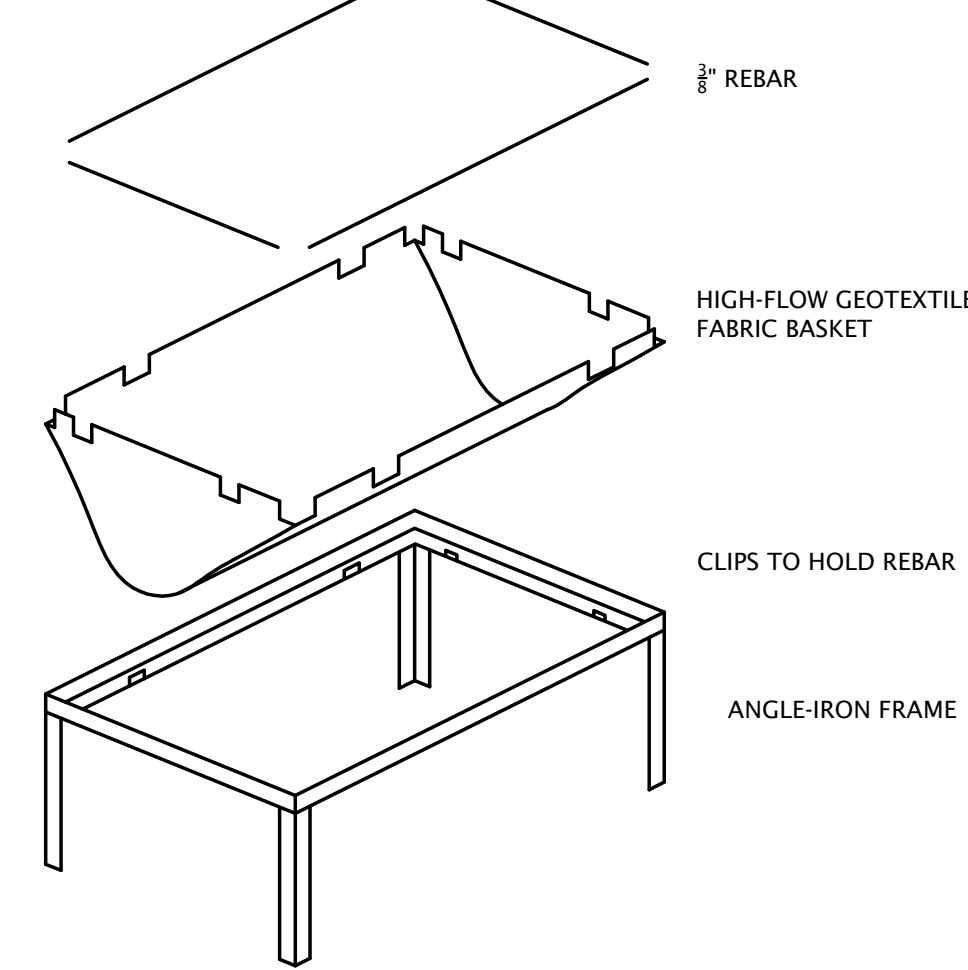
- MAINTENANCE**
- Inspect daily and after each storm event.
 - Inspect the system for leaks, spills, and tracking of soil by equipment.
 - Inspect the polyethylene lining for failure, including tears and punctures.
 - Once concrete wastes harden, remove and dispose of the material.
 - Excess concrete should be removed when the washout system reaches 50 percent of the design capacity. Use of the system should be discontinued until appropriate measures can be initiated to clean the structure.
 - Upon removal of the solids, inspect the structure. Repair the structure as needed or construct a new system.
 - Dispose of all concrete in a legal manner. Reuse the material on site, recycle, or haul the material to an approved construction/demolition landfill site. Recycling of material is encouraged. The waste material can be used for multiple applications including but not limited to roadbeds and building. The availability for recycling should be checked locally.
 - The plastic liner should be replaced after every cleaning; the removal of material will usually damage the lining.
 - The concrete washout system should be repaired or enlarged as necessary to maintain capacity for concrete waste.
 - Concrete washout systems are designed to promote evaporation. However, if the liquids do not evaporate and the system is near capacity it may be necessary to vacuum or remove the liquids and dispose of them in an acceptable method. Disposal may be allowed at the local sanitary sewer authority provided their National Pollutant Discharge Elimination System permits allow for acceptance of this material. Another option would be to utilize a secondary containment system or basin for further dewatering.
 - Inspect construction activities on a regular basis to ensure suppliers, contractors, and others are utilizing designated washout areas. If concrete waste is being disposed of improperly, identify the violators and take appropriate action.
 - When concrete washout systems are no longer required, the concrete washout systems shall be closed. dispose of all hardened concrete and other materials used to construct the system.
 - Holes, depressions, and other land disturbances associated with the system should be backfilled, graded, and stabilized.



- COMMON CONCERNS**
- Complete construction/installation of the system and have washout locations operational prior to concrete delivery.
 - It is recommended that washout systems be restricted to washing concrete from mixer and pump trucks and not used to dispose of excess concrete or residual loads due to potential to exceed the design capacity of the washout system.
 - Install systems at strategic locations that are convenient and in close proximity to work areas and in sufficient number to accommodate the demand for disposal.

FRYEFLOW FILTRATION SYSTEMS WASHOUT

- MATERIALS**
- FryeFlow Filtration Systems concrete washout device.
- INSTALLATION**
- Insert Rebar into pockets of Debris Bag.
 - Install FryeFlow Systems Debris Bag into Angle Iron Frame.
 - Make sure rebar sets behind rebar brackets.
 - Make sure frame and bag is set on flat surface.
 - Install signage that identifies concrete washout areas.
 - Where necessary, provide stable ingress and egress or alternative approach pad.
- MAINTENANCE**
- Once Debris Bag is full, use handles provided to lift out of frame.
 - Remove rebar from side pockets.
 - Insert new Debris Bag.



SPILL PREVENTION AND CONTROL PLAN

- Only approved fuel storage tank shall be allowed on site.
- Spill Kits must be located on-site in the vicinity of the fuel storage sink.
- Mobile Fueling shall be used whenever possible.
- Fueling should take place in a central location.
- Equipment should be kept in good working order, well maintained so that breakdowns, and equipment failures are reduced.
- All fuel tanks on site shall have secondary containment approved by IDEM.
- No fuel tanks are to be located within 100 feet of a storm sewer inlet.
- Fuel storage system shall be kept in good working order and shall be subject to periodic IDEM inspections.
- Spill Kits must be located on-site in the vicinity of the fuel storage sink.
- Fuel tanks shall have a safety gauge.

FUEL STORAGE

STOCKPILES

- The contractor shall locate topsoil stockpiles on-site as noted on the S.W.P.P.P. and shall encompass each with sediment ditch and silt fence.
- In cases where the stockpile is small and will be removed from the site within 15 days, the contractor can cover the stockpile with a waterproof tarpauline type cover.
- No off-site stockpiles are being proposed. Any off-site stockpiles that the contractor utilizes shall follow the same requirements as on-site stockpiles. The contractor shall identify to the local S.W.P.P.P. enforcement agency the locations of any off-site stockpiles.

TEMPORARY FACILITIES

- The contractor shall follow the procedures delineated on the plan in order to construct and maintain the facilities shown on the drawings to control water and wind erosion during construction of the project.
- All disturbed surface areas (including utility trenches) shall be temporarily graded and/or ditched to direct water runoff from such areas to sedimentation control devices which will prevent disturbing eroded water carrying soil from entering a watercourse, sewer, or adjacent lands. Such sedimentation control devices shall include but not be limited to protective ditches, sediment traps, sediment filters, ditch traps, pipe barriers, silt dikes, check dams, chemical settling filters.
- Upon completion of the rough grading all areas not effected by construction traffic shall be permanently seeded, and erosion control blankets installed on side slopes that exceed 5:1.
- Upon completion of the storm sewer system, inlet protection shall be installed, check dams installed in the swales, and temporary riprap with settling basins placed at the outfalls of all pipe.
- In roadway areas temporary aggregate surfacing shall be placed immediately after the backfilling has been completed. Positive dust control measures shall be taken at all times.
- Within 14 days from the date a project improvement is installed the contractor shall proceed with final cleanup and restoration of the project area disturbed including spoil areas, and complete such operations within the next 15 days. If seasonal conditions prevent final cleaning and restoration, the contractor shall proceed with temporary stabilization of the disturbed areas. Final cleanup and restoration will consist of final grading, applying topsoil, seeding and mulching and/or sodding of all disturbed areas of the project. Temporary stabilization shall consist of rough grading the disturbed areas to a condition ready to receive topsoil, seeding, and mulching in accordance with the temporary seeding schedule. Temporary stabilization materials shall be removed, disposed of, and final cleanup and restoration shall be completed not later than 60 days after seasonal conditions allow performance of the required work.

MATERIAL HANDLING AND STORAGE

- The contractor shall minimize the disturbance of excavated soils by minimizing the number of times the soil is handled. On-site handling of soils will occur during excavation, loading, and spreading activities. Fuel for heavy equipment and vehicles will not be stored on the site during construction operations. Mobile fuel tanks will fuel heavy equipment. In the event of a spill or leak the contractor shall follow proper procedures to minimize concern. The contractor shall:
- Take immediate measures to control and contain the spill to prevent release into sewers or surface waters.
 - Notify the Local Fire Department immediately at 9-1-1.
 - Notify the Federal Emergency Spill Hotline at 1-800-424-8802 within 2 hours if the amount is above a reportable quantity or any amount enters a waterway or storm sewer.
 - Notify the Indiana Emergency Response Hotline at 1-888-233-7745.
 - Follow the guidelines for handling the spill as outlined in the included Material Safety Data

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Russell W. B. Poles
REGISTERED PROFESSIONAL ENGINEER
NO. PE1000867
STATE OF INDIANA
04-19-16

Centennial Village L.L.C.
9615 Boulevard Drive
Highland, IN 46322

DWG # 14-C-1011

REVISIONS AND NOTES:	DATE:

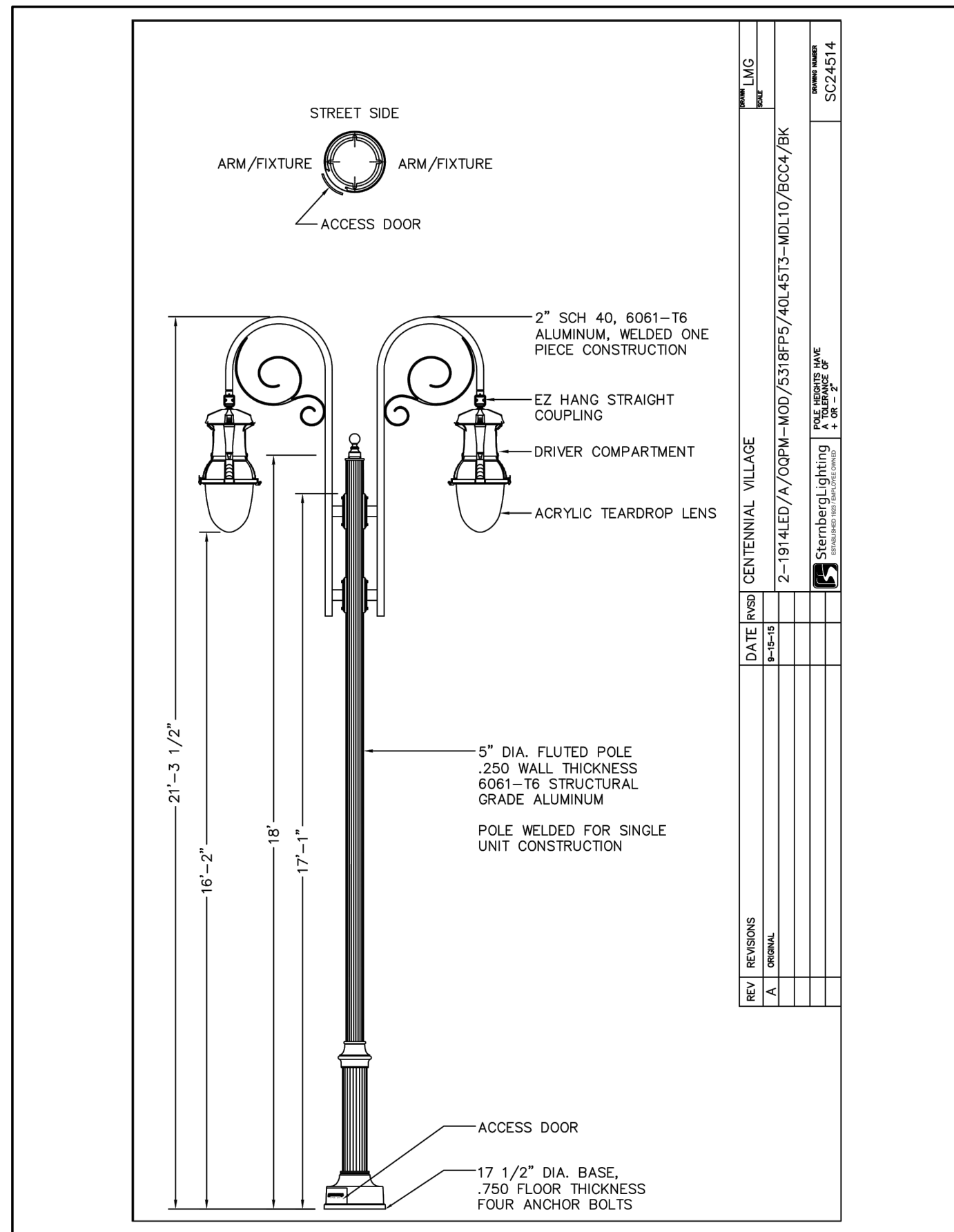
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Centennial Village Munster, Indiana
Storm Water Pollution Prevention Plan

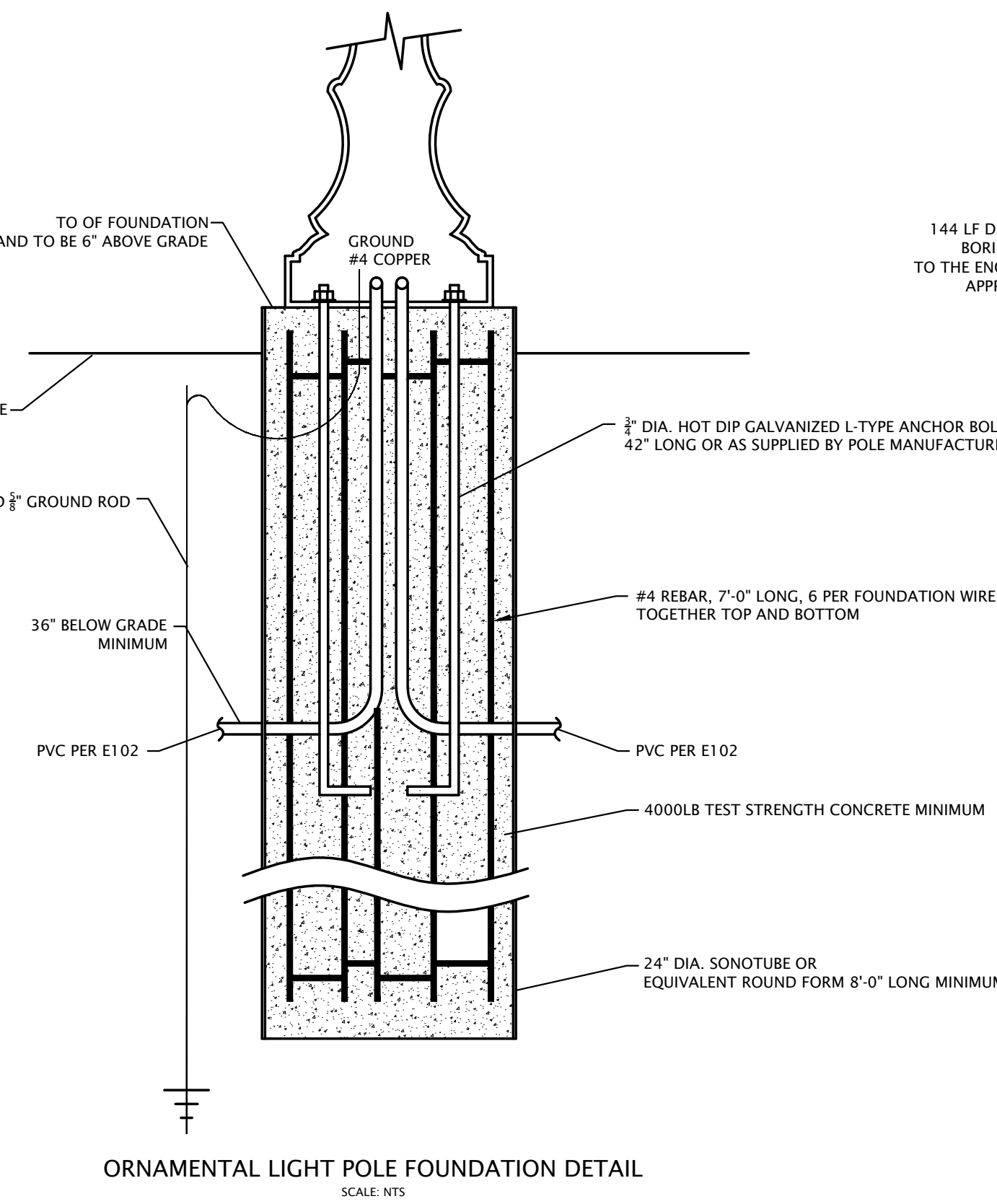
SCALE: NTS	
DESIGN BY: DVG	
DRAWN BY: DVG	
DATE: 04-19-16	

C304

LIGHTING DETAILS

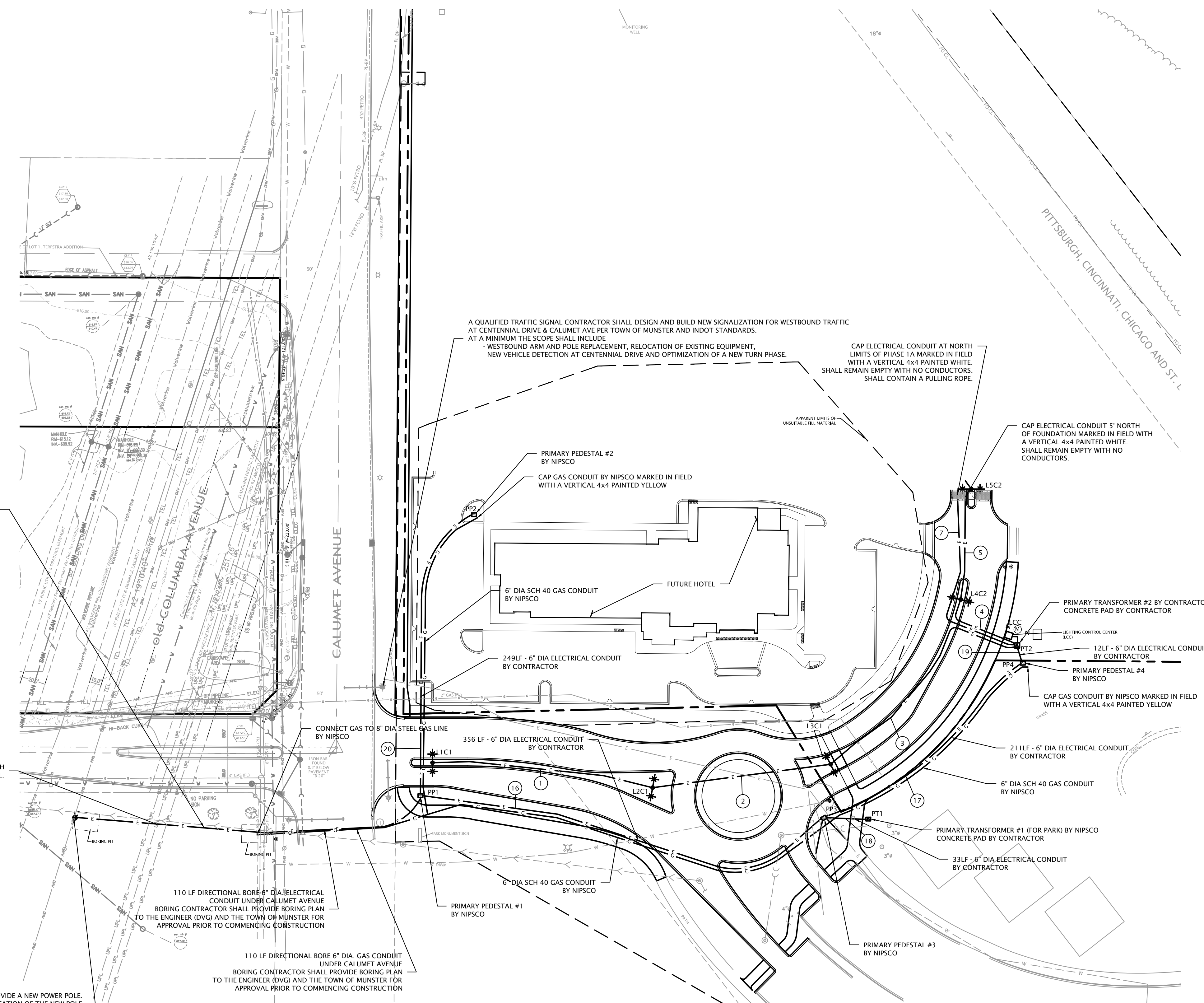


REV	REVISIONS	DATE	BY	CHKD
A	ISSUED FOR PERMITS	11-18-16	J. WISNIEWSKI	
B	ISSUED FOR CONSTRUCTION	05-24-16	J. WISNIEWSKI	



NOTE:
 1. IF SOIL IS STABLE 3 FT. SONOTUBES MAY BE USED IN THE TOP OF THE FOUNDATION AND THE CLAY SIDES OF THE AUGURED HOLE WILL FORM THE REMAINDER.
 2. DEPTH OF FOUNDATION PER POLE MANUFACTURER'S SPECIFICATIONS.

NIPSCO SHALL PROVIDE A NEW POWER POLE UNDER CALUMET AVENUE WHICH PROVIDES THE SERVICE CONNECTION. THE CONTRACTOR SHALL PROVIDE A LONG RADIUS ELBOW UP TO GRADE AT THE POLE. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH NIPSCO REQUIREMENTS FOR THE SERVICE CONNECTION.



LEGEND
 L12C4 - DENOTES LIGHT FIXTURE
 11 - DENOTES CONDUIT

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Thomas W. Wisniewski
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF INDIANA
 PE 60018886
 10-18-16

Centennial Village L.L.C.
 9615 Boulevard Drive
 Highland, IN 46322

REV	REVISIONS AND NOTES	DATE
ADDENDUM #1		05-24-16
ADDENDUM #2		06-02-16
ADDENDUM #4		10-18-2016

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Centennial Village Infrastructure Plans
 Lighting Plan - Phase 1A

SCALE: 1" = 50'
 DESIGN BY: DVG
 DRAWN BY: JEJ
 DATE: 05-24-16

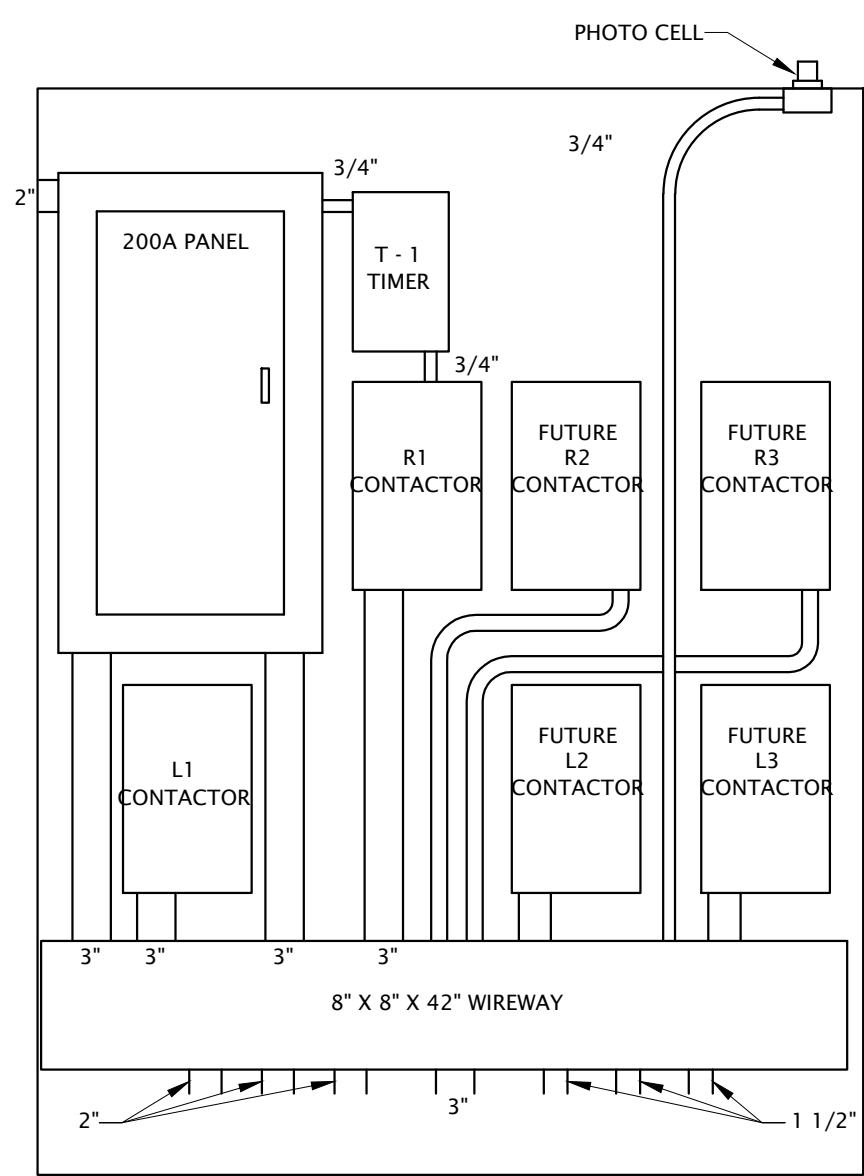
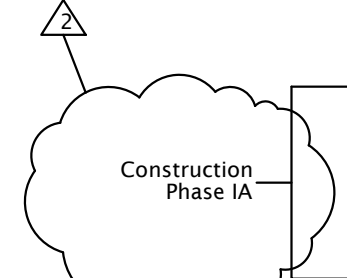
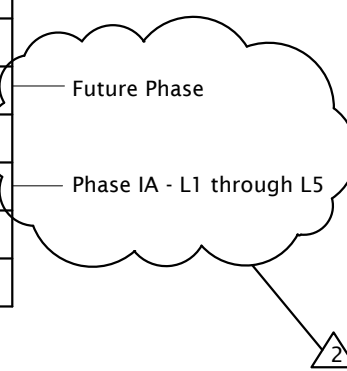
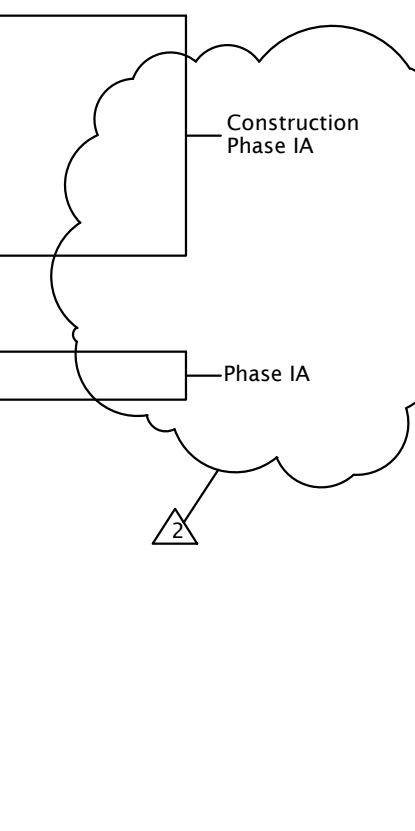
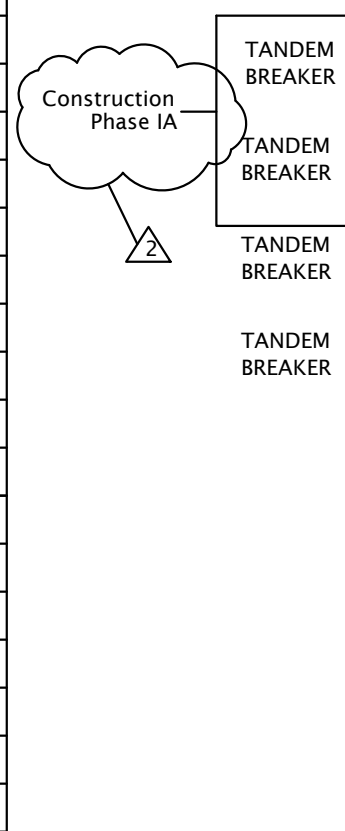
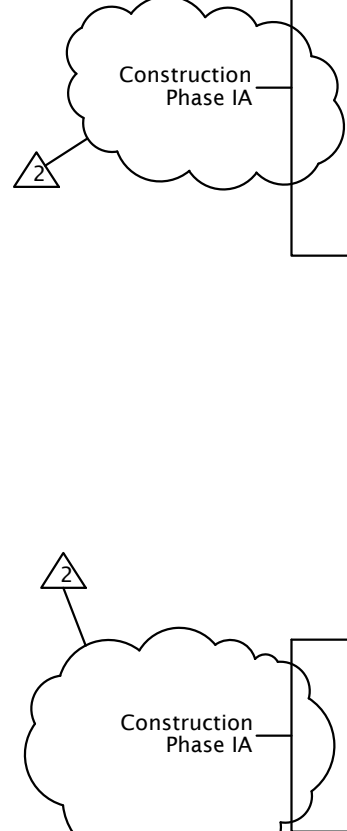
E101

POWER AND ROADWAY LIGHTING CONDUIT LIGHTING AND CIRCUITING						
LABEL	SIZE	ORIGIN	DESTINATION	CONDUCTORS	CIRCUIT NOTES	
1	1 1/2"	L2	L1	4C8, 1C8G	CIR. #1 LIGHTING (240V), CIR. #1 R RECEPT.	
2	1 1/2"	L3	L2	4C8, 1C8G	CIR. #1 LIGHTING, CIR. #1 R RECEPT.	
3	1 1/2"	LCC	L3	4C8, 1C8G	CIR. #1 LIGHTING, CIR. #1 R RECEPT.	
4	1 1/2"	LCC	L4	4C8, 1C8G	CIR. #2 LIGHTING, CIR. #2 R RECEPT.	
5	1 1/2"	L4	L5	4C8, 1C8G	CIR. #2 LIGHTING, CIR. #2 R RECEPT.	
6	1 1/2"	L5	L6	4C8, 1C8G	CIR. #2 LIGHTING, CIR. #2 R RECEPT.	
7	3"	LCC	PB1	14C6, 1C8G	2C FUTURE LIGHTING, 4C FUTURE RECEPTS.	
8	2"	PB1	STUB	EMPTY	FUTURE LIGHTING & RECEPT. CIRCUITS	
9	2"	PB1	L7	4C6, 1C8G	CIR. #4 LIGHTING, CIR. #4 R RECEPT.	
10	2"	L7	L11	4C6, 1C8G	CIR. #4 LIGHTING, CIR. #4 R RECEPT.	
11	2"	L11	L12	4C6, 1C8G	CIR. #4 LIGHTING, CIR. #4 R RECEPT.	
12	1 1/2"	L12	L13	4C6, 1C8G	CIR. #4 LIGHTING, CIR. #4 R RECEPT.	
13	2"	PB1	L8	4C6, 1C8G	CIR. #3 LIGHTING, CIR. #3 R RECEPT.	
14	2"	L8	L9	4C6, 1C8G	CIR. #3 LIGHTING, CIR. #3 R RECEPT.	
15	1 1/2"	L9	L10	4C6, 1C8G	CIR. #3 LIGHTING, CIR. #3 R RECEPT.	
16	3"	PP1	PT2	BY NIPSCO	SINGLE PHASE PRIMARY	
17	6"	PT1	PP1	BY NIPSCO	THREE PHASE PRIMARY	
18	6"	NIPSCO POLE	PT1	BY NIPSCO	THREE PHASE PRIMARY	
19	1 1/2"	PANEL	IRRIGATION CONTROLLER	2C8, 1C8G	POWER FOR IRRIGATION SYSTEM	

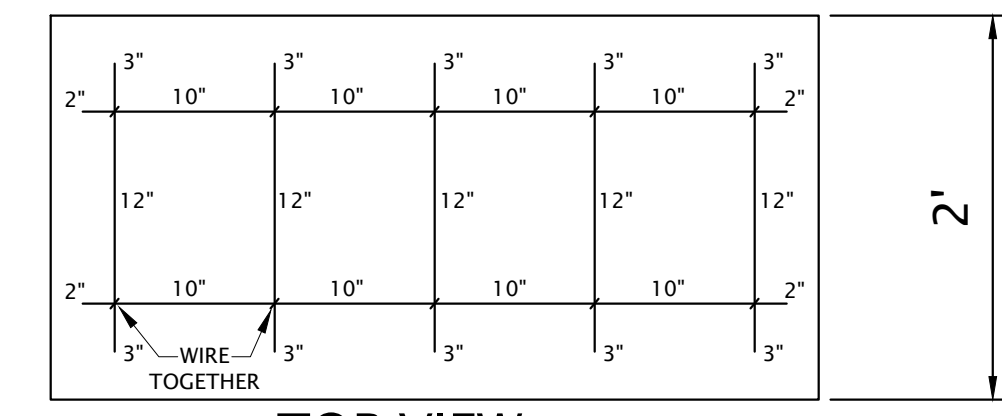
ROADWAY LIGHTING & RECEPTACLE PANEL									
PANEL D	VOLTAGE 120/240 SINGLE PHASE		NEMA		RATING BUS: 200A		MOUNTING SURFACE		
	3W 10,000 A.I.C.		TYPE 1 CAB.		SQUARE D TYPE NQ		MAIN BREAKER: 200A		
CIRCUIT USE	CB	CONNECTED LOAD POLE 1	CONNECTED LOAD POLE 2	CCT NO.	CONNECTED LOAD POLE 1	CONNECTED LOAD POLE 2	CB	CIRCUIT USE	
LTG. CIR. #1 CONTCTR. P-1	20	7.2	7.2	1	2	1.0	20	TIMER T-1	
LTG. CIR. #1 CONTCTR. P-2	20			3	4	2.0	20	CONTACTOR L1	
LTG. CIR. #2 CONTCTR. P-3	20	7.2		5	6	2.0	20	CONTACTOR R1	
LTG. CIR. #2 CONTCTR. P-4	20		7.2	7	8	15.0	20	RECEPT. CIR. #1	
LTG. CIR. #3 CONTCTR. P-5	20	7.2		9	10	15.0	20	RECEPT. CIR. #2	
LTG. CIR. #3 CONTCTR. P-6	20		7.2	11	12	15.0	20	RECEPT. CIR. #3	
LTG. CIR. #4 CONTCTR. P-7	20	7.2		13	14	15.0	20	RECEPT. CIR. #4	
LTG. CIR. #4 CONTCTR. P-8	20		7.2	15	16	10.0	20	IRRIGATION CONTROLLER	
FUTURE LTG. CIR.				17	18			FUTURE RECEPT. CIR.	
FUTURE LTG. CIR.				19	20			SPARE SPACE	
FUTURE LTG. CIR.				21	22			SPARE SPACE	
FUTURE LTG. CIR.				23	24			SPARE SPACE	
SPARE SPACE				25	26			SPARE SPACE	
SPARE SPACE				27	28			SPARE SPACE	
SPARE SPACE				29	30			SPARE SPACE	
AMPS PER POLE		28.8	28.8			33.0	42.0		
TOTAL AMPS PER POLE		61.8	70.8						

ELECTRICAL EQUIPMENT SCHEDULE						
ITEM	QUANT.	BRAND	SIZE	VOLTS	DESCRIPTION	TYPE
A	1	Sq D	200A	120/290	Panel, Q0130M200,PK18GTAgrnd bar	Q0
B	2	Sq D	30A	120	Cat #8903LG80V02	8pole
C	1	Tork	40A		Cat #EWZ103CDPST	ASTRO
D	1	Intermatic		120	Photo Control & Twist Lock Recept.	K121
E	1	Sq D	8"		8" X 8" X 42"L Wireway	-
F	1	APX	2-Dr		Cat #TCDD604815,3R w/vent fan	Alwm
L13,L14	2	Sternburg	186w	240	1914LED/A/OQPM-MOD/5318FPS/	LED
-	-	-	-	-	40L45T3-MDL10/BCC4/BK/FHD	*
L1,L11	11	Sternburg	372w	240	2-1914LED/A/OQPM-MOD/5318FPS/	LED
-	-	-	-	-	40L45T3-MDL10/BCC4/BK/FHD	*
G	1	Hunter		120	Controller by Irrigation Contractor	-

*POLES TO BE SUPPLIED WITH GFI DUPLEX RECEPTACLE AND COVER 5' ABOVE BASE

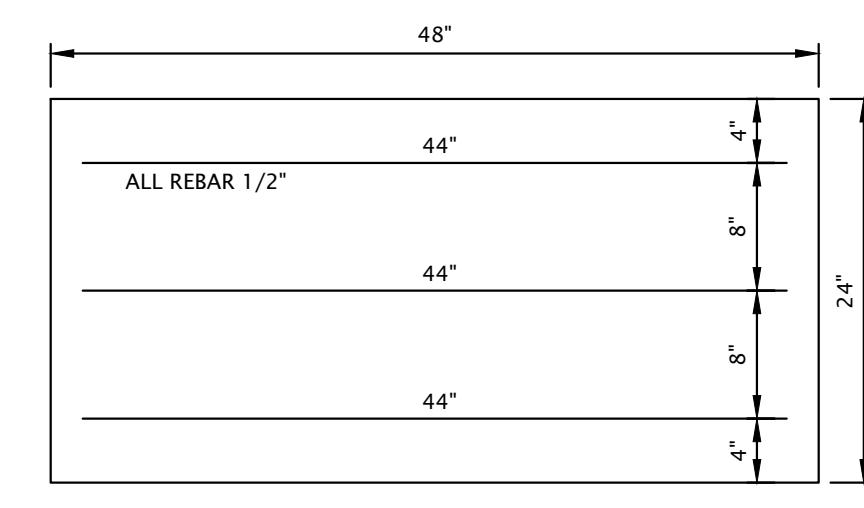


CONTROL CABINET INTERIOR
SCALE: 1"=6"



TOP VIEW

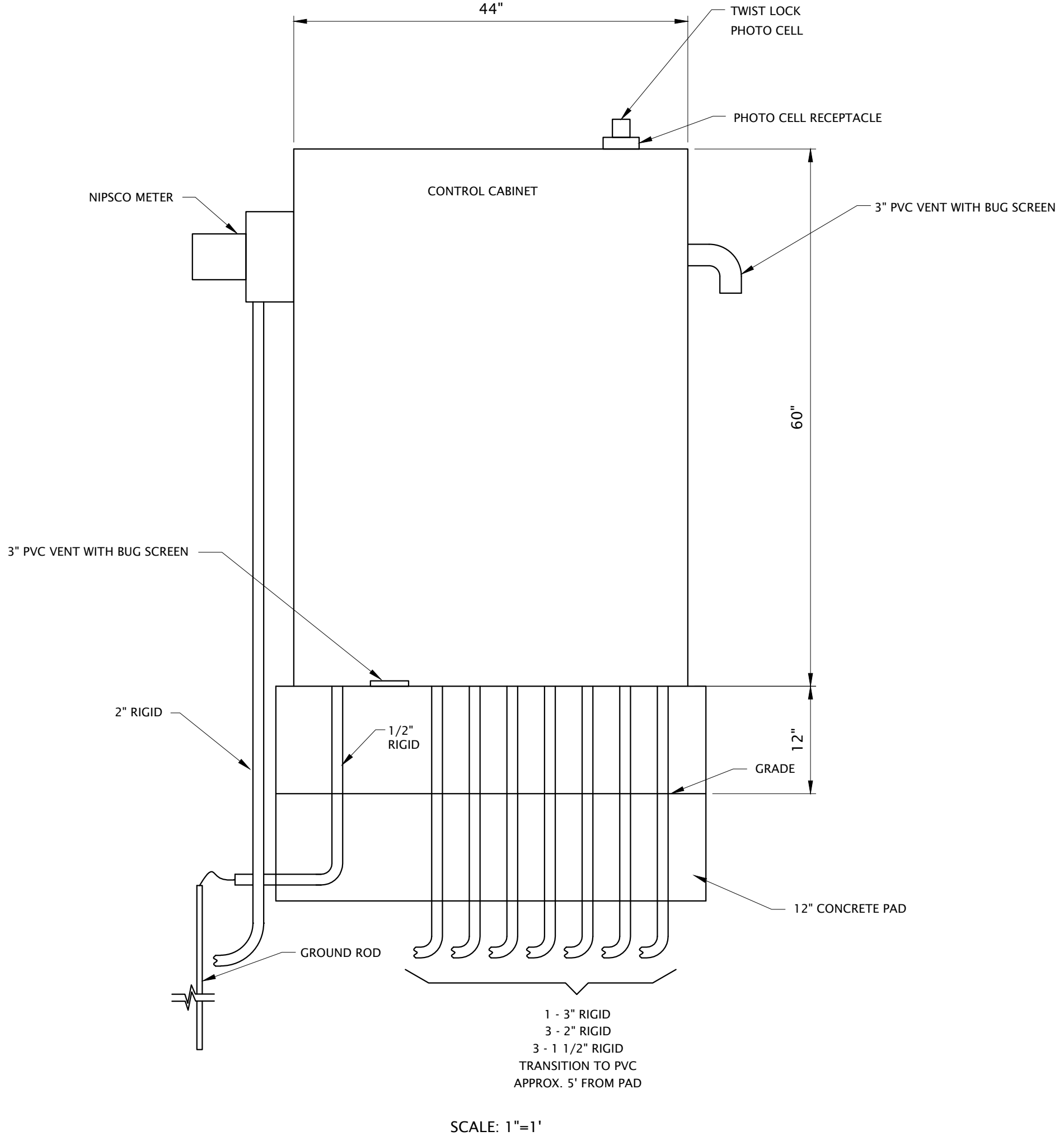
NOTE: CONDUITS NOT SHOWN. ADJUST REBAR SPACING AS NEEDED TO ACCOMMODATE CONDUITS.



SIDE VIEW

CONTROL CABINET FOUNDATION REBAR DETAIL

- NOTES:
1. ALL CONDUITS TRANSITION TO PVC UNDERGROUND
 2. GROUND ROD 5/8" COPPER CLAD 10' LONG MIN.
 3. CONNECTION TO GROUND ROD #4 COPPER.
 4. DRILL TEN 1/4" VENT HOLES TOP AND BOTTOM OF CONTACTOR ENCLOSURE.
 5. ALL CONDUCTORS TYPE THWN OR XLP-XHHW COPPER.
 6. ALL PVC CONDUITS TRENCHED AT LEAST 3" BELOW GRADE.
 7. IRRIGATION CONTROLLER BY IRRIGATION CONTRACTOR. ELECTRICAL CONTRACTOR TO MAKE POWER CONNECTION ONLY.



SCALE: 1"=1'

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PE 00018882
06-02-16

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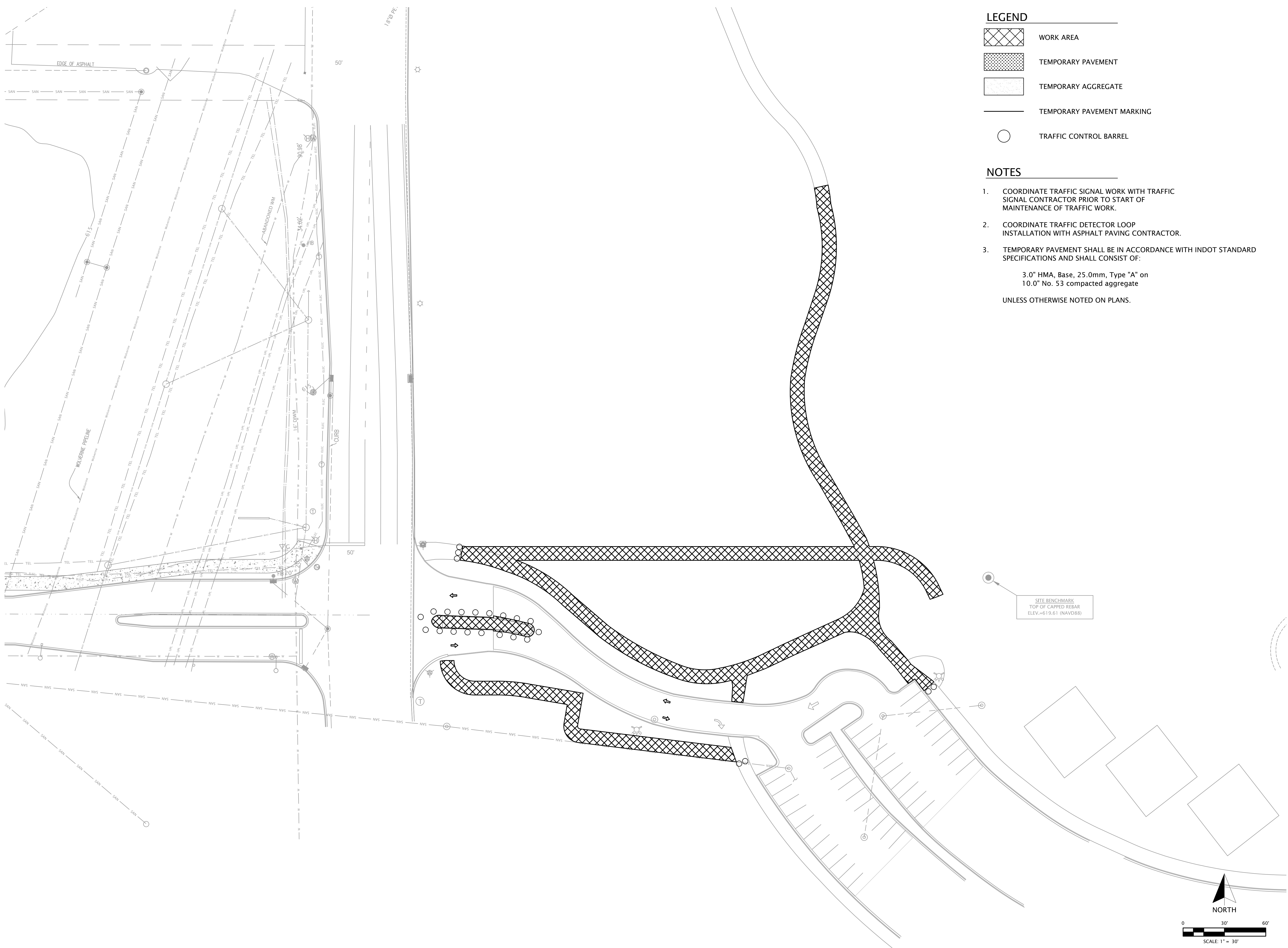
DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	06-02-16
ADDENDUM #2	

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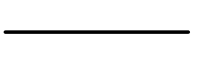
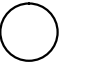
Centennial Village
Infrastructure Plans
Equipment and Circuit Schedule, Control Cabinet and Elevation, and Interior Equipment

SCALE: AS SHOWN	NORTH
DESIGN BY: RNM	
DRAWN BY: SMA	
DATE: 05-16-16	

E201



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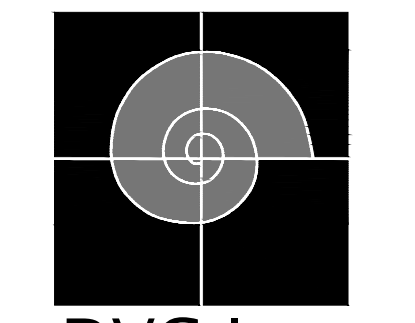
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-  TEMPORARY PAVEMENT
-  TEMPORARY AGGREGATE
-  TEMPORARY PAVEMENT MARKING
-  TRAFFIC CONTROL BARREL

NOTES

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3. TEMPORARY PAVEMENT SHALL BE IN ACCORDANCE WITH INDOT STANDARD SPECIFICATIONS AND SHALL CONSIST OF:

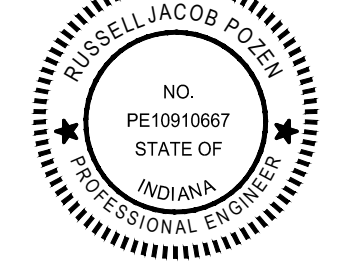
3.0" HMA, Base, 25.0mm, Type "A" on
10.0" No. 53 compacted aggregate

UNLESS OTHERWISE NOTED ON PLANS.



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Project Management and
Development Consulting
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Crown Point, IN 46307
(219) 662-7710 Fax (219) 662-2740

Russell Jacob Poin



07-22-2016

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9615 Boulevard Drive
Highland, Indiana 46322

DVG # 14-C-1011	DATE:
REVISIONS AND NOTES:	07-22-2016
Addendum #3	

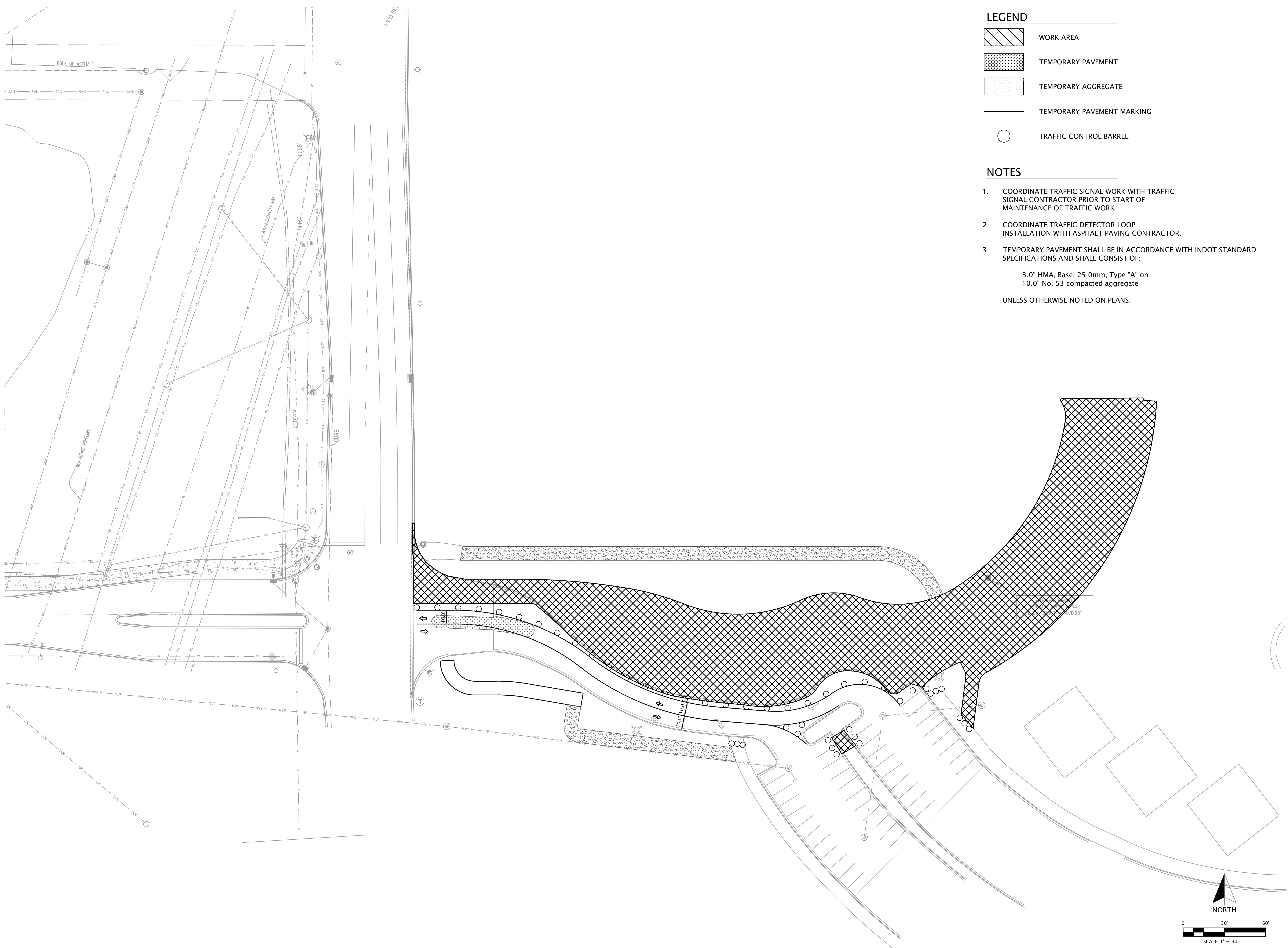
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**Centennial Village
Maintenance of Traffic**



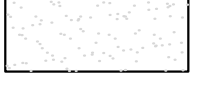
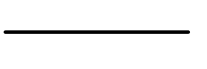

Phase 1

SCALE: 1"=30'
DESIGN BY: RNM
DRAWN BY: RNM
DATE: 07-22-16

MOT-1

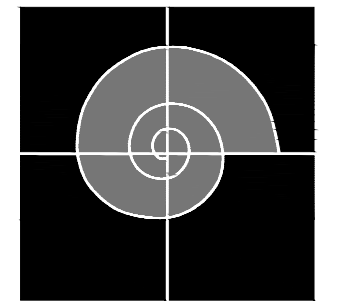


LEGEND

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-  TEMPORARY PAVEMENT
-  TEMPORARY AGGREGATE
-  TEMPORARY PAVEMENT MARKING
-  TRAFFIC CONTROL BARREL

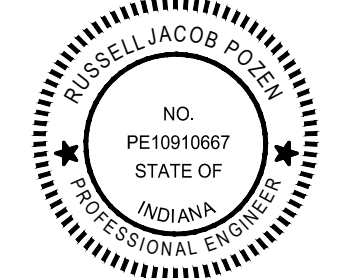
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Russell Jacob Poin



07-22-2016

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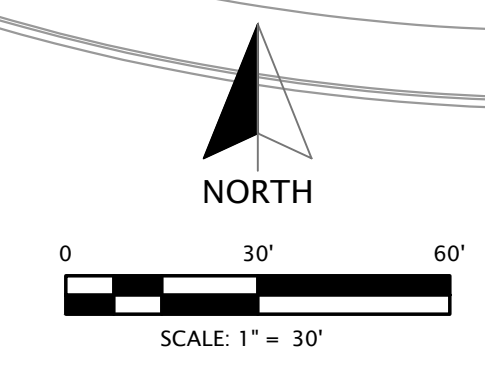
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REVISIONS AND NOTES:	07-22-2016
Addendum #1	

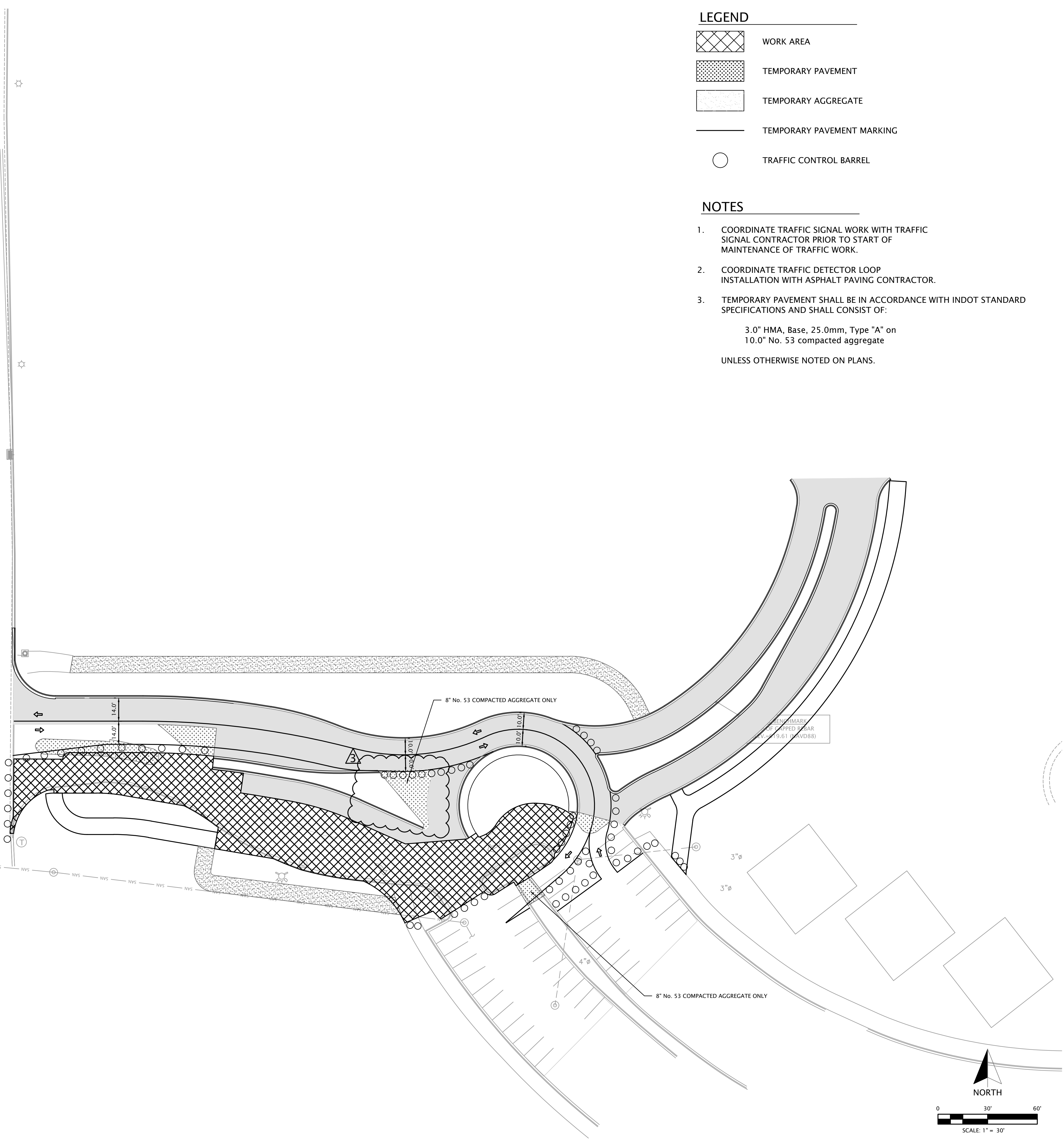
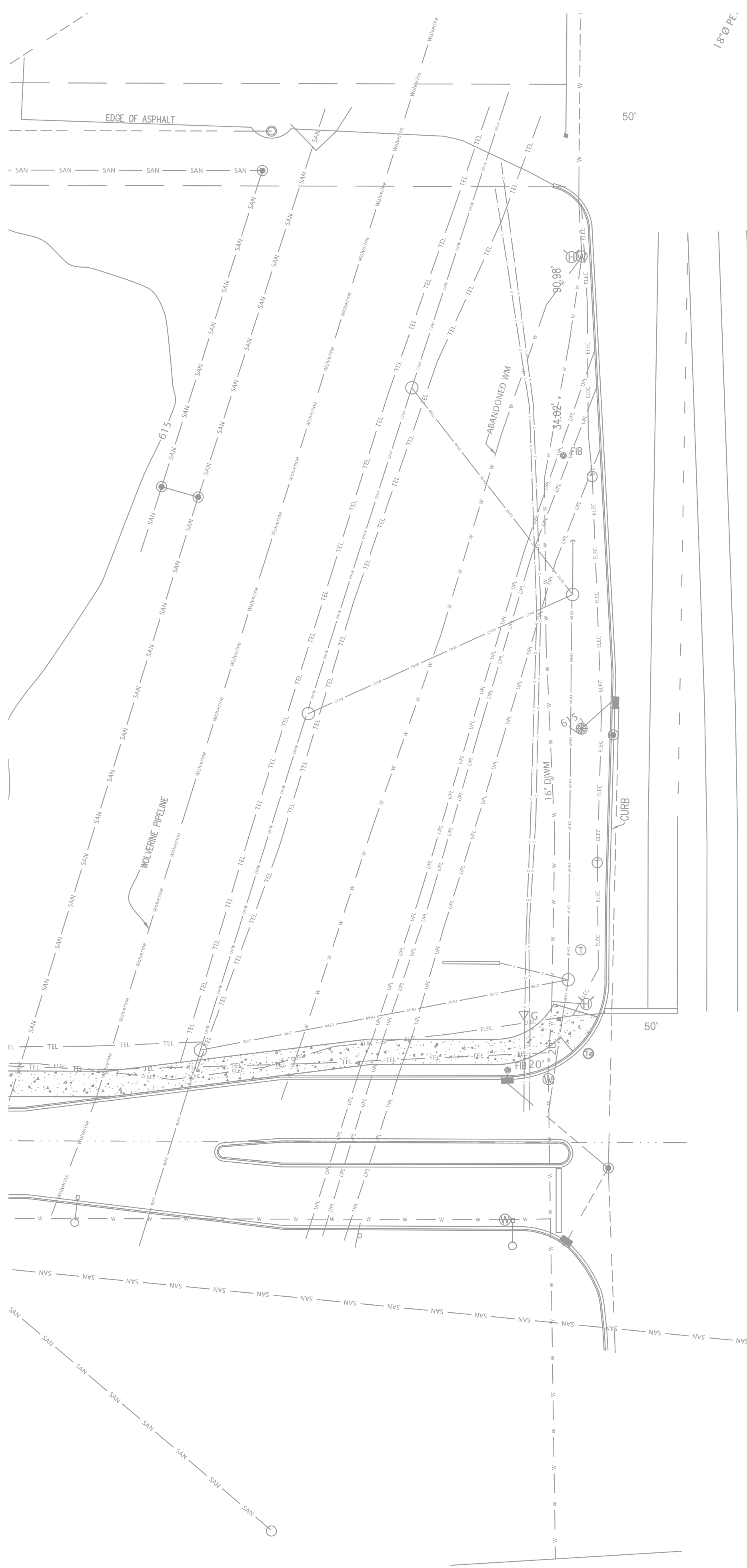
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 Phase 2

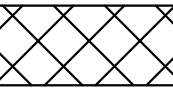
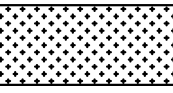

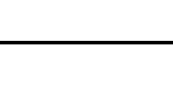
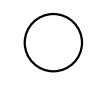
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DATE: 07-22-16

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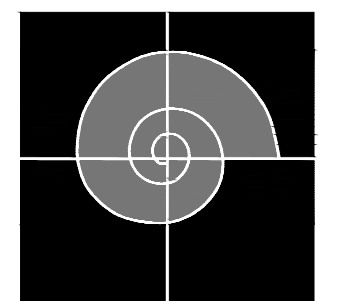


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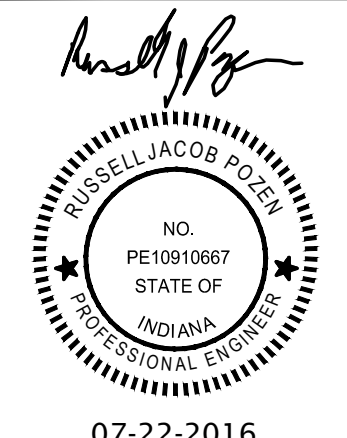
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-  TEMPORARY PAVEMENT
-  TEMPORARY AGGREGATE
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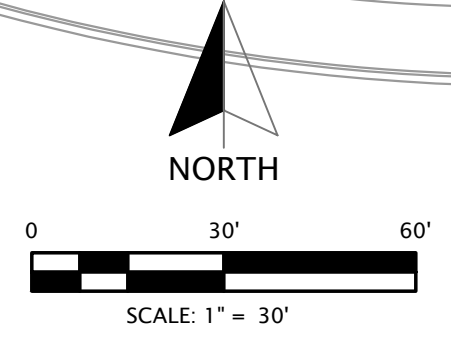
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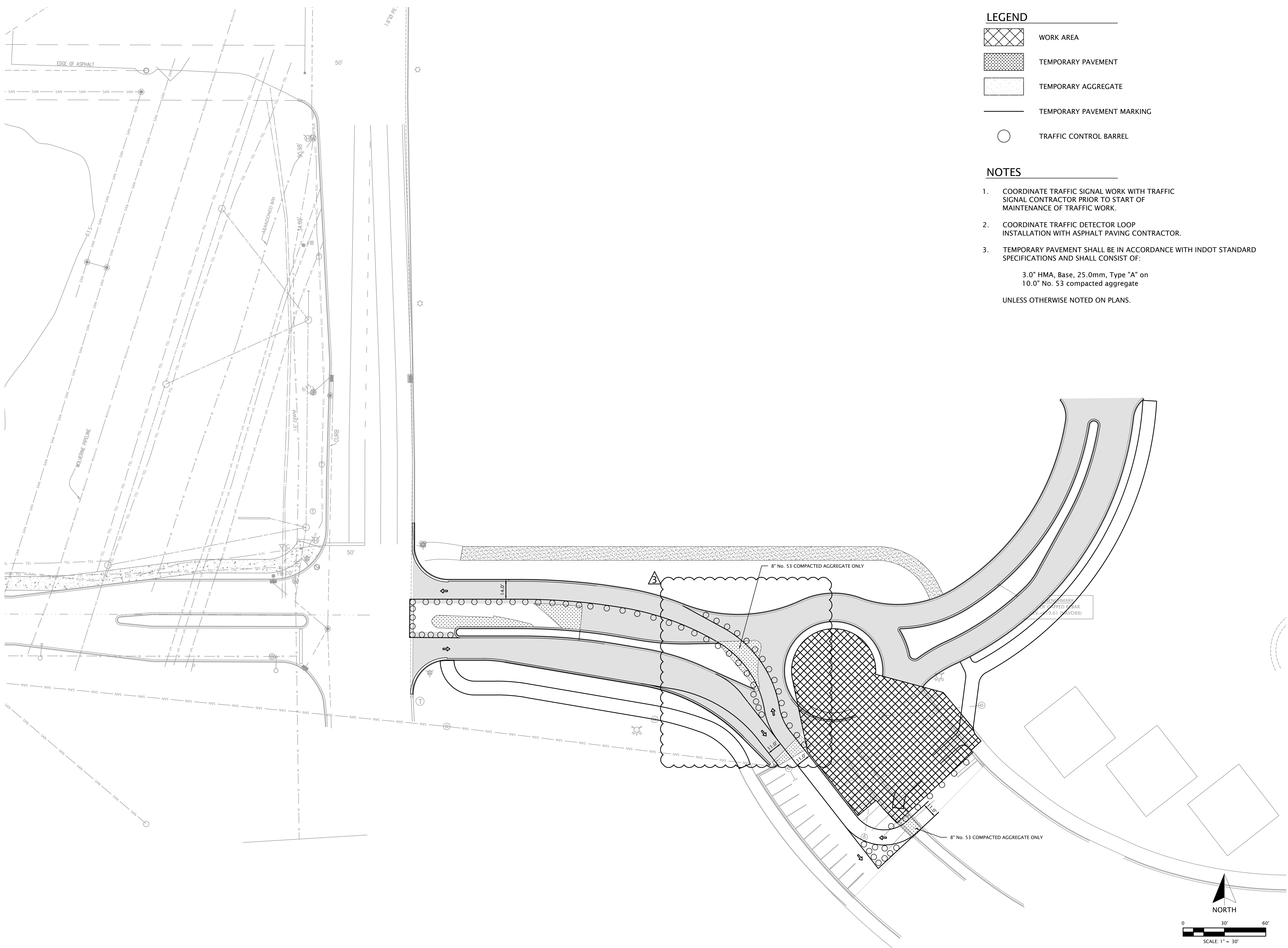
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**Centennial Village
 Maintenance of Traffic
 Phase 3**



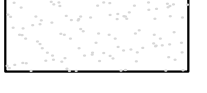
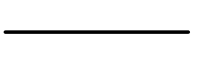
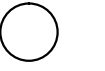
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MOT-3





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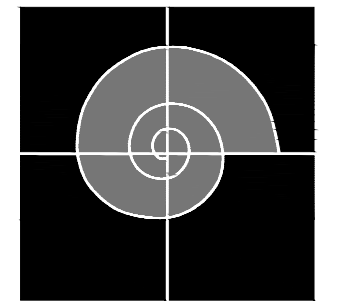
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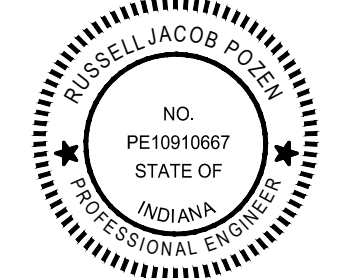
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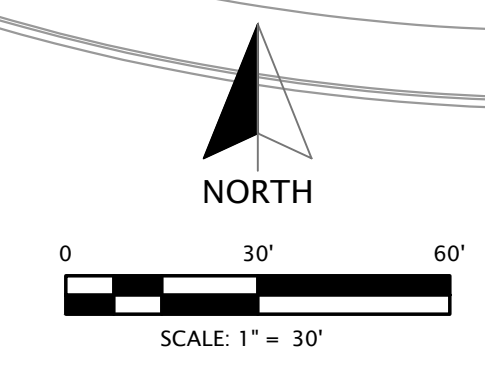
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Addendum #3	

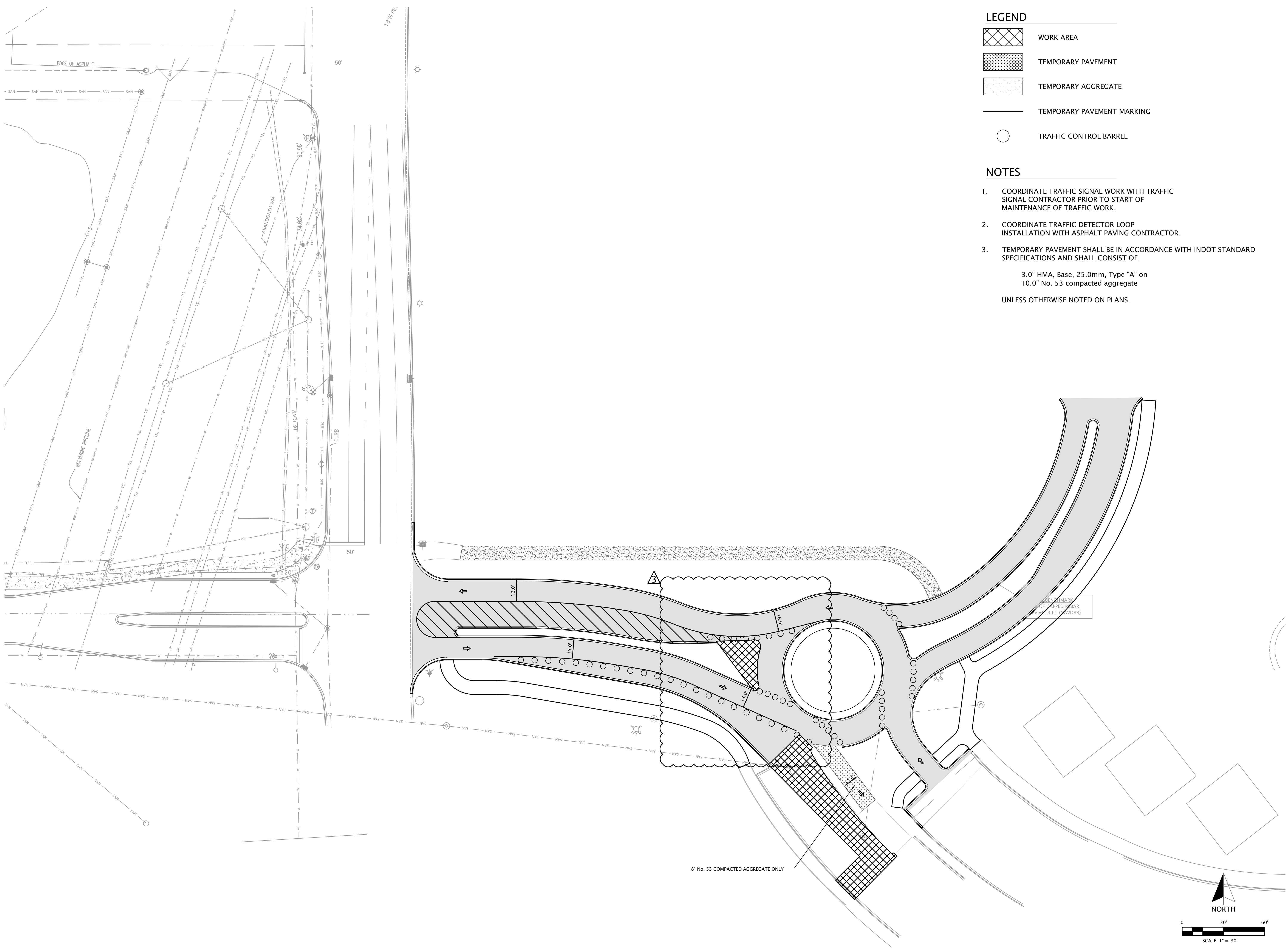
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**Centennial Village
Maintenance of Traffic
Phase 4**



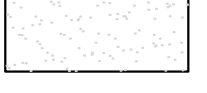
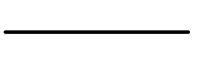
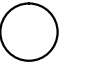
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DRAWN BY: RNM
DATE: 07-22-16

MOT-4



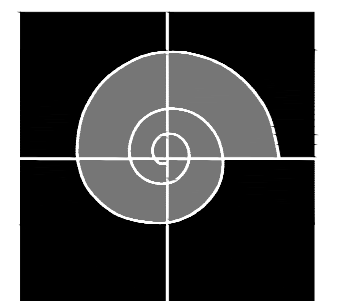


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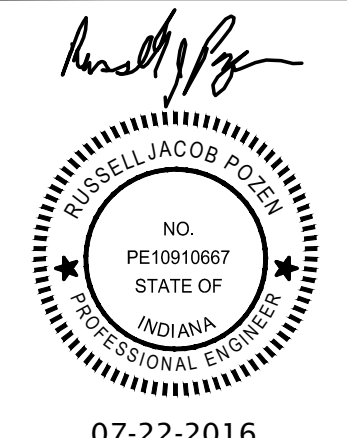
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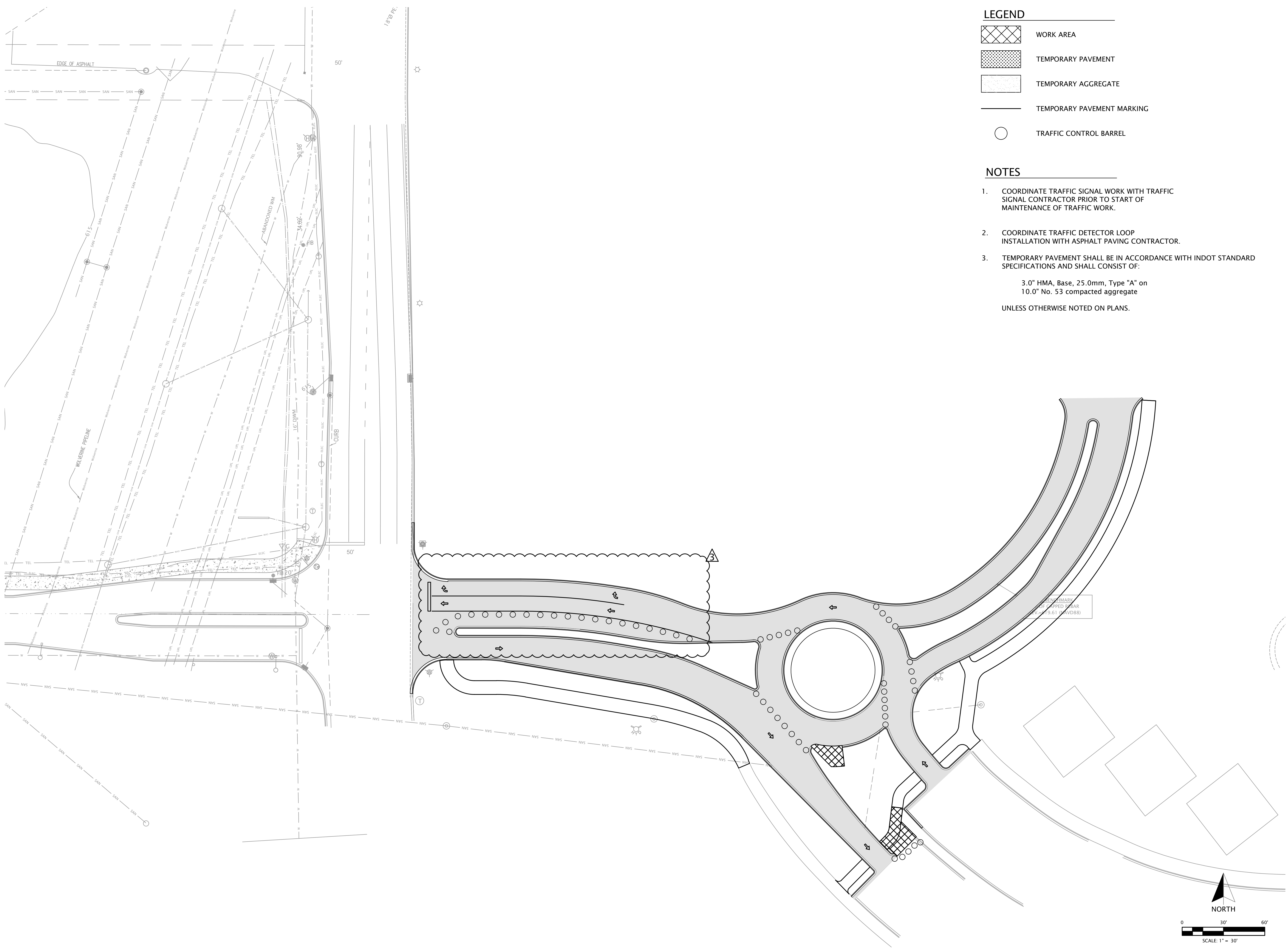
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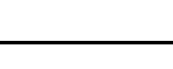

**Centennial Village
 Maintenance of Traffic**
 Phase 5

SCALE: 1"=30'
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DATE: 07-22-16

MOT-5



LEGEND

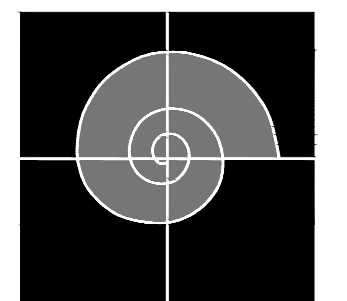
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-  TEMPORARY AGGREGATE
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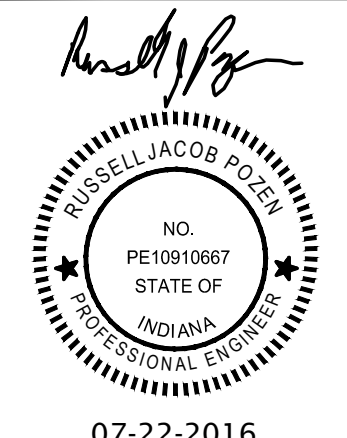
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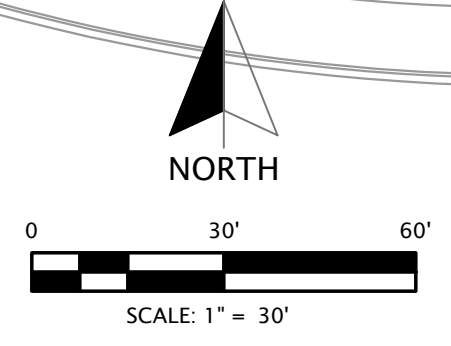
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**Centennial Village
 Maintenance of Traffic**
 Phase 6

SCALE: 1"=30'
 DESIGN BY: RNM
 DRAWN BY: RNM
 DATE: 07-22-16

MOT-6



Centennial Village - Phase 1 B

Munster, Indiana

ADDENDUM 01 - 10/14/2016



LOCATION MAP
(No Scale)

PROJECT
LOCATION

INDEX OF SHEETS

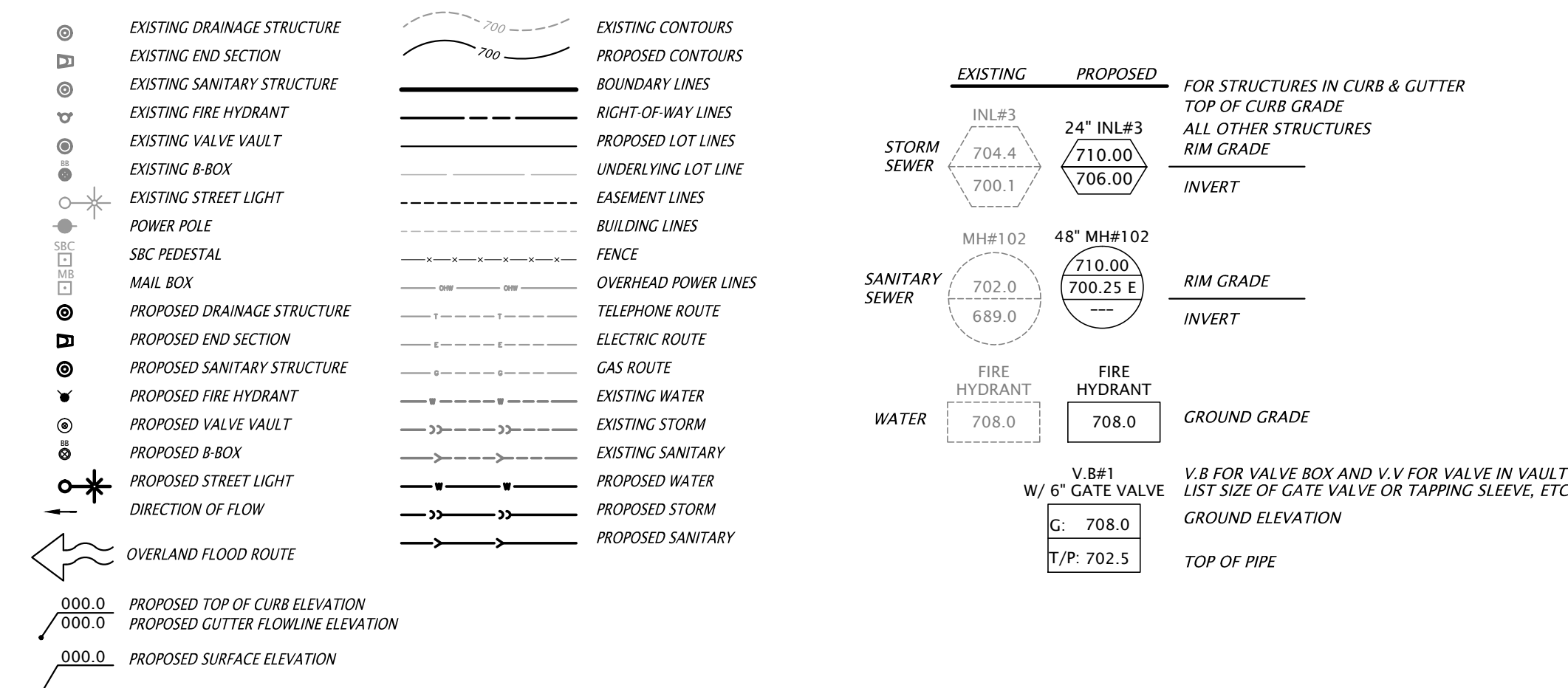
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C101	EXISTING CONDITIONS
C102	OVERALL PHASING PLAN
C103	DEMOLITION PLAN
C104	OVERALL SITE PLAN
C105	SITE PLAN
C105A	SITE PLAN-NORTH
C106	UTILITY PLAN
C106A	UTILITY PLAN-NORTH
C107	GRADING PLAN
C107A	GRADING PLAN-NORTH
C108	STORM WATER POLLUTION PREVENTION PLAN
C109	SIGNAGE PLAN
L101	LANDSCAPING PLAN
C201 to C205	CONSTRUCTION DETAILS
C301 to C304	S.W.P.P.P. DETAILS
C401 to C402	SANITARY SEWER PROFILE
E101	LIGHTING PLAN
E201	LIGHTING EQUIPMENT & CONTROLS

*THE CURRENT TOWN OF MUNSTER ENGINEERING STANDARDS SHALL BE CONSIDERED PART OF THIS PLAN SET.

NOTE:

THESE PLANS HAVE BEEN DEVELOPED IN CONJUNCTION WITH SUBSURFACE GEOTECHNICAL REPORTS BY BOTH ALT WITZIG & ATC. THESE DOCUMENTS ARE PART OF THE CONTRACT DOCUMENTS FOR THIS PROJECT. THE PHASE 1A AREA IS KNOWN TO HAVE AREAS OF UN-SUITABLE FILL MATERIAL CONTAINED WITHIN THE SITE. THE UNSUITABLE FILL MATERIAL IS KNOWN TO CONTAIN MUNICIPAL SOLID WASTE, GRAVEL AND BRICK WASTE RUBBLE. ANY SUCH UNSUITABLE MATERIAL ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER (DVG). ALL EXCAVATION AND UNDERGROUND UTILITY CONSTRUCTION SHALL BE INSTALLED ON SUITABLE TRENCH SUBGRADE OR ON OTHER MEANS TO STRUCTURALLY STABILIZE THE TRENCH AS DEFINED IN THESE PLANS. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND/OR PLANS CERTIFIED BY AN INDIANA PROFESSIONAL ENGINEER TO BE APPROVED BY DVG PRIOR TO IMPLEMENTING THE STABILIZATION METHOD.

LEGEND



BENCHMARKS

TOP OF CAPPED REBAR
APPROXIMATELY 449 FT. EAST OF CALUMET AVENUE CENTERLINE &
17 FT. NORTH OF SOUTH LINE OF SOUTHWEST QUARTER OF
SECTION 30-36-9

ELEVATION = 619.61 (NAVD88)

PROJECT CONTACTS

SCHOOL DISTRICT
SCHOOL TOWN OF MUNSTER
8616 COLUMBIA AVENUE
MUNSTER, IN 46321

CABLE UTILITY
COMCAST
844 169TH STREET
HAMMOND, INDIANA 46324
866-594-1234

WATER UTILITY
MUNSTER PUBLIC WORKS
508 FISHER STREET
MUNSTER, INDIANA 46321
219-836-6971

SANITARY SEWER UTILITY
MUNSTER PUBLIC WORKS
508 FISHER STREET
MUNSTER, INDIANA 46321
219-836-6971

ELECTRIC & GAS UTILITY
NIPSCO
801 E. 86TH AVE.
MERRILLVILLE, IN 46410
800-464-7726

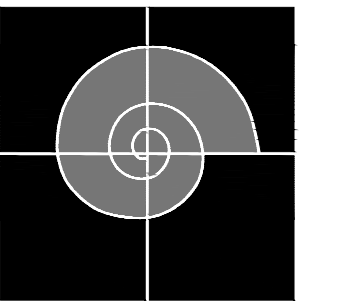
TELEPHONE UTILITY
AT&T
302 S. EAST STREET
CROWN POINT, IN 46307

DEVELOPER
CENTENNIAL VILLAGE, LLC
9615 BOULEVARD DRIVE
HIGHLAND, INDIANA 46322



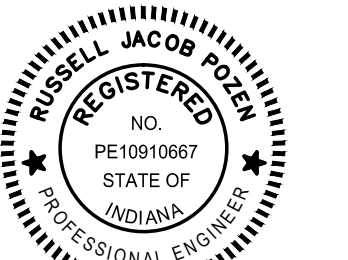
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10-14-16

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Highland, IN 46322

DWG # 14-C-1011

REVISIONS AND NOTES:	DATE:
ADDENDUM 01	10-14-16

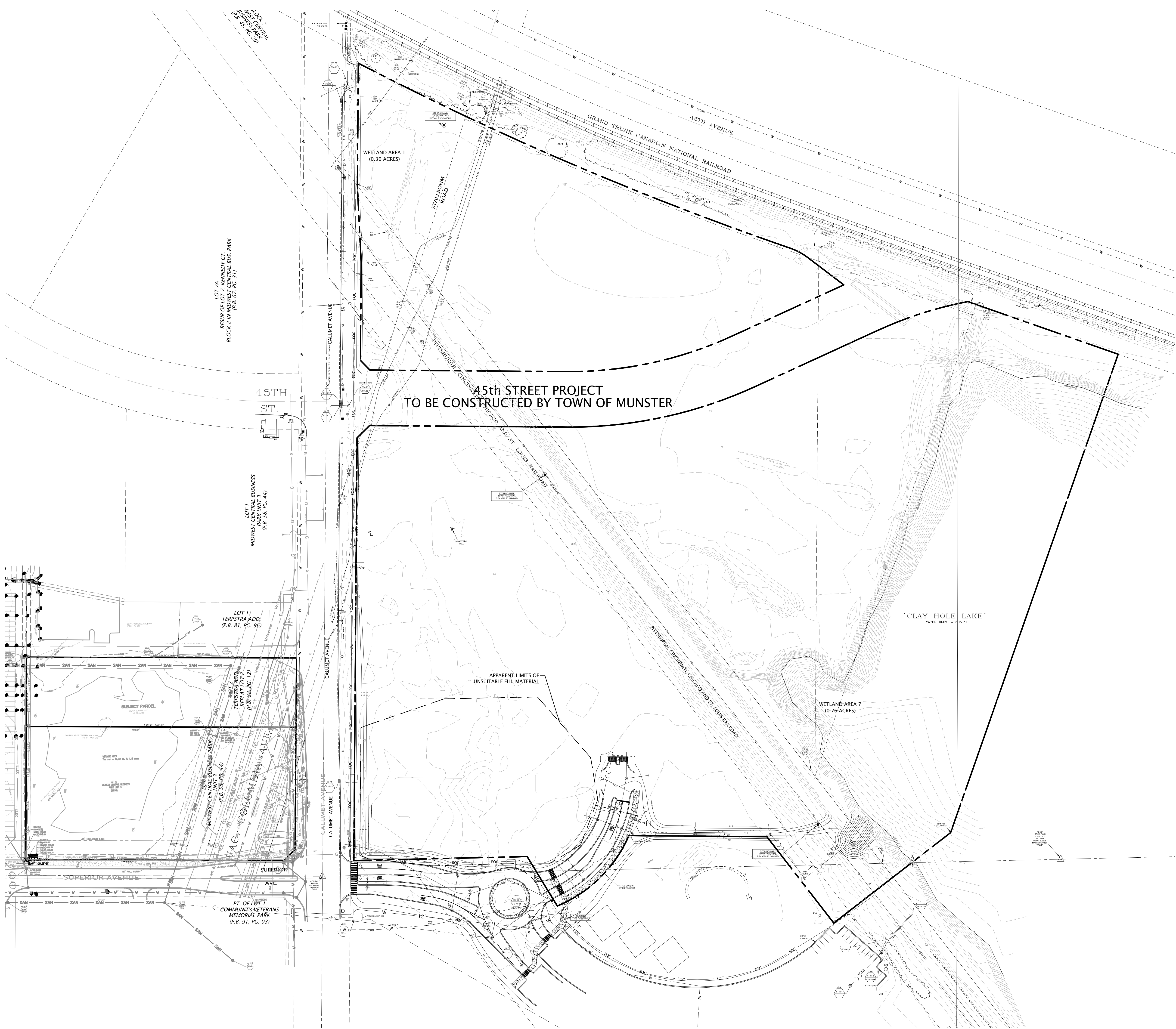
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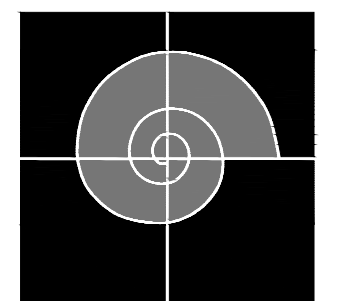
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Munster, Indiana
Engineering Plans
Phase 1 B

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DESIGN BY: RJP
DRAWN BY: RJP
DATE: 7-22-16

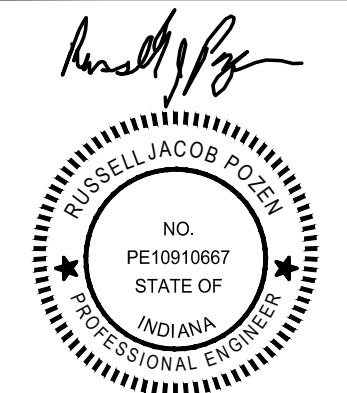
C001



45th STREET PROJECT
TO BE CONSTRUCTED BY TOWN OF MUNSTER



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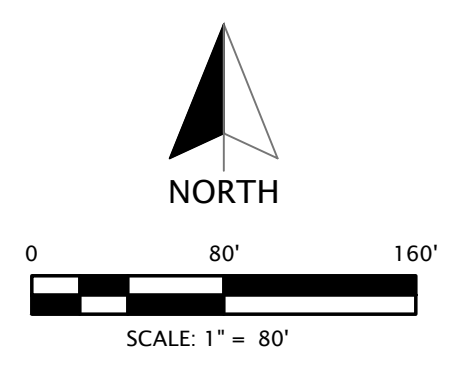
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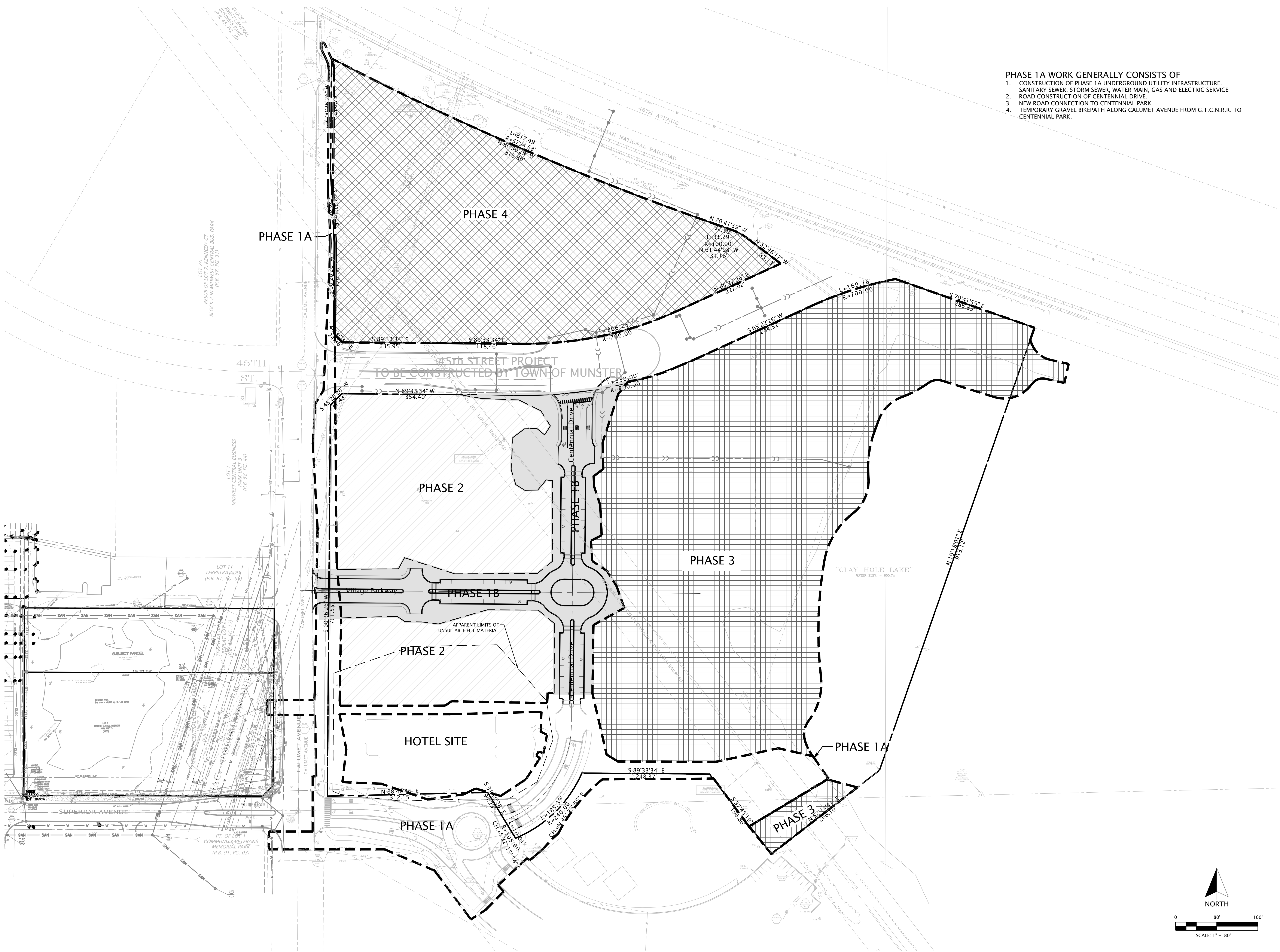
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**Centennial Village
Infrastructure Plans**
**Existing Conditions
Phase 1B**

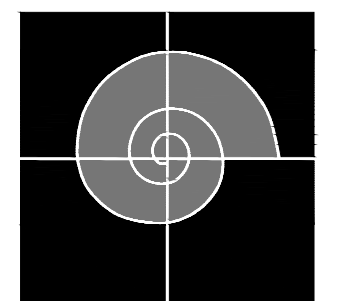
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C101



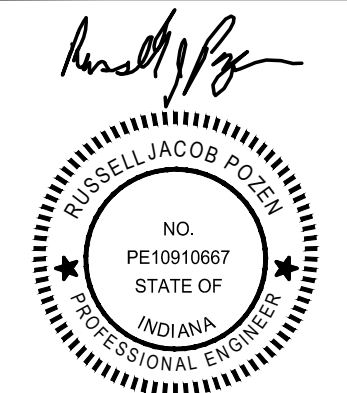


- PHASE 1A WORK GENERALLY CONSISTS OF**
1. CONSTRUCTION OF PHASE 1A UNDERGROUND UTILITY INFRASTRUCTURE. SANITARY SEWER, STORM SEWER, WATER MAIN, GAS AND ELECTRIC SERVICE.
 2. ROAD CONSTRUCTION OF CENTENNIAL DRIVE.
 3. NEW ROAD CONNECTION TO CENTENNIAL PARK.
 4. TEMPORARY GRAVEL BIKEPATH ALONG CALUMET AVENUE FROM G.T.C.N.R.R. TO CENTENNIAL PARK.



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DWG # 14-C-1011

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**Centennial Village
Infrastructure Plans**
Overall Phasing Plan

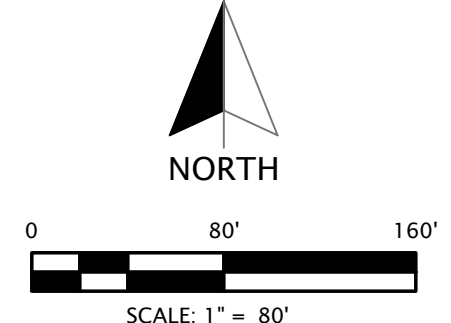
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C102



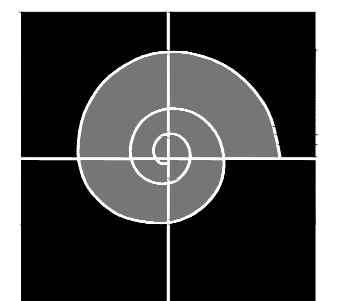


LEGEND

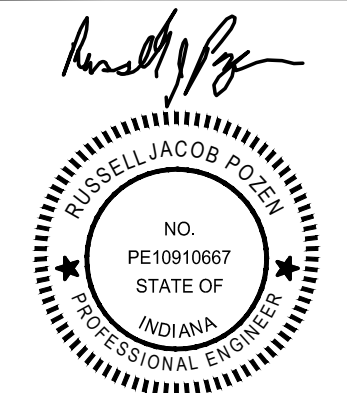
	REMOVE BITUMINOUS PAVEMENT AND SUB-BASE MATERIAL
	CONTRACTOR TO STRIP AND REMOVE SOD FROM ALL AREAS TO BE REGRADED AND PROPERLY DISPOSE. REMOVE SUBGRADE MATERIAL OR TOPSOIL AS NEEDED
	ITEM TO BE REMOVED
	LINEAR REMOVAL ITEM
	REMOVE SEWER

- NOTES**
- NO DEMOLITION SHALL TAKE PLACE UNTIL ALL REQUIRED PERMITS HAVE BEEN OBTAINED BY THE CONTRACTOR.
 - CONTRACTOR SHALL FIELD-VERIFY SITE CONDITIONS AND INFORMATION ON DRAWINGS. PROMPTLY REPORT ANY CONCEALED CONDITIONS, MISTAKES, DISCREPANCIES OR DEVIATIONS FROM THE INFORMATION SHOWN IN THE CONTRACT DOCUMENTS. THE OWNER IS NOT RESPONSIBLE FOR UNAUTHORIZED CHANGES OR EXTRA WORK REQUIRED TO CORRECT UNREPORTED DISCREPANCIES.
 - WHERE TREES OR STUMPS ARE TO BE REMOVED, GRIND OUT STUMP TO A DEPTH OF 18 INCHES.
 - "REMOVAL" MEANS REMOVAL OF AN ITEM ABOVE GRADE AND REMOVAL OF ALL ELEMENTS BELOW GRADING INCLUDING, BUT NOT LIMITED TO, FOOTINGS, WIRINGS, AND PIPING THAT ARE IMMEDIATELY ADJACENT TO THE ITEM BEING REMOVED.
 - REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION RELATING TO SUBSURFACE CONDITIONS.
 - THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF MUNSTER FOR THE REMOVAL OF ANY TREE MARKED AS A MEMORIAL TREE WITHIN THE FORMER TOWN OF MUNSTER PARK AREA.
 - THE CONTRACTOR SHALL COORDINATE WITH ANDREWS ENGINEERING, MONITORING WELL CONTRACTOR FOR THE TOWN OF MUNSTER FOR THE REMOVAL AND RELOCATION OF THE MONITORING WELL.

SAWCUT EX. CURB TO DEPRESSED C&G HEIGHT



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NO. PE1010667
STATE OF INDIANA
PROFESSIONAL ENGINEER
10-14-16

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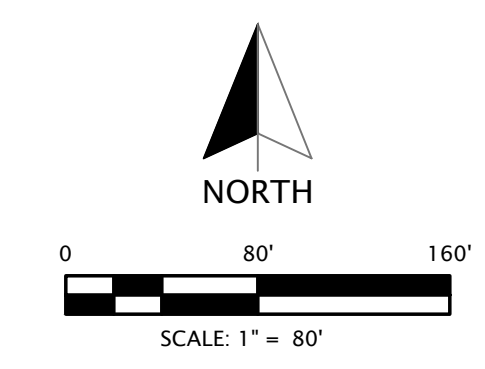
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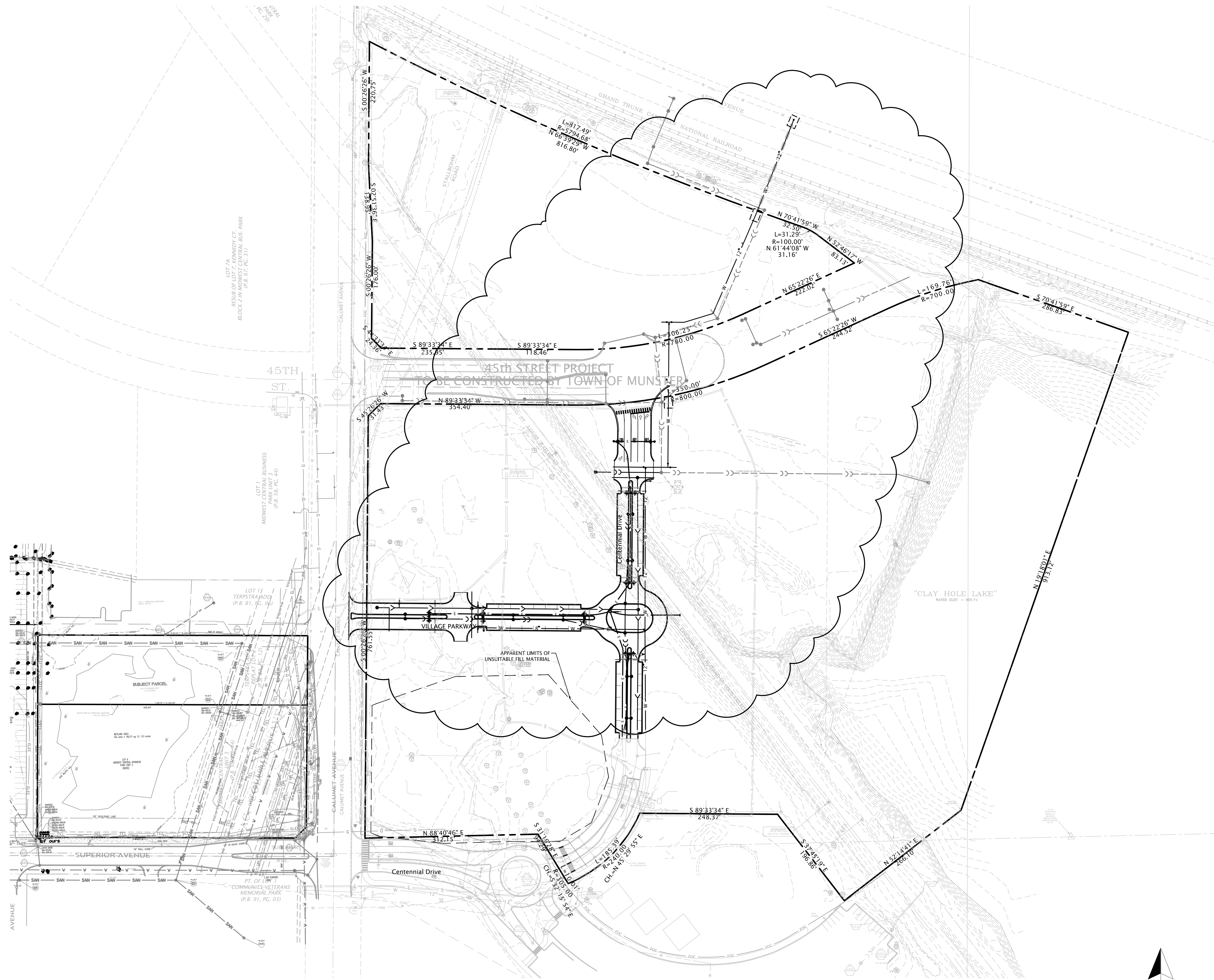
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Demolition Plan Phase 1B

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C103





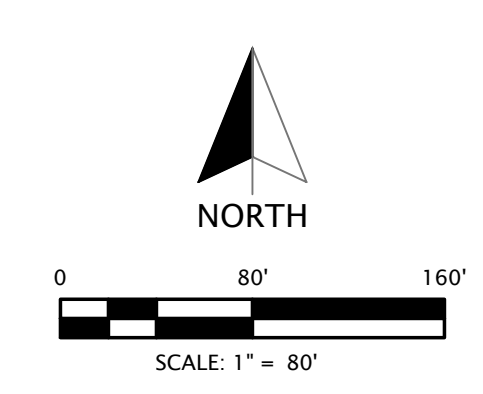
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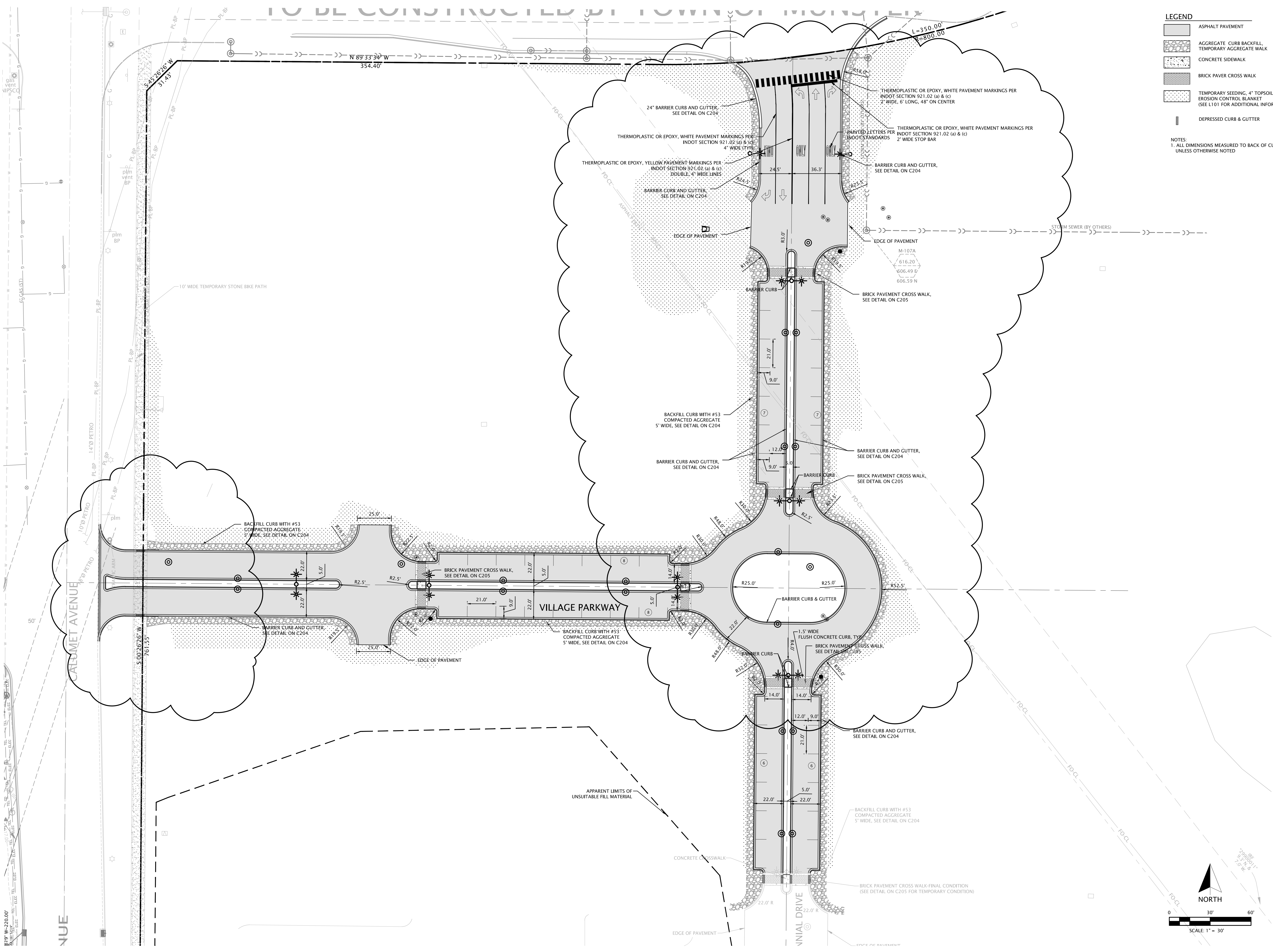
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**Centennial Village
 Infrastructure Plans**
**Overall Utility Plan
 Phase 1B**

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C104





LEGEND

- ASPHALT PAVEMENT
- AGGREGATE CURB BACKFILL, TEMPORARY AGGREGATE WALK
- CONCRETE SIDEWALK
- BRICK PAVER CROSS WALK
- TEMPORARY SEEDING, 4" TOPSOIL, EROSION CONTROL BLANKET (SEE L101 FOR ADDITIONAL INFORMATION)
- DEPRESSED CURB & GUTTER

NOTES:
1. ALL DIMENSIONS MEASURED TO BACK OF CURB, UNLESS OTHERWISE NOTED

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NO. PE10910667
STATE OF INDIANA
PROFESSIONAL ENGINEER
10-14-16

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Highland, Indiana 46322

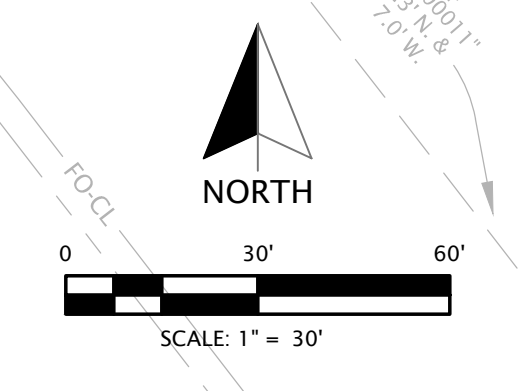
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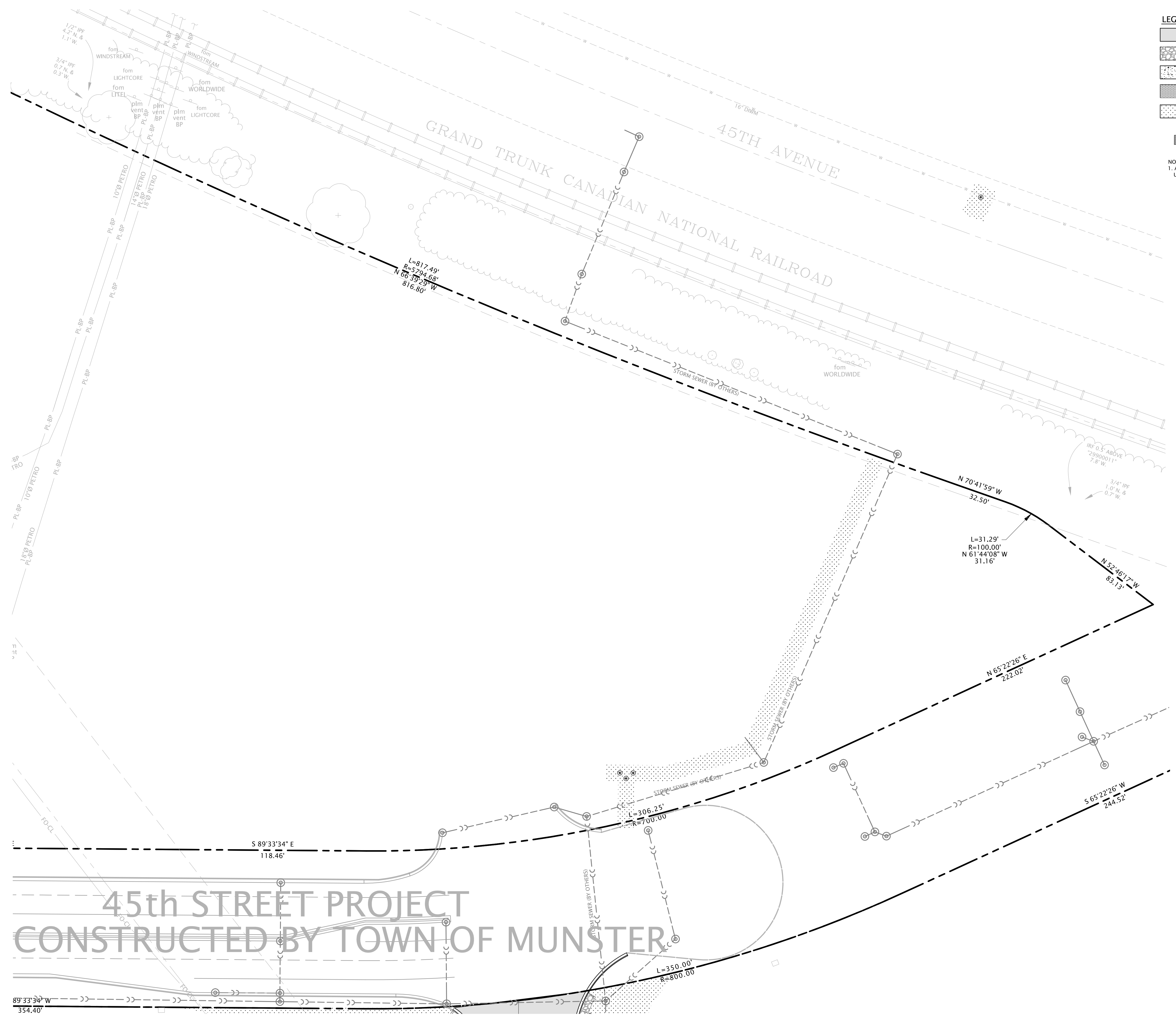
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Site Plan - Phase 1B

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C105





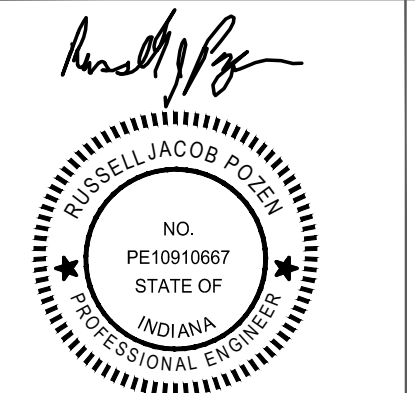
LEGEND

- ASPHALT PAVEMENT
- AGGREGATE CURB BACKFILL, TEMPORARY AGGREGATE WALK
- CONCRETE SIDEWALK
- BRICK PAVER CROSS WALK
- TEMPORARY SEEDING, 4" TOPSOIL, EROSION CONTROL BLANKET (SEE L101 FOR ADDITIONAL INFORMATION)
- DEPRESSED CURB & GUTTER

NOTES:
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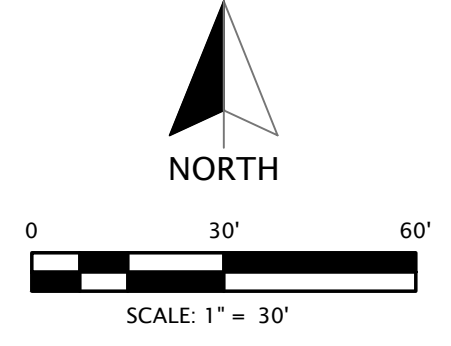
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Site Plan-NORTH - Phase 1B

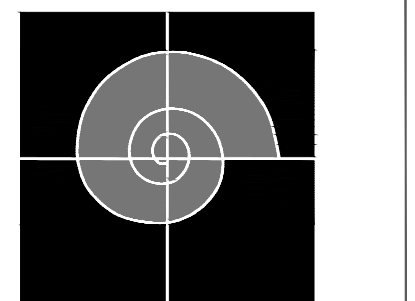
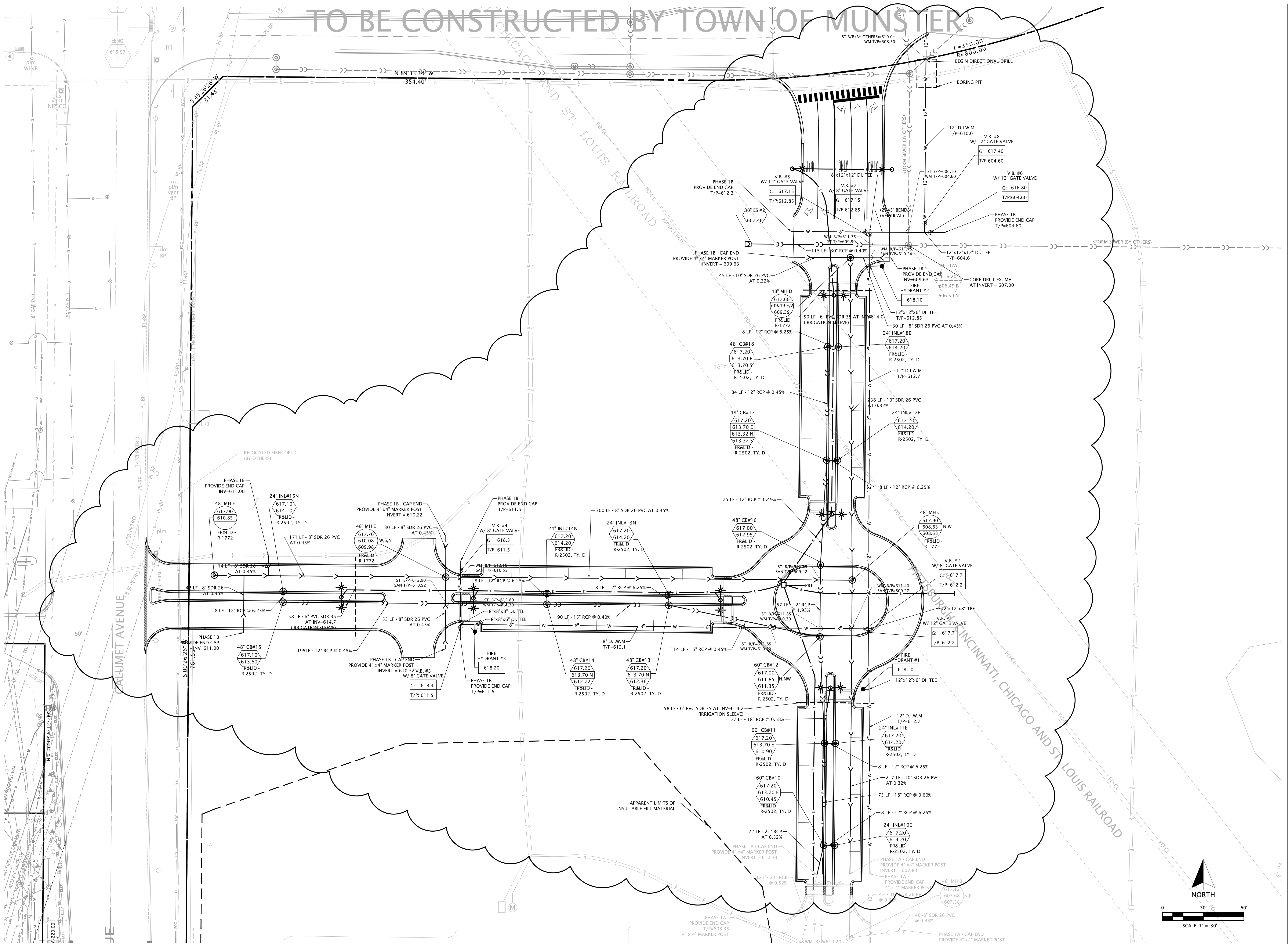
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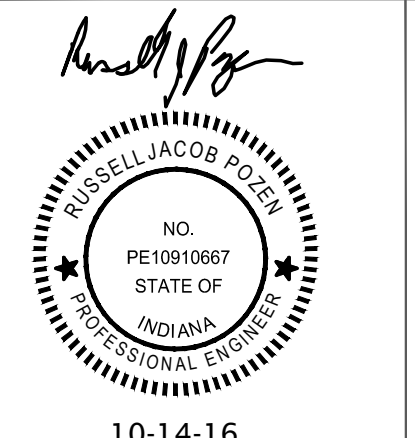
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C105A

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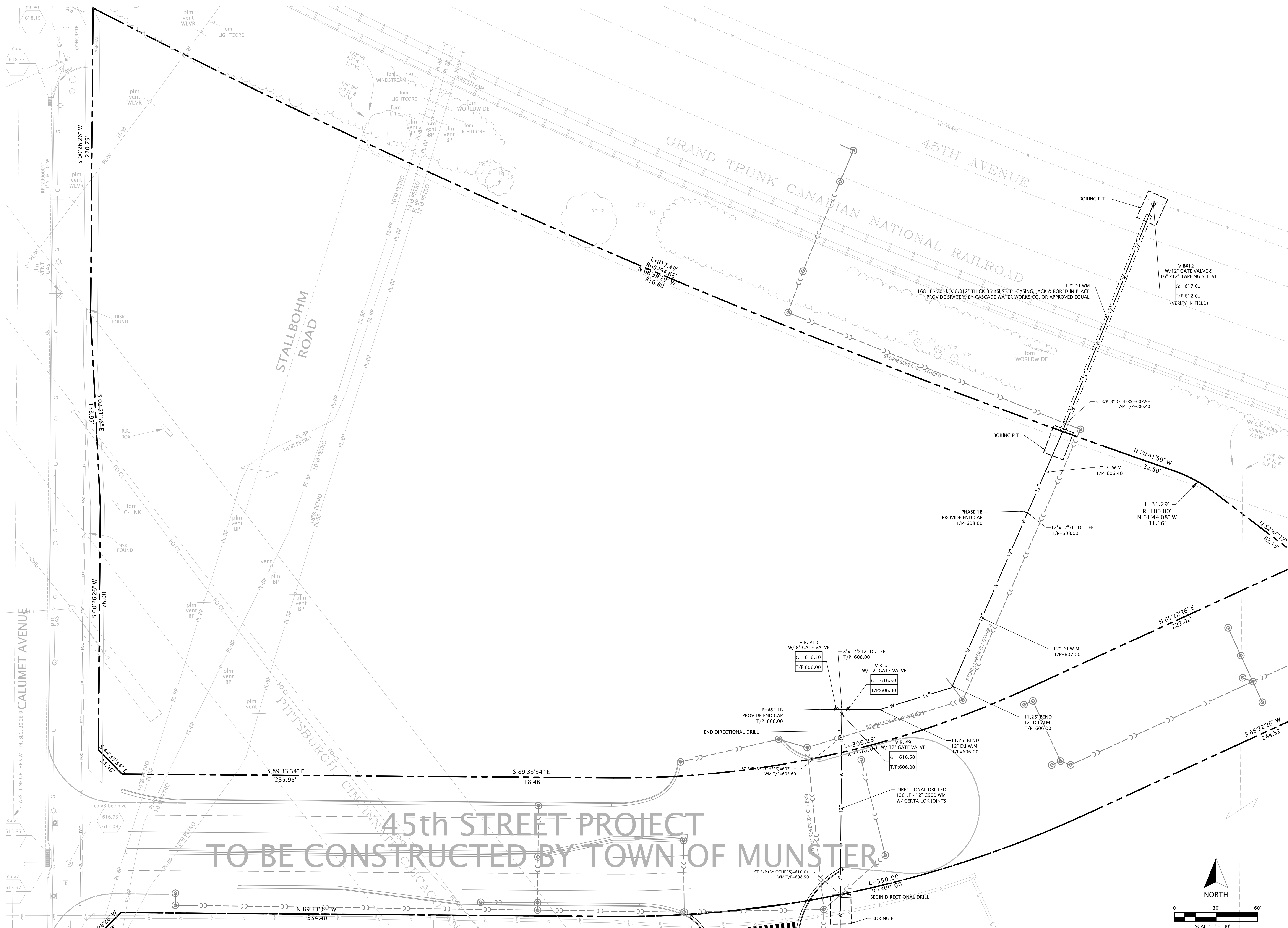
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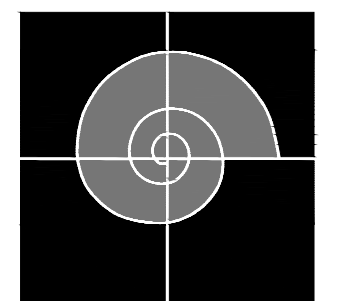
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 Infrastructure Plans**
 Utility Plan - Phase 1B

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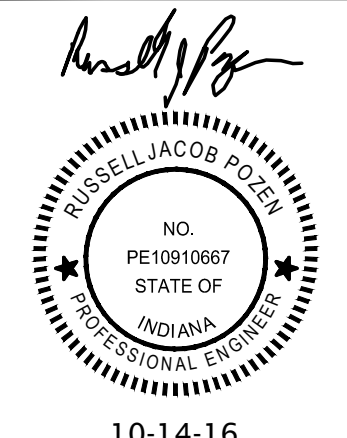
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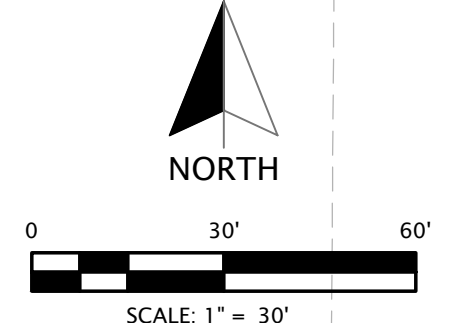
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Utility Plan-NORTH - Phase 1B

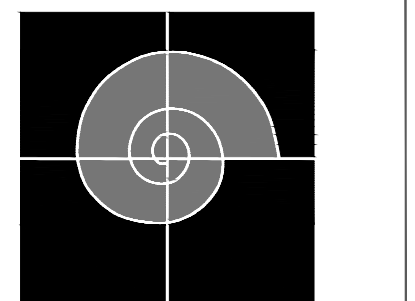
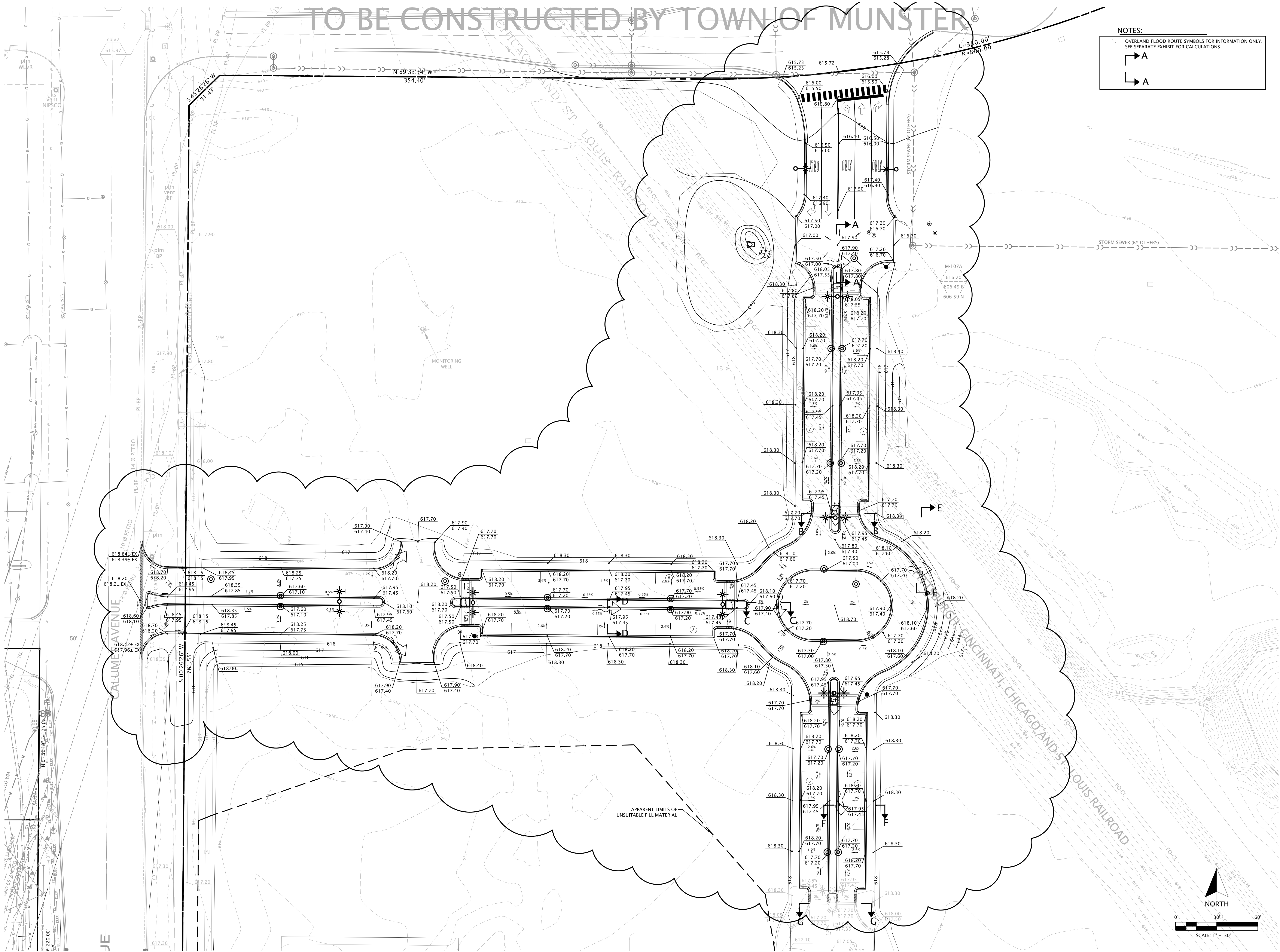
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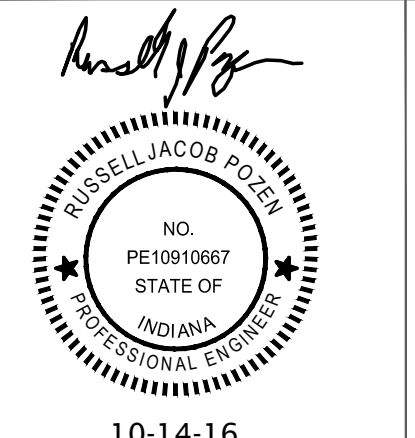


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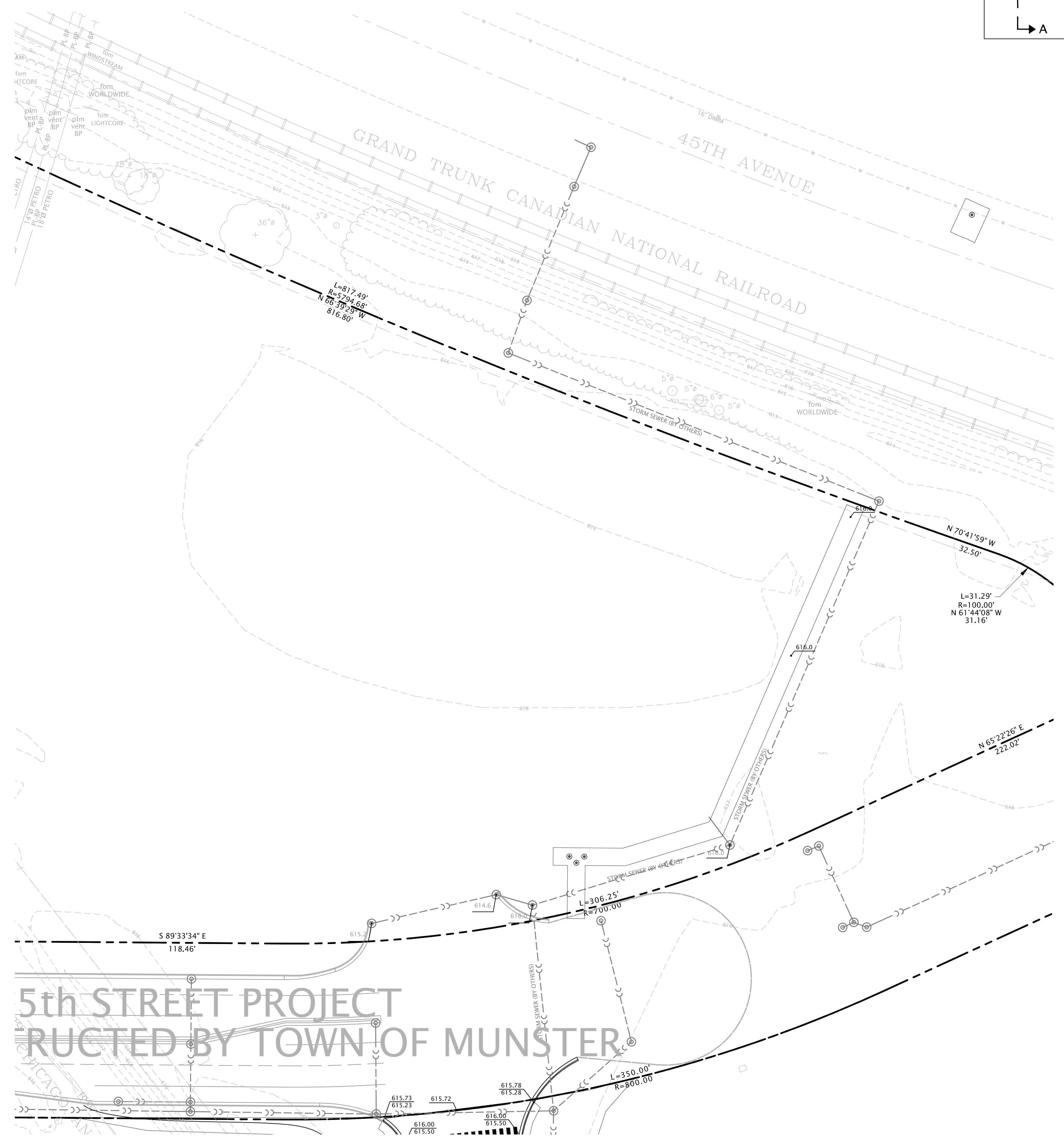
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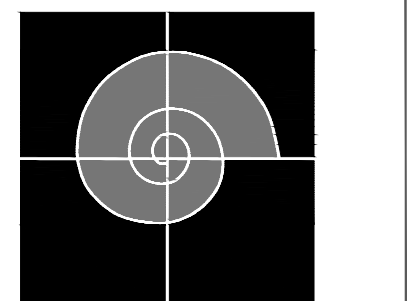
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 Infrastructure Plans**
 Grading Plan - Phase 1B

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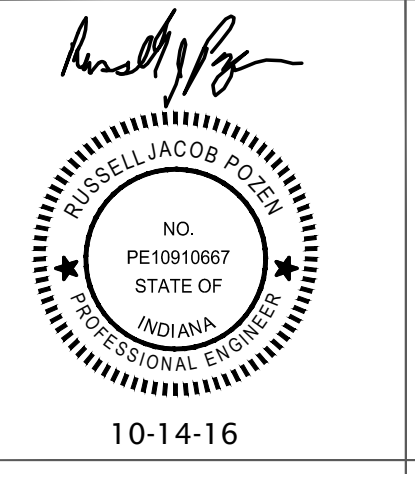
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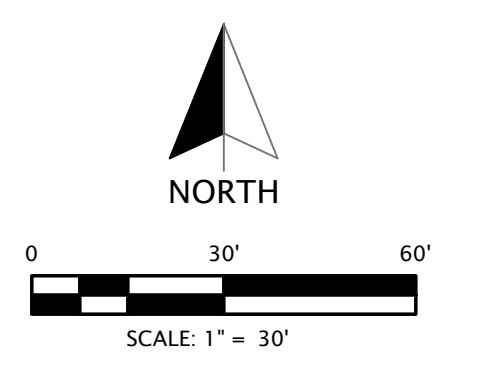
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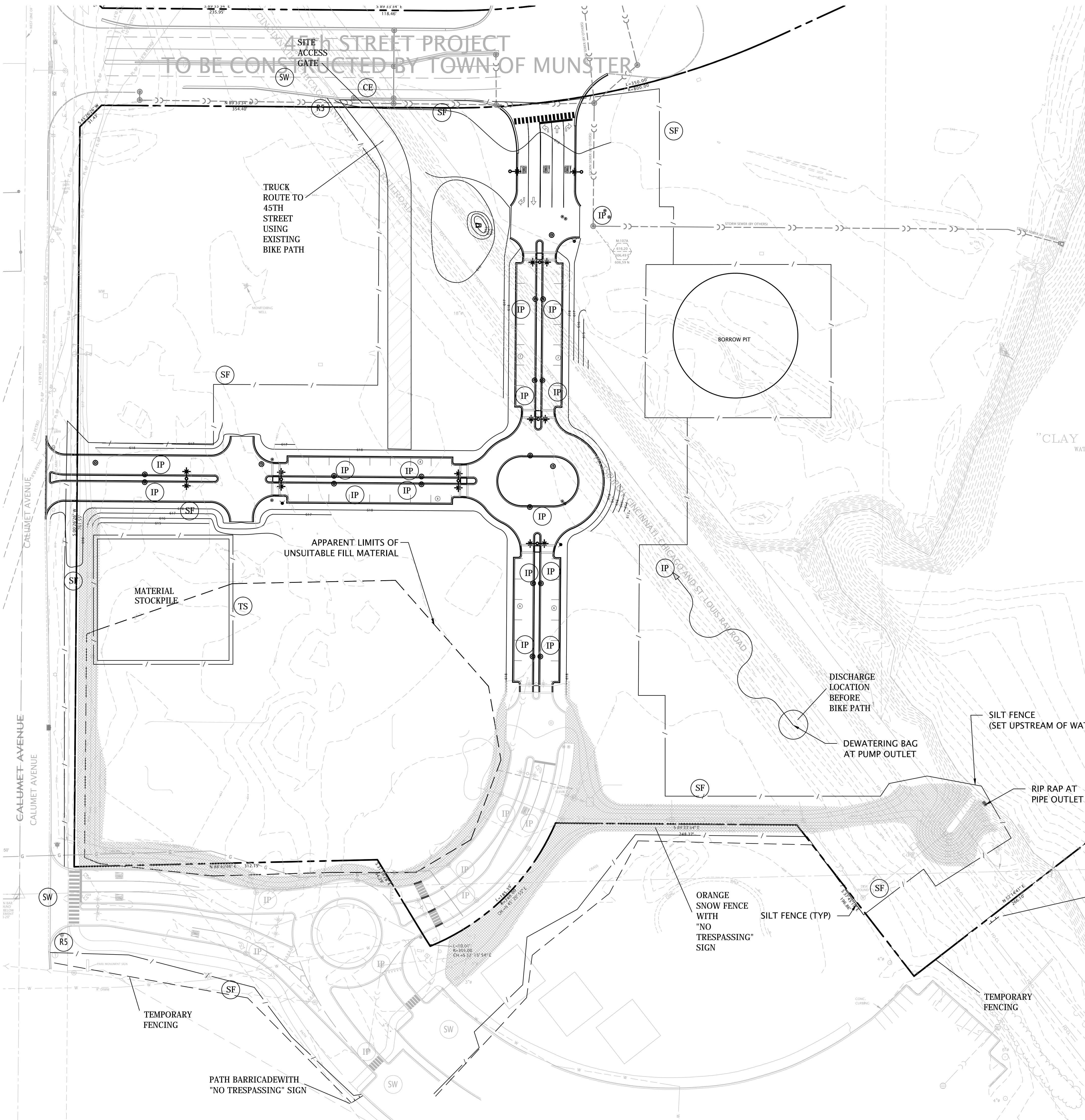
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 Infrastructure Plans**
 Grading Plan-NORTH - Phase 1B

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C107A



**5th STREET PROJECT
 INFRASTRUCTURE PLANS**



45th STREET PROJECT
TO BE CONSTRUCTED BY TOWN OF MUNSTER

S.W.P.P. NOTES:

THE SITE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN DURING CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND/OR CLEANING TO THE STRUCTURE OR FEATURE. CORRECTIVE WORK INCURRED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE S.W.P.P.P. ANY FINES OR PUNATIVE MEASURES INCURRED BY THE PROJECT DUE TO FAILURE TO COMPLY WITH THE S.W.P.P.P. ARE THE RESPONSIBILITY OF THE CONTRACTOR. THESE COSTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT, AND SHALL NOT BE CONSIDERED AN EXTRA.

DURING THE COURSE OF CONSTRUCTION THE LOCAL ENFORCEMENT OF THE S.W.P.P.P. MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES TO BE INSTALLED TO ADDRESS SITE SPECIFIC ITEMS NOT ANTICIPATED BY THIS PLAN. THESE ITEMS ARE CONSIDERED AN EXTRA TO THE CONTRACT, BUT ONLY TO THE EXTENT OF INITIAL INSTALLATION. CORRECTIVE WORK AND MAINTENANCE SHALL BE CONSIDERED INCIDENTAL, AND SHALL NOT BE CONSIDERED AN EXTRA.

THE SITE CONTRACTOR SHALL INSTALL THE CONSTRUCTION ENTRANCE, POST THE RULE 5 AND PLACE PERIMETER SILT FENCING PRIOR TO COMMENCING ANY SOIL DISTURBANCE. SEE LEGEND AND SITE PLAN FOR LOCATIONS.

DURING SOIL DISTURBING ACTIVITIES THE CONTRACTOR SHALL CREATE DIVERSION SWALES, INSTALL DITCH CHECKS SO THAT ALL SITE RUNOFF PASSES THROUGH AN EROSION CONTROL MEASURE PRIOR TO BEING DISCHARGED OFF-SITE.

UPON COMPLETION OF THE ROUGH GRADING ALL AREAS EFFECTED BY CONSTRUCTION SHALL BE TEMPORARILY SEEDED WITHIN 14 DAYS, AND EROSION CONTROL BLANKETS INSTALLED ON SIDE SLOPES THAT EXCEED 5:1.

UPON COMPLETION OF THE STORM SEWER SYSTEM, INLET PROTECTION SHALL BE INSTALLED, CHECK DAMS INSTALLED IN THE SWALES, AND TEMPORARY RIPRAP WITH SETTLING BASINS PLACED AT THE OUTFALLS OF ALL PIPE.

ALL UTILITY TRENCHES WILL BE TEMPORARILY OR PERMANENTLY STABILIZED AFTER THEY ARE BACKFILLED

ALL ACTIVE DRAIN TILES ENCOUNTERED DURING CONSTRUCTION THAT APPEAR TO SERVE OFF-SITE PROPERTIES SHOULD BE TIED INTO THE PROPOSED STORMWATER MANAGEMENT SYSTEM. THESE DRAIN TILES SHOULD ALSO BE ADEQUATELY MARKED (IN THE FIELD AND/OR ON THE PLAN SET) FOR FUTURE DEVELOPERS IF PORTIONS OF THE TILES WILL BE MAINTAINED ON-SITE TO PROHIBIT DAMAGING REMAINING LATERALS

- LEGEND**
- CE TEMPORARY CONSTRUCTION ENTRANCE
 - IP INLET BARRIER PROTECTION
 - TS TEMPORARY SEEDING
 - SF SILT FENCE
 - SW STREET SWEEPING SHALL BE PERFORMED WHENEVER TRACKING OF MUD, DIRT, CONSTRUCTION DEBRIS OCCURS ON THE PUBLIC ROAD.
 - RS POSTED RULE 5 NOI FORM, LOCAL SWPPP APPROVAL LETTER, AND IDEM NOI PERMIT NUMBER

- S.W.P.P. LOGISTICS PLAN:**
1. RE-ROUTE OF BIKE PATH
 2. MATERIAL STOCKPILE LOCATION
 3. DRAINAGE DIRECTION
 4. MATERIAL DELIVERY
 5. SCHEDULE:
 - A. TEMPORARY FENCE - 12/01/2015 - 3 DAYS
 - B. EROSION CONTROL FENCE - 12/01/2015 - 3 DAYS
 - C. SUMP PIT - 12/01/2015 - 1 DAY
 - D. DE-WATERING - 12/04/2015 - 3 DAYS
 - E. TREE REMOVAL - 12/05/2015 - 4 DAYS

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 No. PE1010667
 STATE OF INDIANA
 PROFESSIONAL ENGINEER
 7-22-16

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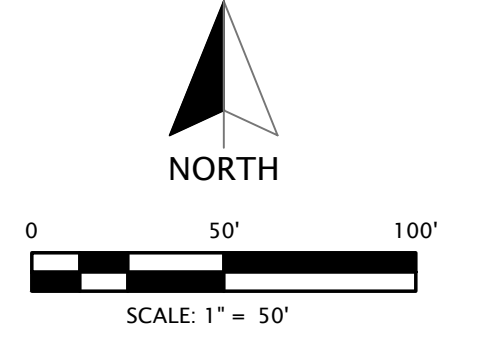
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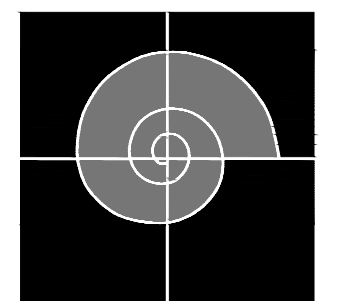
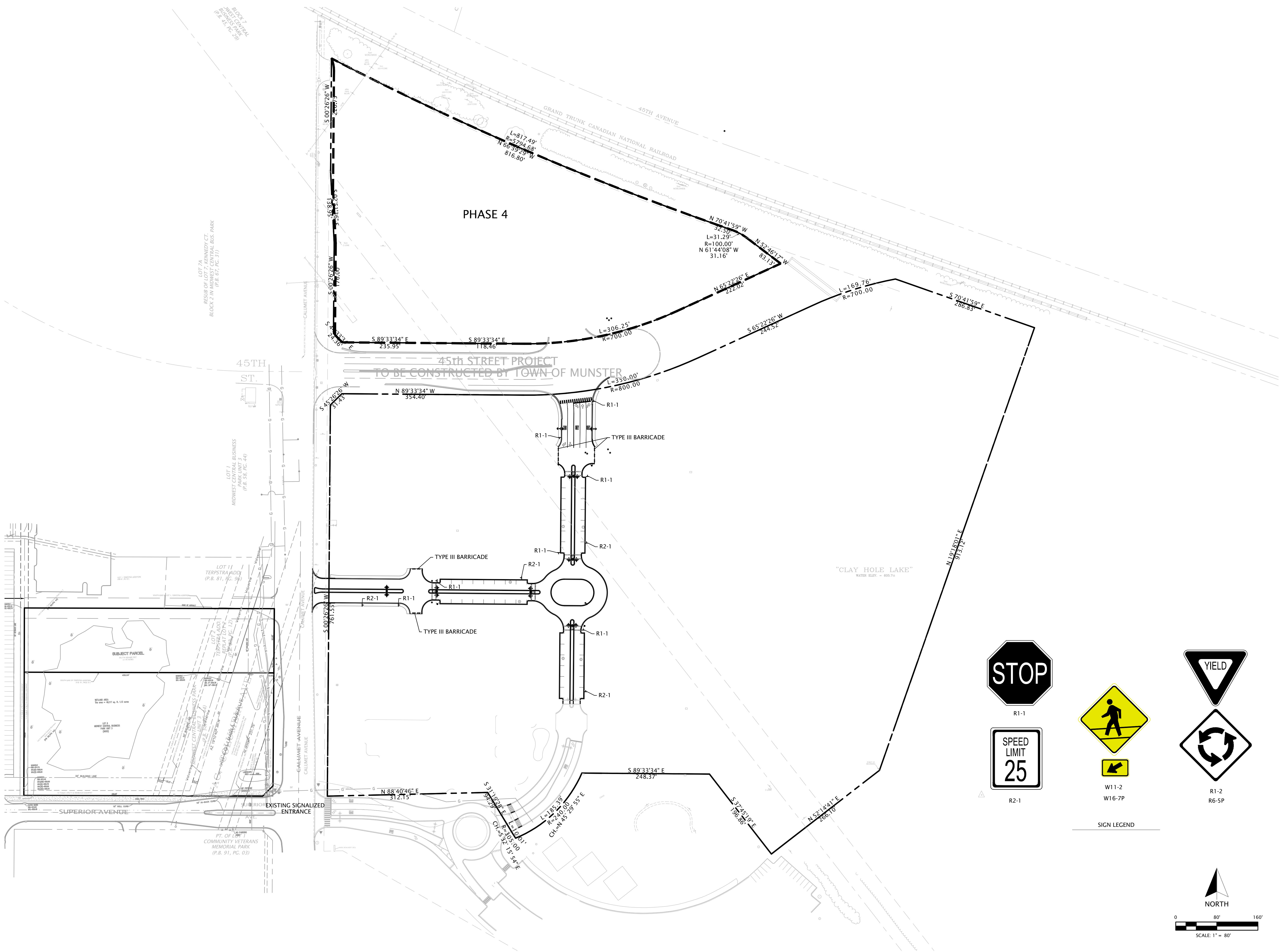
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**Centennial Village
 Infrastructure Plans**
**Stormwater Pollution
 and Prevention Plan**

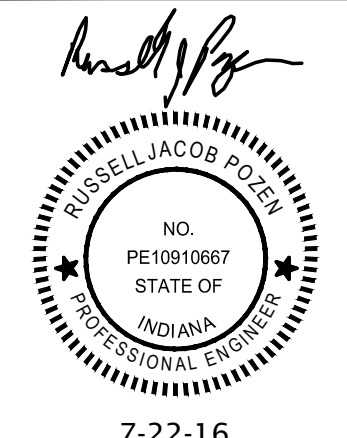
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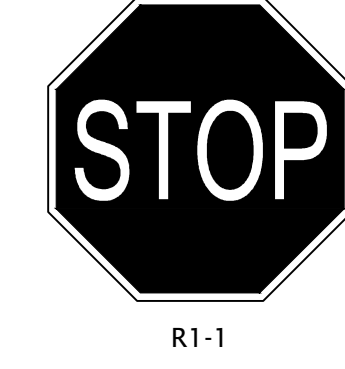
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**Centennial Village
 Infrastructure Plans**
**Signage Plan
 Phase 1B**

SCALE: 1"=80'
 DESIGN BY: RNM
 DRAWN BY: RNM
 DATE: 7-22-16

C109



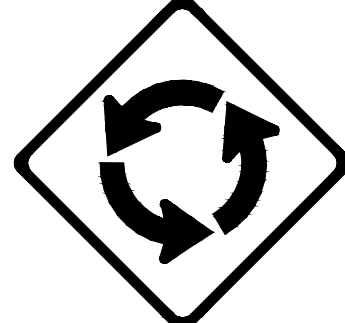
R1-1



R2-1

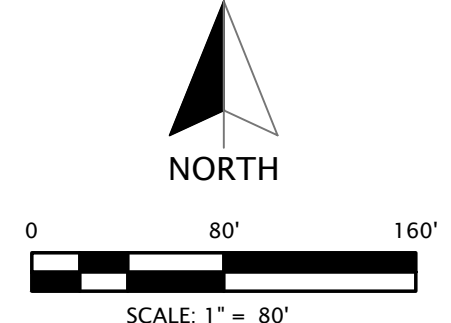


W11-2
 W16-7P

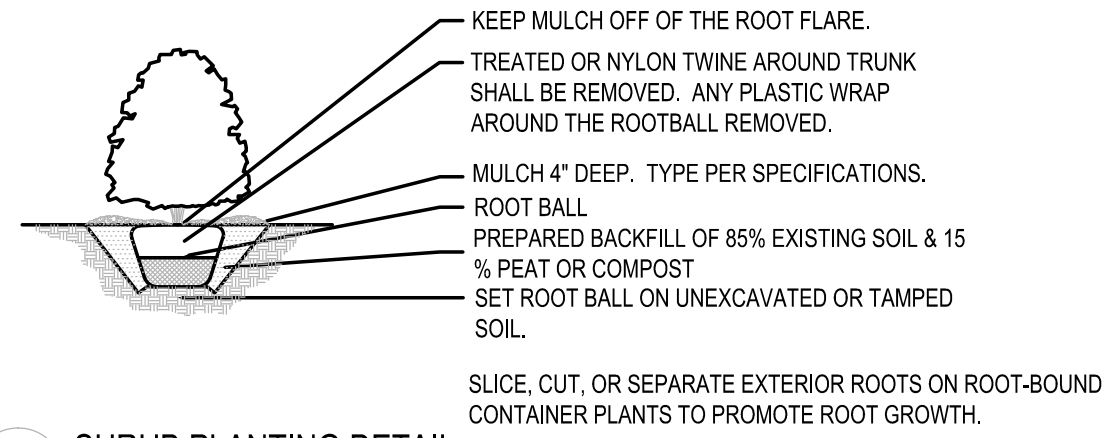


R1-2
 R6-5P

SIGN LEGEND

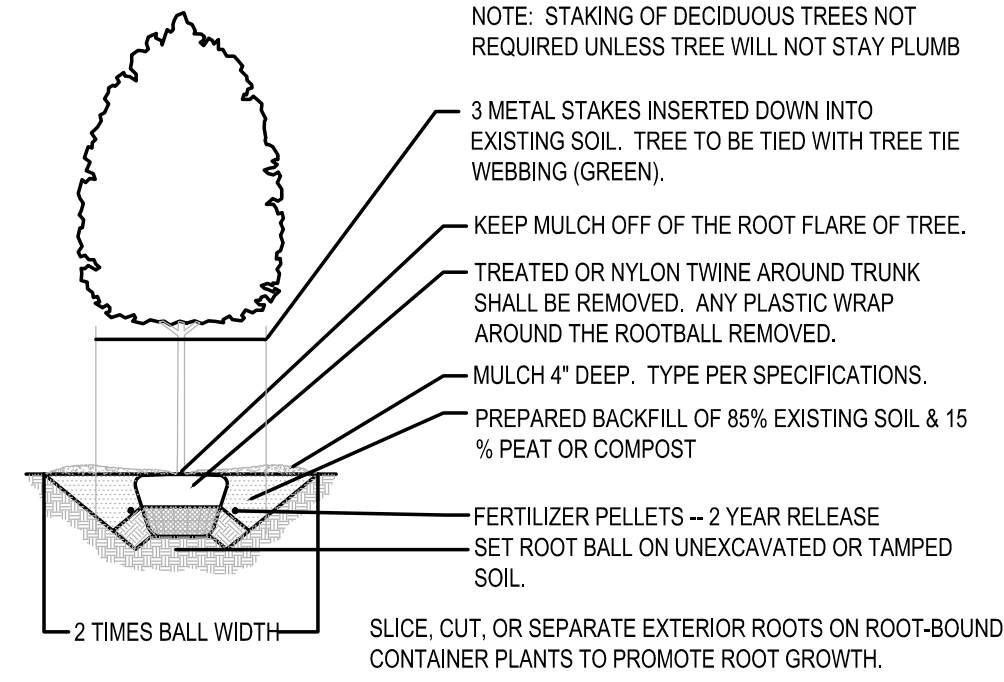


LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. SHRUB PIT WIDTH TO BE TWO TIMES THE WIDTH OF THE ROOT BALL. PRUNE OFF ALL DEAD, BROKEN OR SCARRED BRANCHES, AND SHAPE PRUNE AS DIRECTED BY THE LANDSCAPE ARCHITECT. LOCATE ROOT FLARE IN ROOT BALL AND SET SHRUB HEIGHT SO THAT ROOT FLARE IS FLUSH OR SLIGHTLY HIGHER THAN FINISH GRADE DEPENDING ON EXISTING SOIL CONDITIONS. WATER IN THE PLANTING MIX THOROUGHLY, WHILE KEEPING THE SHRUB PLUMB. STRAIGHTEN SHRUB IF SETTLING OCCURS. MULCH LIMITS FOR SHRUBS TO EXTEND TO ALL EDGES OF PLANTING BEDS. SEE PLANS FOR BED LAYOUTS.



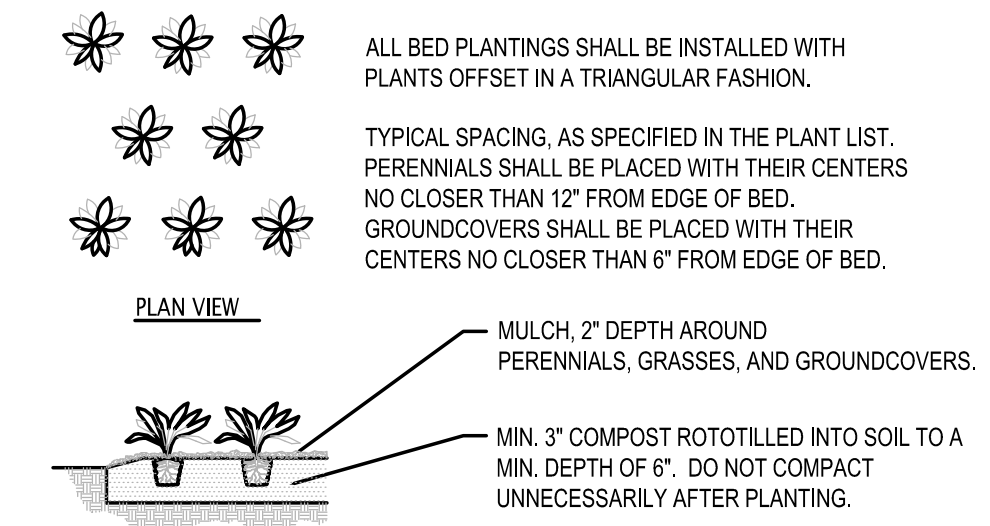
1 SHRUB PLANTING DETAIL
NOT TO SCALE

LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. TREE PIT WIDTH TO BE TWO TIMES THE WIDTH OF THE ROOT BALL. PRUNE OFF ALL DEAD, BROKEN OR SCARRED BRANCHES, AND SHAPE PRUNE AS DIRECTED BY THE LANDSCAPE ARCHITECT. LOCATE ROOT FLARE IN ROOT BALL AND SET TREE HEIGHT SO THAT ROOT FLARE IS FLUSH OR SLIGHTLY HIGHER THAN FINISH GRADE DEPENDING ON EXISTING SOIL CONDITIONS. WATER IN THE PLANTING MIX THOROUGHLY, WHILE KEEPING THE TREE PLUMB. STRAIGHTEN TREE IF SETTLING OCCURS.



2 DECIDUOUS & EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

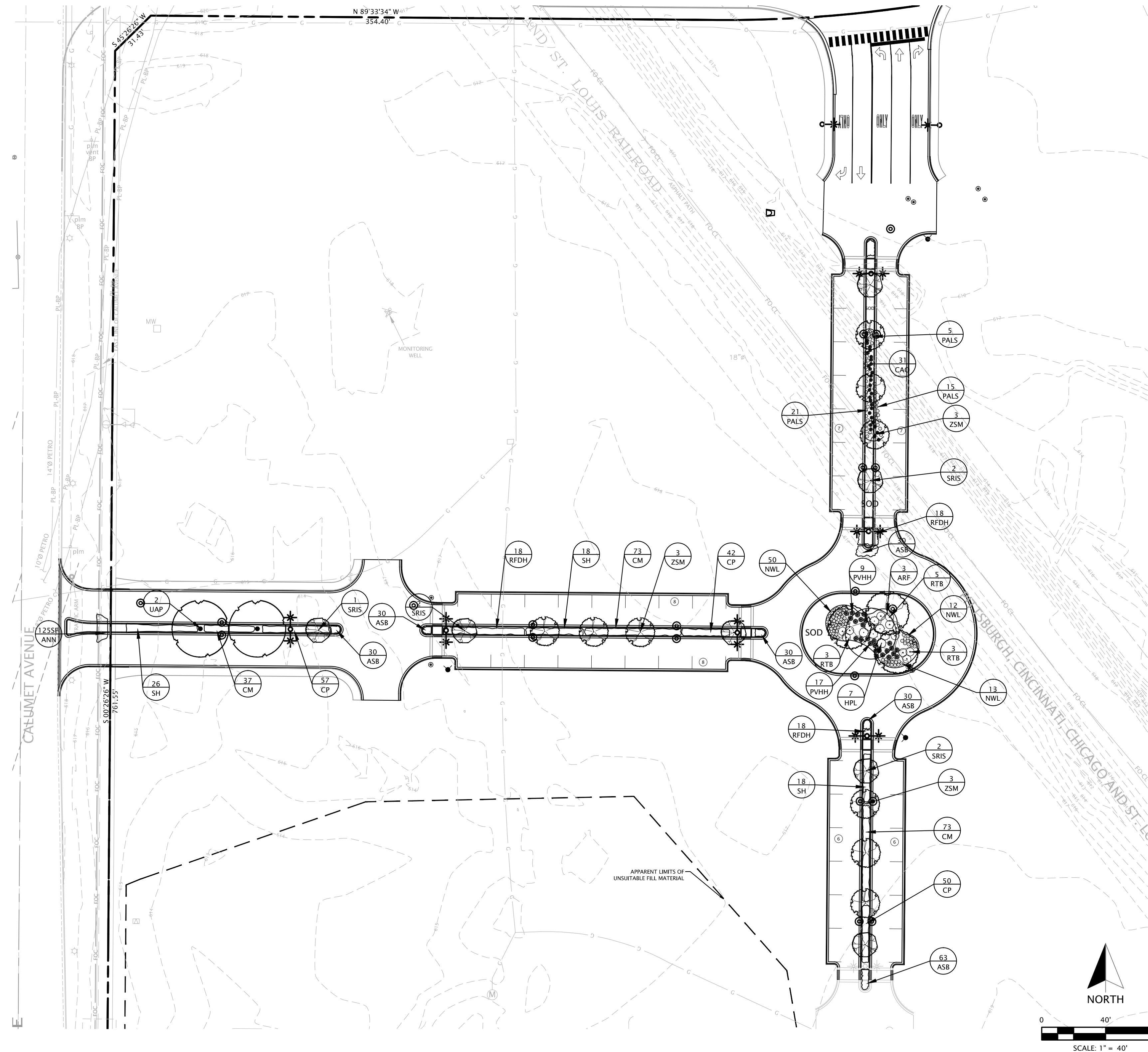
LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. AMEND PLANTING BED SOIL WITH COMPOST PRIOR TO PLANT INSTALLATION. BED HEIGHT IS TO BE 2\"/>



3 PERENNIAL, GROUNDCOVER, AND ANNUAL PLANTING DETAIL
NOT TO SCALE

TREES						
Count	Symbol	Botanical Name	Common Name	Size	Mature Size	Remarks
7	SRI5	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2"	20' x 15'	
9	ZSM	Zelkova serrata 'Musashino'	Musashino Columnar Zelkova	2"	45' x 15'	
2	UAP	Ulmus americana 'Princeton'	Princeton Elm	2"	65' x 50'	
3	ARF	Acer rubrum 'Franksred'	Red Sunset Maple	3"	50' x 40'	
SHRUBS						
Count	Symbol	Botanical Name	Common Name	Size	Mature Size	Remarks
7	HPL	Hydrangea paniculata 'Limelight'	Limelight Hydrangea	#5	8' x 7'	
54	RFDH	Rosa 'Frau Dagmar Hartopp'	Frau Dagmar Hartopp Rose	#3	4' x 4'	36" O.C.
11	RTB	Rhus typhina Baitiger	Tiger Eyes Cutleaf Staghorn Sumac	#5	2' x 8'	
PERENNIALS AND GRASSES						
Count	Symbol	Botanical Name	Common Name	Size	Mature Size	Remarks
213	ASB	Allium Summer Beauty	Summer Beauty Onion	#1	12-18" x 12-18"	18" O.C.
31	CAO	Calamagrostis x accutifolia 'Overdam'	White Feather Reed Grass	#1	4-6' x 2-3'	36" O.C.
41	PALS	Perovskia ralemos 'Walkers Low'	Little Spire Russian Sage	#1	3' x 2'	
75	NWL	Nepeta ralemos 'Walkers Low'	Walkers Row Catmint	#1	2' x 2'	24" O.C.
26	PVHH	Panicum virgatum 'Haense Herms'	Haense Herms Switchgrass	#1	6' x 3'	36" O.C.
62	SH	Sporobolus heterolepis	Prairie Dropseed	#1	3-4' x 36"	36" O.C.
183	CM	Carex musicingumensis	Palm Sedge	#1	24" x 36"	24" O.C.
149	CP	Carex pennsylvanica	Common Oak Sedge	#1	12" x 24"	24" O.C.
125	ANN	Annuals		SF		

LEGEND
SEE SHEET C105 FOR ADDITIONAL INFORMATION



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Project Management and
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Crown Point, IN 46307
(219) 662-7710 Fax: (219) 662-2740

Russell Jacob Poin
No. PE1010667
STATE OF INDIANA
PROFESSIONAL ENGINEER
7-22-16

Centennial Village
L.L.C.
9615 Boulevard Drive
Highland, Indiana 46322

DWG # 14-C-1011

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Centennial Village
Infrastructure Plans
Landscaping Plan - Phase 1B

SCALE: 1"=40'
DESIGN BY: RJP
DRAWN BY: RNM
DATE: 7-22-16

L101

COMMON EXCAVATION AND EARTHWORK GENERAL SPECIFICATIONS

The Geological Investigation report by Cardno detail July 8, 2016 and Alt & Witzig Engineering, Inc. detail February 25, 2016 shall be considered a part of this plan set.

1.0 Quality Assurance:

- Contractor shall notify the Construction Manager, Architect, Engineer and testing laboratory inspector when common excavation and earthwork is scheduled. Earthwork operations which require inspecting and testing by testing laboratory inspector shall not be performed unless testing laboratory inspector is present.
- Contractor shall provide a 1-year warranty against settlement and damage caused by settlement for common excavation and earthwork.
- If settlement occurs within 1 year after the date of Substantial Completion, the Contractor shall remove the affected surface feature, provide additional suitable fill, thoroughly compact and restore the surface feature to its original undisturbed condition.

2.0 Testing:

- An inspector from the Owner's soils testing laboratory shall, during the common excavation work operations, provide the following services:
 - Test & Classify on-site excavated soils for reuse as topsoil, common site fill, embankment fill and structural fill.
 - Test materials furnished from any off-site sources to verify compliance with specified requirements.
 - Observe proofing rolling of exposed subsoil in areas where grades will be raised and provide recommendations for soil correction to ensure that unstable materials have been removed.
 - Inspect placement and compaction of common site fill, embankment fill and structural fill to ensure the material being compacted is in accordance with specified requirements. For each lift, a minimum of 1 density test for every 10,000 square feet of lawn surface area, and 5,000 square feet of paved surface area, and 500 square feet of proposed building area is required.
 - Density tests are required for all subgrade/subsoil in areas that have been cut to rough grade elevations, after soils have been compacted to ensure soil compaction density is in accordance with the specified requirements. Test frequency shall be as described above in sub-paragraph 1.d.
- Tests and analysis of fill materials shall be performed in the laboratory in accordance with ASTM D1557.
- Testing shall be performed as directed by the Soils Report Engineer. Compaction Testing shall be performed in accordance with ASTM D2922 and D3017.

3.0 Special Weather Protection:

- Construction shall be limited during cold weather to prevent the formation of frost and snow accumulation to occur in materials used for site fill or in soils where site excavation is taking place. All areas that are scheduled for excavation activity shall be protected from freezing and snow accumulation. Any frozen material shall be removed and disposed of off site.

4.0 Clearing & Grubbing:

- Contractor shall provide all clearing, grubbing, removal and disposal of all vegetation and debris related to the existing site conditions.
- Vegetation debris shall be removed from site and transported to a local and state authorized disposal sites.

5.0 Top Soil Stripping:

- The project has a depth of topsoil variation throughout the site. The geotechnical report shows the topsoil depths at several locations throughout the project site. The Contractor shall strip and stockpile all topsoil at the location designated in the Site Development Drawings or as directed by the owner.
- Topsoil removal material shall consist of fertile, friable, organic surface soil stripped from the site and shall be free of subsoil, brush, turf grasses, weeds, roots, stumps, stones larger than 1-inch in diameter and other contaminated matter.
- Topsoil shall be stockpiled so that it may be reused and re-spread on site over Lawn and Landscaped areas.
- The topsoil stockpile area shall be properly protected against soil erosion into the adjacent drainage system.

6.0 Borrow Material/Embankment & Structural Fill Material:

- Borrow material for structural fill shall be first excavated from on site source locations as defined by the Soils Report Engineer.
- Structural fill material shall be placed under all utility trench corridors, building pad locations, paved parking, driveway, sidewalk and roadway areas.
- Common site and embankment fill shall be placed under lawn, landscape and detention pond areas.
- Maintain moisture content of structural fill within plus or minus 3 percent of the optimum moisture content as determined by the Modified Proctor Test.
- Contractor shall provide subgrade conditions meeting the design grades for pavements, exterior walks, curbs and building pads.
- Contractor shall only place approved fill material under proposed building pads and parking areas
- Contractor shall undercut any areas that do not meet the requirements for structural fill and shall replace with structural fill.

7.0 Excavation:

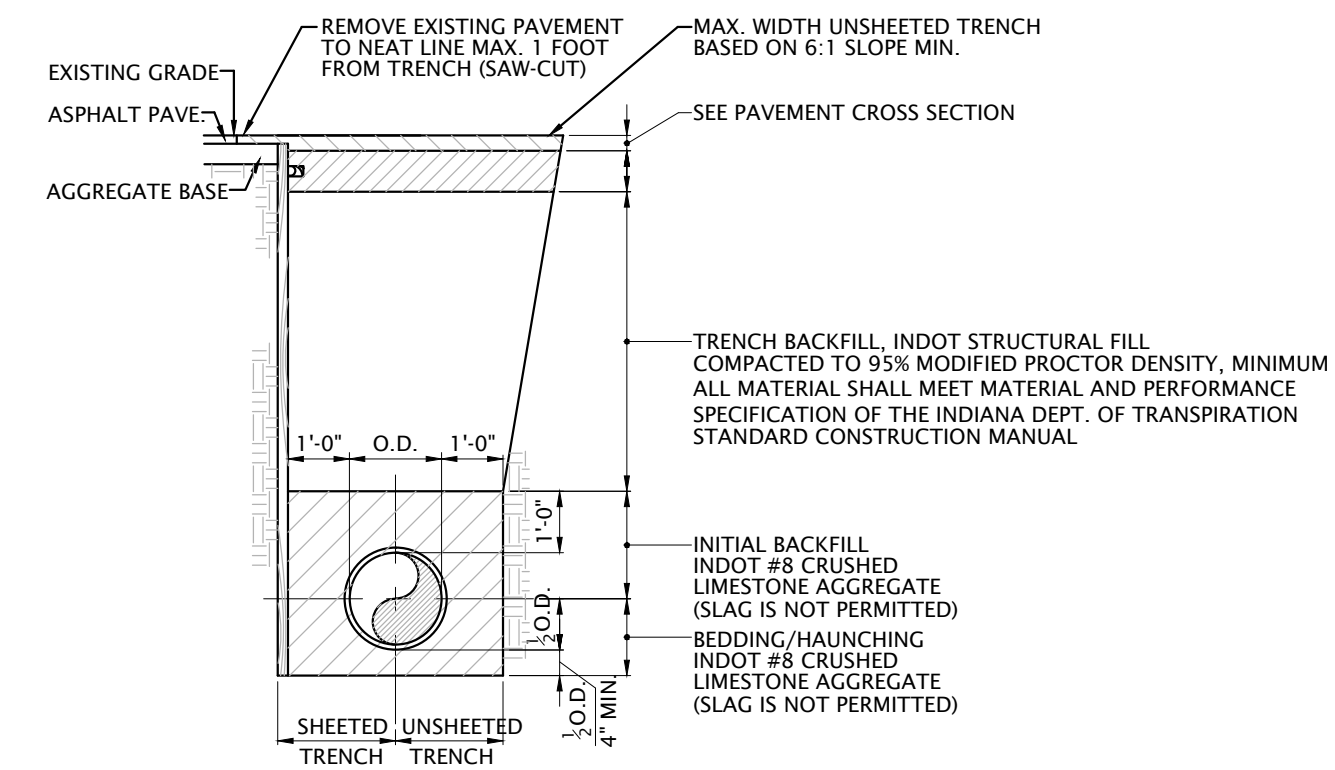
- Protect all existing natural features on site.
- Install soil erosion prevention measures in accordance with local and state ordinances and in accordance with the soil erosion control project drawings.
- All proposed contours shown on this set of plans are proposed surface elevation. All fill shall be placed as structural fill for buildings and parking lots.

8.0 Compaction:

- Exercise care when compacting exposed soils relative to water table, rain or other moisture conditions.
- Maintain moisture content of embankment material and structural fill material near optimum as recommended by the soils testing laboratory and Soil Boring Engineer. Maintain optimum moisture content of backfill and fill material to attain the required compaction density.
- Backfill common site fill, embankment fill, structural fill and utility trenches to contours and elevations defined on the project site development plans.
- Systematically backfill to allow maximum time for optimum compaction and do not backfill over porous, wet or spongy subgrade surfaces.
- Employ a soils placement and compaction method that does not disturb or damage work performed and that maximizes soil compaction.
- All common site, embankment and structural fill shall be place and compacted in continuous layers/lifts not exceeding 8-inches loose depth.
- Compact subsoil for structural fill to 97% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all building pad locations.
- Compact subsoil for structural fill to 95% of Modified Proctor Maximum Dry Density (ASTM D1557) beneath all pavement areas and utility corridor trenches.
- Compact subsoil for common site fill and embankment fill to 90% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all lawn, landscape and detention pond areas.
- Compact subsoil under building pad area to achieve soil-bearing capacities of 3,000 psf at a distance of 4-feet below the proposed finish floor elevations of all building ads.
- If tests indicated work does not meet specified requirements, all sub-standard work shall be immediately removed, replaced and retested at no expense to the Owner.

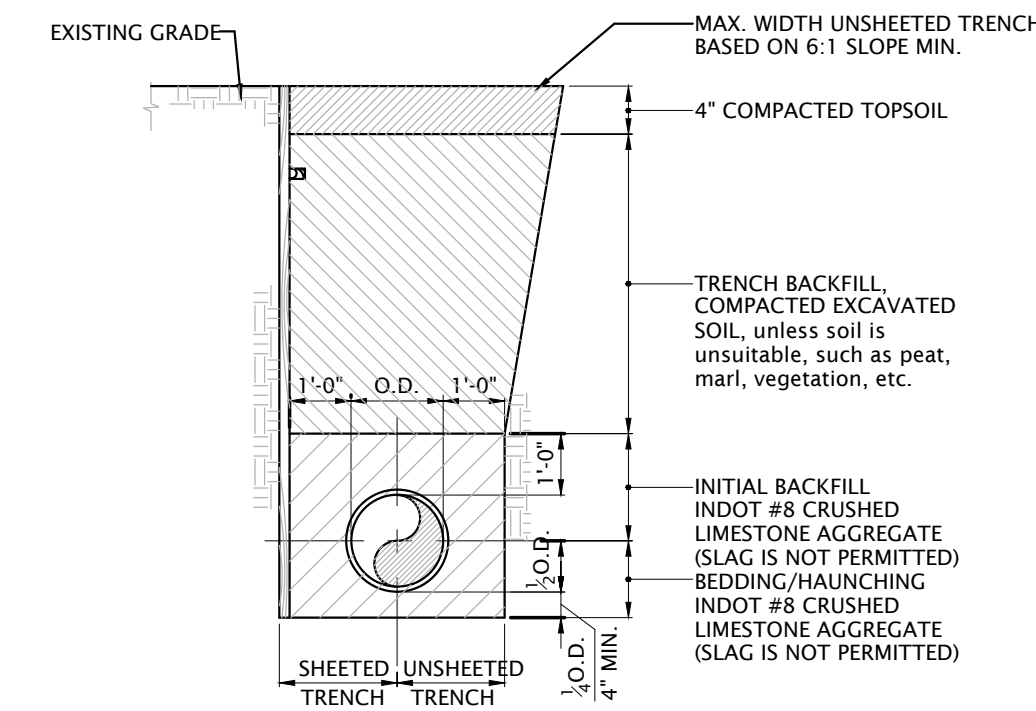
GENERAL NOTES:

- The Town of Munster, Development Visions Group (Engineer) and any Utility Company affected must be notified at least two working days prior to commencement of work. Prior to construction the contractor is to call INDIANA 811.
- Elevation Datum is U.S.G.S.
- The locations of existing underground utilities, such as water mains, sewer, gas lines, etc., as shown on the plans have been determined from the best available information and is given for the convenience of the contractor. However, the engineer and the owner do not assume responsibility for the accuracy of the locations shown. It shall be the responsibility of the contractor to contact all utility companies and their facilities shall be located prior to commencement of any work.
- Wherever obstructions not shown on the plans are encountered during the progress of the work and interfere to such an extent that alteration in the plans is required, the engineer shall be notified prior to any changes and any changes shall only be as approved via written instruction by the Engineer and also the local municipal City Engineer.
- As-built drawings shall be prepared by the contractor and submitted to the engineer as soon as the project is completed. Any change in the length, location or alignment shall be shown in red. "AS BUILT" drawings shall be forwarded to the appropriate utility organizations. Four (4) copies shall be submitted to the Town Engineer.
- All proposed sanitary sewer, storm sewer, water main and service lines under and within 5' of pavement, curbs, and sidewalk shall be backfilled with crushed limestone (gradation #53) or material consistent with Class 1 or II material as described in ASTM D2231 placed in 8" maximum layers and mechanically compacted to 95% modified proctor density slag is not permitted.
- Materials used for water, sanitary sewer, storm sewer and streets shall conform to the Town of Munster standards and specifications.
- Any existing public improvements (sidewalks, curb and gutter, etc.), disturbed during construction shall be replaced in kind, or per current of the Town of Munster specifications as directed by the Town of Munster engineer.
- All public street construction shall meet performance standards of the current edition of the Indiana Department of Transportation Standard Specifications.
- Street signage shall be included in accordance with the MUCTD requirements applicable at the time of construction.



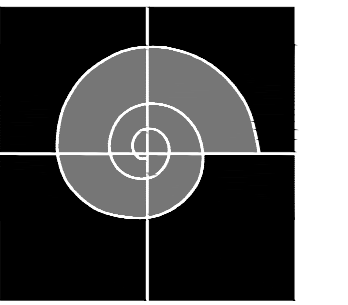
PIPE BEDDING/TRENCH BACKFILL DETAIL

FOR TRENCH IN PAVED AREAS



PIPE BEDDING/TRENCH BACKFILL DETAIL

FOR TRENCH IN GRASS AREAS

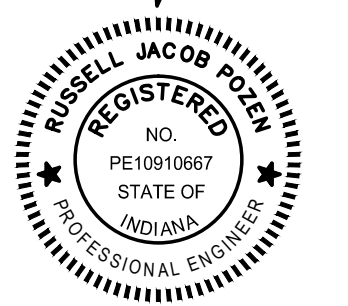


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Handwritten signature



7-22-16

**Centennial Village
L.L.C.**
9615 Boulevard Drive
Highland, IN 46322

DWG # 14-C-1011

REVISIONS AND NOTES: DATE:

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**Centennial Village
Munster, Indiana**

Construction Details

SCALE: NTS

DESIGN BY: DVG

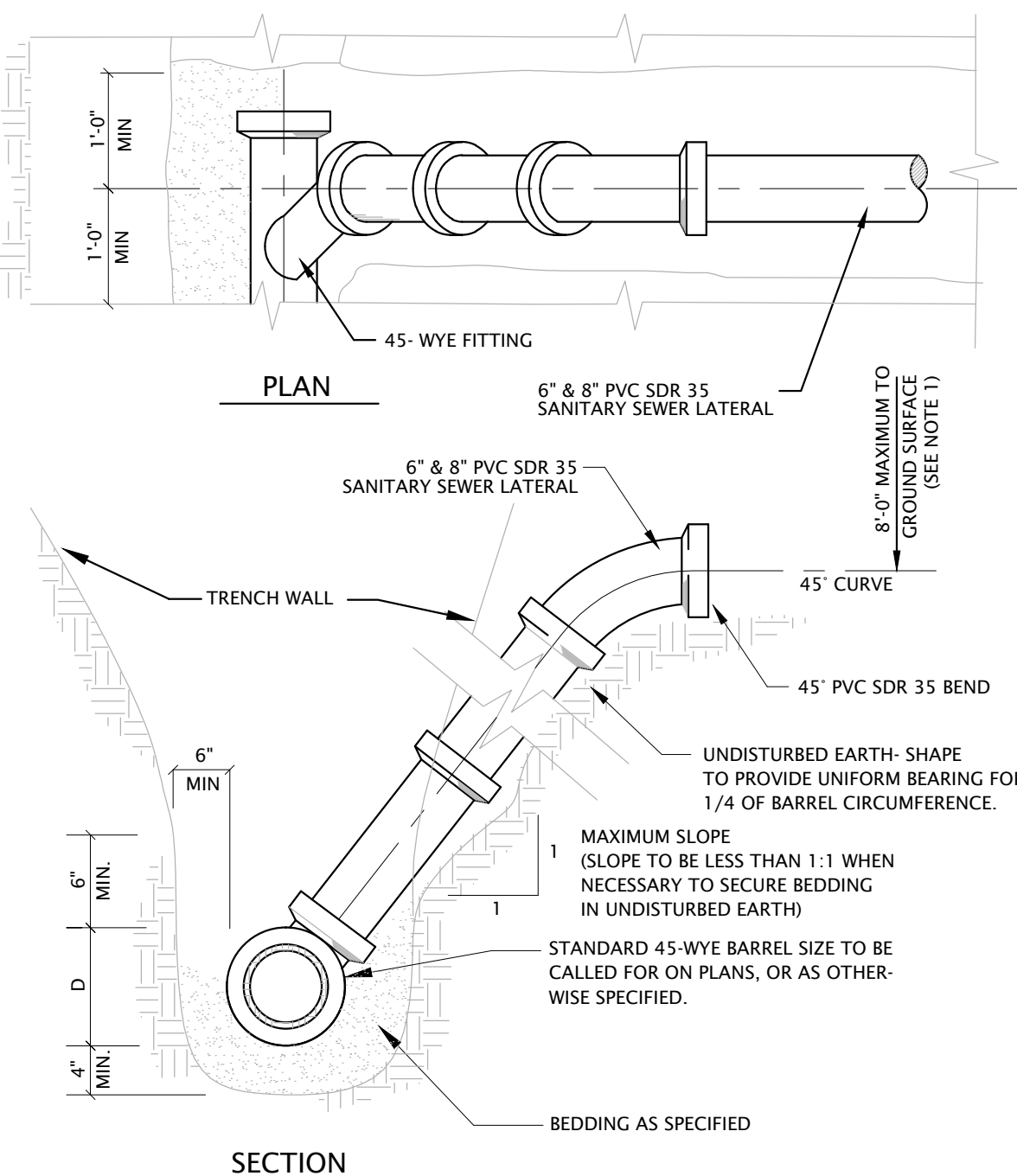
DRAWN BY: DVG

DATE: 7-22-16

C201

SANITARY SEWER GENERAL NOTES

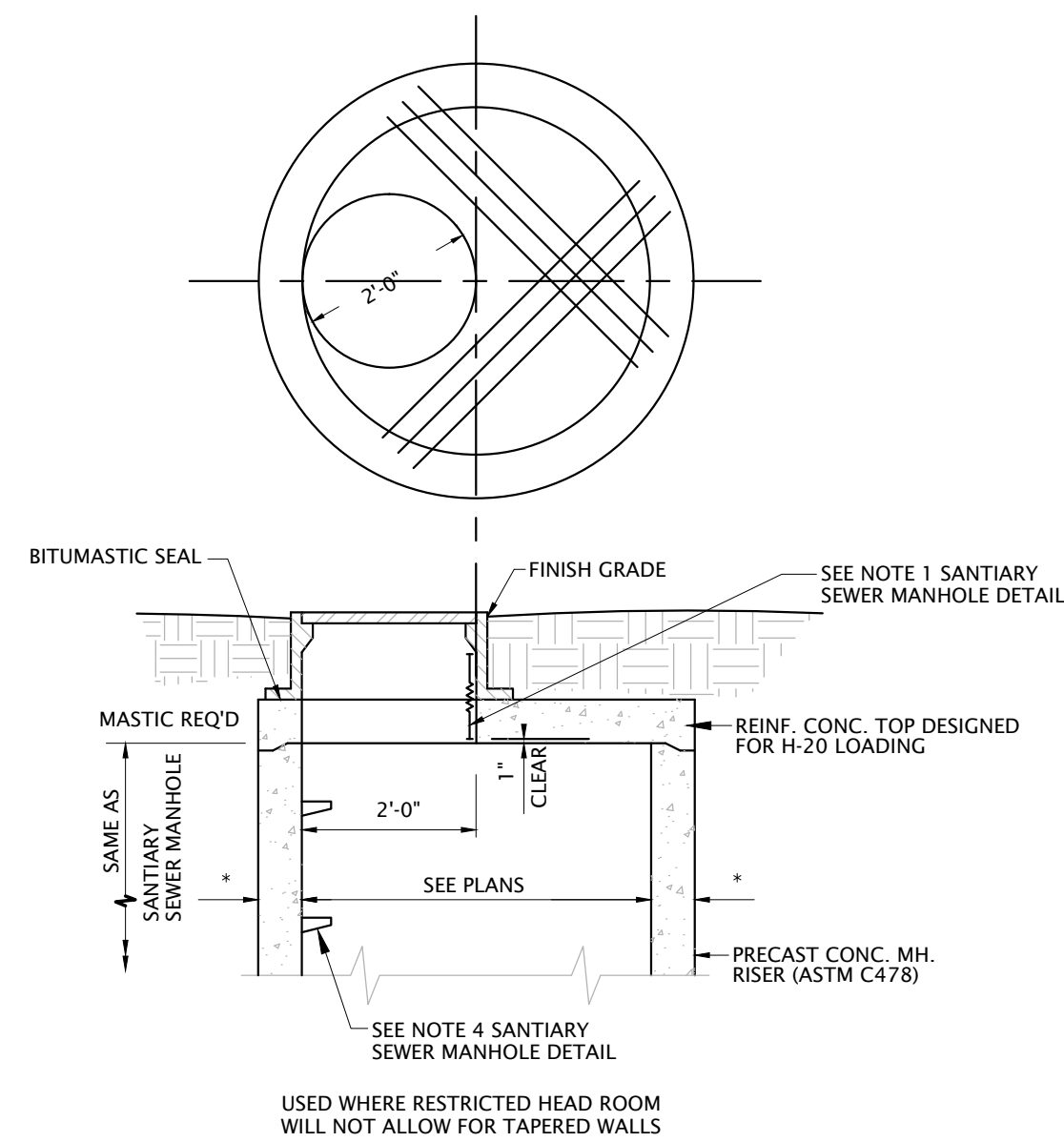
1. All Floor Drains shall discharge to the sanitary sewer.
2. Sanitary sewer pipe shall be PVC (SDR 26) ASTM D-3034 with push-on rubber gasket joints and shall be in accordance with ASTM C-3212, unless otherwise noted on the plans for portions to be PVC (SDR 21).
3. All sanitary sewer manholes shall be air tested for leaks in accordance with ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test.
4. Where ductile iron pipe is used for sanitary sewer, the pipe shall be in accordance with ANSI A-21.51 and the joints in accordance with ANSI A-21.11.
5. A deflection test shall be performed on each flexible pipe following the elapse of thirty (30) days after the placement of the final backfill. No pipe shall exceed a deflection of five percent (5%) or greater. The diameter of the rigid ball or mandrel used for a deflection test shall be no less than ninety-five percent (95%) of the base inside diameter of the pipe to be tested dependent on what is specified in the corresponding ASTM standard. The test shall not be performed with the aid of a mechanical pulling device.
6. A leakage test shall be performed using one of the following leakage test types.
 - a.) A hydrostatic test shall be performed with a minimum of two (2) feet of positive head. The rate of exfiltration or infiltration shall not exceed two hundred (200) gallons per inch of pipe diameter per linear mile per day.
 - b.) An air test shall conform to ASTM F1417-92, Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, for plastic pipe.
7. All sanitary sewer shall be inspected by the Town of Munster.



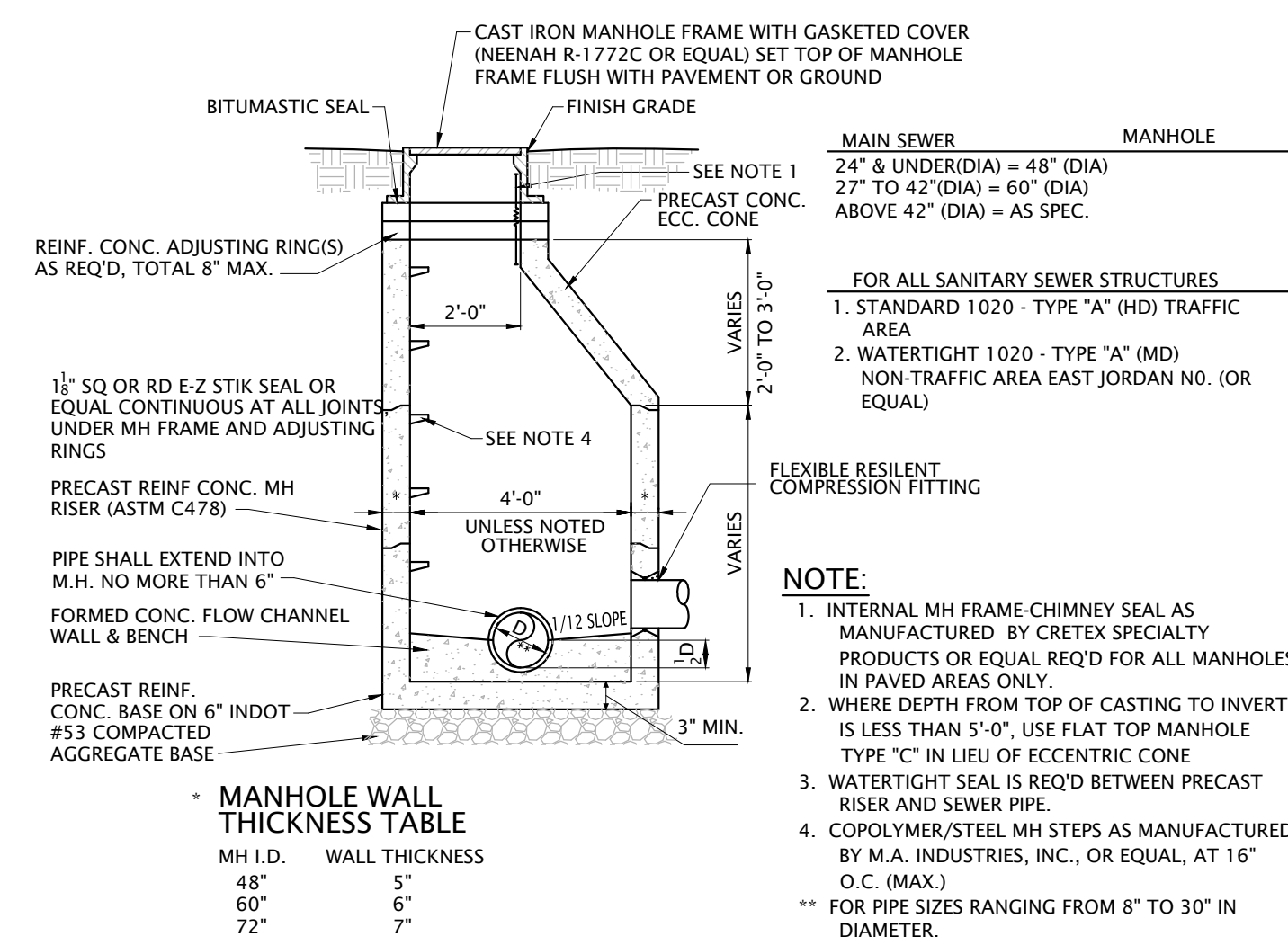
- NOTES:
1. RISERS TO BE CONSTRUCTED IN LIEU OF WYES WHERE SEWER DEPTH EXCEEDS 10'-0". FOR PIPE MATERIAL AND CONCRETE SEE SPECIFICATIONS.
 2. ALL SANITARY SEWER SERVICE LATERALS SHALL BE PLUGGED WITH A WATERTIGHT CAP & SHALL BE LOCATED WITH 4"x4" WOOD MARKERS TO IDENTIFY THE LATERAL END

SANITARY SEWER SERVICE DETAIL

SEE PLANS FOR SERVICE SIZE
NOT INCLUDED IN WORK (CONTRACTOR TO CONNECT TO SERVICE ALREADY PROVIDED)



MANHOLE TOP (FLAT TOP)



SANITARY SEWER MANHOLE

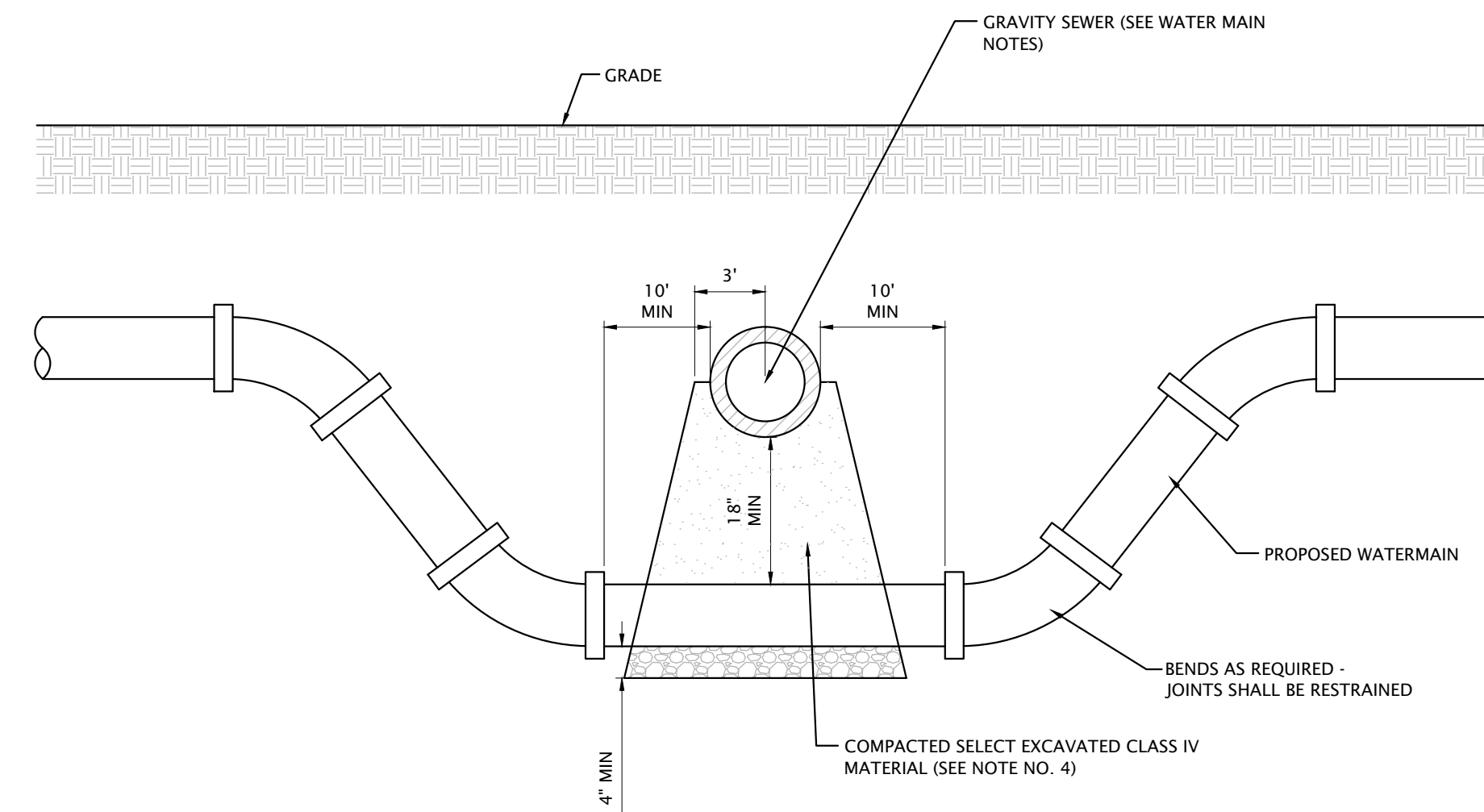
WATER MAIN GENERAL NOTES

1. All water mains, fittings, and valves shall be ductile iron cement lined pressure class 350 with rubber gasket push-on joints in accordance with ANSI A-21.51 & AWWA C 151. Water main joints shall conform to the requirements of AWWA C 111. Mechanical joints shall be restrained and shall use Meg-A-Lug as manufactured by EBAA Iron Sales (or equal).
2. Water mains shall be laid at least 10' horizontally from any existing or proposed sanitary sewer, storm sewer, sewer manhole, drain or service connection as measured from outside edge of the water main to outside edge of the sewers or manhole. If local conditions prevent horizontal separation of 10 feet, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).
3. When water mains cross any existing or proposed sanitary or storm sewers (sewers), there shall be at least 18 inches vertical separation between the outside edge of the water main and the outside edge of the sewer. This shall be the case where water mains cross above or below sewers. This crossing must be at a minimum angle of forty-five (45) degrees measured from the centerline of each. All these conditions specified shall be maintained for a minimum distance of ten (10) feet from either side of the water main. If vertical separation specified herein cannot be met, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).
4. For additional separation requirements between water mains and sewers, the Contractor shall refer to the Indiana Administrative Code 327 IAC 8 and IAC 3.
5. All water main shall be installed in accordance with IAC 8-3.2-17. The contractor shall provide pressure and leak testing results conforming to IAC 8-3.2-17(a).
6. All water main shall be disinfected in accordance with IAC 8-3.2-18.
7. Water services shall be installed as required at the time of individual lot development. Service sizes to be determined by building requirements.
8. Water services shall have an outside shut-off valve located per the direction of the Municipal Utility Director. Separate services and shut-offs are required for domestic service and fire protection.

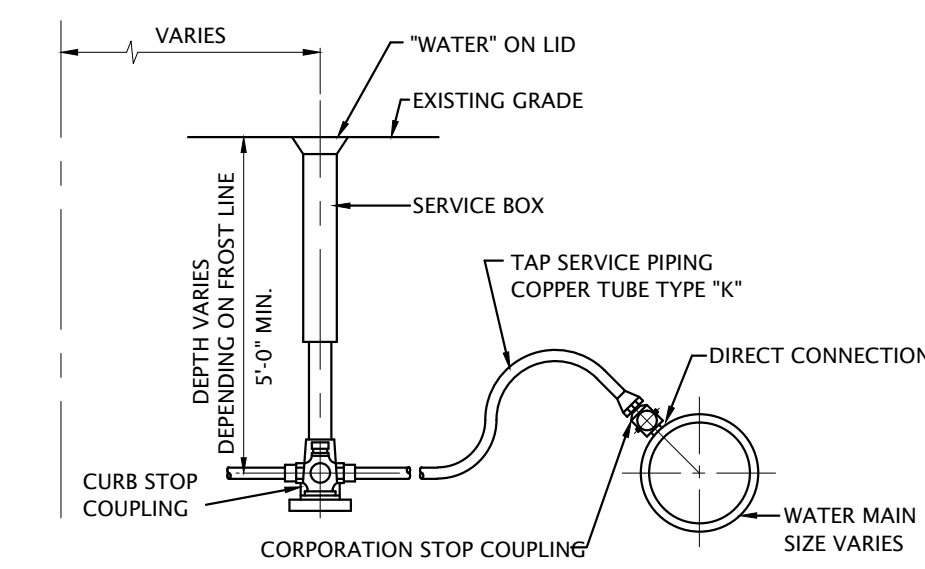
PIPE SIZE (INCHES)	TEE* BRANCH	90° ELBOW	45° ELBOW	22 1/2° ELBOW	11 1/4° ELBOW	DEAD ENDS
4	0	15	6	3	2	20
6	9	22	9	4	3	28
8	18	27	11	5	3	37
10	25	33	14	7	3	44
12	33	39	16	8	4	52
14	41	44	18	9	4	60
16	48	50	21	10	5	68
18	56	55	23	11	5	75
20	63	61	25	12	6	82
24	77	71	29	14	7	96
30	97	86	36	17	8	116
36	116	100	41	20	10	135

* ONE FULL LENGTH (18') OF PIPE ON BOTH SIDES OF BRANCH TO BE RESTRAINED.
INCREASE ALL LENGTHS IN TABLE BY 75% FOR USE ON POLYETHYLENE WRAPPED DUCTILE IRON PIPE OR PVC PIPE.
TEST PRESSURE BASED ON 150 PSI.

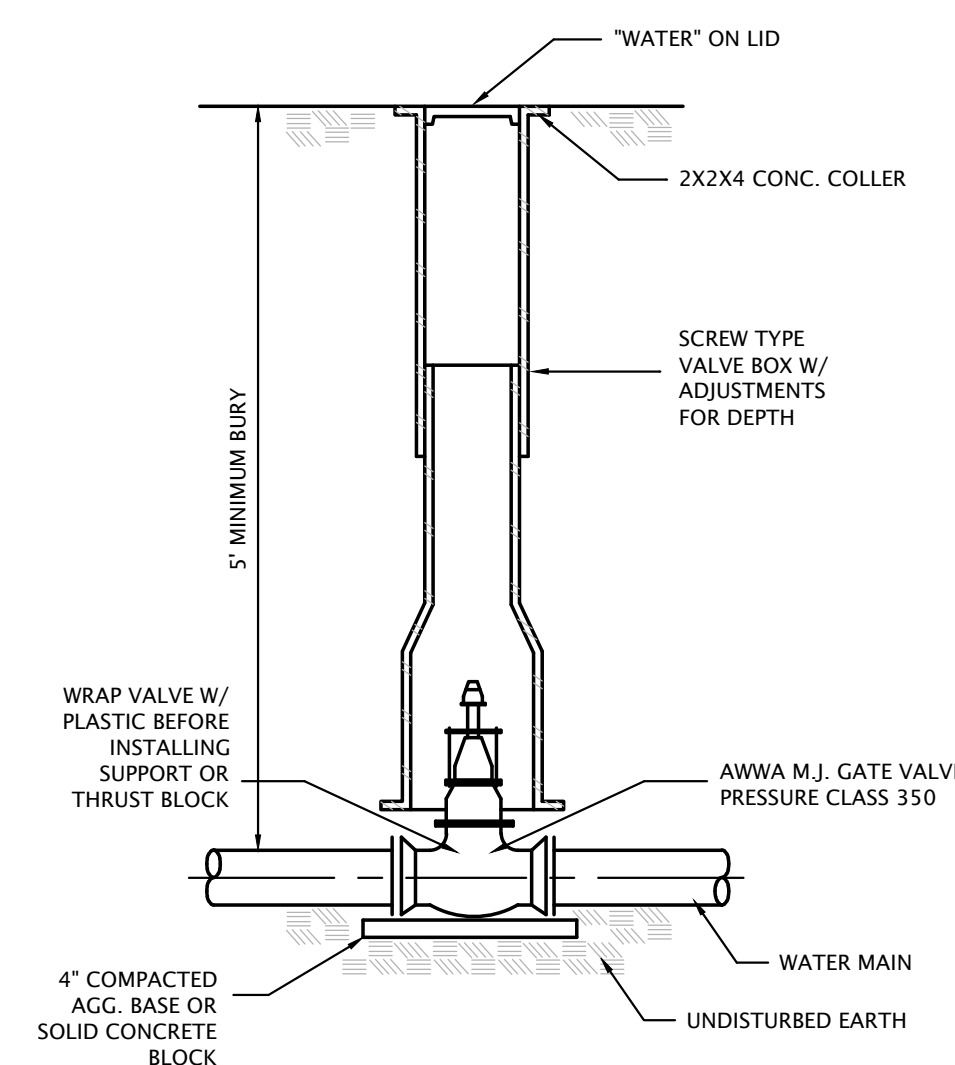
RESTRAINED PIPE LENGTH TABLE



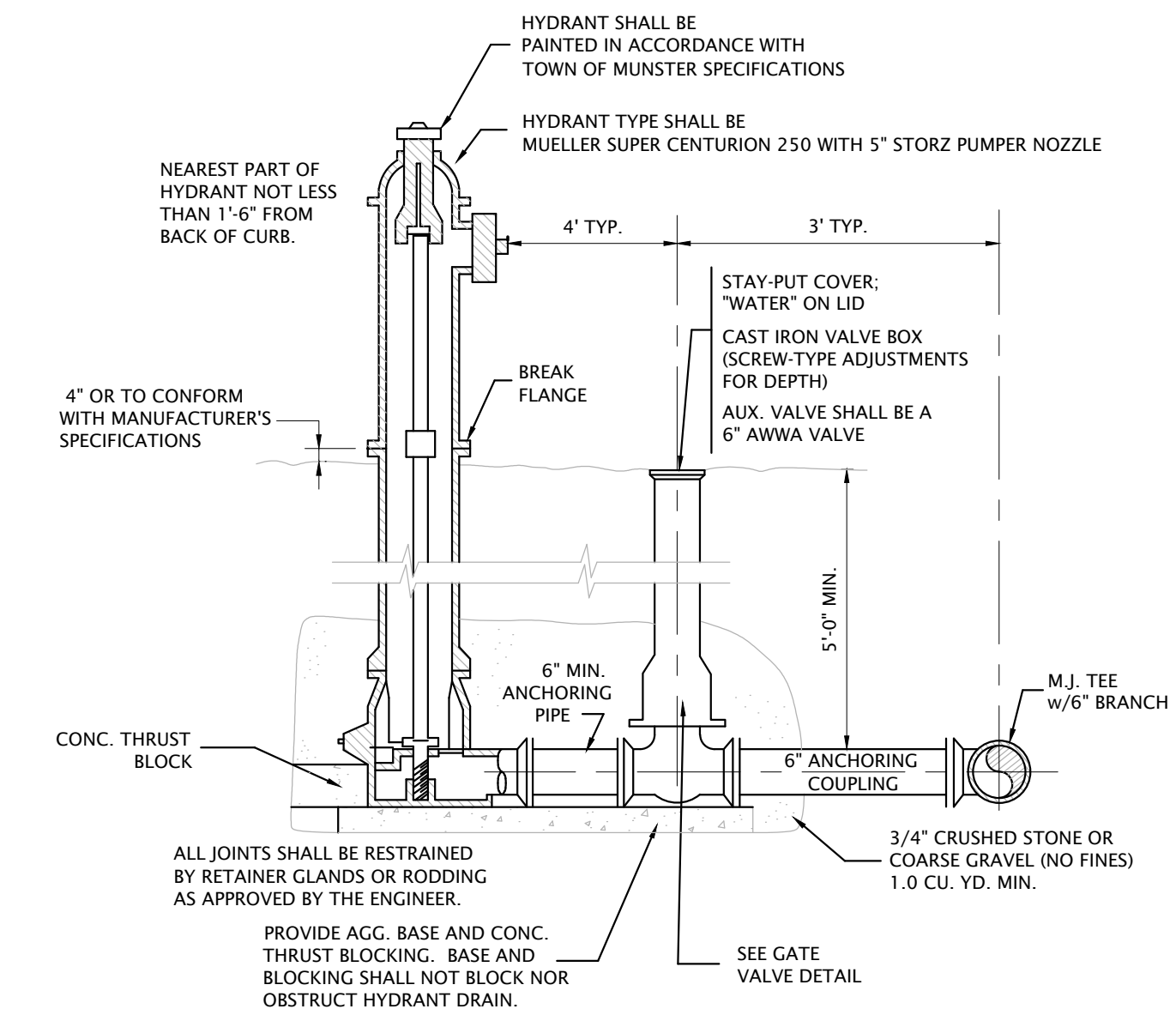
SANITARY/STORM SEWER & WATER MAIN CROSSING



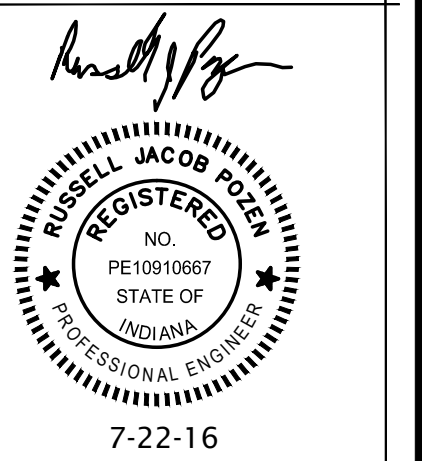
TYPICAL TAP SERVICE PIPING



MAIN LINE WATER VALVE, 12" OR SMALLER



FIRE HYDRANT ASSEMBLY (TYPE "A")



Centennial Village
L.L.C.
9615 Boulevard Drive
Highland, IN 46322

DWG # 14-C-1011

REVISIONS AND NOTES: DATE:

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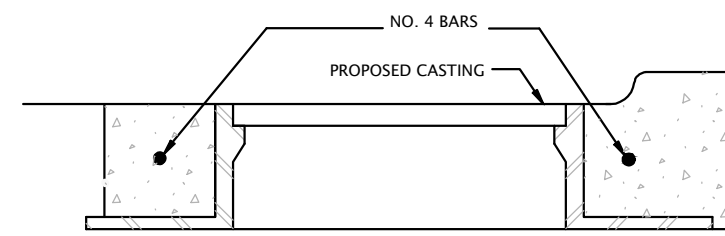
Centennial Village
Munster, Indiana
Construction Details

SCALE: NTS
DESIGN BY: DVG
DRAWN BY: DVG
DATE: 7-22-16

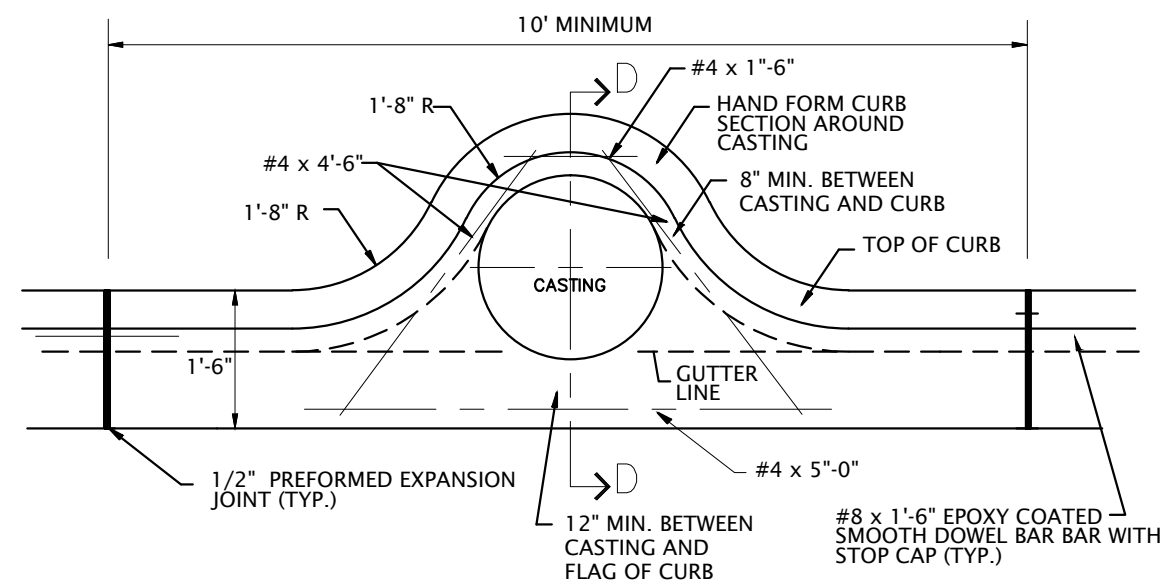
C202

STORMWATER AND DRAINAGE GENERAL NOTES

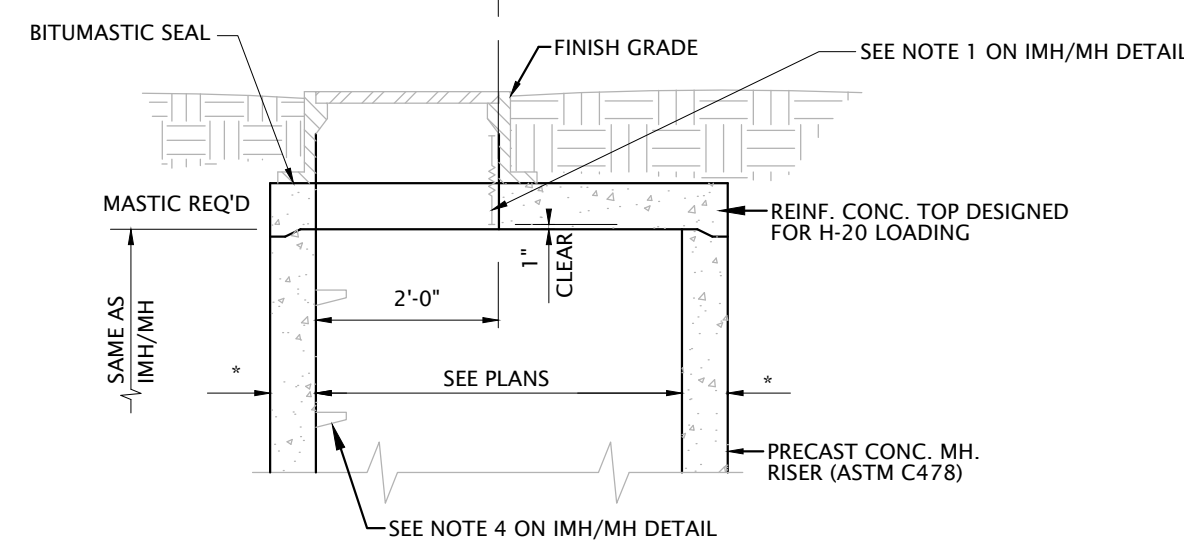
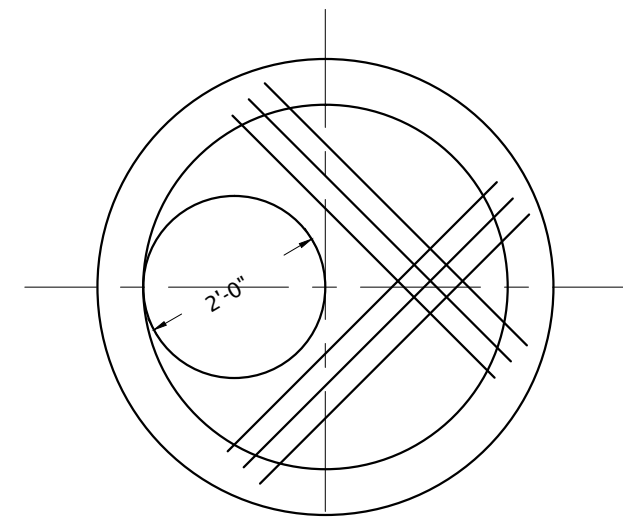
1. Drainage structures shall be in accordance with Munster Engineering Standards, "Drainage Structure Details" and "Frame and Grate, Flared End and Flat Slab Top Details".
2. Footing drains, sump pump drains and outside drains shall discharge to the storm sewer where storm sewer is provided.
3. The maximum allowable rate of infiltration or exfiltration shall not exceed 100 gallons, per 24 hours per inch-diameter per mile of sewer pipe.
4. Storm sewer pipe 12" and larger shall be reinforced concrete minimum Class III, wall 8 conforming to ASTM C-76. The Contractor may use, as an alternative to reinforced concrete (Class III) storm sewer, corrugated high-density polyethylene pipe with smooth interior (ADS N-12) conforming to AASHTO M-294, if approved by the local Public Works and Engineering Departments.



SECTION D-D

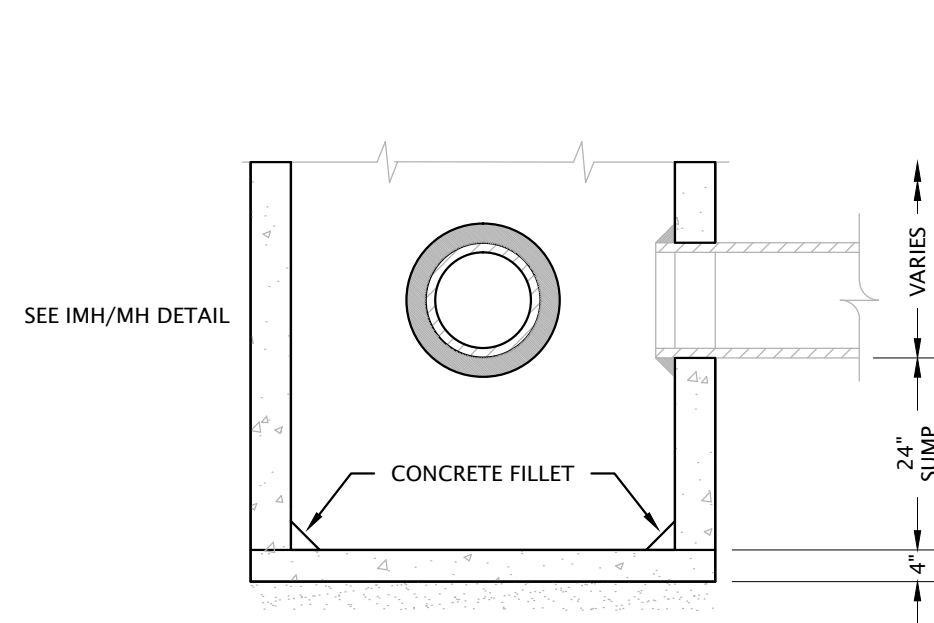


CURB AND GUTTER AT STRUCTURE



USED WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS

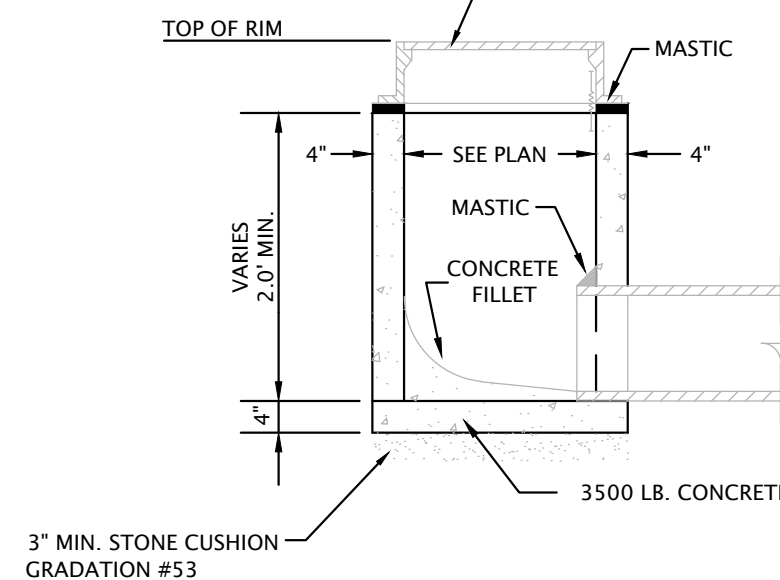
MANHOLE TOP (FLAT TOP)



CATCH BASIN DETAIL

CATCH BASIN USES OPEN LIDS
OPEN LIDS SHALL BE NEENAH R-2502 TYPE D
NOTED AS CB IN STORM TAGS

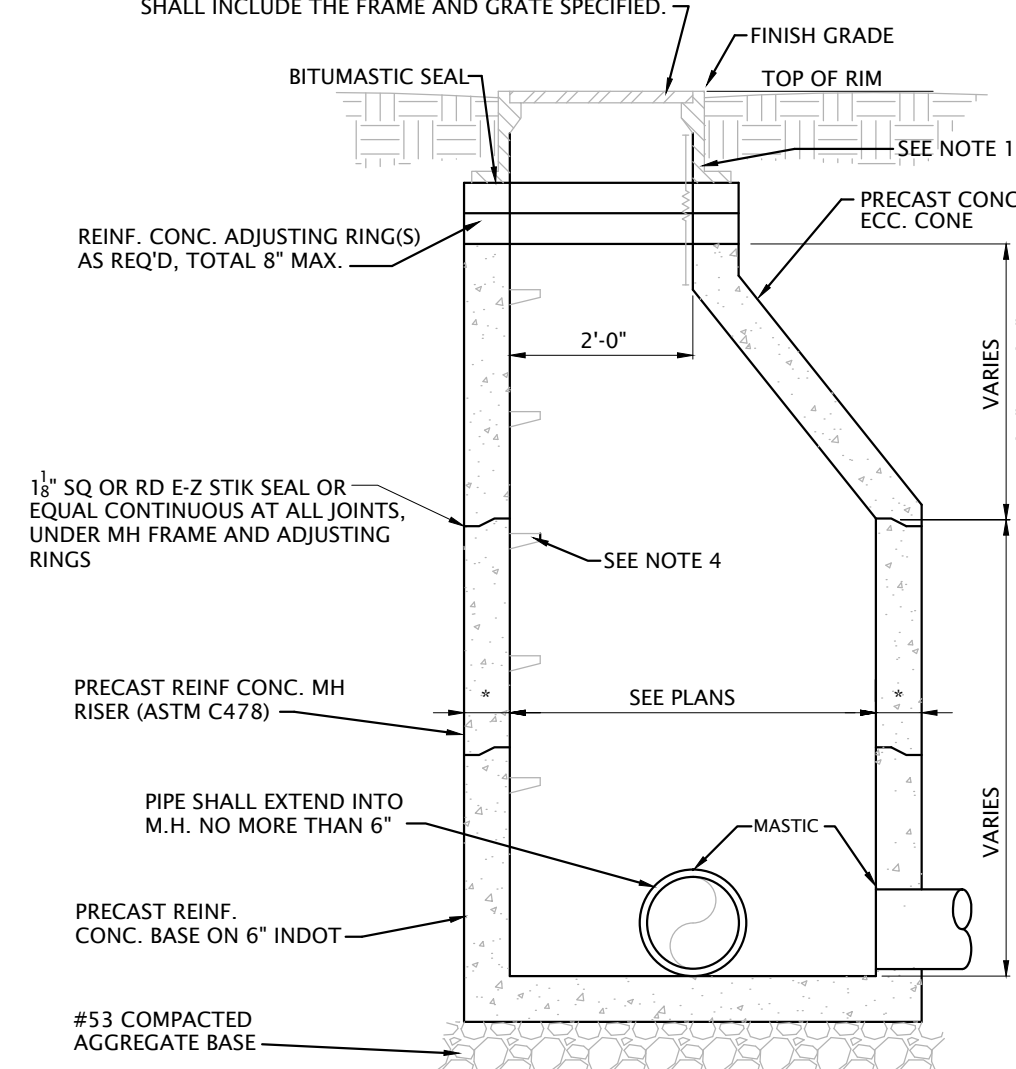
THE CONTRACT UNIT PRICE FOR INLETS, CATCH BASINS AND MANHOLES SHALL INCLUDE THE FRAME AND GRATE SPECIFIED.



INLET DETAIL

INLET USES OPEN LIDS - SEE STORM STRUCTURE TABLE NOTED AS INL. IN STORM TAGS

THE CONTRACT UNIT PRICE FOR INLETS, CATCH BASINS AND MANHOLES SHALL INCLUDE THE FRAME AND GRATE SPECIFIED.



INLET MANHOLE/MANHOLE DETAIL

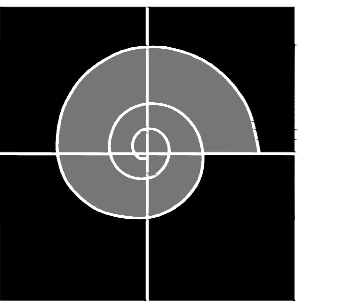
INLET MANHOLE (IMH) USES AN OPEN LID - SEE STORM STRUCTURE TABLE NOTED AS INL. MH STORM TAGS
MANHOLE (MH) USES A CLOSED LID - SHALL BE NEENAH R-1772 NOTED AS MH IN STORM TAGS

* STRUCTURE WALL THICKNESS TABLE

MH I.D.	WALL THICKNESS
36"	4"
48"	5"
60"	6"
72"	7"

NOTE:

1. INTERNAL MH FRAME-CHIMNEY SEAL AS MANUFACTURED BY CRETEX SPECIALTY PRODUCTS OR EQUAL REQ'D FOR ALL MANHOLES IN PAVED AREAS ONLY.
2. WHERE DEPTH FROM TOP OF CASTING TO INVERT IS LESS THAN 5'-0", USE FLAT TOP MANHOLE TYPE "C" IN LIEU OF ECCENTRIC CONE.
3. WATERTIGHT SEAL IS REQ'D BETWEEN PRECAST RISER AND SEWER PIPE.
4. COPOLYMER/STEEL MH STEPS AS MANUFACTURED BY M.A. INDUSTRIES, INC., OR EQUAL, AT 16" O.C. (MAX.)

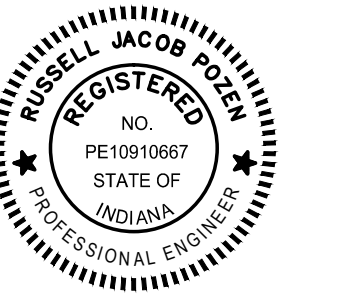


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Handwritten signature



7-22-16

**Centennial Village
L.L.C.**
9615 Boulevard Drive
Highland, IN 46322

DVG # 14-C-1011

REVISIONS AND NOTES:	DATE:

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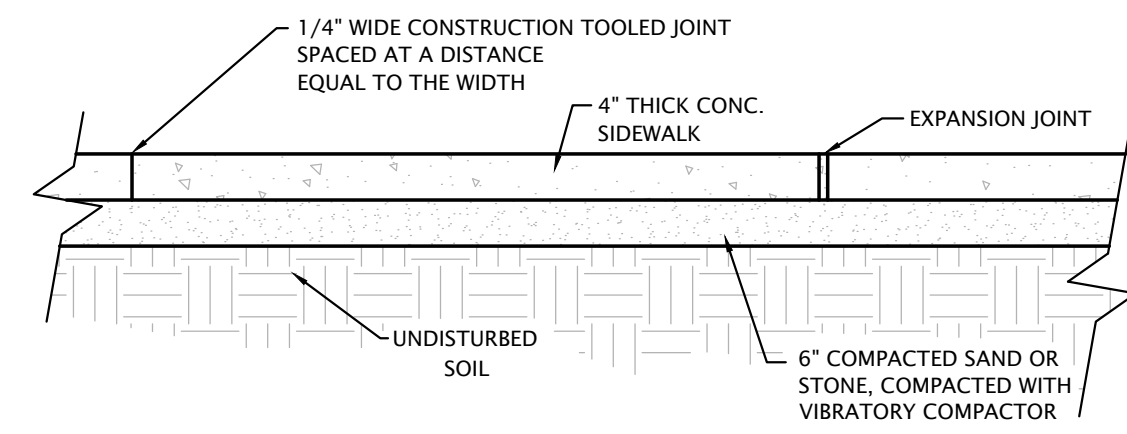
**Centennial Village
Munster, Indiana**

Construction Details

SCALE: NTS
DESIGN BY: DVG
DRAWN BY: DVG
DATE: 7-22-16

C203

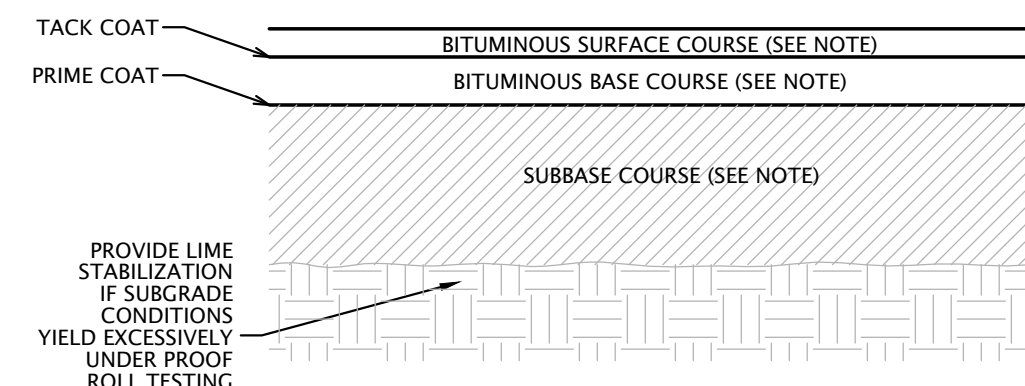
ASPHALT AND CONCRETE WORK DETAILS



SIDEWALK DETAIL

CONCRETE FLAT WORK NOTES

1. PROVIDE 3/4 INCH EXPANSION JOINT CONFORMING TO ASTM D 1751 ALONG BACK OF CURBS, DRIVEWAYS, STEPS, WALLS AND ACROSS THE SIDEWALK AT INTERVALS NOT TO EXCEED 40 FEET.
2. EXTEND EXPANSION JOINT MATERIAL FULL DEPTH OF THE SLAB.
3. PROVIDE TOOLED "V-GROOVE" CONTROL JOINT SPACED AT A DISTANCE EQUAL TO THE WIDTH OF THE WALK BUT NO OVER 8 FEET APART, OR AS SPECIFIED ON THE ARCHITECTURAL SITE PLAN.
4. CONCRETE SHALL BE CLASS A MEETING THE REQUIREMENTS OF THE MOST RECENT INDOT STANDARD SPECIFICATIONS MANUAL.
5. ALL CONCRETE FLAT WORK SHALL BE REINFORCED WIRE MESH 6"x6"x10/10, OR BE FIBER MESH REINFORCED CONCRETE.



SURFACE COURSE
SURFACE COURSE SHALL BE 1 1/2" INDOT HMA, Surface, 9.5mm, Type A

BASE COURSE
SURFACE COURSE SHALL BE 3" INDOT HMA, Base, 25.0mm, Type A

SUBBASE COURSE
BASE COURSE SHALL BE 10" OF NO. 53 AGGREGATE OVER GEOGRID BX 1100 OR EQUAL OVER APPROVED PROOF-ROLLED SUBGRADE

PAVEMENT CROSS SECTION

A.D.A. NOTES AND DETAILS

A CURB RAMP(S) MUST BE PROVIDED ALONG AN ACCESSIBLE PATH FROM THE PARKING LOT TO OWNERS CURBED SIDEWALK.

A CURB RAMP(S) MUST ALSO BE PROVIDED IN THE PARKING LOT AT ALL INTERMEDIATE AND PERIMETER CURBS ALONG THE ACCESSIBLE ROUTE CONNECTING TO PUBLIC SIDEWALKS.

A RAMP IS ANY SLOPE GREATER THAN 1:20 (5%) AND SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.33%). THE MAXIMUM SLOPE IS 1" OF RISE PER FOOT OF DISTANCE TRAVELED.

A RAMP SHALL HAVE A DETECTABLE SURFACE IDENTIFYING THE AREA OF THE RAMP. THIS IS MOST COMMONLY DONE WITH PERPENDICULAR LINES SPACED 2" ON CENTER SCORED INTO THE SURFACE OF THE CONCRETE RAMP, A MINIMUM OF 3" DEEP.

CURB RAMP(S) OR SIDEWALK RAMP(S) LEADING DOWN INTO A PATH OF VEHICLE TRAFFIC MUST HAVE A DETECTABLE WARNING FEATURE EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP (MID-WALK "IN-LINE" RAMP(S) ONLY NEED DETECTABLE WARNINGS AT WALK/PARKING TRANSITION). THE DETECTABLE SURFACE MUST CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES, A HEIGHT OF NOMINAL 0.2 INCHES AND A CENTER TO CENTER SPACING OF NOMINAL 2.35 INCHES. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT).

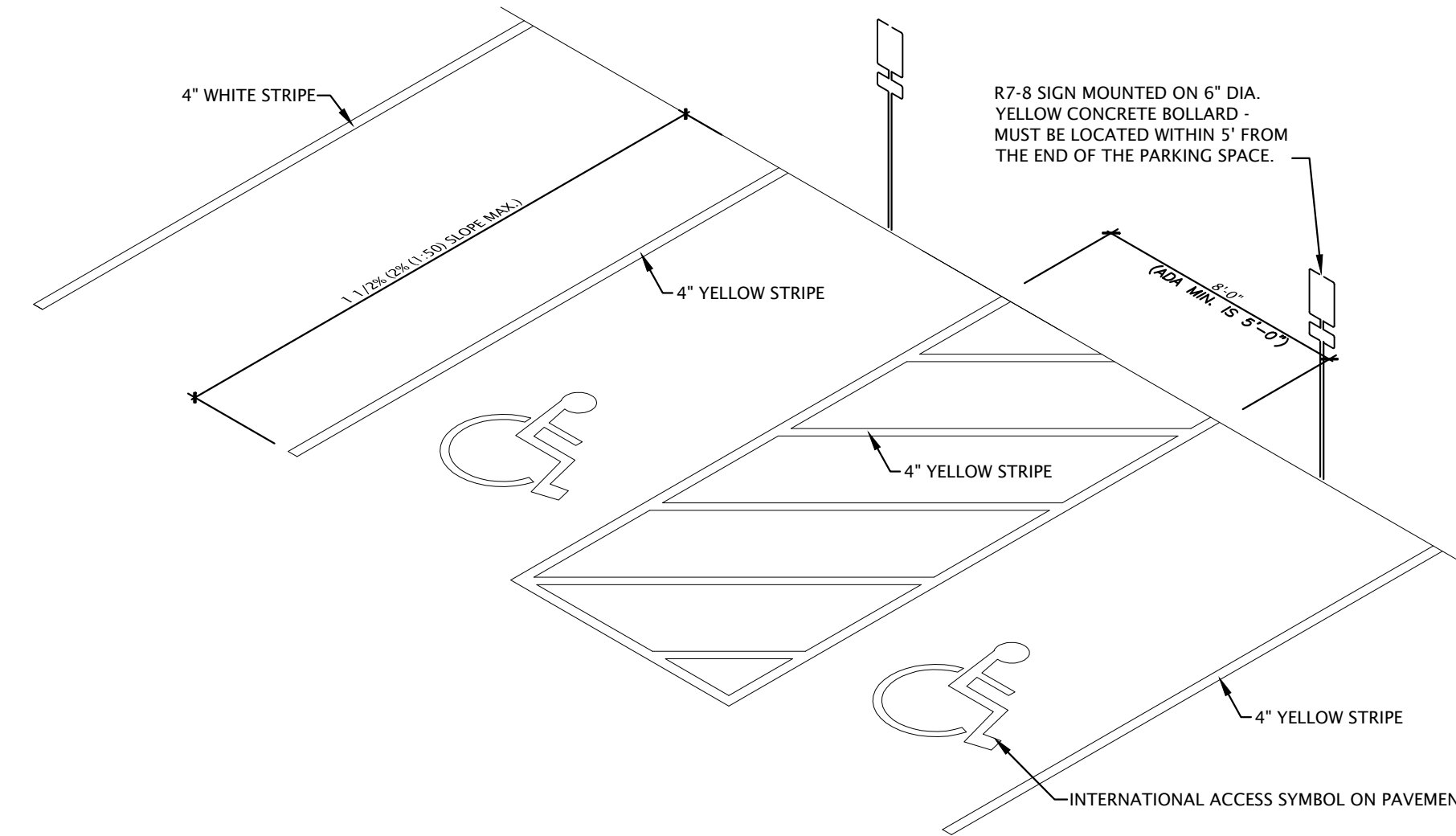
ADA DETECTABLE WARNING STRIPS SHALL BE A CAST IN PLACE DETECTABLE/TACTILE WARNING TILE. THE TILE MUST MEET ALL ADA REQUIREMENTS, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. A 5-YEAR WARRANTY SHALL BE PROVIDED BY THE MANUFACTURER FOR THE INSTALLED TILE FOR COLORFASTNESS AND DURABILITY. DETECTABLE/TACTILE WARNING TILE SHALL BE ARMOR-TILE, ACCESS-TILE OR AN APPROVED VENDOR.

ADA DETECTABLE WARNING TILE SHALL BE ORIENTATED PERPENDICULAR TO THE PEDESTRIAN TRAVEL DIRECTION. SKEWED PLACEMENT TO MATCH A RADIUS IS NOT ALLOWED.

THE LEADING EDGE OF THE DETECTABLE WARNING TILE MUST BE CLOSER THAN 5" FROM THE VEHICLE SURFACE, AND HAVE A MINIMUM OF 24" LENGTH ALONG THE PEDESTRIAN TRAVEL DIRECTION. THE TILE MAY BE CUT TO MATCH A RADIUS AT THE CURB IF ONE END OF THE RAMP EXCEEDS THE 5" MINIMUM.

THE CLEAR WIDTH OF ANY RAMP MEASURED PERPENDICULAR TO THE PEDESTRIAN TRAVEL DIRECTION IS A MINIMUM OF 36".

THERE ARE LOCAL JURISDICTIONS THAT SPECIFICALLY REQUIRE DETECTABLE WARNINGS ON THE SIDE FLARES OR TOP OF RAMP (CA). THERE ARE LOCAL JURISDICTIONS THAT HAVE REDEFINED DETECTABLE WARNINGS (E.G. EXPOSED CONTRASTING COLOR AGGREGATE, GROOVES IN A PARALLEL OR DIAMOND PATTERN ETC.). ACCESSIBILITY GUIDELINES DEFINED BY LOCAL ORDINANCE SHOULD SUPERSEDE WHEN MORE STRINGENT THAN ADAAG. IN THE ABSENCE OF A DEFINITION, FOLLOW ADAAG.



TYPICAL ADA PARKING SPACE PLAN

ACCESSIBLE PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING ENTRANCE.

THE ACCESS AISLE SHALL BE DESIGNATED WITH HIGH QUALITY YELLOW DIAGONAL SURFACE PAINT STRIPING.

RAMP(S) MUST NOT EXTEND OUT FROM THE CURB INTO THE ACCESS AISLE OF ANY ACCESS PARKING SPACE.

ADA ALLOWS TWO PARKING SPACES TO SHARE AN ACCESS AISLE.

STRIPING NOTES:

1. PAINTED CROSSWALKS SHALL BE WHITE 18" WIDE STRIPES 6" LONG, SPACED 36" ON CENTER ACROSS THE ENTIRE LENGTH OF THE CROSSING.
2. PAINT 2" BLACK OUTLINE AROUND ARROWS AND LETTERS IN AREAS OF CONCRETE SURFACE.
3. PARKING SPACES ARE TO BE "WHITE" - 4" WIDE STRIPES
4. ADA SPACES, ADA MARKING, AND ADA ACCESS SPACE ARE TO BE "YELLOW" - 4" WIDE STROKES.

ACCESSIBLE SPACE REQUIREMENTS

TOTAL OFF STREET PARKING SPACES PROVIDED	NUMBER OF ACCESSIBLE PARKING SPACES REQUIRED
1 TO 25	1
26 TO 50	2
51 TO 75	3
76 TO 100	4
101 TO 150	5
151 TO 200	6
201 TO 300	7
301 TO 400	8
401 TO 500	9
501 TO 1000	2% OF TOTAL
OVER 1000	2% PLUS 1 FOR EACH 100 OVER 1000

THE ADA REQUIRES ONE VAN ACCESSIBLE PARKING SPACE WITH 96" ACCESS AISLE FOR ONE IN EVERY EIGHT ACCESSIBLE SPACES, BUT NOT LESS THAN ONE.

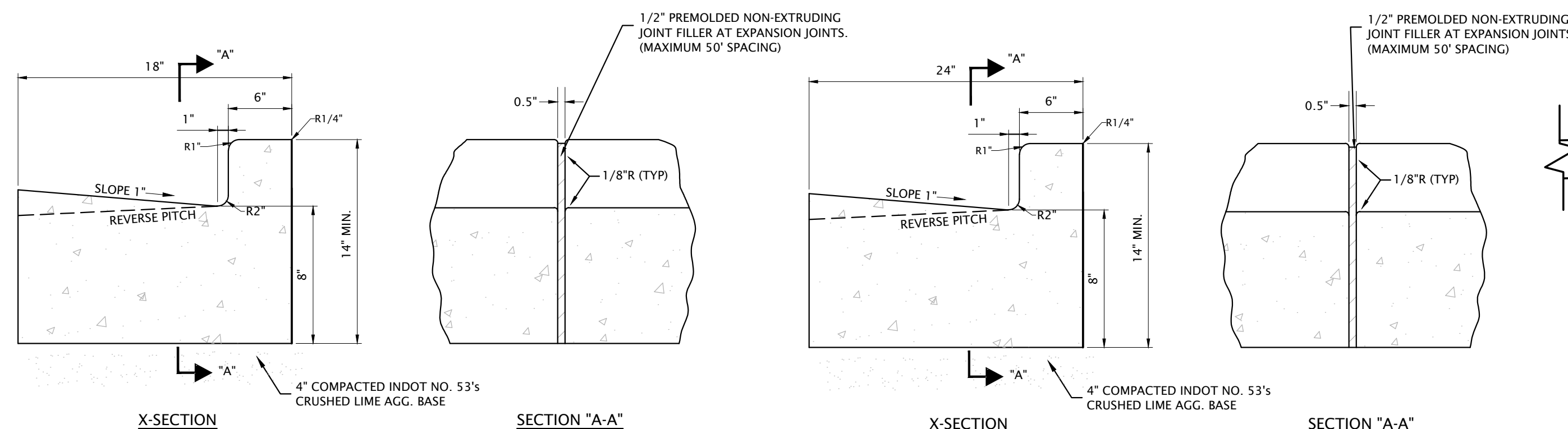
PARKING STALL NOTES:

EACH ACCESSIBLE PARKING SPACE IS TO BE A MINIMUM OF 8 FEET WIDE AND HAVE A 96" MINIMUM ACCESS AISLE FOR VANS OR 60" ACCESS AISLE FOR CARS ADJACENT TO THE SPACE. THE ACCESS AISLE MAY BE ON EITHER THE DRIVER'S SIDE OR THE PASSENGER'S SIDE OF THE ACCESSIBLE SPACE. THIS APPLIES TO 45, 60, AND 90° PARKING.

ACCESSIBLE PARKING SPACES ARE TO BE LOCATED AS CLOSE TO THE BUILDING ENTRANCE AS POSSIBLE AND SHALL BE IDENTIFIED WITH A SIGN.

ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH A SLOPE BETWEEN 1.5% AND 2% OR 1:50 IN ALL DIRECTIONS. THIS INCLUDES BOTH "RUNNING SLOPES" AND "CROSS SLOPES."

EACH PARKING SPACE ACCESS AISLE MUST CONNECT TO A COMMON LEVEL WITH AN ACCESSIBLE ROUTE... I.E., EACH ACCESS AISLE NEXT TO A PARKING SPACE MUST HAVE A CURB RAMP AT SIDEWALK OR BLEND TO A LEVEL WALKWAY LEADING TO THE ENTRANCE.

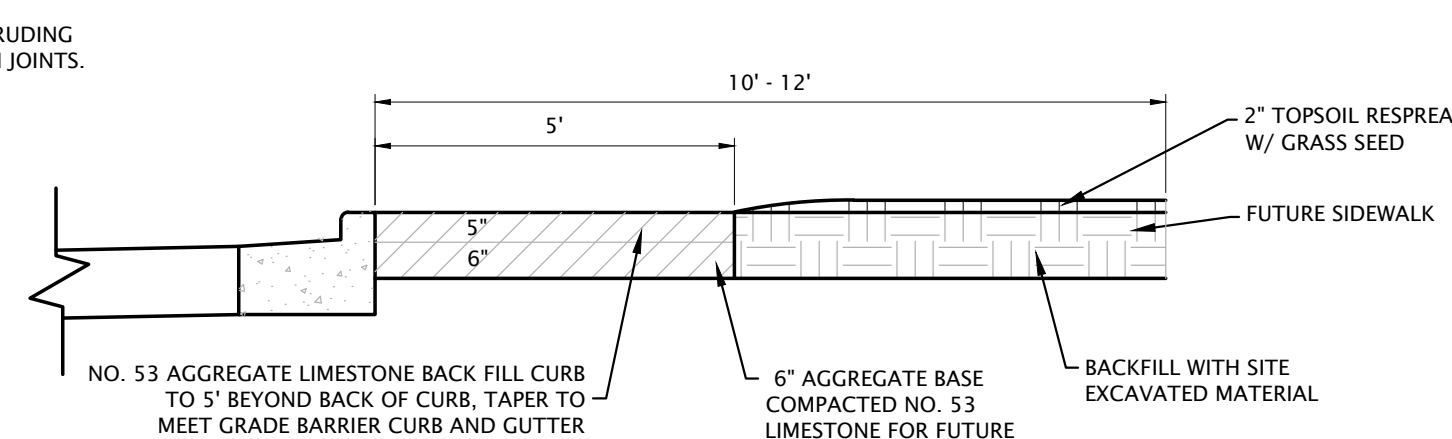


BARRIER CURB & GUTTER

- NOTE:**
1. CONTRACTION JOINTS - CONTRACTION JOINTS SHALL BE PLACED AT EQUAL SPACES BETWEEN NORMAL EXPANSION JOINTS. CONTRACTION JOINTS SHALL BE SAW CUT IN THE UPPER 1/3 OF CURB AND GUTTERS WITHIN 7 DAYS OF PLACEMENT.
 2. 1/2" EXPANSION JOINTS AT MAXIMUM 50 FEET.
 3. CONTRACTION JOINTS AT MAXIMUM 20 FEET.

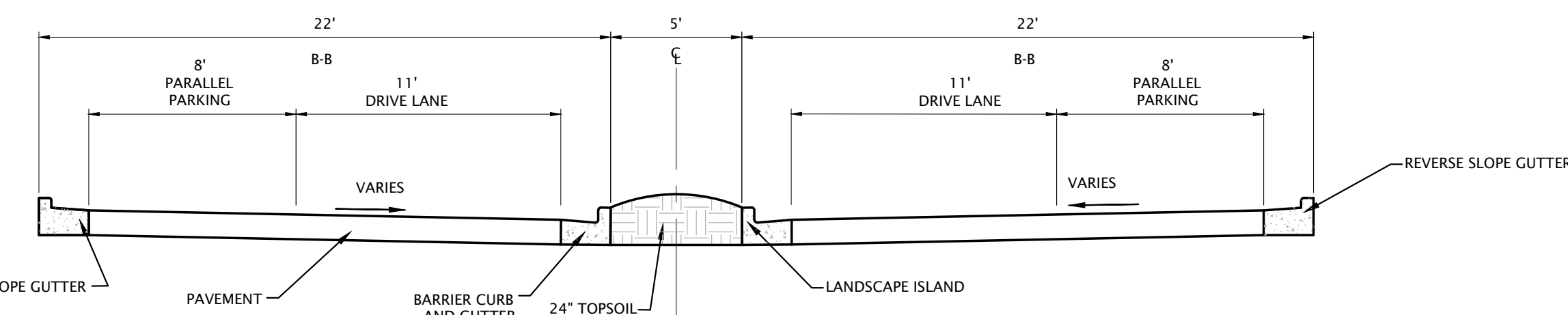
24" BARRIER CURB & GUTTER

- NOTE:**
1. CONTRACTION JOINTS - CONTRACTION JOINTS SHALL BE PLACED AT EQUAL SPACES BETWEEN NORMAL EXPANSION JOINTS. CONTRACTION JOINTS SHALL BE SAW CUT IN THE UPPER 1/3 OF CURB AND GUTTERS WITHIN 7 DAYS OF PLACEMENT.
 2. 1/2" EXPANSION JOINTS AT MAXIMUM 50 FEET.
 3. CONTRACTION JOINTS AT MAXIMUM 20 FEET.

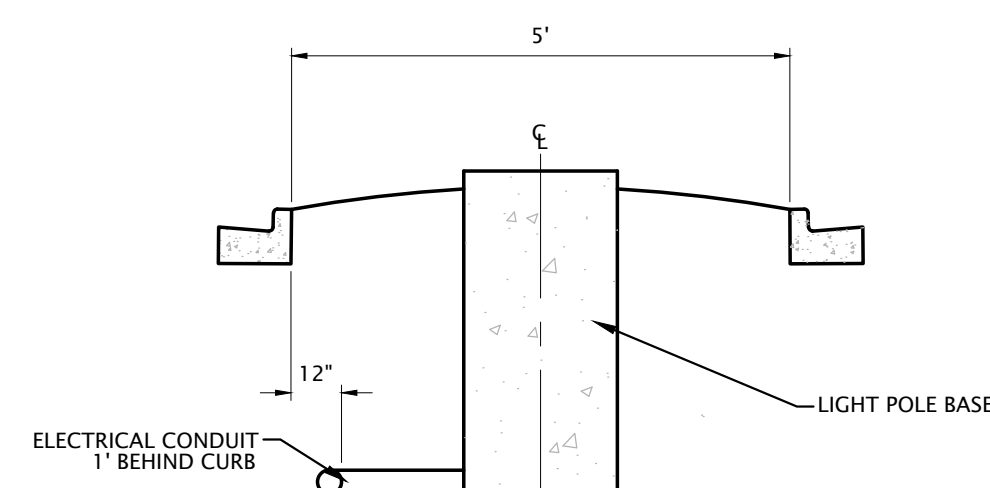


CURB BACKFILL DETAIL

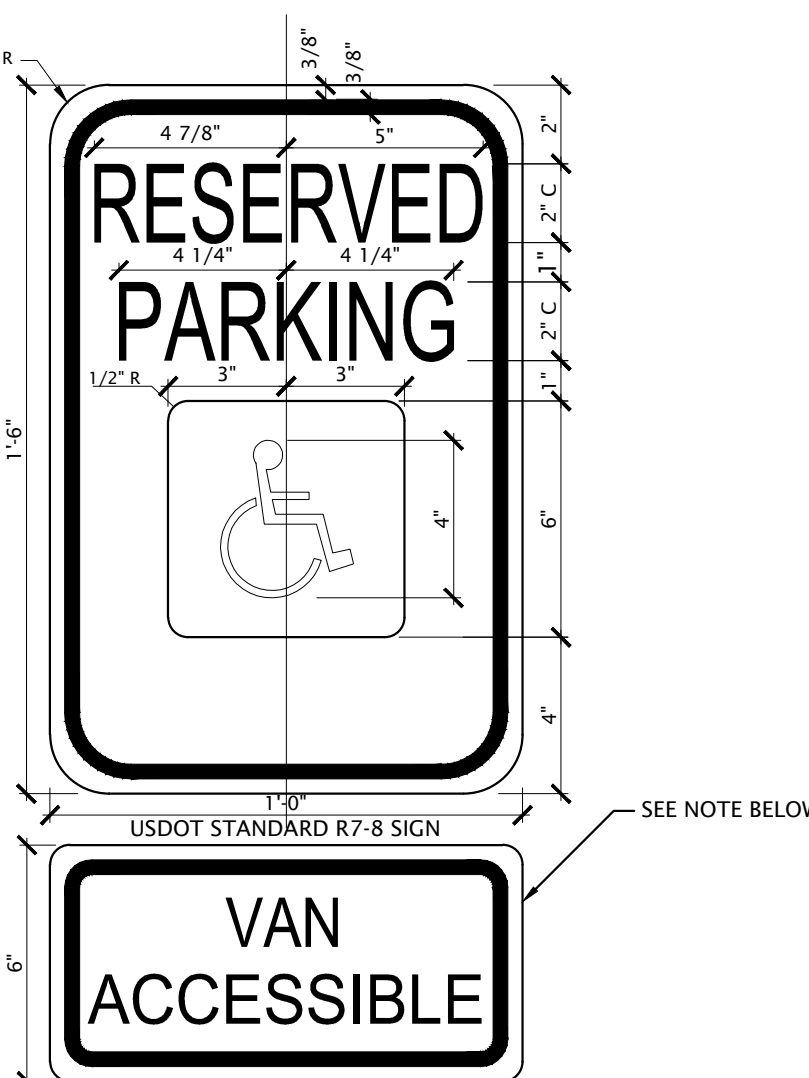
ACCESSIBLE PARKING-SIZE AND MARKINGS



TYPICAL CROSS SECTIONS - CENTENNIAL DRIVE/VILLAGE PARKWAY

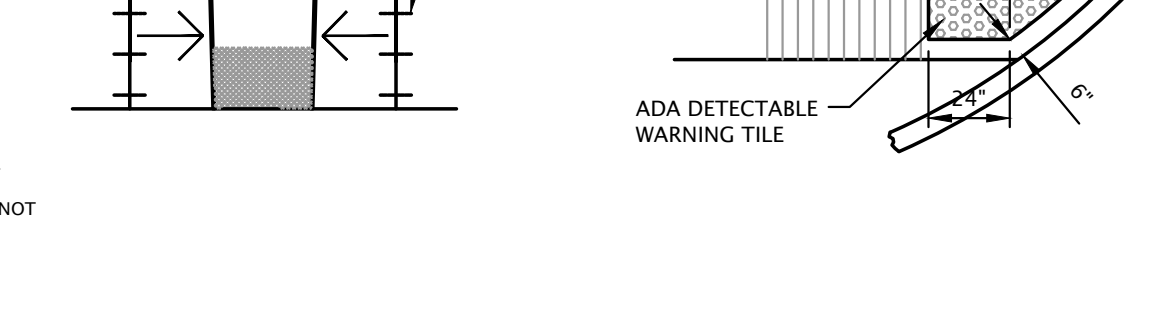
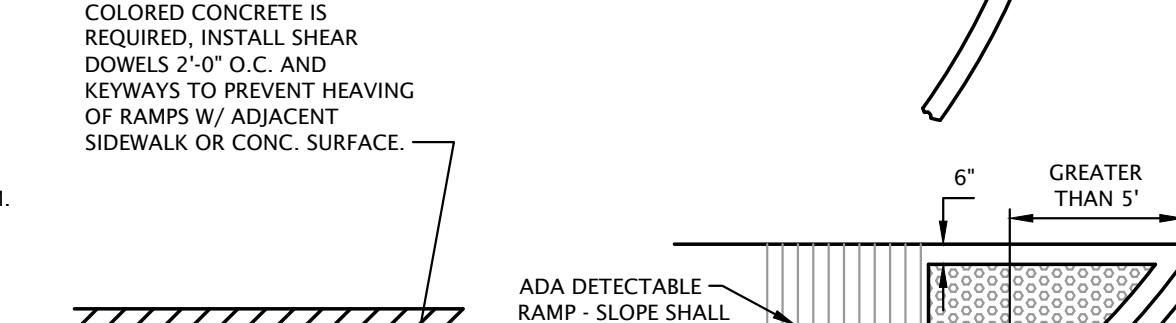
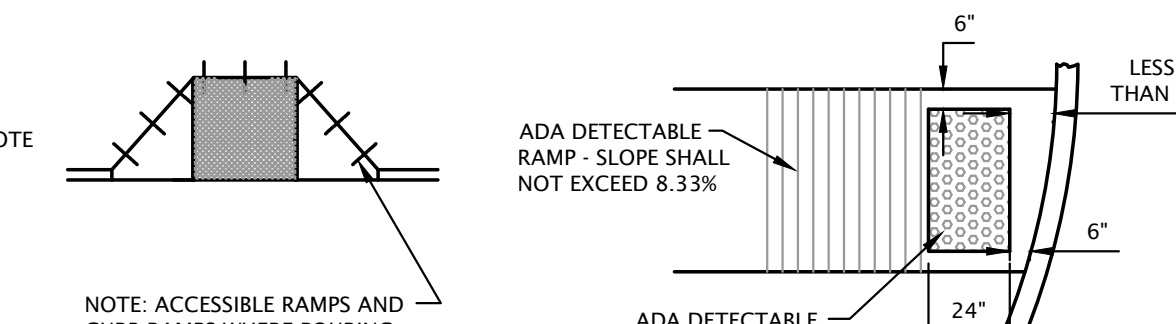
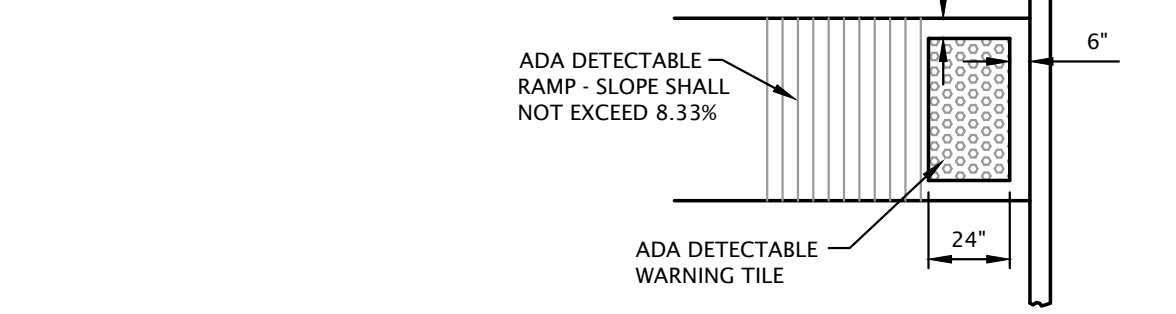
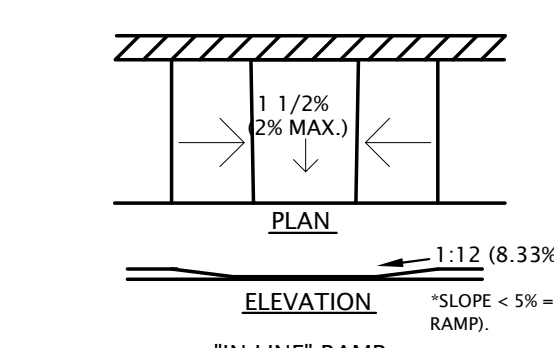
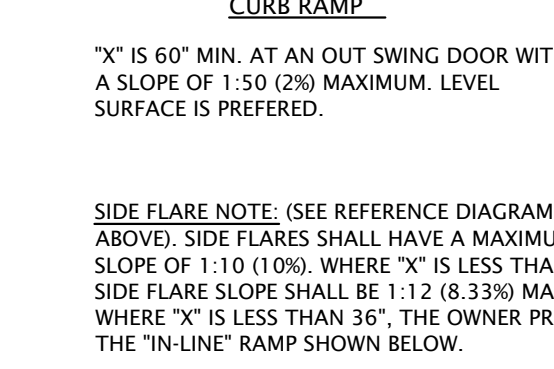
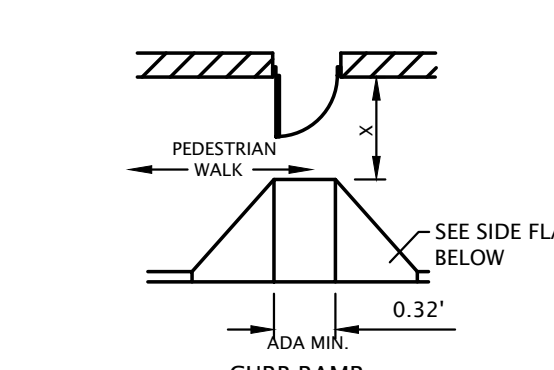
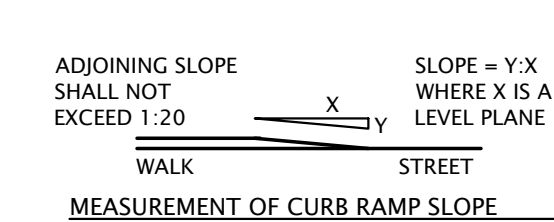


LANDSCAPE ISLAND SECTION



NOTE (R7-8 SIGN): THIS IS A STANDARD SIGN AND MAY BE ORDERED FROM ANY TRAFFIC SIGN SUPPLIER BY NUMBER. THE SIGN MUST BE SUPPLEMENTED WITH A "VAN ACCESSIBLE" SIGN AS APPLICABLE AND/OR AMOUNT OF THE FINE FOR ILLEGALLY PARKING IN THE RESERVED SPACES A MUNICIPALITY MAY IMPOSE. CONFIRM WITH LOCAL REGULATIONS.

A U.S. DEPARTMENT OF TRANSPORTATION R7-8 (RESERVED PARKING) AND SUPPLEMENTAL SIGNS AS NOTED ABOVE MUST BE MOUNTED ON A PERMANENT POST NO LOWER THAN FOUR FEET FROM THE PAVEMENT. THE POST MUST BE MOUNTED IN THE CENTER OF THE 8 FOOT WIDE ACCESSIBLE PARKING SPACE, NO MORE THAN 5 FEET FROM THE FRONT OF THE PARKING SPACE. SEE ILLUSTRATION ABOVE.



ADA RAMPS

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Project Management and Development Consulting
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Crown Point, IN 46307
(219) 662-7710 Fax: (219) 662-2740

Handwritten Signature

REGISTERED PROFESSIONAL ENGINEER
NO. PE10910667
STATE OF INDIANA
7-22-16

Centennial Village L.L.C.
9615 Boulevard Drive
Highland, IN 46322

DWG # 14-C-1011

REVISIONS AND NOTES:	DATE:

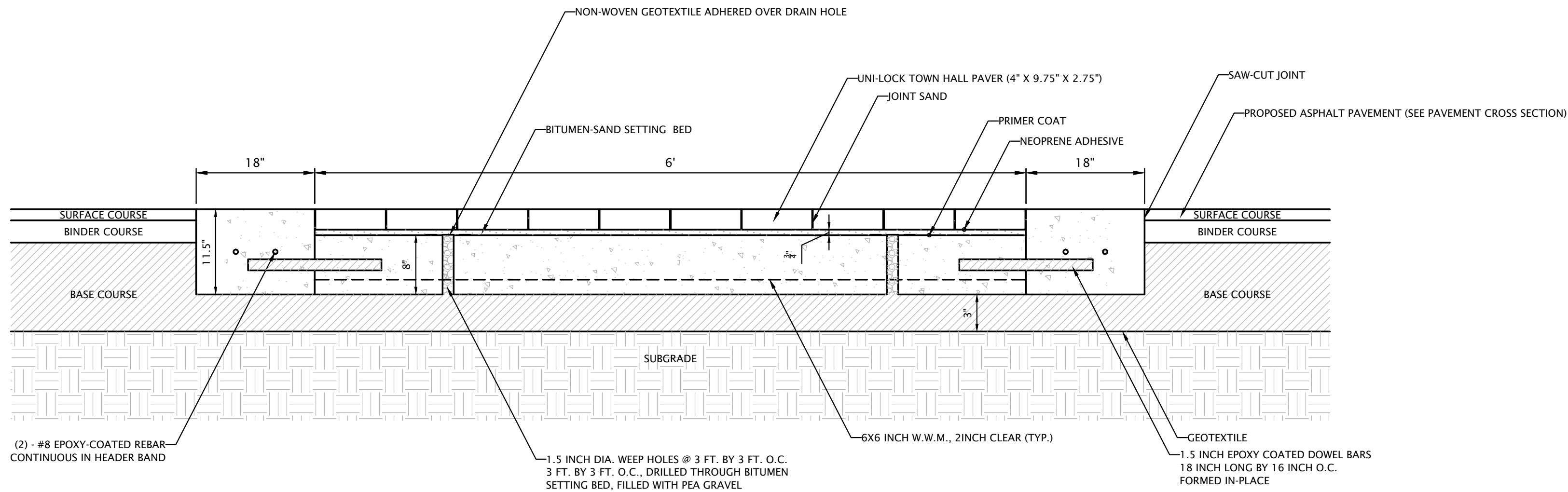
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Centennial Village Munster, Indiana

Construction Details

SCALE: NTS
DESIGN BY: DVG
DRAWN BY: DVG
DATE: 7-22-16

C204



BRICK PAVER CROSSWALK CROSS SECTION
TO BE INSTALLED AT A FUTURE DATE AS APPROVED BY OWNER AND TOWN OF MUNSTER

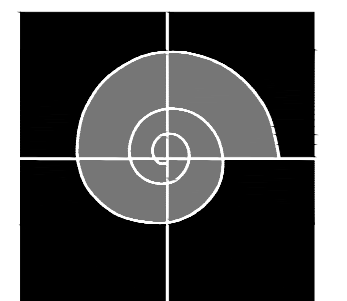
- NOTES:
 1. SEE PAVEMENT CROSS SECTION FOR BITUMINOUS LAYER THICKNESSES.
 2. PROVIDE LIME STABILIZATION IF SUBGRADE CONDITIONS YIELD EXCESSIVELY UNDER PROOF-ROLL TESTING.
 3. USING EXCESSIVE NEOPRENE ADHESIVE CAN CAUSE DAMAGE FROM THE PRODUCT Oozing UPWARD TO THE PAVEMENT SURFACE.

LANDSCAPE NOTES

- TREES, SHRUBS, AND GROUNDCOVERS
- PART 1 - GENERAL**
- 1.01 DESCRIPTION**
- A. Provide trees, shrubs, and groundcovers as shown and specified. The work includes:
 1. Soil Preparation.
 2. Trees, shrubs, and groundcovers.
 3. Mulch and planting accessories.
 4. Maintenance.
- B. Related work:
 1. Lawns and Grasses.
- 1.02 QUALITY ASSURANCE**
- A. Comply with General and Supplementary Conditions.
 B. Plant names indicated comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.
 C. Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock." A plant shall be dimensioned as it stands in its natural position.
 D. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two years.
 E. Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional cost, providing that the larger plants will not be cut back to size indicated.
 F. Plants are subject to inspection by the Owner's Representative at the job site or nursery. The Owner's Representative reserves the right to personally select any or all nursery stock prior to digging.
- 1.03 DELIVERY, STORAGE, AND HANDLING**
- A. Deliver fertilizer materials in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.
 B. Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Spray deciduous plants in foliage with an approved "Anti-Desiccant" before digging to prevent dehydration. Dig, pack, transport, and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival the certificate shall be filed with the Owner's Representative. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Owner's Representative. Water headed-in plantings as appropriate to promote healthy root growth. No plant shall be bound with rope or wire in a manner that could damage or break the branches or bark. No plant shall be bound for more than 24 hours.
 C. Cover plants transported on open vehicles with a protective coverings to prevent windburn.
 D. Provide dry, loose topsoil for planting bed mixes. Frozen or muddy topsoil is not acceptable.
- 1.04 PROJECT CONDITIONS**
- A. Work notification: Notify the Owner's Representative at least two working days prior to installation of plant material.
 B. Protect existing utilities, paving, and other facilities from damage caused by landscaping operations.
 C. A list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings for the convenience of the Owner. Verify and supply the quantities required to complete the work as drawn.
- 1.05 GUARANTEE**
- A. Guarantee all work in this section for one year following the date of Final Acceptance by the Owner's Representative.
 B. Replace, in accordance with the drawings and specifications, all plants that are dead or, as determined by the Owner's Representative, are in an unhealthy or unsightly condition.
 C. Guarantee shall not include damage or loss of trees, plants, or groundcovers caused by fires, floods, freezing rains, lightning storms, or winds over 75 miles per hour, winter kill caused by extreme cold and severe winter conditions not typical of planting area; or acts of vandalism.
 D. Guarantee shall not include on-site relocation of existing plants.
- PART 2 - PRODUCTS**
- 2.01 MATERIALS**
- A. Plants: Provide plants typical of their species or variety with normal, densely-developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, distorting knots, sunscald injuries, frost cracks, abrasions of the bark, plant disease, weeds, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces. Plants held in storage will be rejected if they show signs of growth during storage.
- Dig balled and burlapped plants with firm, natural balls of earth. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock." Cracked or mushroomed balls are not acceptable. Tree spade transplanting is not acceptable.
 - Container-grown stock: Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
 - No plants shall be loose in the container
 - Container stock shall not be root bound.
 - When specified by caliper, provide shade and ornamental trees with a single main trunk. When specified by height, provide shade and ornamental trees as multi-stemmed plants with not less than three main trunks and side branches that are generous and well twigged.
 - Provide plants matched in form when arranged in groups.
 - Plants larger than those specified in the plant list may be used when acceptable to the Owner's Representative.
 - Provide plants with pruning wounds relative to the size of the trunk or branch on which it occurs. Pruning wounds should not exceed more than 1/3 of the tissue area of that given trunk or branch. Acceptable wounds must show vigorous bark on all edges. (i.e. a 1" diameter wound on a 2" caliper tree is unacceptable)
 - Provide evergreen trees branched to the ground unless otherwise specified or accepted.
 - Provide shrubs and small plants meeting the requirements for spread and height indicated in the plant list.
 - The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.
 - Single stemmed or thin plants will be rejected.
 - Side branches shall be generous, well-twigged, and the plant as a whole well-bushed to the ground.
 - Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.
- 2.02 ACCESSORIES**
- Topsoil for Planting Beds: Fertile, friable, natural topsoil of a medium-to-textured, loamy character, meeting the following analysis:
 Coarse sand, medium sand 10 - 30%
 Silt 30 - 50%
 Clay 10 - 30%
 (Clay content shall be determined by a hydrometer Test)
 Organic matter content shall be from 3 to 7%, obtained from a well-drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign material.
 Amended Topsoil: A mixture of 80% topsoil and 20% compost, incorporated to a depth as specified in the appropriate details in all planting areas.
 - Mulches:
 1. Trees, shrubs, perennials, and ornamental grasses - six month old, well rotted, shredded, native hardwood bark mulch, not larger than 4" in length and 3/4" in width, free of wood chips and sawdust.
 2. Deciduous material: Plant deciduous materials in a dormant condition. If deciduous trees are planted in-leaf, spray with an anti-desiccant prior to planting operations.
 3. Obtain Owner's Representative's approval for planting times, other than those indicated, prior to commencing work.
 - Water: Free of substances harmful to plant growth. Hoses or other methods of transportation furnished by Contractor.
 E. Tree wrap: Standard waterproofed tree wrapping paper, 2-1/2" wide, made of two layers of crepe kraft paper weighing not less than 30lbs per ream.
 - Twine: Two-ply jute material.
- PART 3 - EXECUTION**
- 3.01 INSPECTION**
- A. Examine proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.
- 3.02 PREPARATION**
- Evergreen material: Plant evergreen materials between August 15 and November 1 or in spring before new growth begins. If project requirements require planting at other times, spray plants with anti-desiccant prior to planting operations
 - Deciduous material: Plant deciduous materials in a dormant condition. If deciduous trees are planted in-leaf, spray with an anti-desiccant prior to planting operations.
 - Obtain Owner's Representative's approval for planting times, other than those indicated, prior to commencing work.
- 3.03 INSTALLATION**
- Trees and Shrubs
 1. Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure. Set plant material above the finish grade. Do not fill around trunks or stems. Backfill the pit with a mixture of excavated material and amended topsoil. Do not use frozen or muddy mixture for backfilling. Form a ring of soil around the edge of each planting pit to retain water.
 2. After balled or burlapped plants are set, backfill halfway, tamp and water, then backfill to grade and rewater.
 3. Cut and remove all non-organic cords around root ball and trunk.
 - Perennials/Groundcovers/Annuals
 1. Where perennials, groundcovers, and annuals are specified on the plans, rotill entire plant bed to 6" depth using amended topsoil. If area is within existing tree's dripline, hand cultivation of plant bed to 6" depth is required. Obtain the Owner's Representative's approval for rotilling methods other than those indicated, prior to commencing work.
 2. Plant spacings are given as general guidelines. Adjust spacing as necessary using the quantity specified to fill the entire bed to within 6" of edge.
 - Apply commercial pre-emergent herbicide (Pre or equal) per manufacturer's directions to entire groundcover, perennial, or annual bed under and over teh mulch.
- 3.04 MAINTENANCE**
- A. Mulching:
 1. Mulch tree and shrub planting pits, shrub beds, and ornamental grass beds with required mulching material 4" deep immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.
 2. Mulch perennials, groundcovers, and annuals with required mulching material 1" - 3" deep immediately after planting, thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface, and to keep mulch away from stems and branches.
 E. Pruning
 1. Prune deciduous stock, after planting, only to remove or cut back broken or damaged branches, and unsymmetrical growth of new wood. Acceptable pruning should preserve the natural character appropriate to that particular plant.
 2. Multiple leader plants: Preserve the leader which will best promote the symmetry of the plant. Cut branches flush with the trunk or main branch, at a point beyond a lateral shoot or bud a distance of not less than half the diameter of the supporting branch. Make cut on an angle.
 3. Prune evergreens only to remove broken or damaged branches.

- 3.04 MAINTENANCE**
- Maintain plantings for a period of at least 30 days after Substantially completed work in this section has received written Preliminary Acceptance by the Owner's Representative.
 - Maintenance shall include pruning, cultivating, weeding, watering, and application of appropriate insecticides and fungicides necessary to maintain plants free of insects and disease.
 - Re-set settled plants to proper grade and position. Restore planting sauce and adjacent material and remove dead material.
 - Tighten and repair guy wires and stakes as required.
 - Correct defective work as soon as possible after deficiencies become apparent and weather and season permit.
 - Water trees, shrubs, and groundcover beds within the first 24 hours of initial planting. To promote healthy root growth, watering should take as follows, until final acceptance:
 - Not less than once per week - trees and shrubs
 - Not less than twice per week - perennials, groundcovers, and annuals.
 Depending on weekly rainfall and seasonal conditions, obtain Owner's Representative's approval prior to commencing work.
- 3.05 ACCEPTANCE**
- A. Planted areas will be inspected during and upon completion of installation and accepted subject to compliance with specified materials and installation requirements.
- Planted areas will be Finally Accepted provided all requirements, including maintenance, have been complied with and plant materials are alive and in a healthy, vigorous condition.
- 3.06 CLEANING**
- A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris, and equipment. Repair damage resulting from planting operations.
- LAWNS AND GRASSES**
- PART 1 - GENERAL**
- 1.01 DESCRIPTION**
- A. Provide turf areas as shown and specified. The work includes:
 1. Soil Preparation.
 2. Fertilizing indicated areas.
 3. Seeding indicated areas.
 4. Sodding indicated areas.
 5. Maintenance and guarantee.
 6. Cleaning up work area.
- B. Related work:
 1. Trees, Shrubs, and Groundcovers.
- 1.02 QUALITY ASSURANCE**
- Comply with General and Supplementary Conditions.
 - Apply with applicable local regulations.
 - Sod: Comply with American Sod Producers Association (ASPA) classes of sod materials
- 1.03 SUBMITTALS**
- Sod: Submit sod growers certification of grass species. Identify source location in Bid Proposal Form.
 - Seed: Submit seed vendor's certification for required grass seed mixture, including percentage by weight, and percentages of purity, germination, and weed seed for each grass species.
- 1.04 DELIVERY, STORAGE, AND HANDLING**
- Sod: Deliver and install sod cut within a 48-hour period.
 1. Do not transport sod when moisture content may adversely affect sod survival.
 2. Cover sod on pallets to prevent dehydration.
 3. Do not tear, stretch, or drop sod during handling and installation.
 - Seed: Deliver seed and fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.
- 1.05 PROJECT CONDITIONS**
- Protect existing utilities, aping, and other facilities from damage caused by grassing operations.
 - Perform grassing work only after planting and other work affecting ground surface has been completed.
 - Install seed under favorable weather conditions unless approved by the Owner's Representative. The conditions of the guarantee apply regardless of the date of installation. The generally accepted times for seeding are: Spring - April 1 to May 31 Fall - August 15 to September 31
- 1.06 GUARANTEE**
- A. Guarantee all work in this Section for one year following the date of Final Acceptance by the Owner's Representative. At the end of the guarantee period, resod areas, with specified materials, which fail to provide a uniform stand of grass until all affected areas are accepted by the Owner's Representative.
- PART 2 - PRODUCTS**
- 2.01 MATERIALS**
- A. SEED/SOD STARTER FERTILIZER**
- Provide a granular, non burning fertilizer from a commercial source. Fertilizer types, ratios, and application rates shall be per recommendation from soil tests.
 - Post emergent fertilizer with an approximates analysis of 30-5-5 applied 30 - 45 days after installation or per soil test recommendations.
- B. Sod**
- Provide and "approved" nursery grown blend of improved Kentucky Bluegrass varieties that is hardy to the locality of the work. Sod that has been grown on soil high in organic matter, such as peat, is not acceptable.
 - Provide well-rooted, healthy sod, free of disease, nematodes and soil borne insects. Provide sod uniform in color, leaf texture, density, and free of weeds, undesirable grasses, stones, roots, thatch, and extraneous materials; viable and capable of growth and development when planted.

- Owner's Representative reserves the right to reject unacceptable sod at the nursery or the job site.
 - Seed
 - Lawn seed: Fresh, clean seed from most recently harvested crop which complies with all local, state, and federal seed and weed laws and is free from Poa annua, bent grass, and noxious weeds. Mix to the specified proportions by weight.
 - Lawn Mix: Executive Sun Mix from Cisco in Indianapolis, IN
 - Pond Slopes and Bottom: No Mow Seed Mix by Prairies Nursery in Westfield, WI
 - Mulch for lawn to be Matblend or approved Equal
 - Pond slopes and bottom to have NAG-DS75 applied per manufacturers directions.
- PART 3 - EXECUTION**
- 3.01 INSPECTION**
- A. Examine finish surfaces, grades, topsoil quality, and depth. Do not start grassing work until satisfactory conditions are corrected.
- 3.02 PREPARATION**
- Limit preparation to areas which will be completed within 48 hours.
 - Loosen topsoil of lawn areas to minimum depth of 4". Remove stones over 1" in any dimension and sticks, roots, rubbish, and extraneous matter.
 - Grade lawn areas to smooth, free draining and even surface with a loose, uniformly fine texture. Roll and rake; remove ridges and fill depressions as required to drain.
 - Restore prepared areas to specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to sodding.
- 3.03 FERTILIZATION**
- Obtain Owner's Representative's approval of prepared topsoil.
 - For sod areas, Apply fertilizer into the soil.
 - For seeded areas:
 1. Apply starter fertilizer to indicated seed areas at a rate indicated by soil tests.
 2. Apply fertilizer by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 3" by discing or other approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.
- 3.04 TRANSPORTATION**
- Maintain sod in a moist condition from cutting until placement. Any sod that has dried out will be rejected and shall be immediately removed from the job site by the contractor.
 - Transport sod in either a closed van or in properly covered open trucks.
 - Do not use sod cut for more than 48 hours without the approval of the Owner's Representative
- 3.05 SOD INSTALLATION**
- Lay sod to form a solid mass with tightly-fitted joints. But ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent courses. Remove excess sod to avoid smothering of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains, and seeded areas.
 - Do not lay dormant sod or install sod on saturated or frozen soil.
 - Install initial row of sod in a straight line, beginning at bottom of slopes, perpendicular to direction of the sloped area. Place subsequent rows parallel to and lightly angust previously installed row.
 - Roll with light lawn roller to ensure contact with sub-grade.
 - Stake sod on slopes greater than 3:1 to prevent slippage, two stakes per yard of sod
 - Water sod thoroughly with a fine spray immediately after laying.
- 3.06 SEED INSTALLATION**
- A. General:
 1. Seed immediately after preparation of bed.
 2. Seed indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.
- B. Perform seeding operations when the soil is dry and when winds do not exceed 10 miles per hour velocity.
 4. Apply sun grass seed mix at the following rate:
 New Seeding Rate: 4-5 pounds per 1,000 SF
 Apply No Mow Fescue Mix:
 New Seeding Rate: 5 pounds per 1,000 SF
- B. Method:
 1. Conventional Seeding:
 a. Apply seed with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in two directions, at right angles to each other.
- After seeding, apply Hydromulch at a rate of 1,800 lbs per acre. On slopes of 3:1 or steeper, or within drainage areas, apply erosion control blanket and secure. Contractor responsible for repairing wash outs where blanket is not applied.
- 3.07 MAINTENANCE**
- Maintain lawn areas for a period of at least 30 days after all Substantially Completed work in this section has received written Preliminary Acceptance by the Owner's Representative. Continue the required maintenance until all work in other sections receive written Final Acceptance.
 - Maintain lawn areas, including watering, spot weeding, mowing, application of herbicides, fungicides, insecticides, and insecticides or reseeding until a full, uniform stand of grass free of weed, undesirable grass species, disease, and insects is achieved and accepted by the Owner's Representative.
- 3.08 ACCEPTANCE**
- A. Lawn areas will be inspected at completion of installation and accepted subject to compliance with specified materials and installation requirements.
- Lawn areas will be acceptable provided all requirements, including maintenance, have been complied with, and a healthy, even colored viable lawn is established, free of weeds, undesirable grass species, bare areas 6' square or larger, disease, and insects.
- 3.09 CLEANING**
- A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from sodding operations.



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Highland, IN 46322**

DWG # 14-C-1011	
REVISIONS AND NOTES:	DATE:

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**Centennial Village
Munster, Indiana
Constructructoin Details**

SCALE: NTS	
DESIGN BY: DVG	
DRAWN BY: DVG	
DATE: 7-22-16	

C205

GENERAL STORMWATER MANAGEMENT NOTES

- Soil erosion and sedimentation control shall protect against loss of soil by the action of water, ice and wind.
- Erosion control shall be in accordance with Town of Merrillville Storm Water Ordinance & Storm Water Technical Manual & "The Indiana Storm Water Quality Manual".
- There are two main elements for Storm Water Quality: Construction Site Stormwater Runoff Control and Post-Construction Stormwater Management. The contractor shall provide Construction Site Stormwater Runoff Control as required and construct the Post-Construction Stormwater Management features as shown on these plans.
- The contractor shall be responsible for maintaining site conditions such that Stormwater Runoff Control is provided throughout construction. Surface water runoff management, i.e. temporary ditches, swales, bypass pumping, and erosion control measures shall be constructed and maintained as required by construction activity and these items are considered incidental to the contract. These items shall be included in the base contract.
- Upon the completion of the site work the contractor shall remove the Construction Site Stormwater Runoff Control measures and install the Post-Construction Stormwater Management measures.
- Those Stormwater Runoff Control measures such as detention ponds that will also serve in the Post-Construction Stormwater Management Plan shall have construction sediment removed and full functionality restored upon the completion of the Site construction.
- Each Construction Site Stormwater Runoff Control measure shall be installed immediately following the construction of the structure or feature in which the measure is intended to protect.
- The contractor is responsible for any damage and/or cleaning to the structure or feature. Corrective work incurred by the contractor shall be considered incidental to the contract.
- The contractor is responsible for compliance with the S.W.P.P.P. Any fines or punitive measures incurred by the project due to failure to comply with the S.W.P.P.P. are the responsibility of the contractor. These costs shall be considered incidental to the contract, and shall not be considered an extra.
- During the course of construction the S.W.P.P.P. may require additional erosion control measures to be installed to address site specific items not anticipated by this manual to construction schedule or sequencing. It is not the intent of this plan to direct the schedule or sequencing beyond the general construction sequence. Any stormwater runoff control measures required due to construction methodology, sequencing, etc. are incidental to the contract. Corrective work and maintenance shall also be considered incidental, and shall not be considered an extra.
- All items shown on these detail sheets are standard details and describe standard installation practices. Not all of these Stormwater Runoff Control measures will be utilized. See the erosion control plan for location and types of erosion control measures utilized. The stormwater checklist document will serve to further outline the S.W.P.P.P. for this project and it is considered part of the plan documents. In the event that site conditions require additional or different erosion control measures, these details serve to describe some acceptable methods.

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

- After construction is completed, including buildings, parking lots constructed, and landscaping, the property owner will take possession of the property. When the property becomes occupied, it is no longer the responsibility of the developer to maintain the site. The responsibility for maintaining the permanent erosion and sediment control measures belongs to the current owner/s of the property. Pollutants associated with the proposed land use will most likely be very typical of commercial/retail developments. Most expected pollutants will be associated with automobiles: oil, grease, antifreeze, brake dust, rubber fragments, gasoline, diesel fuel, metals, and improper disposal of trash. It is the responsibility of the property owner/s or owners association to provide routine maintenance. Some maintenance items may include trimming vegetation, picking up litter, monitoring and cleaning catch basins, pond outlet structure and culverts. The sediment control basins protecting the stormwater quality of the site will require periodic cleaning of sediments that accumulate. After vegetation has been established, temporary erosion and sediment control measures such as silt fence and straw bales will be removed by the installing contractor.
- The plans make use of the detention ponds, riprap at the outfalls, and sediment traps (forebays) to control the pollutants that occur after construction activities conclude.
- The post-construction stormwater quality measures will be installed as a part of the normal construction activities for the site. They shall be fully operational, and complete at the completion of construction.
- All storm water run-off shall be controlled by the detention ponds constructed as part of these engineering plans. The stormwater quality measures associated with the ponds shall minimize the pollutants from stormwater run-off.
- All storm water run-off shall be controlled by the detention ponds constructed as part of these engineering plans. The stormwater quality measures associated with the ponds shall minimize the pollutants from stormwater run-off and therefore minimize adverse impacts to the receiving streams and riparian habitats.
- Green spaces - The green space areas of the site should receive routine fertilizing, watering, mowing and trimming to maintain a healthy landscape.
- Wet ponds - Wet detention ponds should be inspected routinely. Cleaning and removal of debris should occur after major storm events (>2" rainfall). Harvesting of vegetation within the pond should occur when there is a 50% reduction in the original open water surface area. Repair of the embankments and side slopes should be done annually. Any repair to the control structure should be done annually or as needed. Accumulated sediment shall be removed by the owner once 50% of the original volume is lost, which is generally every 20 years.
- Dry ponds - Dry detention ponds should be mowed at least 2 times per month to maintain turf grass cover. Cleaning and removal of debris should occur after major storm events (>2" rainfall). Harvesting of vegetation within the pond should occur when there is a 50% reduction in the original open water surface area. Repair of the embankments and side slopes should be done annually. Any repair to the control structure should be done annually or as needed. Inlets and outlets should be cleared of sediment and debris to prevent clogging.
- Catch basins - Catch basins should be routinely inspected for build up of sediment. Mechanical cleaners or hand cleaning will be required to maintain the function of the catch basin.
- Storm drain flushing - In the event that the storm drains cease to function properly due to excessive sediment buildup, flushing of the storm drains may be required.

CONSTRUCTION SITE STORMWATER RUN-OFF CONTROL

SUMMARY OF BASIC PRINCIPLES

- Keep disturbed area as small as possible.
- Stabilize and/or protect disturbed areas as soon as possible.
- Keep storm water runoff velocities low.
- Retain sediment within immediate construction area.

The purpose of this plan is to specify methods for construction site stormwater runoff control.

All soil erosion and sedimentation control devices shall be regularly maintained by the contractor through the duration of the project. Collected silt and sedimentation shall be removed as required to maintain the effectiveness of the silt traps or sedimentation control devices. The contractor shall replace filter materials which have become ineffective due to contamination or physical deterioration. The contractor shall inspect all stormwater runoff control devices weekly and after all storm events.

The contractor shall have a log of maintenance and inspections, to be available at the site upon request of Local and State Inspectors.

If possible no grubbing should take place within 30' of an active watercourse.

GENERAL CONSTRUCTION SEQUENCE

- Placement of silt barrier fence and temporary construction entrance
- Any site clearing and demolition activities required by the existing conditions
- Topsoil removal and stockpiling
- Installation of the Stormwater Runoff Control Outfall measure, such as the detention pond.
- Mass grading of the subgrade
- Installation of underground water, sewer, & storm sewers
- Installation of Gas, Electric, and Cable
- Installation of concrete washout
- Installation of roadways
- Backfilling of roadways and final grading

STORMWATER QUALITY CONSTRUCTION SEQUENCE

The sequence of when each measure will be implemented is summarized below.

- Silt fence must be installed prior to any construction.
- Initiate weekly Self-monitoring program.
- Post the Rule 5 NOI with the IDEM permit number and the Local Plan Approval Letter (NOS) at the entrance to the construction site.
- The construction entrance is to be constructed prior to construction. This can be placement of the stone drive, or the use of "mud mats".
- Inlet protection as detailed on these plans is to be installed surrounding each inlet/drywell/catch basin until work is completed and protection has been approved for removal.
- Scour protection such as Silt Dikes, Check Dams are to be installed across each swale until work is completed.
- Pond banks are to be permanently seeded and blanketed as soon as possible.
- Temporary seeding shall be placed 14 days after grading is complete or if disturbed ground is intended to be left for a period of more than 14 days.
- Stormwater outlet protection is to be constructed with completion of the storm sewer.
- Disturbed areas will be permanently seeded and mulched upon completion of project.
- Erosion control features shall be maintained until construction is complete.
- Any temporary erosion control measures are to be removed once permanent vegetative cover has been established.
- Rule 5 Notice of Termination shall be submitted.

See attached details for acceptable erosion and sedimentation control installation methods.

PREDEVELOPMENT EXISTING CONDITIONS

For a narrative describing the predevelopment existing conditions see the Storm Water Technical Report

POTENTIAL CONSTRUCTION POLLUTANT SOURCES

Potential pollutants that could enter the stormwater during construction include exposed soils, fuel and oil from leaking heavy equipment and vehicles. Equipment has the potential to leak fuel throughout the disturbed areas, or wherever construction is occurring. The contractors will inspect equipment before initiating construction and routinely thereafter. If leaks are discovered, they will be repaired before the equipment is used or new equipment will be brought to the site.

Bulk Fuel storage on-site can leak and thereby be a pollutant. All Fuel storage tanks shall meet the minimum requirements of the Fuel Storage requirements.

Exposed soils also have potential for being eroded by water and wind and must be prevented from entering the stormwater system. The contractor will install silt fence, riprap, and ditch checks in areas designated on the site development plans.

TYPES OF CONTROL DEVICES

The Construction Site Stormwater Runoff Control Plan involves the use of four types of control devices to manage runoff thereby assuring that runoff meets the current requirements for stormwater quality.

- Erosion Control
 - Chemical Stabilization
 - Geotextiles
 - Scour Stop
 - Riprap
 - Mulching
 - Soil Roughening
 - Topsoil Utilization
 - Seeding
 - Sodding
- Runoff Control
 - Check Dams
 - Temporary Diversion Dikes
 - GeoRidge Ditch Berms
- Sediment Control
 - Polymer Systems (Floc Logs)
 - Fiber Rolls
 - Sediment Basins
 - Dewatering Bags
 - Silt Fence
 - Storm Drain Inlet Protection
 - Construction Entrances
 - Construction Entrance Mud Mats
- Material Management (housekeeping)
 - Concrete Washouts
 - Spill Prevention and Control Plan
 - Fuel Storage
 - Stockpiles
 - Temporary Facilities
 - Material Handling and Storage

SELF MONITORING PROGRAM

The contractor shall perform inspections weekly and after each storm event of 0.5" or more throughout the construction process for all Construction Site Stormwater Runoff Control measures.

See the Maintenance Section under each measure, or follow the manufacturers recommendations for routine maintenance.

The attached self monitoring form shall be used to monitor the Construction Site Stormwater Runoff Control measures. A binder of the weekly forms shall be kept and available upon request.

The contractors will inspect equipment before initiating construction and routinely thereafter to assure that mechanical equipment is not polluting the stormwater runoff.

SELF MONITORING FORM

Date: _____
 Project: _____
 Inspected by: _____
 Type of Inspection: Scheduled Weekly Rain Event

CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG (To be Completed by Property Owner or Agent)

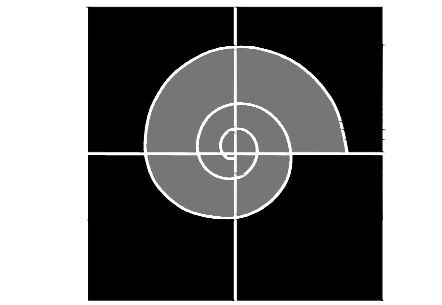
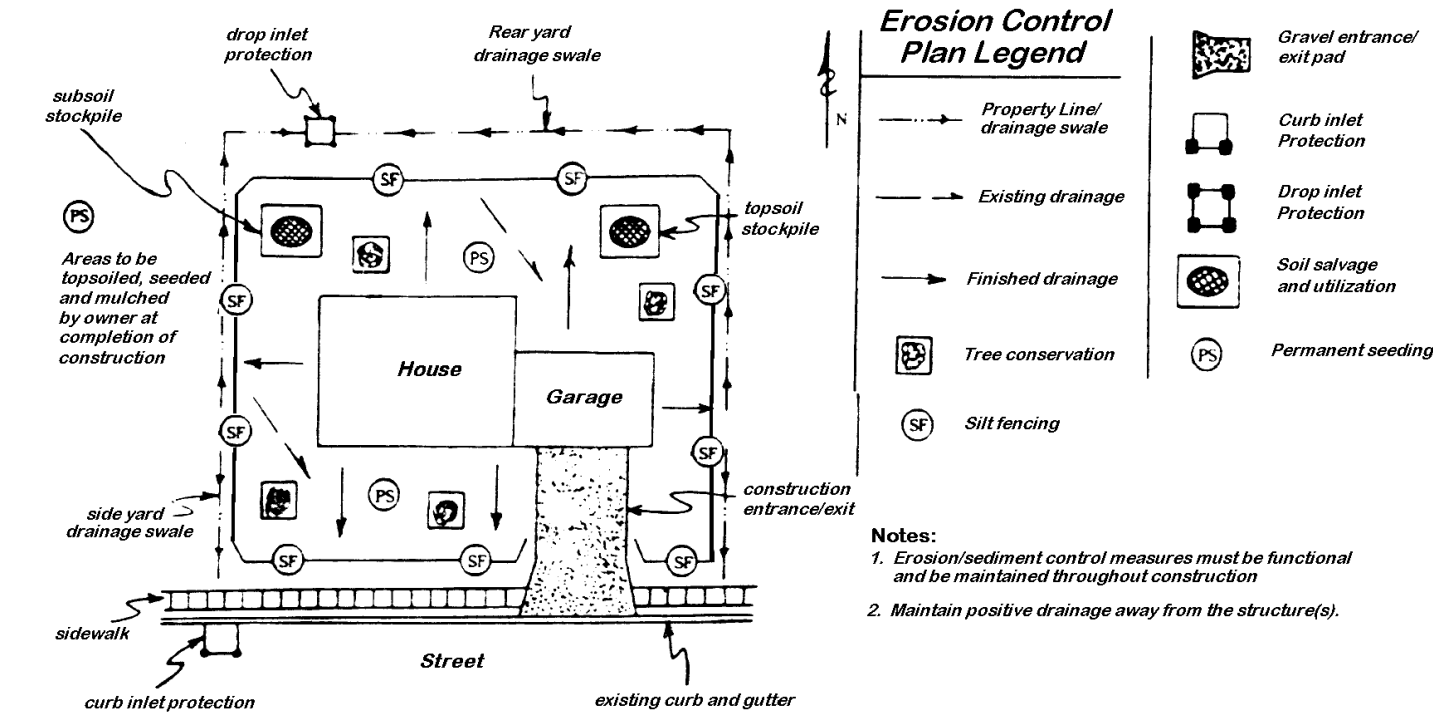
All stormwater pollution prevention BMPs shall be inspected and maintained as needed to ensure continued performance of their intended function during construction and shall continue until the entire site has been stabilized and a Notice of Termination has been issued. An inspection of the project site must be completed by the end of the next business day following each measurable storm event. If there are no measurable storm events within a given week, the site should be monitored at least once in that week. Maintenance and repair shall be conducted in accordance with the accepted site plans. This log shall be kept as a permanent record and must be made available to the Municipal Engineer, in an organized fashion, within forty-eight (48) hours upon request.

Yes	No	N/A	
			1. Are all sediment control barriers, inlet protection and silt fences in place and functioning properly?
			2. Are all erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
			3. Are all dewatering structures functioning properly?
			4. Are all discharge points free of any noticeable pollutant discharges?
			5. Are all discharge points free of any noticeable erosion or sediment transport?
			6. Are designated equipment washout areas properly sited, clearly marked, and being utilized?
			7. Are construction staging and parking areas restricted to areas designated as such on the plans?
			8. Are temporary soil stockpiles in approved areas and properly protected?
			9. Are construction entrances properly installed and being used and maintained?
			10. Are "Do Not Disturb" areas designated on plan sheets clearly marked on-site and avoided?
			11. Are public roads at intersections with site access roads being kept clear of sediment, debris, and mud?
			12. Is spill response equipment on-site, logically located, and easily accessed in an emergency?
			13. Are emergency response procedures and contact information clearly posted?
			14. Is solid waste properly contained?
			15. Is a stable access provided to the solid waste storage and pick-up area?
			16. Are hazardous materials, waste or otherwise, being properly handled and stored?
			17. Have previously recommended corrective actions been implemented?

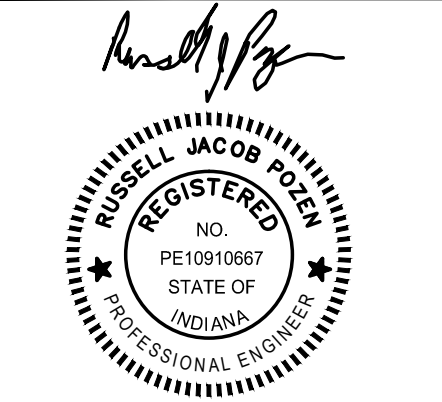
If you answered "no" to any of the above questions, describe any corrective action which must be taken to remedy the problem and when the corrective actions are to be completed.

SAMPLE EROSION/SEDIMENT CONTROL PRACTICE PLAN

FOR A TYPICAL ONE OR TWO FAMILY DWELLING UNDER CONSTRUCTION



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7-22-16

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REVISIONS AND NOTES:	DATE:

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Centennial Village
 Munster, Indiana
 Storm Water Pollution
 Prevention Plan

SCALE: NTS

DESIGN BY: DVG

DRAWN BY: DVG

DATE: 7-22-16

C301

DVG Inc. has prepared this erosion and sedimentation control plan for the owner/developer in accordance with the known requirements and ordinances. It is the responsibility of the owner/developer for compliance with this erosion and sedimentation control plan and the related attachments by all subcontractors and consultants that perform work on the project site. The owner/developer is responsible for the routine inspection and maintenance of the erosion and sediment control measures. DVG Inc. is not responsible for the enforcement or compliance of the Erosion and Sediment Control Plan. Any additional erosion or sediment control measures beyond those specified in this plan, for unforeseen or unexpected situations, which may be required by the regulatory agencies shall be the responsibility of the owner/developer to implement.

EROSION CONTROL MEASURES

CHEMICAL STABILIZATION

MATERIAL: Soft pliable matting such as jute, coir or burlap, Applied Polymer Systems, "Silt Stop" dry powder (or Approved Equal)
COVERAGE: "Silt Stop" dry powder is a soil specific material, a soil sample must be submitted to the manufacturer to determine proper application rates.

INSTALLATION:
 1. Prepare the site by filling in gullies, rills, low spots.
 2. Apply Silt Stop powder dry over dry ground with a seed/fertilizer spreader
 3. Select the type and weight of erosion control blanket to fit the site conditions (e.g., slope, channel, flow velocity).

MAINTENANCE:
 1. During vegetative establishment, inspect after storm events for any erosion.
 2. If any area shows erosion, repair the grade and reapply Silt Stop powder and re-lay and staple the blanket.
 3. After vegetative establishment, check the treated area periodically.

GEOTEXTILES

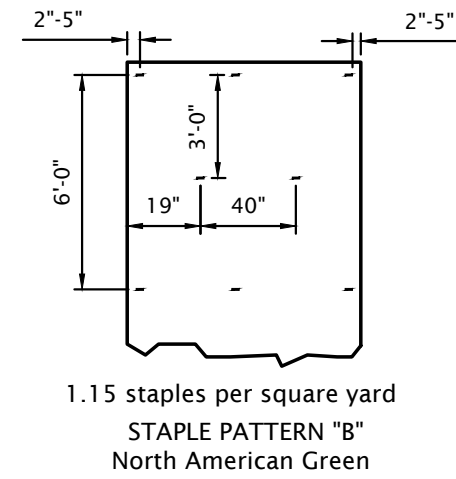
MATERIAL: North American Green - S 150 or DS 150 Blanket
 S 150 when placement occurs in the fall, and winter durability is required
 DS 150 degrades more rapidly allowing for sooner mowing of the stabilized area.

EROSION CONTROL BLANKET (SURFACE-APPLIED)

ANCHORING: Staples as recommended by the manufacturer. For North American Green use Staple pattern "B" - see chart below.

INSTALLATION:
 1. Select the type and weight of erosion control blanket to fit the site conditions (e.g., slope, channel, flow velocity).
 2. Install any practices needed to control erosion and runoff, such as temporary or permanent diversion, sediment basin or trap, silt fence, and straw bale dam.
 3. Grade the site as specified in the construction plan.
 4. Add topsoil where appropriate.
 5. Prepare the seedbed, fertilize (and lime, if needed), and seed the area immediately after grading.
 6. Follow manufacturer's directions, lay the blankets on the seeded area such that they are in continuous contact with the soil and that the upslope or upstream ones overlap the lower ones by at least 8 in.
 7. Tuck the uppermost edge of the upper blankets into a check slot (slit trench), backfill with soil, and tamp down.
 8. Anchor the blankets as specified by the manufacturer.

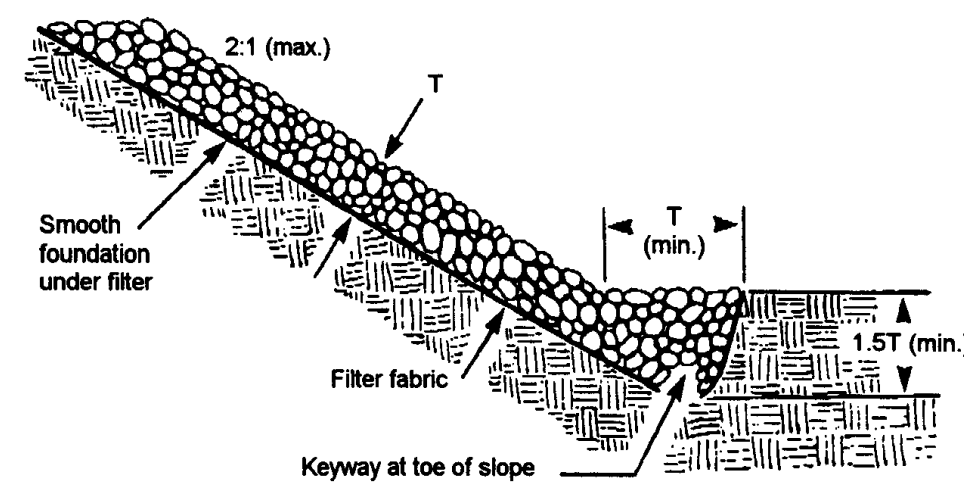
MAINTENANCE:
 1. During vegetative establishment, inspect after storm events for any erosion below the blanket.
 2. If any area shows erosion, pull back that portion of the blanket covering it, add soil, re-seed the area, and re-lay and staple the blanket.
 3. After vegetative establishment, check the treated area periodically.



RIP-RAP - Scour Protection

MATERIAL: Hard, angular, and weather-resistant, having a specific gravity of at least 2.5
GRADATION: Well-graded stone, 50% (by weight larger than the specified d_{50}), however, the largest pieces should not exceed two times the specified d_{50} , and no more than 15% of the pieces (by weight) should be less than 3 in.
FILTER: Use geotextile fabric for stabilization and filtration or sand/gravel layer placed under all permanent riprap installations.
SLOPE: 2:1 or flatter, unless approved in the erosion and sediment control plan.
MINIMUM THICKNESS: Two times the specified d_{50} stone diameter.

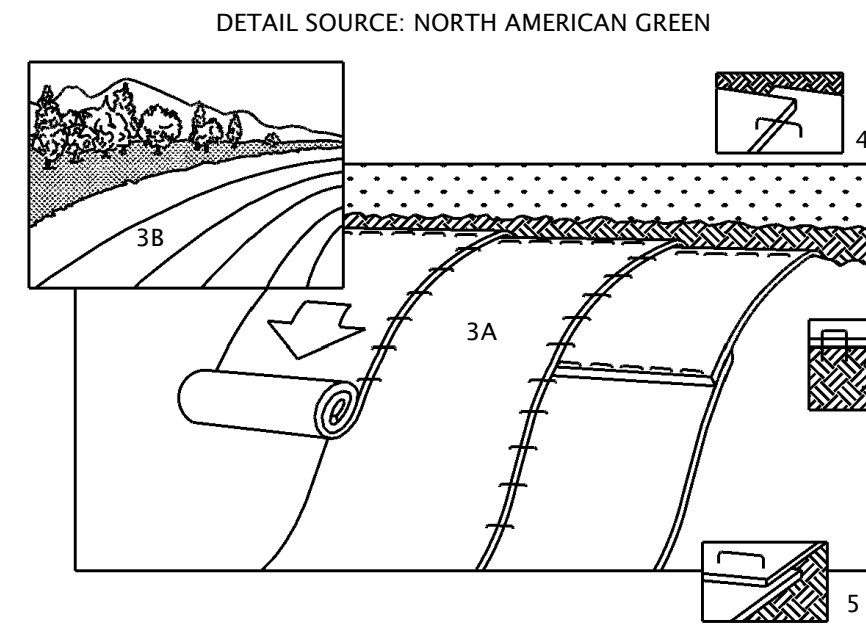
SUBGRADE PREPARATION:
 1. Remove brush, trees, stumps, and other debris.
 2. Excavate only deep enough for both filter and riprap. Over-excavation increases the amount of spoil considerably.
 3. Compact any fill material to the density of the surrounding undisturbed soil.



4. Cut keyway in stable material at the base of the slope to reinforce the toe. Keyway depth should be 1 1/2 times the design thickness of the riprap and should extend a horizontal distance equal to the design thickness.
 5. Smooth the graded foundation.

FILTER PLACEMENT:
 1. If using geotextile fabric, place it on the smoothed foundation, overlap the edges at least 12 in., and secure with anchor pins spaced every 3 ft. along the overlap.
 2. If using a sand/gravel filter, spread the well-graded aggregate in a uniform layer to the required thickness (6 in. min.); if two or more layers are specified, place the layer of smaller gradation first, and avoid mixing the layers.
RIPRAP PLACEMENT:
 1. Immediately after installing the filter, add the riprap to full thickness in one operation. (Do not dump through chutes or use any method that causes segregation of rock sizes or that will dislodge or damage the underlying filter material.)
 2. If fabric is damaged, remove the riprap and repair by adding another layer of fabric, overlapping the damaged area by 12 in.
 3. Place smaller rock in voids to form a dense, uniform, well-graded mass. (Selective loading at the quarry and some hand placement may be needed to ensure an even distribution of rock material.)
 4. Blend the rock surface smoothly with the surrounding area to eliminate protrusions or over-falls.
MAINTENANCE:
 1. Inspect periodically for displaced rock material, slumping, and erosion at edges, especially down-stream or down-slope.

EROSION CONTROL BLANKET (SIDE SLOPE APPLICATION)



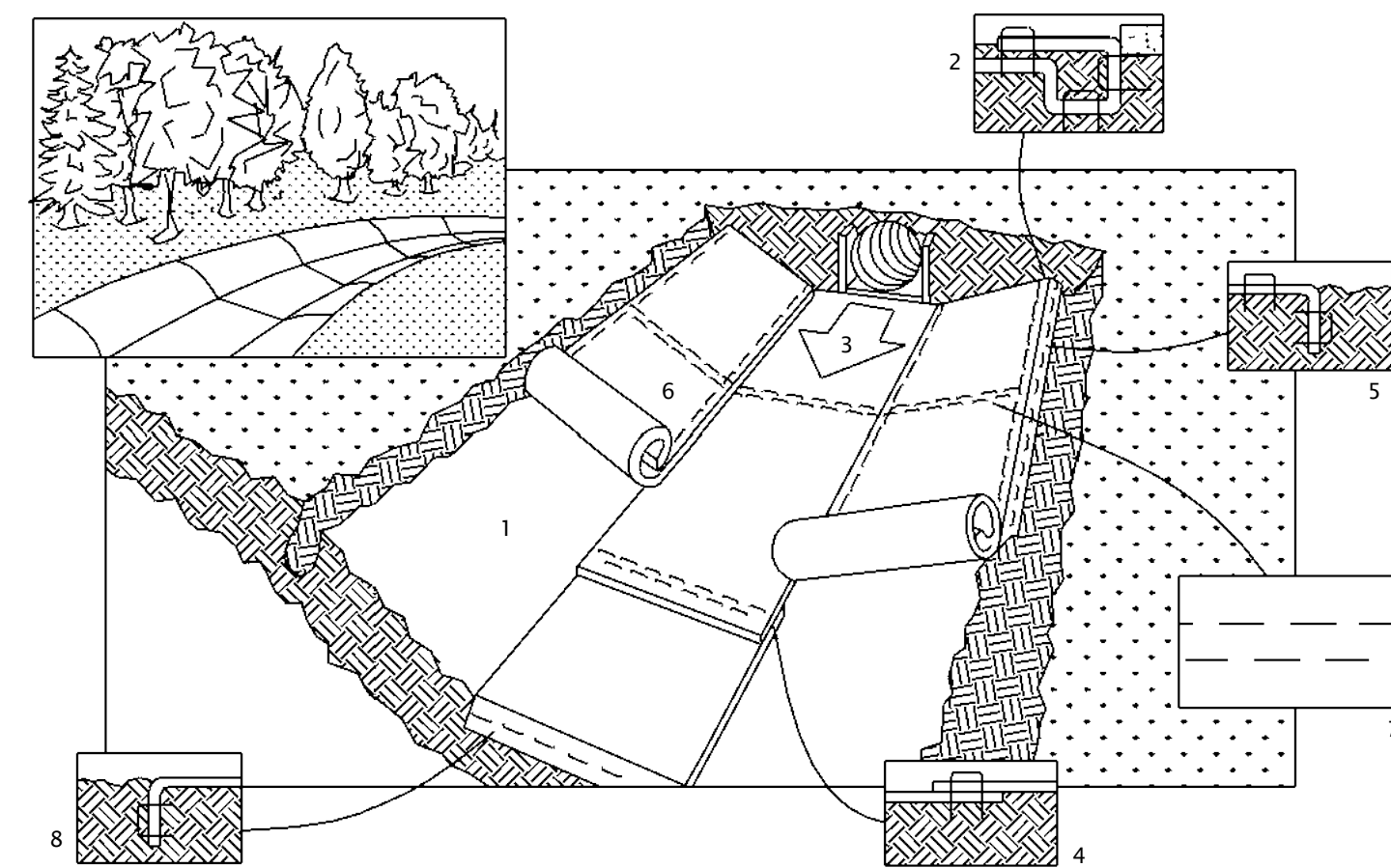
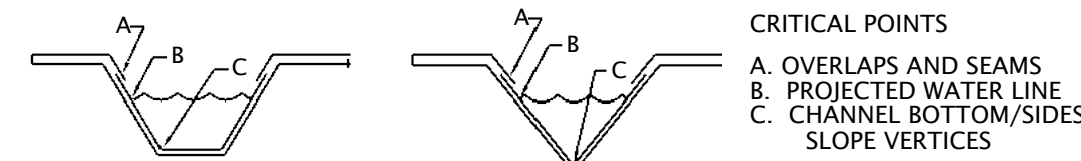
NOTE: Refer to general staple pattern guide for correct staple recommendations for channels.

- PREPARE SOIL BEFORE INSTALLING BLANKETS. INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
- WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

EROSION CONTROL BLANKET (CHANNEL APPLICATION)

DETAIL SOURCE: NORTH AMERICAN GREEN

NOTE: Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.
 Refer to general staple pattern guide for correct staple recommendations for channels.



- PREPARE SOIL BEFORE INSTALLING BLANKETS. INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
- PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
- FULL LENGTH EDGE OF BLANKETS AT THE TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER OF BLANKET AND STAPLED (2" FOR C350 MATTING).
- IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
- THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

RIP RAP AT PIPE OUTLET

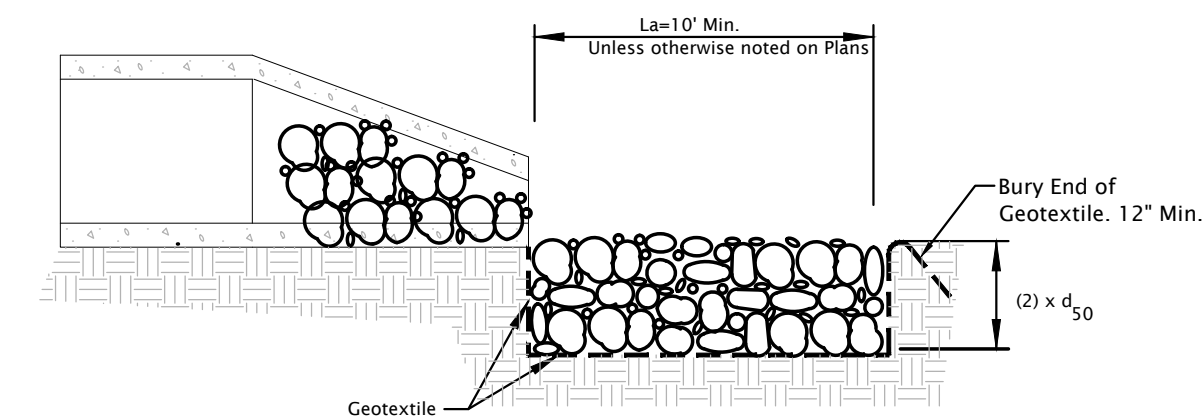
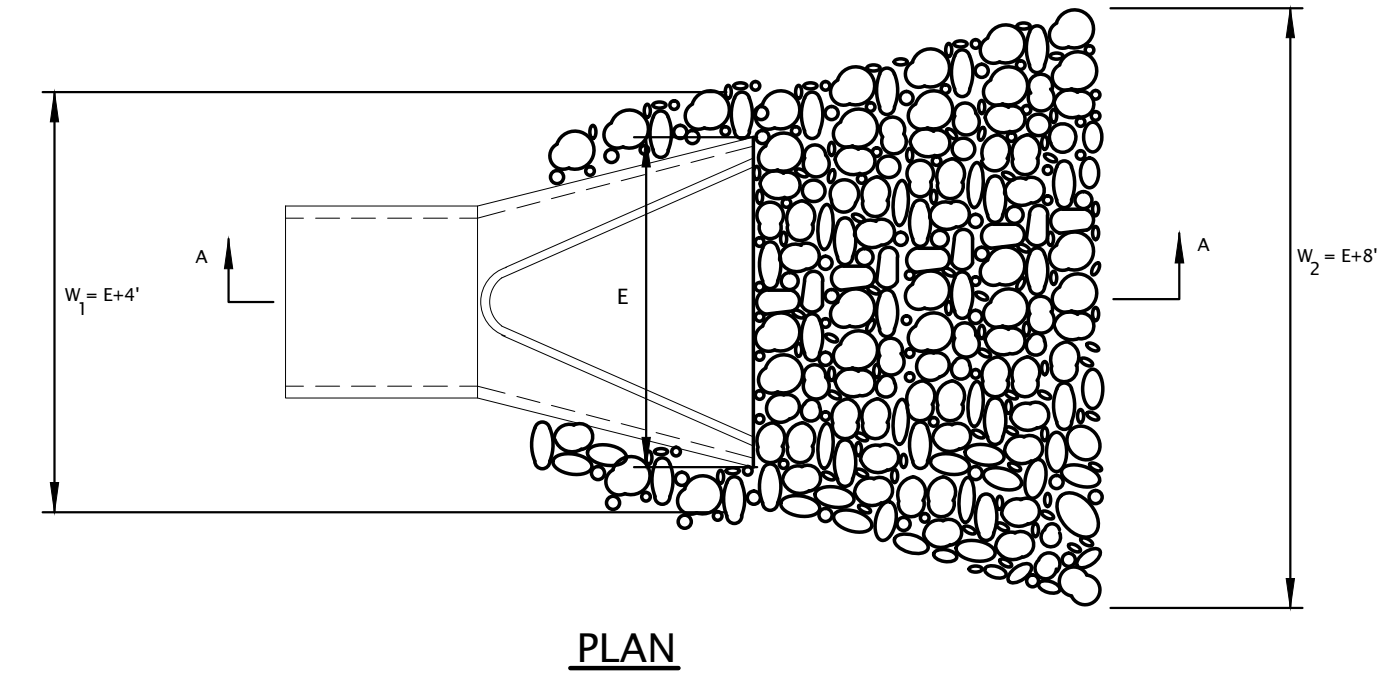
MATERIAL: Hard, angular, and weather-resistant, having a specific gravity of at least 2.5
GRADATION: Well-graded stone, 50% (by weight larger than the specified d_{50}), however, the largest pieces should not exceed two times the specified d_{50} , and no more than 15% of the pieces (by weight) should be less than 3 in.
FILTER: Use geotextile fabric for stabilization and filtration or sand/gravel layer placed under all permanent riprap installations.
SLOPE: 2:1 or flatter, unless approved in the erosion and sediment control plan.

SUBGRADE PREPARATION
 1. Remove brush, trees, stumps, and other debris.
 2. Excavate only deep enough for both filter and riprap. Over-excavation increases the amount of spoil considerably.
 3. Compact any fill material to the density of the surrounding undisturbed soil.
 4. Smooth the graded foundation.

FILTER PLACEMENT
 1. If using geotextile fabric, place it on the smoothed foundation, overlap the edges at least 12 in., and secure with anchor pins spaced every 3 ft. along the overlap.
 2. If using a sand/gravel filter, spread the well-graded aggregate in a uniform layer to the required thickness (6 in. min.); if two or more layers are specified, place the layer of smaller gradation first, and avoid mixing the layers.

RIPRAP PLACEMENT
 1. Immediately after installing the filter, add the riprap to full thickness in one operation. (Do not dump through chutes or use any method that causes segregation of rock sizes or that will dislodge or damage the underlying filter material.)
 2. If fabric is damaged, remove the riprap and repair by adding another layer of fabric, overlapping the damaged area by 12 in.
 3. Place smaller rock in voids to form a dense, uniform, well-graded mass. (Selective loading at the quarry and some hand placement may be needed to ensure an even distribution of rock material.)
 4. Blend the rock surface smoothly with the surrounding area to eliminate protrusions or over-falls.

MAINTENANCE
 1. Inspect periodically for displaced rock material, slumping, and erosion at edges, especially down-stream or down-slope.



SECTION A-A

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DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	04/07/2016
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Centennial Village
 Munster, Indiana
 Storm Water Pollution
 Prevention Plan

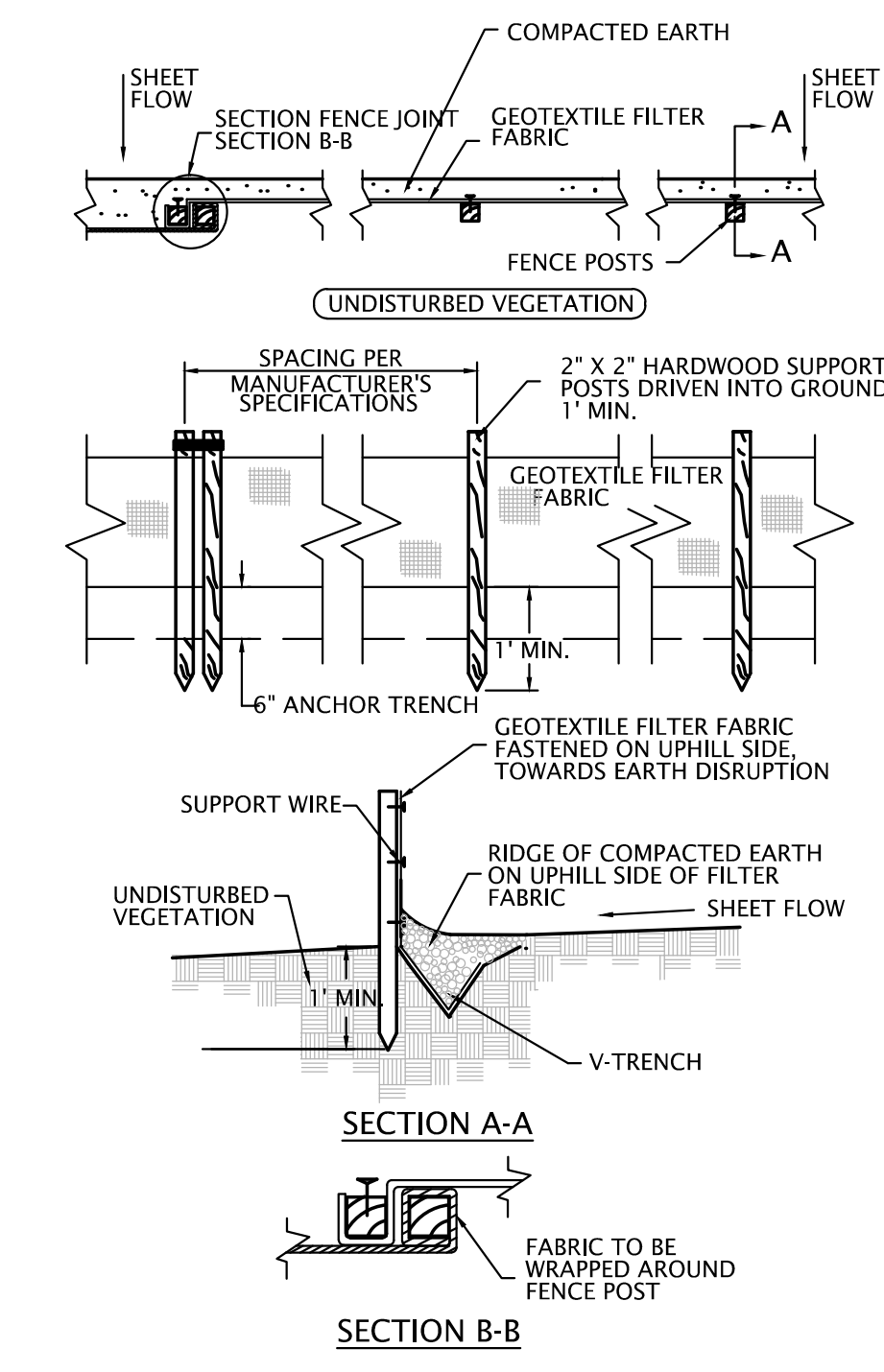
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DRAWN BY: DVG
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C302

SEDIMENT CONTROL MEASURES (continued)

SILT FENCE

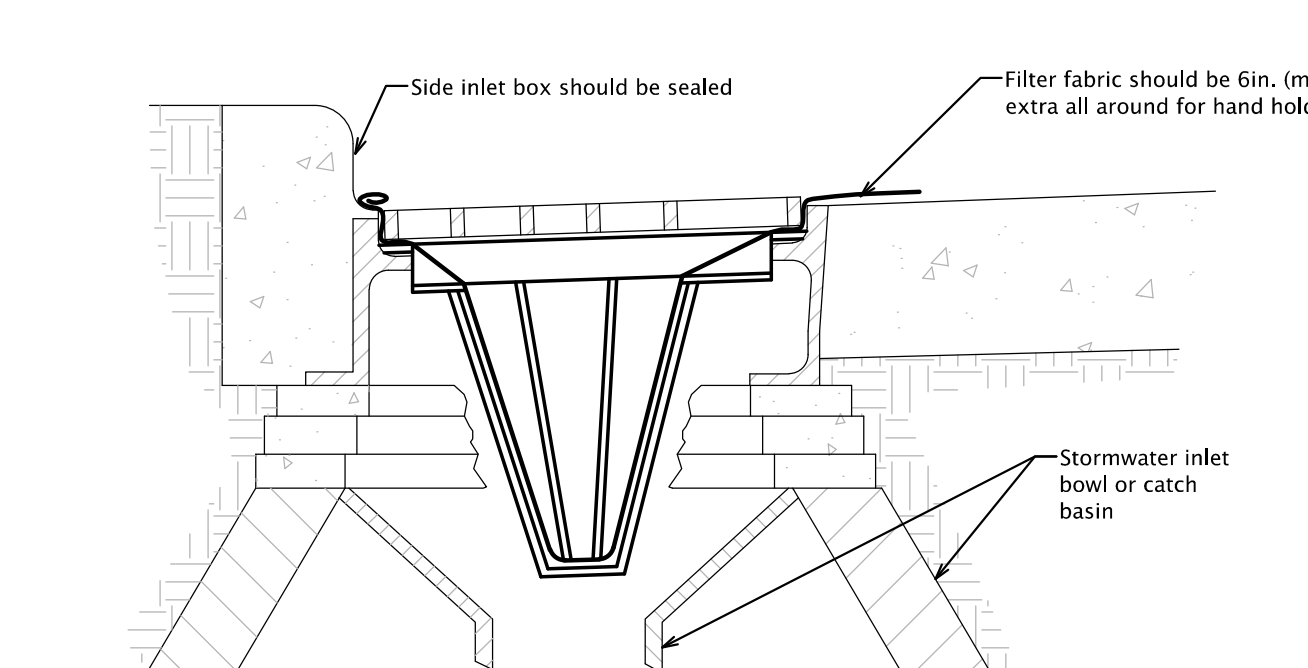
- APPROACH:** Pool area flat (less than 1% slope), with sediment storage of 945 cu.ft./acre disturbed.
- MATERIAL:**
- Amoco No. 2130 silt stop with posts, manufactured by Mid-West Construction Products at 1-800-426-9647 or 1-317-781-2380, or approved equal.
 - When construction will be on going for more than 90 days, SS-700 SiltSaver Belted fence, or approved equal should be considered for longevity.
 - 2 x 2 in. hardwood stakes with a length equal to the height of the silt fence plus 1 ft.
- ANCHORING:**
- INSTALLATION:**
1. Drive stakes 1 ft. min. into ground and attach fabric to stakes with stapler.
 2. Bottom of fabric shall be placed under 6 inches of compacted soil to prevent sediment flow underneath the fence.
 3. Ensure that all supporting posts are on the down slope side of the fencing.



- MAINTENANCE**
1. Inspect after each storm event.
 2. Remove built-up sediment and repair/replace the silt fence as needed.
- ADDITIONAL CONSIDERATIONS**
1. When protecting slopes, fences should be installed parallel to the slope contour.
 2. On slopes the steepness of grade will determine the maximum distance between parallel fences.
- | | |
|-------------------|---|
| less than 2% | 100ft maximum |
| between 2% and 5% | 75ft maximum |
| greater than 5% | additional surface stabilization shall be provided. |

BASKET CURB INLET PROTECTION

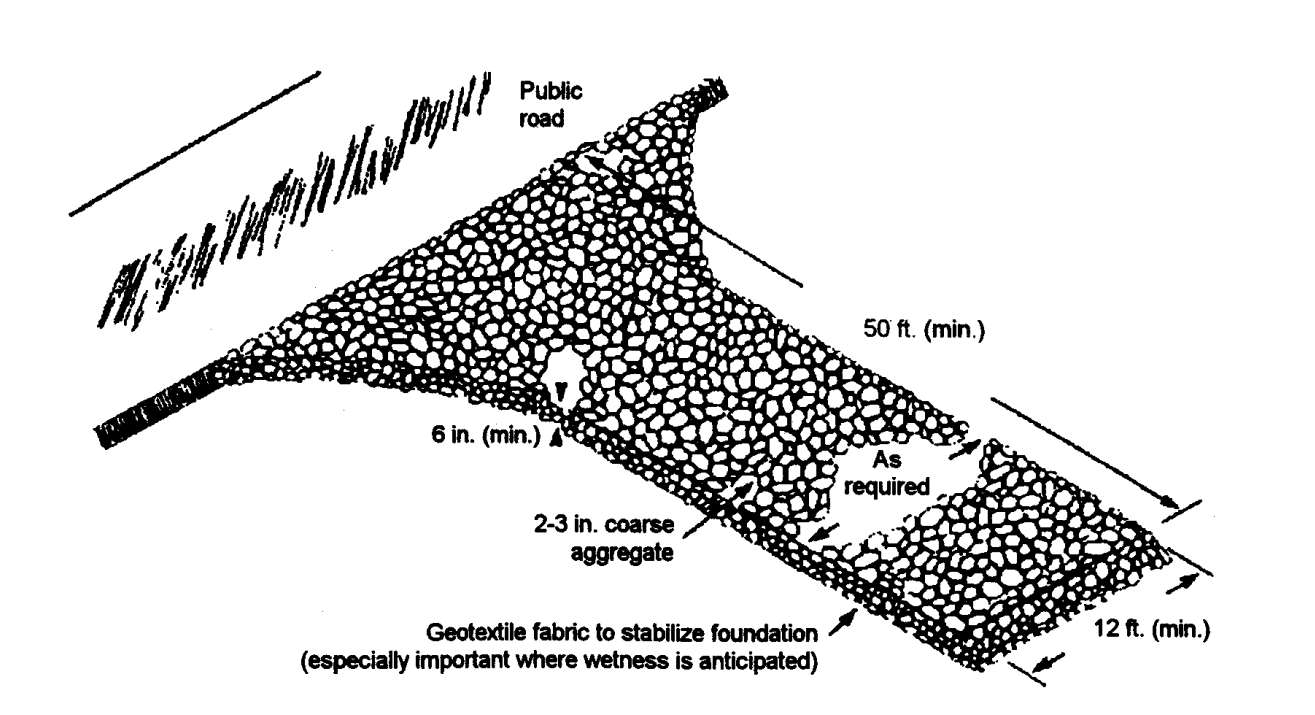
- CONTRIBUTING DRAINAGE AREA:** 1/4 acre maximum.
- LOCATION:** At curb inlets where barriers surrounding them would be impractical or unsafe.
- MATERIAL:** CATCH-ALL STORMWATER INLET PROTECTOR or approved equal. Marathon Materials, Inc. 1-800-983-9493 or www.marathonmaterials.com
- CAPACITY:** Runoff from a 2-yr frequency, 24-hr duration storm event entering a storm drain without by-pass flow.
- BASKET:** Fabricated metal with top width-length dimensions such that the basket fits into the inlet without gaps.
- GEOTEXTILE FABRIC:** for filtration.
- INSTALLATION**
1. Install basket curb inlet protections as soon as inlet boxes are installed in the new development or before land disturbing activities begin in a stabilized area.
 2. If necessary, adapt basket dimensions to fit inlet box dimensions, which vary according to the manufacturer and/or model.
 3. Seal the side inlets on those types of inlet boxes that have them.
 4. Remove the grate and place the basket in the inlet.
 5. Cut and install a piece of filter fabric large enough to line the inside of the basket and extend at least 6 inches beyond the frame.
 6. Replace the inlet grate, which also serves to anchor the fabric.



- MAINTENANCE**
1. Inspect after each storm event.
 2. Remove built-up sediment and replace the geotextile fabric after each storm event.
 3. Periodically remove sediment and tracked-on soil from the street (but not by flushing with water) to reduce the sediment load on this curb inlet practice.
- COMMON CONCERNS**
1. Sediment not removed and geotextile fabric not replaced following a storm event - results in increased sediment, tracking, traffic hazard, and excessive ponding.
 2. Geotextile fabric permeability too low - results in rapid clogging, thus severe ponding, sediment enters the drain if the fabric breaks.
 3. Drainage area too large - results in sediment overload and severe ponding; sediment enters the drain if the fabric breaks.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT PAD

- MATERIAL:** 2-3 in. washed stone (INDOT CA No. 2) over a stable foundation.
- THICKNESS:** 6 in. minimum.
- WIDTH:** 12 ft. minimum or full width of entrance/exit roadway, whichever is greater.
- LENGTH:** 50 ft. minimum. The length can be shorter for small sites such as for an individual home.
- WASHING FACILITY (optional):** Level area with 3 in. washed stone minimum or a commercial rack, an waste water diverted to a sediment trap or basin (Practice 3.72).
- GEOTEXTILE FABRIC UNDERLINER:** May be used under wet conditions or for soils within a high seasonal water table to provide greater bearing strength.



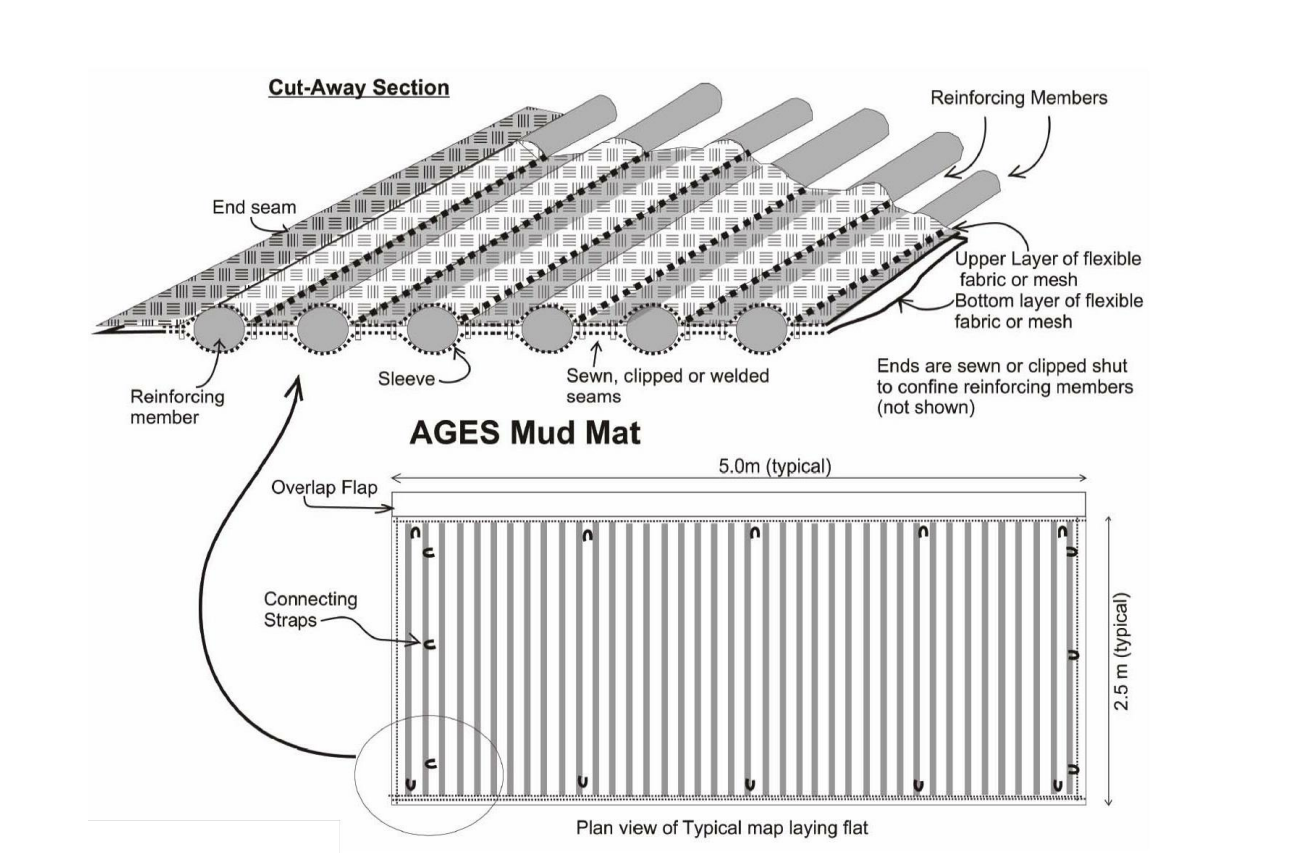
- INSTALLATION**
1. Avoid locating on steep slopes or at curves in public roads.
 2. Remove all vegetation and other objectionable material from the foundation area, and grade and crown for positive drainage.
 3. If slope towards the road exceeds 2%, construct a 6-8 in. high water bar (ridge) with 3:1 side slopes across the foundation area about 15 ft. from the entrance to divert runoff away from the road (Practice 3.24) see exhibit.
 4. Install pipe under the pad if needed to maintain proper public road drainage.
 5. If wet conditions are anticipated, place geotextile fabric on the graded foundation to improve stability.
 6. Place stone to dimensions and grade shown in the erosion/sediment control plan, leaving the surface smooth and sloped for drainage.
 7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.



- MAINTENANCE**
1. Inspect entrance pad and sediment disposal area weekly and after storm events or heavy use.
 2. Reshape pad as needed for drainage and runoff control.
 3. Topdress with clean stone as needed.
 4. Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.
 5. Repair any broken road pavement immediately.

MUD MATS - ENTRANCE STABILIZATION

- MATERIAL:** MUD MAT BY AGES, REUSEABLE SOIL STABILIZATION SYSTEM



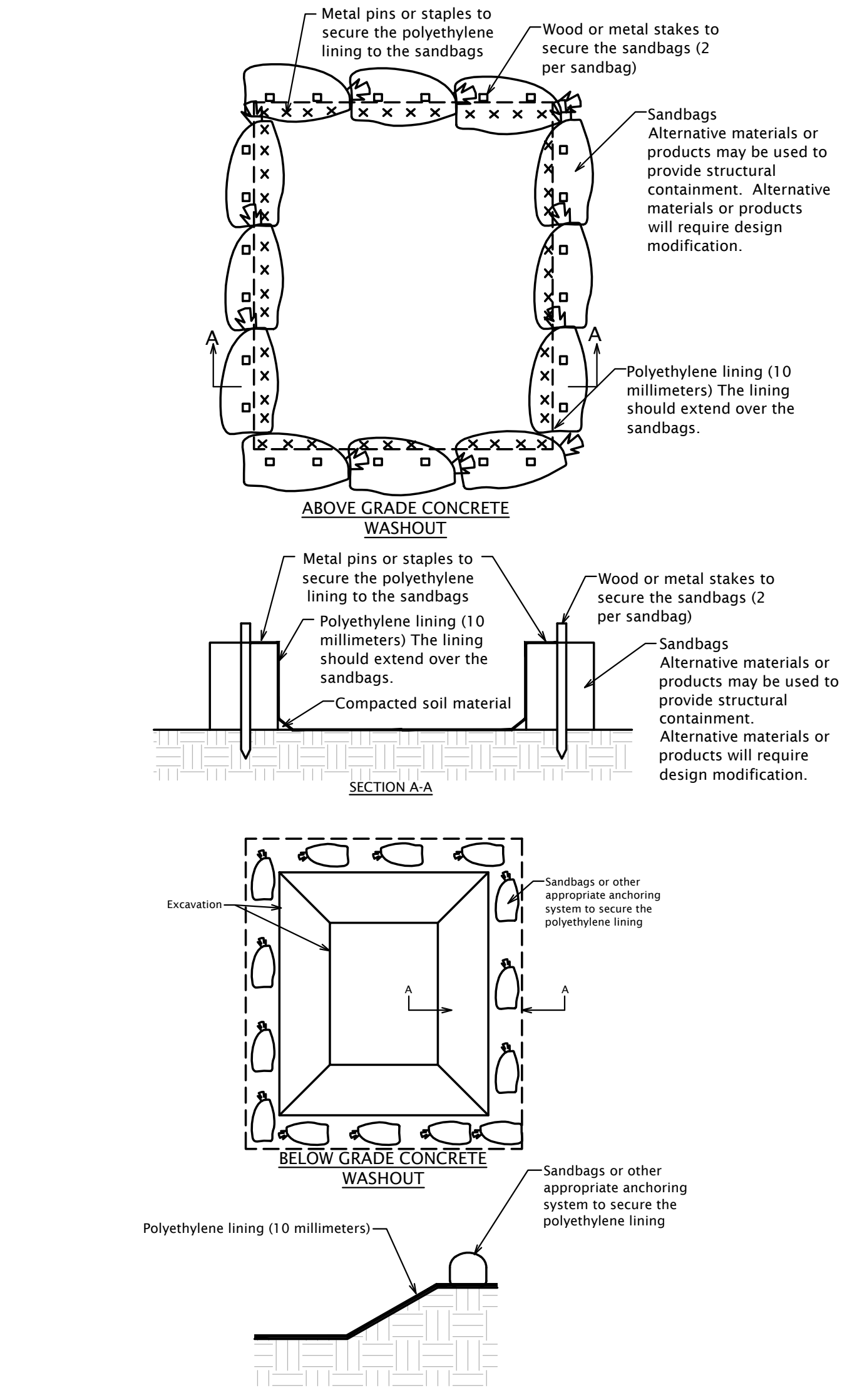
- INSTALLATION**
1. Avoid locating on steep slopes or at curves in public roads.
 2. Remove all vegetation and other objectionable material from the foundation area, and grade and crown for positive drainage.
 3. Install per manufacturer's recommendations. Unroll, connect mats together to form area of protection and properly anchor to ground.
 4. Divert all surface runoff and drainage from the mud mat to a sediment trap or basin.
 5. Minimum size of the mat is 12' wide and 50' long.

- MAINTENANCE**
1. Inspect entrance pad daily and remove built-up debris as necessary.
 2. Inspect entrance pad for breaks and tears in the material. Repair or replace as necessary.
 3. Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.
 4. Repair any broken road pavement immediately.

MATERIAL MANAGEMENT MEASURES (HOUSEKEEPING)

CONCRETE WASHOUT

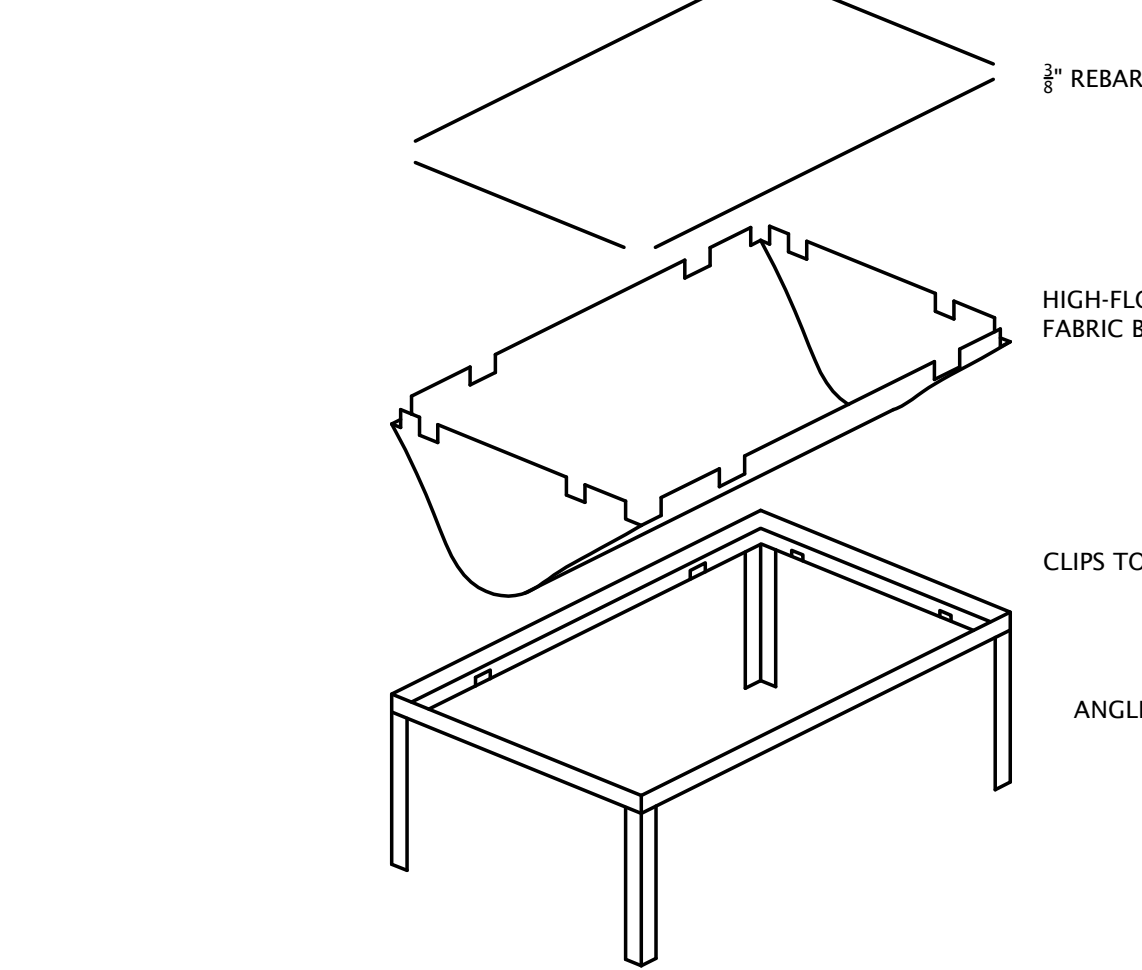
- LOCATION**
- Locate concrete washout systems at least 50 feet from any creeks, wetlands, ditches, karst features, or storm drains/manmade conveyance systems.
 - Locate concrete washout systems in relatively flat areas that have established vegetative cover and do not receive runoff from adjacent land areas.
 - Locate away from other construction traffic in areas that provide easy access for concrete trucks.
- MATERIALS**
- Minimum of ten millimeter polyethylene sheeting, free of holes, tears, and other defects.
 - Orange safety fencing or equivalent.
 - Sandbags
 - Metal pins or staples six inches in length minimum.
- INSTALLATION**
- A base shall be constructed and prepared that is free of rocks and other debris that may cause tears or punctures in the polyethylene lining.
 - Install the polyethylene lining. For excavated systems, the lining should extend over the entire excavation. The lining for bermed systems should be installed over the pooling area with enough material to extend the lining over the berm or containment system. The lining should be secured with pins, staples, or other fasteners.
 - Place flags, safety fencing, or equivalent to provide a barrier to construction equipment and other traffic.
 - Install signage that identifies concrete washout areas.
 - Where necessary, provide stable ingress and egress or alternative approach pad.
- MAINTENANCE**
- Inspect daily and after each storm event.
 - Inspect the system for leaks, spills, and tracking of soil by equipment.
 - Inspect the polyethylene lining for failure, including tears and punctures.
 - Once concrete wastes harden, remove and dispose of the material.
 - Excess concrete should be removed when the washout system reaches 50 percent of the design capacity. Use of the system should be discontinued until appropriate measures can be initiated to clean the structure.
 - Upon removal of the solids, inspect the structure. Repair the structure as needed or construct a new system.
 - Dispose of all concrete in a legal manner. Reuse the material on site, recycle, or haul the material to an approved construction/demolition landfill site. Recycling of material is encouraged. The waste material can be used for multiple applications including but not limited to roadbeds and building. The availability for recycling should be checked locally.
 - The plastic liner should be replaced after every cleaning; the removal of material will usually damage the lining.
 - The concrete washout system should be repaired or enlarged as necessary to maintain capacity for concrete waste.
 - Concrete washout systems are designed to promote evaporation. However, if the liquids do not evaporate and the system is near capacity it may be necessary to vacuum or remove the liquids and dispose of them in an acceptable method. Disposal may be allowed at the local sanitary sewer authority provided their National Pollutant Discharge Elimination System permits allow for acceptance of this material. Another option would be to utilize a secondary containment system or basin for further dewatering.
 - Inspect construction activities on a regular basis to ensure suppliers, contractors, and others are utilizing designated washout areas. If concrete waste is being disposed of improperly, identify the violators and take appropriate action.
 - When concrete washout systems are no longer required, the concrete washout systems shall be closed. dispose of all hardened concrete and other materials used to construct the system.
 - Holes, depressions, and other land disturbances associated with the system should be backfilled, graded, and stabilized.



- COMMON CONCERNS**
- Complete construction/installation of the system and have washout locations operational prior to concrete delivery.
 - It is recommended that washout systems be restricted to washing concrete from mixer and pump trucks and not used to dispose of excess concrete or residual loads due to potential to exceed the design capacity of the washout system.
 - Install systems at strategic locations that are convenient and in close proximity to work areas and in sufficient number to accommodate the demand for disposal.

FRYEFLOW FILTRATION SYSTEMS WASHOUT

- MATERIALS**
- FryeFlow Filtration Systems concrete washout device.
- INSTALLATION**
- Insert Rebar into pockets of Debris Bag
 - Install FryeFlow Systems Debris Bag into Angle Iron Frame.
 - Make sure rebar sets behind rebar brackets.
 - Make sure frame and bag is set on flat surface
 - Install signage that identifies concrete washout areas.
 - Where necessary, provide stable ingress and egress or alternative approach pad.
- MAINTENANCE**
- Once Debris Bag is full, use handles provided to lift out of frame.
 - Remove rebar from side pockets.
 - Insert new Debris Bag.



SPILL PREVENTION AND CONTROL PLAN

- Only approved fuel storage tank shall be allowed on site.
 - Spill Kits must be located on-site in the vicinity of the fuel storage sink.
 - Mobile Fueling shall be used wherever possible.
 - Fueling should take place in a central location.
 - Equipment should be kept in good working order, well maintained so that breakdowns, and equipment failures are reduced.
- FUEL STORAGE**
- All fuel tanks on site shall have secondary containment approved by IDEM.
 - No fuel tanks are to be located within 100 feet of a storm sewer inlet.
 - Fuel storage system shall be kept in good working order and shall be subject to periodic IDEM inspections.
 - Spill Kits must be located on-site in the vicinity of the fuel storage sink.
 - Fuel tanks shall have a safety gauge.

STOCKPILES

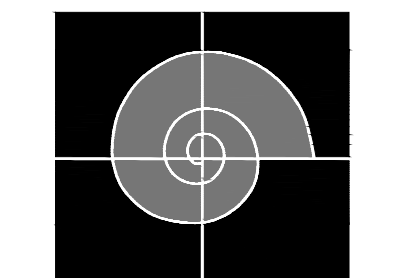
- The contractor shall locate topsoil stockpiles on-site as noted on the S.W.P.P.P. and shall encompass each with sediment ditch and silt fence.
- In cases where the stockpile is small and will be removed from the site within 15 days, the contractor can cover the stockpile with a waterproof tarpauline type cover.
- No off-site stockpiles are being proposed. Any off-site stockpiles that the contractor utilizes shall follow the same requirements as on-site stockpiles. The contractor shall identify to the local S.W.P.P.P. enforcement agency the locations of any off-site stockpiles.

TEMPORARY FACILITIES


- The contractor shall follow the procedures delineated on the plan in order to construct and maintain the facilities shown on the drawings to control water and wind erosion during construction of the project.
- All disturbed surface areas (including utility trenches) shall be temporarily graded and/or ditched to direct water runoff from such areas to sedimentation control devices which will prevent disturbing eroded water carrying soil from entering a watercourse, sewer, or adjacent lands. Such sedimentation control devices shall include but not be limited to protective ditches, sediment traps, sediment filters, ditch traps, pipe barriers, silt dikes, check dams, chemical settling filters.
- Upon completion of the rough grading all areas not effected by construction traffic shall be permanently seeded, and erosion control blankets installed on side slopes that exceed 5:1.
- Upon completion of the storm sewer system, inlet protection shall be installed, check dams installed in the swales, and temporary riprap with settling basins placed at the outfalls of all pipe.
- In roadway areas temporary aggregate surfacing shall be placed immediately after the backfilling has been completed. Positive dust control measures shall be taken at all times.
- Within 14 days from the date a project improvement is installed the contractor shall proceed with final cleanup and restoration of the project area disturbed including spoil areas, and complete such operations within the next 15 days. If seasonal conditions prevent final cleaning and restoration, the contractor shall proceed with temporary stabilization of the disturbed areas. Final cleanup and restoration will consist of final grading, applying topsoil, seeding and mulching and/or sodding of all disturbed areas of the project. Temporary stabilization shall consist of rough grading the disturbed areas to a condition ready to receive topsoil, seeding, and mulching in accordance with the temporary seeding schedule. Temporary stabilization materials shall be removed, disposed of, and final cleanup and restoration shall be completed not later than 60 days after seasonal conditions allow performance of the required work.

MATERIAL HANDLING AND STORAGE

- The contractor shall minimize the disturbance of excavated soils by minimizing the number of times the soil is handled. On-site handling of soils will occur during excavation, loading, and spreading activities. Fuel for heavy equipment and vehicles will not be stored on the site during construction operations. Mobile fuel tanks will fuel heavy equipment. In the event of a spill or leak the contractor shall follow proper procedures to minimize concern. The contractor shall:
- Take immediate measures to control and contain the spill to prevent release into sewers or surface waters.
 - Notify the Local Fire Department immediately at 9-1-1.
 - Notify the Federal Emergency Spill Hotline at 1-800-424-8802 within 2 hours if the amount is above a reportable quantity or any amount enters a waterway or storm sewer.
 - Notify the Indiana Emergency Response Hotline at 1-888-233-7745.
 - Follow the guidelines for handling the spill as outlined in the included Material Safety Data



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Russell Webb
REGISTERED PROFESSIONAL ENGINEER
NO. PE1000087
STATE OF INDIANA
7-22-16

Centennial Village L.L.C.
9615 Boulevard Drive
Highland, IN 46322

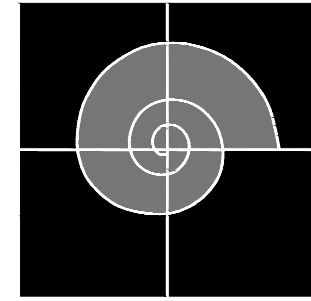
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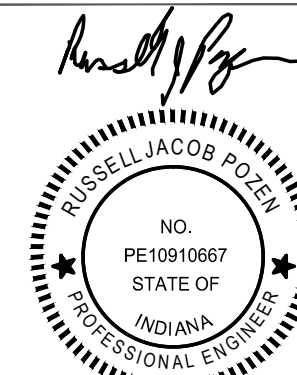
Centennial Village Munster, Indiana
Storm Water Pollution Prevention Plan

SCALE: NTS	
DESIGN BY: DVG	
DRAWN BY: DVG	
DATE: 7-22-16	

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10-14-16

**Centennial Village
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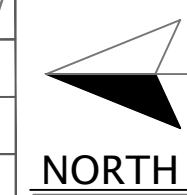
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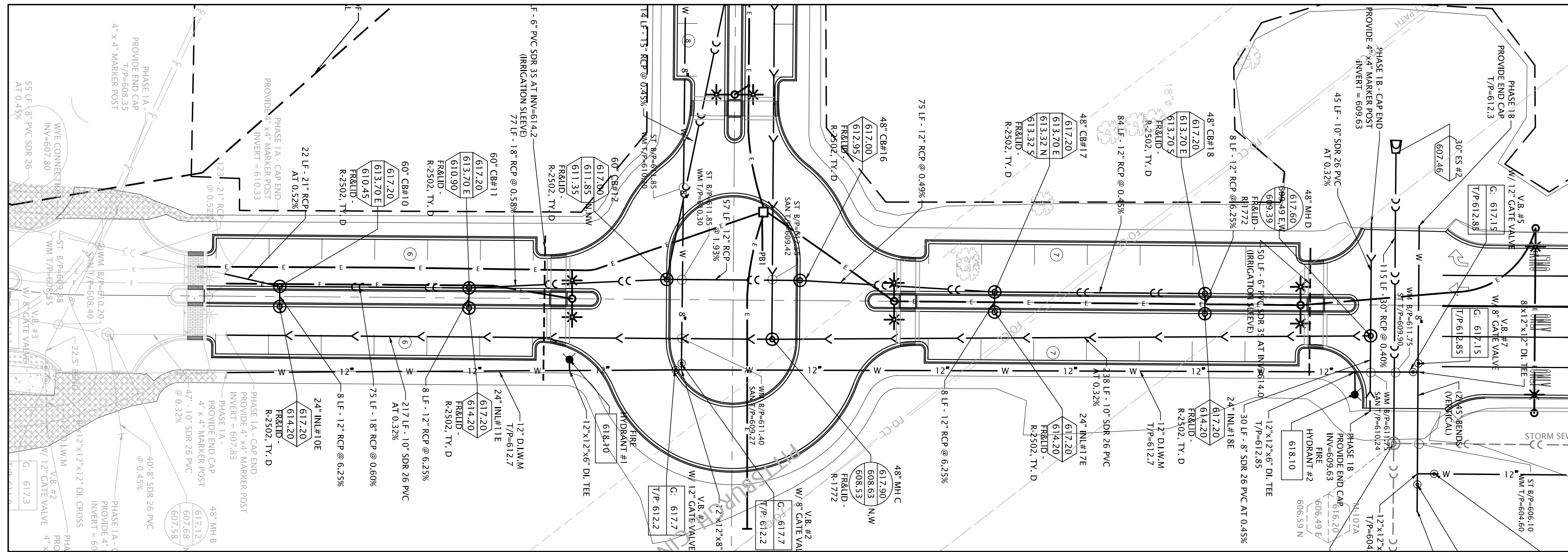
**Centennial Village
 Infrastructure Plans**

**Sanitary Sewer Profiles
 Phase 1B**

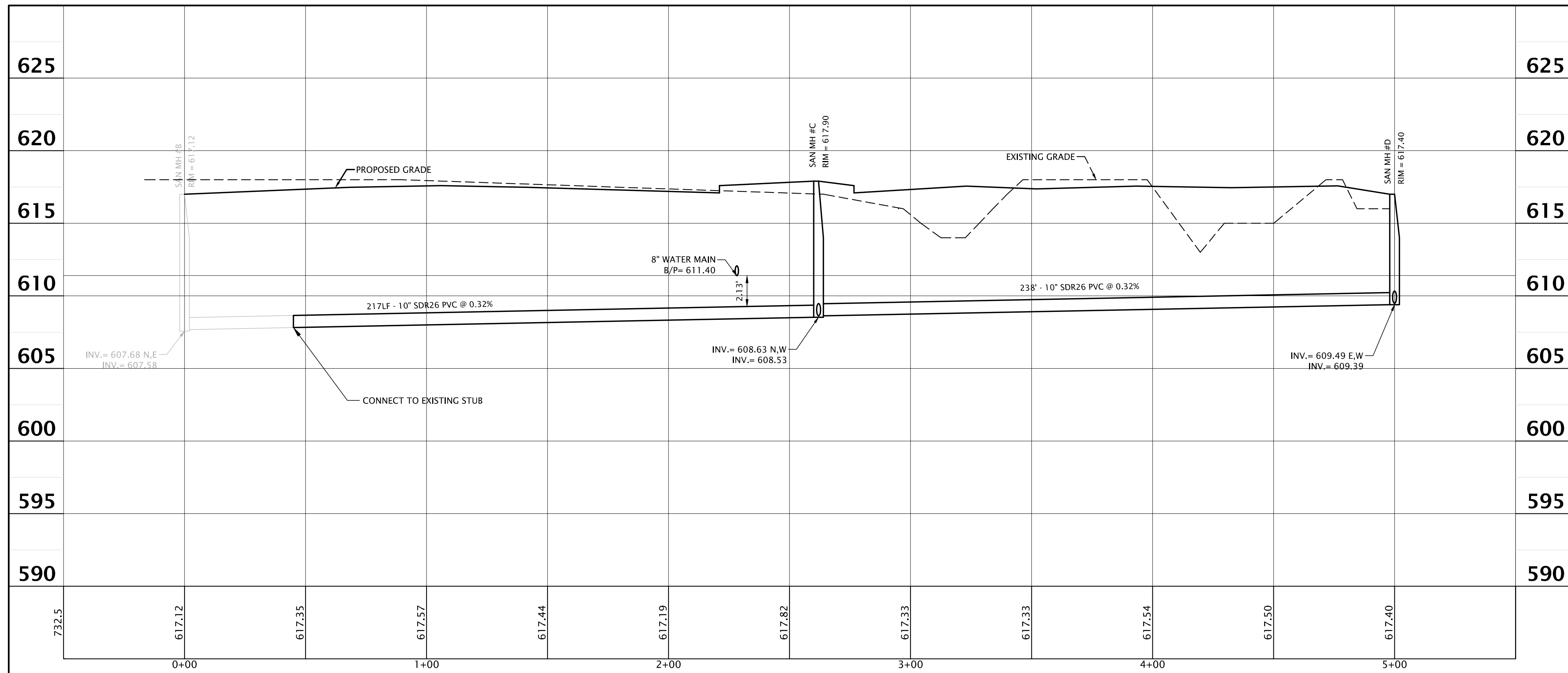
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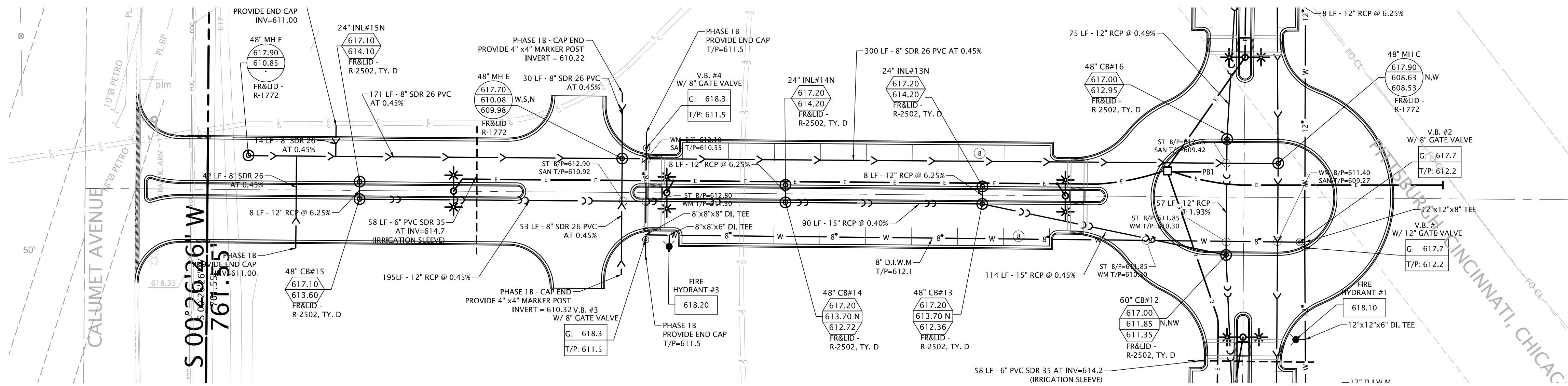


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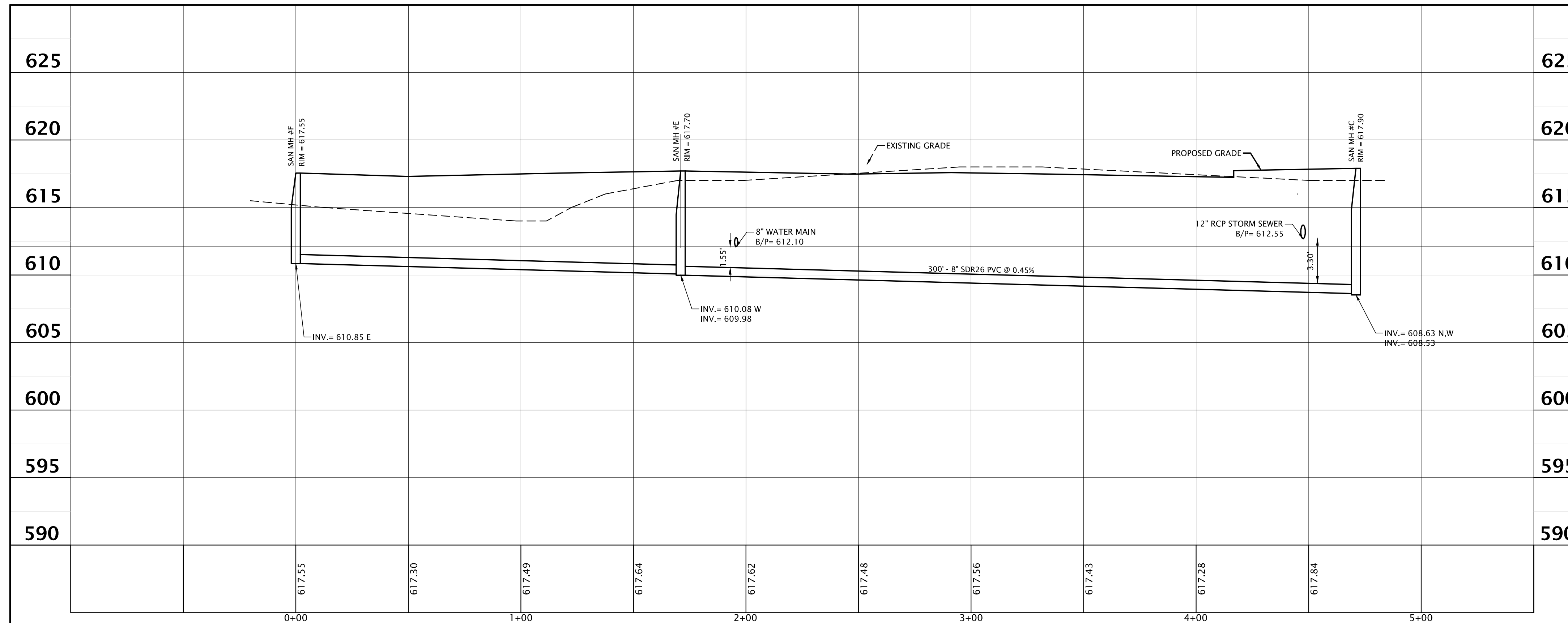


CENTENNIAL DRIVE





VILLAGE PARKWAY

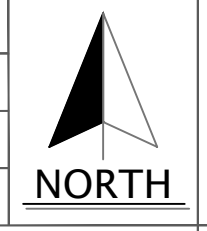


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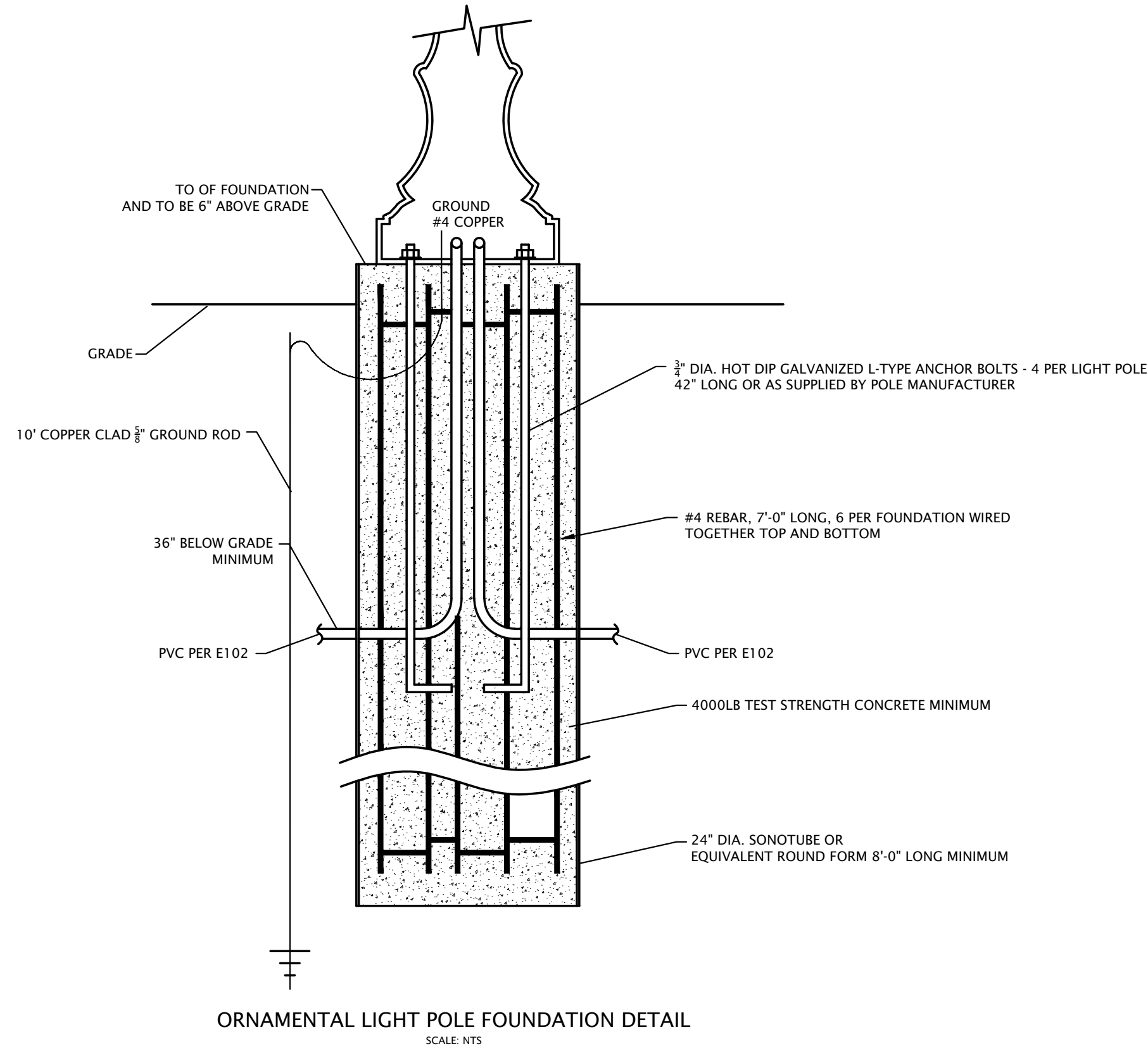
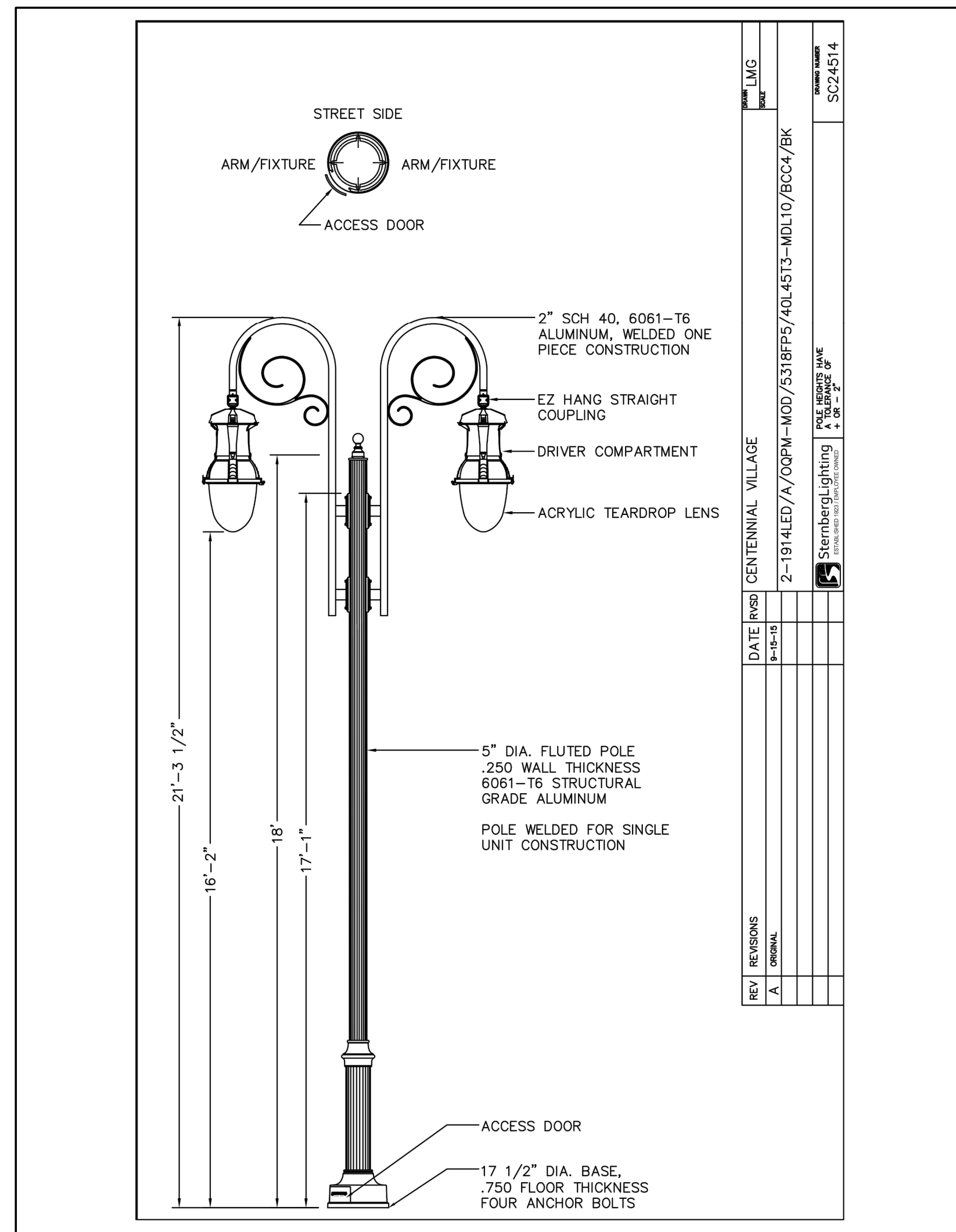
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Centennial Village
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 Sanitary Sewer Profiles
 Phase 1B

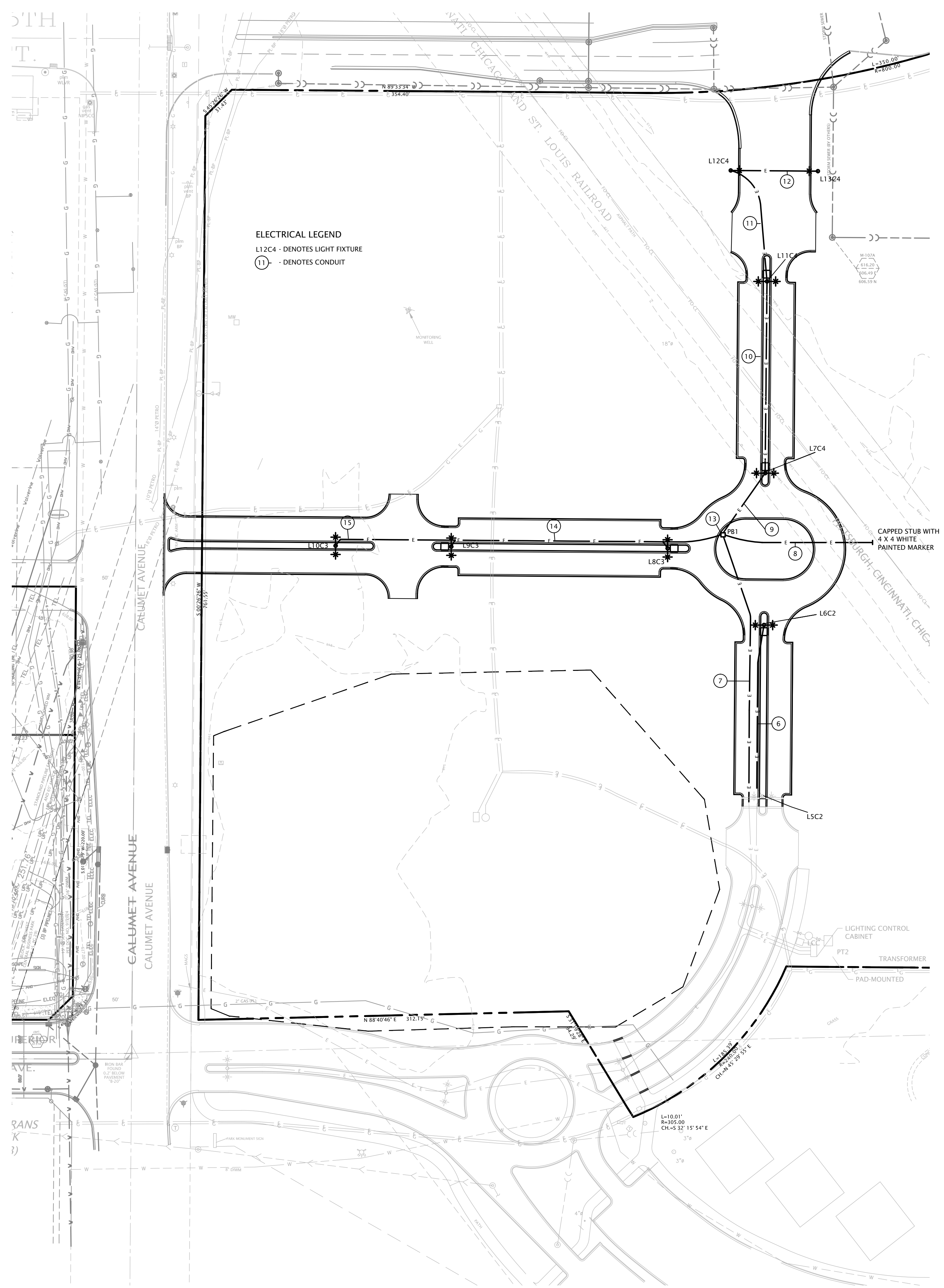
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LIGHTING DETAILS



NOTE:
1. IF SOIL IS STABLE 3 FT. SONOTUBES MAY BE USED IN THE TOP OF THE FOUNDATION AND THE CLAY SIDES OF THE AUGURED HOLE WILL FORM THE REMAINDER.
2. DEPTH OF FOUNDATION PER POLE MANUFACTURER'S SPECIFICATIONS.



DVG Inc.
Project Management and Development Consulting
11065 Broadway, Suite D
Crown Point, IN 46307
(219) 662-7710 Fax (219) 662-2740

Thomas W. Wiseman
REGISTERED PROFESSIONAL ENGINEER
STATE OF INDIANA
No. 10724
7-22-16

Centennial Village
L.L.C.
9615 Boulevard Drive
Highland, IN 46322

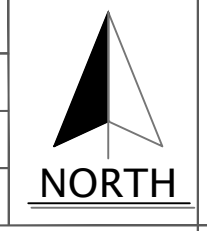
DWG # 14-C-1011

REVISIONS AND NOTES	DATE

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Centennial Village
Infrastructure Plans
Lighting Plan - Phase 1B

SCALE: 1" = 50'
DESIGN BY: DVG
DRAWN BY: JEJH
DATE: 7-22-16



E101

POWER AND ROADWAY LIGHTING CONDUIT LIGHTING AND CIRCUITING						
LABEL	SIZE	ORIGIN	DESTINATION	CONDUCTORS	CIRCUIT NOTES	
1	1 1/2"	L2	L1	4C8, 1C8G	CIR. #1 LIGHTING (240V), CIR. #1 R RECEPT.	
2	1 1/2"	L3	L2	4C8, 1C8G	CIR. #1 LIGHTING, CIR. #1 R RECEPT.	
3	1 1/2"	LCC	L3	4C8, 1C8G	CIR. #1 LIGHTING, CIR. #1 R RECEPT.	
4	1 1/2"	LCC	L4	4C8, 1C8G	CIR. #2 LIGHTING, CIR. #2 R RECEPT.	
5	1 1/2"	L4	L5	4C8, 1C8G	CIR. #2 LIGHTING, CIR. #2 R RECEPT.	
6	1 1/2"	L5	L6	4C8, 1C8G	CIR. #2 LIGHTING, CIR. #2 R RECEPT.	
7	3"	LCC	PB1	14C6, 1C8G	2C FUTURE LIGHTING, 4C FUTURE RECEPTS.	
8	2"	PB1	STUB	EMPTY	FUTURE LIGHTING & RECEPT. CIRCUITS	
9	2"	PB1	L7	4C6, 1C8G	CIR. #4 LIGHTING, CIR. #4 R RECEPT.	
10	2"	L7	L11	4C6, 1C8G	CIR. #4 LIGHTING, CIR. #4 R RECEPT.	
11	2"	L11	L12	4C6, 1C8G	CIR. #4 LIGHTING, CIR. #4 R RECEPT.	
12	1 1/2"	L12	L13	4C6, 1C8G	CIR. #4 LIGHTING, CIR. #4 R RECEPT.	
13	2"	PB1	L8	4C6, 1C8G	CIR. #3 LIGHTING, CIR. #3 R RECEPT.	
14	2"	L8	L9	4C6, 1C8G	CIR. #3 LIGHTING, CIR. #3 R RECEPT.	
15	1 1/2"	L9	L10	4C6, 1C8G	CIR. #3 LIGHTING, CIR. #3 R RECEPT.	
16	3"	PP1	PT2	BY NIPSCO	SINGLE PHASE PRIMARY	
17	6"	PT1	PP1	BY NIPSCO	THREE PHASE PRIMARY	
18	6"	NIPSCO POLE	PT1	BY NIPSCO	THREE PHASE PRIMARY	
19	1 1/2"	PANEL	IRRIGATION CONTROLLER	2C8, 1C8G	POWER FOR IRRIGATION SYSTEM	
20	6"	PP1	PP2	BY NIPSCO	THREE PHASE PRIMARY	
21	6"	PP1	PP3	BY NIPSCO	FUTURE THREE PHASE PRIMARY WEST	
22	6"	PP3	STUB	EMPTY	FUTURE THREE PHASE PRIMARY NORTH	
23	6"	PP3	STUB	EMPTY	FUTURE THREE PHASE PRIMARY EAST	
24	6"	PP3	STUB	EMPTY	FUTURE THREE PHASE PRIMARY	

ROADWAY LIGHTING & RECEPTACLE PANEL									
PANEL D	VOLTAGE 120/240 SINGLE PHASE		NEMA		RATING BUS: 200A		MOUNTING: SURFACE		
	3W 10,000 A.I.C.		TYPE 1 CAB.		SQUARE D TYPE NQ		MAIN BREAKER: 200A		
CIRCUIT USE	CB	CONNECTED LOAD		CCT	CONNECTED LOAD		CB	CIRCUIT USE	
		POLE 1	POLE 2	NO.	POLE 1	POLE 2			
LTG. CIR. #1 CONTCTR. P-1	20	7.2		1	2	1.0	20	TIMER T-1	
LTG. CIR. #1 CONTCTR. P-2	20		7.2	3	4	2.0	20	CONTACTOR L1	
LTG. CIR. #2 CONTCTR. P-3	20	7.2		5	6	2.0	20	CONTACTOR R1	
LTG. CIR. #2 CONTCTR. P-4	20		7.2	7	8	15.0	20	RECEPT. CIR. #1	
LTG. CIR. #3 CONTCTR. P-5	20	7.2		9	10	15.0	20	RECEPT. CIR. #2	
LTG. CIR. #3 CONTCTR. P-6	20		7.2	11	12	15.0	20	RECEPT. CIR. #3	
LTG. CIR. #4 CONTCTR. P-7	20	7.2		13	14	15.0	20	RECEPT. CIR. #4	
LTG. CIR. #4 CONTCTR. P-8	20		7.2	15	16	10.0	20	IRRIGATION CONTROLLER	
FUTURE LTG. CIR.				17	18			FUTURE RECEPT. CIR.	
FUTURE LTG. CIR.				19	20			SPARE SPACE	
FUTURE LTG. CIR.				21	22			SPARE SPACE	
FUTURE LTG. CIR.				23	24			SPARE SPACE	
SPARE SPACE				25	26			SPARE SPACE	
SPARE SPACE				27	28			SPARE SPACE	
SPARE SPACE				29	30			SPARE SPACE	
AMPS PER POLE		28.8	28.8			33.0	42.0		
TOTAL AMPS PER POLE		61.8	70.8						

ELECTRICAL EQUIPMENT SCHEDULE						
ITEM	QUANT.	BRAND	SIZE	VOLTS	DESCRIPTION	TYPE
A	1	Sq D	200A	120/290	Panel, Q0130M200,PK18GTAgrnd bar	Q0
B	2	Sq D	30A	120	Cat #8903LG80V02	8pole
C	1	Tork	40A		Cat #EWZ103CDPST	ASTRO
D	1	Intermatic		120	Photo Control & Twist Lock Recept.	K121
E	1	Sq D	8"		8" X 8" X 42"L Wireway	-
F	1	APX	2-Dr		Cat #TCDD604815,3R w/vent fan	Alwm
L13,L14	2	Sternburg	186w	240	1914LED/A/OQPM-MOD/5318FPS/	LED
-	-	-	-	-	40L45T3-MDL10/BCC4/BK/FHD	*
L1-L11	11	Sternburg	372w	240	2-1914LED/A/OQPM-MOD/5318FPS/	LED
-	-	-	-	-	40L45T3-MDL10/BCC4/BK/FHD	*
G	1	Hunter		120	Controller by Irrigation Contractor	-

*POLES TO BE SUPPLIED WITH GFI DUPLEX RECEPTACLE AND COVER 5' ABOVE BASE

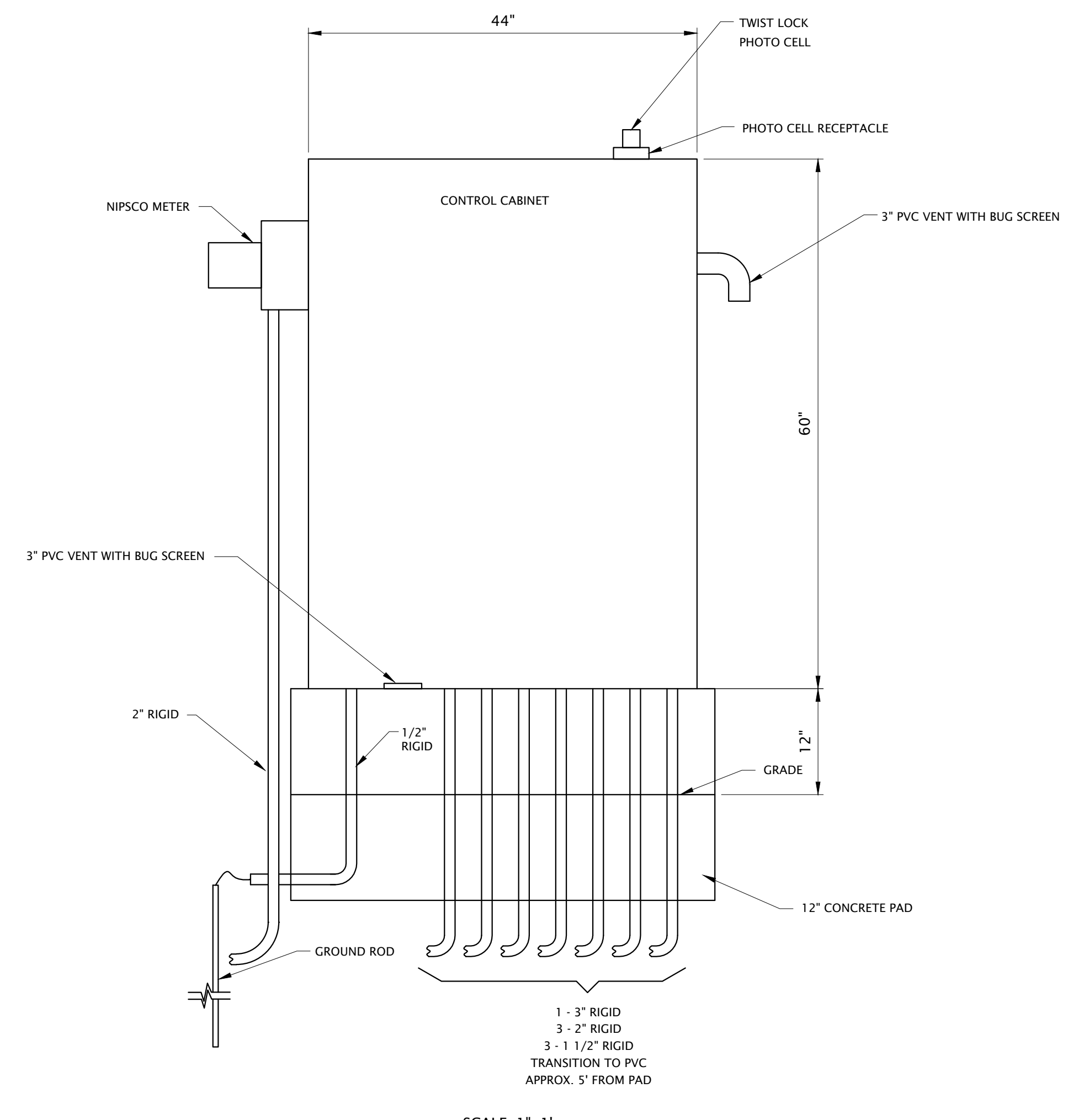
Construction Phase IA
Construction Phase IB
Construction Phase IA
Construction Phase IB

Construction Phase IA
Construction Phase IB
Construction Phase IB
Construction Phase IA

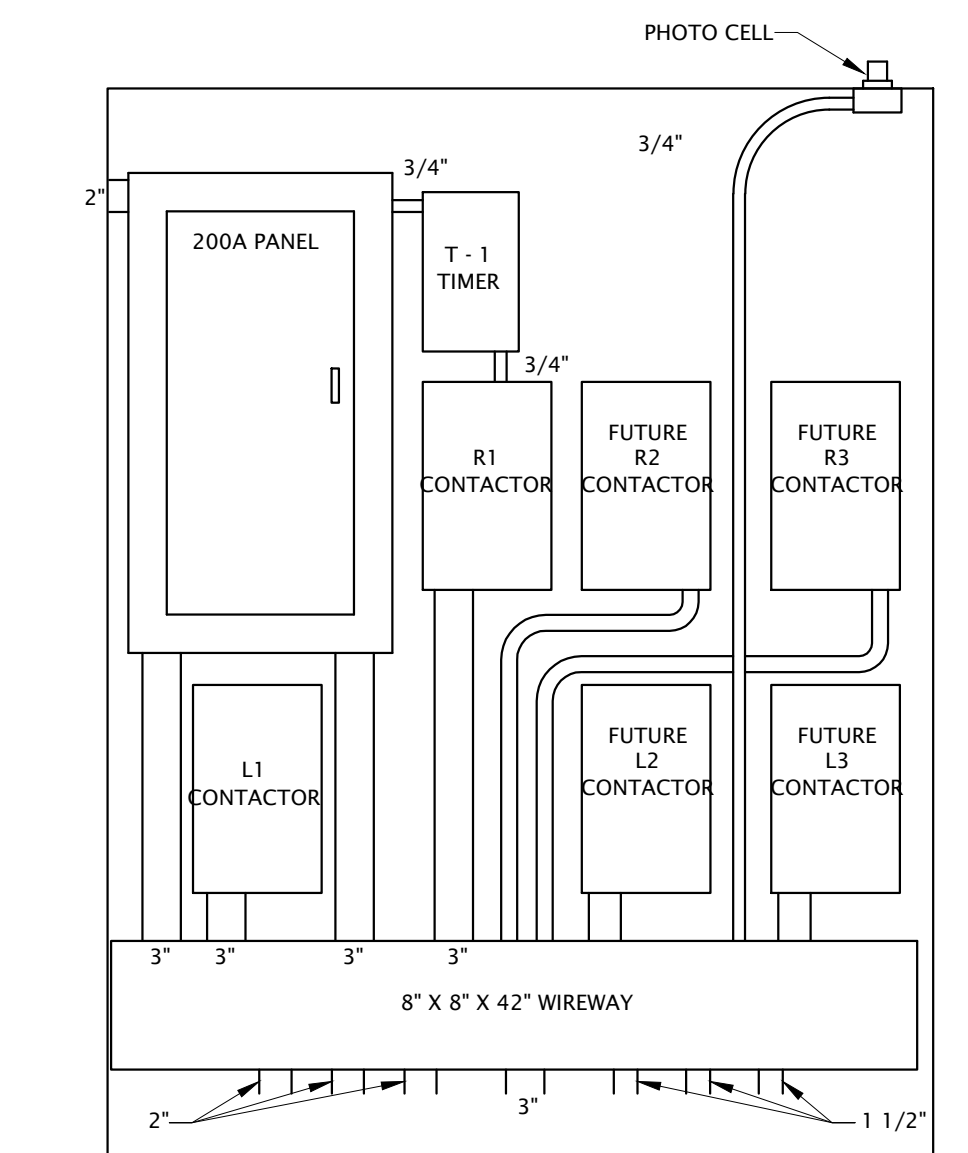
Construction Phase IA
Construction Phase IB
Construction Phase IA

Construction Phase IB
Construction Phase IA - L1 through L5
Construction Phase IB - L6 through L11

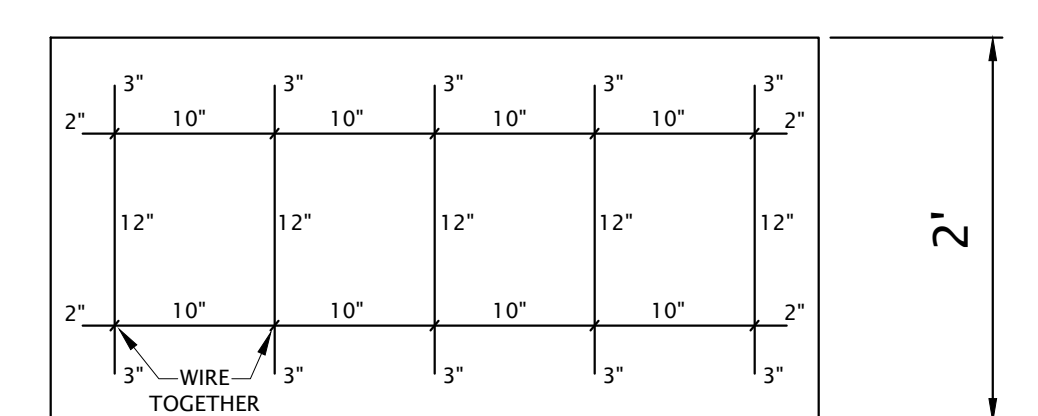
- NOTES:
1. ALL CONDUITS TRANSITION TO PVC UNDERGROUND
 2. GROUND ROD 5/8" COPPER CLAD 10' LONG MIN.
 3. CONNECTION TO GROUND ROD #4 COPPER.
 4. DRILL TEN 1/4" VENT HOLES TOP AND BOTTOM OF CONTACTOR ENCLOSURE.
 5. ALL CONDUCTORS TYPE THWN OR XLP-XHHW COPPER.
 6. ALL PVC CONDUITS TRENCHED AT LEAST 3" BELOW GRADE.
 7. IRRIGATION CONTROLLER BY IRRIGATION CONTRACTOR. ELECTRICAL CONTRACTOR TO MAKE POWER CONNECTION ONLY.



SCALE: 1"=1'

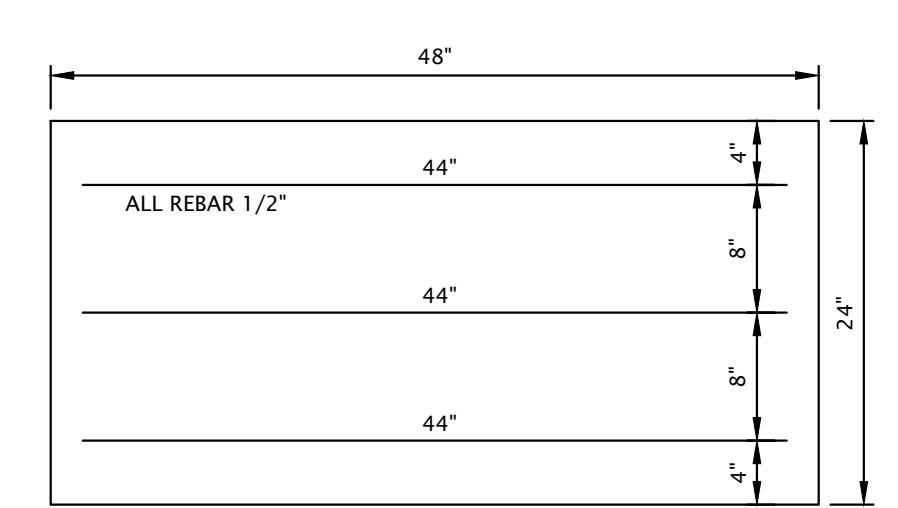


CONTROL CABINET INTERIOR
SCALE: 1"=6"



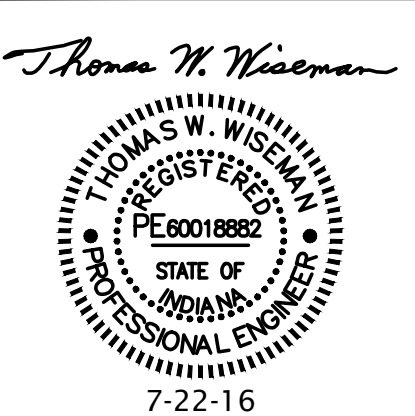
TOP VIEW

NOTE:
CONDUITS NOT SHOWN. ADJUST REBAR SPACING AS NEEDED TO ACCOMMODATE CONDUITS.



SIDE VIEW

CONTROL CABINET FOUNDATION REBAR DETAIL



Centennial Village L.L.C.
9615 Boulevard Drive
Highland, IN 46322

DWG # 14-C-1011	DATE:
REVISIONS AND NOTES:	

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Centennial Village Infrastructure Plans
Equipment and Circuit Schedule, Control Cabinet and Elevation, and Interior Equipment

SCALE: AS SHOWN
DESIGN BY: RNM
DRAWN BY: SMA
DATE: 7-22-16

NORTH

E201

Design Standards

Centennial Village – A Planned Unit Development A Mixed Use Walkable Lifestyle Community

Town of Munster, Indiana
A Supplement to Chapter 26: Land Development Code



**Design Standards
Centennial Village Planned Unit Development**

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Section 8: Parking – Site and Under Building
Section 9: Site Lighting
Section 10: Site Landscaping & Common Areas
Section 11: Signage
Section 12: Refuse & Recycling Management
Section 13: Screening of Loading & Service Areas
Section 14: Site Furniture, Fixtures & Equipment
Section 15: Utility Service
Section 16: Storm Water Management
Section 17: Subdivision of Land and Site Development Approval

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- 1: Centennial Village ALTA Survey & Legal Description
- 2: Preliminary Development Plan
- 3: Development Plan Set including Preliminary Landscaping Plan
- 4: Project Implementation Phasing Plan

Section 1: Purpose & Intent

The purpose of the Centennial Village Development is to provide the Town of Munster with a sustainable, mixed use, Walkable Lifestyle Community adjacent to the key regional thoroughfares of Calumet Avenue and 45th Street. The Centennial Village PUD is a partnership with the Town of Munster to combine the former Munster Steel redevelopment site with certain land areas of the Town owned Centennial Park to create a landmark development neighborhood. Additionally, the Centennial Village PUD will provide the Town of Munster the necessary land area to facilitate design and construction of the Calumet Avenue and 45th Street public infrastructure realignment improvements and underpass crossings of the CN Railroad line.

Centennial Village will include commercial, office, residential, recreational and entertainment land uses. The Centennial Village PUD is intended to support high quality development with the flexibility to adapt to the unique conditions of the site, the proposed Town public roadway infrastructure improvements, market demands and phasing of development implementation plan. The Centennial Village Development Plan has been created to meet the development goals of Town of Munster's 2010 Comprehensive Master Plan which calls for redeveloping the former Munster Steel site, improving Clay Hole Lake as a major public open space and to integrate the Centennial Village development with the existing Centennial Park and Pennsy Greenway Trail.

The mixed land uses and development density proposed within the Centennial Village PUD is essential to meet the development goals of the Town of Munster as outlined in the Development Agreement between the Town and the Centennial Village developer. The mixed use development plan is required to establish the level of commercial vitality and economic return to the Town of Munster in Tax Increment to support the approved TIF Bonds that have been granted to the project. The treatment of building design, parking, landscaping, site improvements and pedestrian spaces as outlined in the Centennial Village PUD Design Standards is essential to creating the pedestrian oriented environment for the Centennial Village walkable lifestyle community.

The Centennial Village PUD Design Standards are intended to insure the proper development of the project site to achieve the economic return goals of the Town of Munster, to improve the quality of life for existing Munster residents, to add significant architectural buildings and development areas to the Munster business landscape and to attract new businesses and residents to the Munster Community.



Section 2: Uses

The Centennial Village PUD shall permit the following uses within the development plan area:

2.1 Permitted Uses

1. Those permitted uses contained within the Town of Munster C-2 Zoning District excepting those further defined as Prohibited Uses in this Section.
2. Retail & Service Uses
 - a. Art Galleries & Supplies
 - b. Bakeries
 - c. Banks & Financial Institutions
 - d. Barber & Beauty Shops
 - e. Beer, Wine & Spirits Shops – 1 Allowed within Development
 - f. Book Stores
 - g. Computer Sales & Service
 - h. Communication Equipment Sales & Service
 - i. Custom Clothing and Apparel Stores
 - j. Decorating Shops
 - k. Department Stores
 - l. Electrical and Household Appliance stores
 - m. Financial Services
 - n. Fitness Spas and Clubs
 - o. Florist Shops
 - p. Garden Supply Stores
 - q. General Retail Stores
 - r. Grocery Stores
 - s. Hardware Stores
 - t. Optical Shops
 - u. Personal Care Shops
 - v. Household Furniture, Furnishings & Appliances
 - w. Jewelry Stores
 - x. Music Shops
 - y. Photography Studios
 - z. Paint & Wallpaper Stores
 - aa. Pet Supply & Care Establishments
 - bb. Shoe Sales and Service Shops
 - cc. Sporting Goods Stores
 - dd. Tailor Shops
 - ee. Travel Service Stores
 - ff. Toy Stores
3. Recreation & Entertainment
 - a. Theaters
 - b. Community Centers
 - c. Public Outdoor Recreation

4. Hospitality
 - a. Hotels
 - b. Restaurants
5. Education
 - a. Schools such as those for teaching performance art and business vocations
 - b. K-12 academic enhancement schools
6. Offices
 - a. Business
 - b. Medical
 - c. Professional & Personal Services
7. Residential
 - a. Multi-family Dwellings
 - b. Multi-family Senior Living Facilities
8. Accessory Uses
 - a. Drive Thru Service to Customers of a Business will be permitted only by review and action by the Town of Munster Board of Zoning Appeals.

2.2 Prohibited Uses

The Centennial Village PUD shall prohibit the following uses within the development plan area:

1. Any use which emits an obnoxious odor, fumes or sound which can be heard or smelled outside of any building in the Centennial Village Area.
2. Any operation primarily used as a warehouse operation, manufacturing refining, smelting, agricultural, industrial, or mining operation.
3. Food Catering Establishments operating as the Primary Business
4. Pawn Shop, Flea Market, Salvage Store or Auction House
5. Manufactured Home Park, Trailer Court, labor Camp, Junk Yard or Stockyard
6. Mortuary or Funeral Home
7. Adult Use Establishments as defined and regulated in the Town Municipal Code
8. Tattoo Parlor & Piercings operating as the Primary Business
9. Any Unlawful or Illegal Purpose
10. Any Use that is a Public or Private Nuisance
11. Automotive Vehicle Sales
12. Automotive Retail
13. Storage Facilities where storage is the Primary Business
14. Tobacco Stores
15. Any Business dealing with Guns and Ammunition
16. All "Prohibited Uses" defined and listed in the Defined Terms, pages 8, 9 & 10 of the Centennial Park Development, Development Agreement dated September 5, 2013

Section 3 – Setback & Height Requirements

The Architectural Style proposed for the Centennial Village Lifestyle Community is modeled after a Neo-Traditional Urban Design promoting buildings placed near the street in mixed use, multi-story buildings. The public roadway right of ways serving the Centennial Village PUD include Calumet Avenue adjacent to the west side of the site and 45th Street adjacent to the north side of the southerly PUD parcel and adjacent to the south side of the northerly PUD parcel.

The Centennial Village PUD may be platted and subdivided into individual lots for each proposed building pad identified in the Development Plan. All pedestrian and vehicular circulation routes within the development parcel boundary shall serve all the subdivision lots and shall be privately owned and maintained. All subdivided lots shall be provided with pedestrian and vehicular circulation routes platted with access easements, cross access easements and cross parking easements to achieve the urban Neo-Traditional design objective.

The following is a listing of the proposed Development Plan lots with the associated Setback and Building Height Requirements:

Building Lot	Building Use Description	No. of Floors (Stories)	Maximum Building Height (ft)	Front Yard Building Setback @ Main Entry (ft)	Side Yard Building Setback (ft)	Rear Yard Building Setback (ft)
A	Retail - Anchor	1	35	30	5	5
B	Retail – Multi Tenant	1	25	5	5	5
C	Retail – Multi Tenant	1	25	5	5	5
D	Retail – Multi Tenant	1	25	5	5	5
E	Hotel	4	50	5	5	5
F	Retail – Single Tenant	1	25	5	5	5
G	Retail – Multi Tenant 1 st Floor, Residential 2 nd to 4 th Floor	4	65	5	5	5
H	Retail – Multi Tenant 1 st Floor, Residential 2 nd to 4 th Floor	4	65	5	5	5
I	Retail – Single Tenant	1	25	5	5	5
J	Retail – Multi Tenant 1 st Floor, Residential 2 nd to 4 th Floor	4	65	5	5	5
K	Retail – Multi Tenant 1 st Floor, Residential 2 nd to 4 th Floor	4	65	5	5	5
L	Residential - Multifamily	3	55	5	5	5
M	Residential - Multifamily	3	55	5	5	5
N	Retail - Anchor	1	35	5	5	5
O	Retail – Single Tenant	1	25	5	5	5

Building Lot A is located on the northeast corner of Calumet Avenue and 45th Street. Its main entry is proposed to front either 45th Street or Calumet Avenue and therefore has 2 Front Yards.

Buildings on Lot B, C, D, and E are adjacent to Calumet Avenue and Buildings B, F and I are adjacent to 45th Street. The main entries to Buildings B, C, D, E, F & I all are proposed to face inward to the development as depicted on the Development Plan and as such their front yard is considered with respect to the lot line closest and across from the main entry to each respective building. The lot line adjacent to the Calumet Avenue and 45th Street is the rear yard or side yard lot line as depicted on the Development Plan.

Building Height is defined as the vertical distance from the average elevation of the adjoining ground level or the established finish floor elevation, whichever is lower to:

1. The highest point of the cornice or parapet wall of a flat roof;
2. The deck line of a mansard roof;
3. A point directly above the highest wall of a shed roof ;
4. The uppermost point of a round or other arch type roof;
5. The mean distance from the eave line to the ridge or peak of the highest point on a pitched or gabled, hipped and gambrel styled roof

The Pensey Greenway Pedestrian Path, Sidewalks and Parking areas are permitted to be located within the designated building setbacks. The Pensey Greenway Pedestrian Path and Sidewalks shall be permitted to be placed running longitudinally over property lines so part of the path or sidewalk is located partially on public right of way and within the setback area of the development.

Section 4: Building Materials and Architectural Design Standards

Building Materials and Architectural Design for all buildings within the Centennial Village PUD for both the Commercial and Residential development areas will follow a Neo Traditional Architectural Design Style. The Neo Traditional Architectural Design Style is a contemporary architecture that borrows historical building design elements designed and constructed using modern materials. Neo Traditional Architectural Design Style is contemporary architecture that is inspired by historic styles. Neo Traditional Buildings suggest the past, using decorative details to add a nostalgic aura to a modern-day contemporary structure design style.

Neo Traditional Architecture Design Style to be developed in the Centennial Village PUD shall utilize a variety of building materials and architectural elements. The variety of building materials will be distributed throughout the development based on a class of material as listed below:



Class 1 – Primary Exterior Building Materials / Building – 1st Floor

Allowable building materials on Class 1 Exterior Building Walls shall comprise of one or more of the following materials:

- a. Brick
- b. Natural Masonry and Architectural Cast Stone
- c. Manufactured Masonry & Stone
- d. Architectural Metal Panels
- e. Glass & Store Front Aluminum Window & Door Frames
- f. Conventional Windows and Frames

Class 1 Primary Building Materials as a total sum will comprise of a minimum of 75% of the total exterior wall surface area on Class 1 building walls. Architectural Pre-cast Wall Panels will be considered as a primary material provided that a Brick or similar Architectural Stone is precast into the panel meeting the minimum of 75% of the building wall surface area. Class 1 Building Materials as defined in this Section shall only be allowed on 1st Floor Level Exterior Walls. The First Floor Level is defined from the line created at the building wall by finish exterior ground elevation grade to the top of the wall for single story buildings and to the 2nd Level Floor line for multi-story buildings.

Class 2 – Accent Materials – 1st Floor

Allowable building materials on Class 2 Exterior Building Walls shall comprise of one or more of the following materials:

- a. Architectural Masonry Block
- b. Spandrel Glass and Opaque Panels
- c. Exterior Insulation Finishing System (EIFS)
- d. Architectural Metal Panels Accents
- e. Natural Wood Panels & Siding
- f. Manufactured Wood Panels & Siding
- g. Structural Steel

Class 2 Accent Exterior Building Materials as a total sum will comprise of a maximum of 25% of the wall surface area on Class 2 building walls. Class 2 Buildings Materials as defined in this Section shall only be allowed on 1st Floor Level Exterior Walls. The First Floor Level is defined from the line created at the building wall by finish exterior ground elevation grade to the top of the wall for single story buildings and to the 2nd Level Floor line for multi-story buildings.

Class 3 – Primary Exterior Building Materials – 2nd to 4th Floors

Allowable building materials on Class 3 Exterior Building Walls shall comprise of one or more of the following materials:

- a. Brick
- b. Natural Masonry and Architectural Cast Stone
- c. Manufactured Masonry & Stone
- d. Architectural Metal Panels
- e. Glass & Store Front Aluminum Window & Door Frames
- f. Conventional Windows and Frames including Operable Aluminum or Vinyl Clad Windows

Class 3 Primary Building Materials as a total sum will comprise of a minimum of 30% of the total exterior wall surface area on Class 3 building walls. Architectural Pre-cast Wall Panels will be considered as a primary material provided that a Brick or similar Architectural Stone is precast into the panel meeting the minimum of 30% of the building wall surface area. Class 3 Materials as defined in this Section shall only be allowed on 2nd to 4th Floor Level Exterior Walls. The 2nd to 4th Level exterior wall surface is defined from the 2nd Level Floor line to the top of the upper most floor wall for buildings with flat roofs or to the uppermost level soffit or fascia line for buildings with sloped roofs.

Class 4 – Accent Materials – 2nd to 4th Floors

Allowable building materials on Class 4 Exterior Building Walls shall comprise of one or more of the following materials:

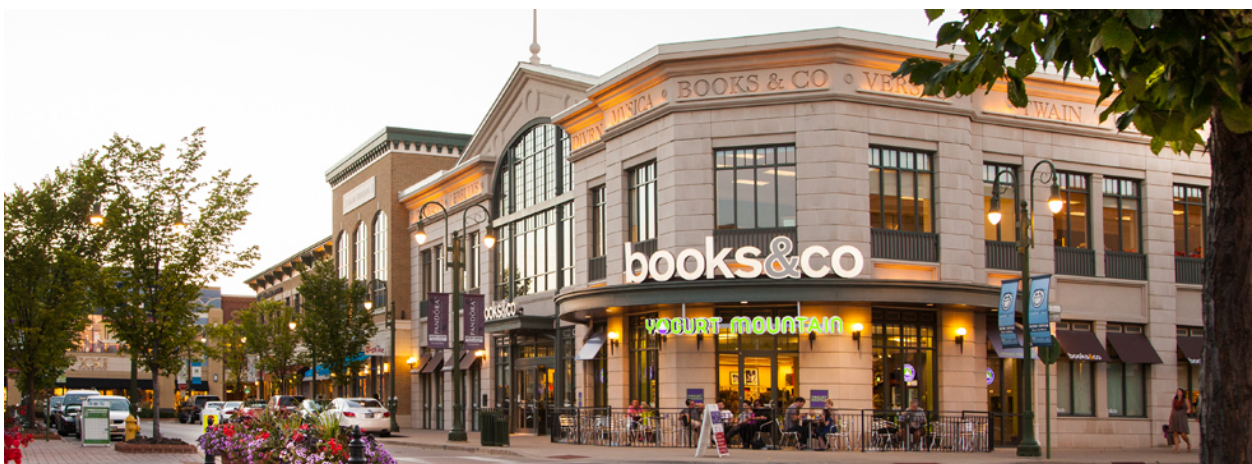
- a. Architectural Masonry Block
- b. Spandrel Glass and Opaque Panels
- c. Exterior Insulation Finishing System (EIFS)
- d. Architectural Metal Panels Accents
- e. Natural Wood Panels & Siding
- f. Manufactured Wood Panels & Siding
- g. Aluminum Fascia and Soffit Material
- h. Structural Steel

Class 4 Accent Building Materials as a total sum will comprise of a maximum of 70% of the wall surface area on Class 4 building walls. Architectural Pre-cast Wall Panels will be considered as a primary material provided that a Brick or similar Architectural Stone is precast into the panel meeting the minimum of 70% of the building wall surface area. Class 4 Materials as defined in this Section shall only be allowed on 2nd to 4th Floor Level Exterior Walls. The 2nd to 4th Level exterior wall surface is defined from the 2nd Level Floor line to the top of the upper most floor wall for buildings with flat roofs or to the uppermost level soffit or fascia line for buildings with sloped roofs.



General Building Design Requirements

1. The color and material of Service Doors shall be coordinate with the color tones and materials of the Primary Materials and match the design of the buildings they serve. Service doors shall be permitted on Class 1 and Class 2 wall surfaces and be counted as a Class 1 Primary Material.
2. Doors, Door Frames, Window surfaces and Window Frames shall be permitted on all classes of materials and be counted in the quantity of Primary Materials.
3. Bright accent colors such as bright orange, bright yellow or fluorescent colors shall be minimized and in no case shall such coloring exceed 5% of any exterior wall area.
4. Brick or stone exteriors shall not be painted without the prior approval of the Town of Munster Plan Commission.
5. Equipment used for mechanical, processing, bulk storage tanks or equipment used for suppressing noise and odor that protrudes from a side of a building or is located on the ground adjacent to a building shall be screened from public view as much as practical with Class 1 & 3 Primary Building Materials matching the design of the building and landscaping treatments.
6. Equipment used for mechanical, processing and bulk storage tanks placed on roofs of buildings shall be screened from public view as much as practical with Class 2 & 4 Accent Building Materials matching the design of the building.
7. Pre-engineered metal and wood pole buildings are prohibited.
8. The general architectural design for all buildings in the PUD shall reflect a unique architectural style. The design form, materials and colors for each building may have an architectural relationship only to other buildings within the Centennial Village PUD. Architectural design used as a branding marketing technique to identify a particular business identity is not permitted within the development.



The distribution of Architectural Class Materials on all buildings throughout the project site is summarized in the table below:

Building Lot	Building Use Description	No. of Floors (Stories)	Building Materials on Exterior of First Floor	Building Materials on Exterior of 2nd thru 4th Floor
A	Retail – Anchor	1	Class 1 & 2	N/A
B	Retail – Multi Tenant	1	Class 1 & 2	N/A
C	Retail – Multi Tenant	1	Class 1 & 2	N/A
D	Retail – Multi Tenant	1	Class 1 & 2	N/A
E	Hotel	4	Class 1 & 2	Class 3 & 4
F	Retail – Single Tenant	1	Class 1 & 2	N/A
G	Retail – Multi Tenant 1 st Floor, Residential 2 nd to 4 th Floor	4	Class 1 & 2	Class 3 & 4
H	Retail – Multi Tenant 1 st Floor, Residential 2 nd to 4 th Floor	4	Class 1 & 2	Class 3 & 4
I	Retail – Single Tenant	1	Class 1 & 2	N/A
J	Retail – Multi Tenant 1 st Floor, Residential 2 nd to 4 th Floor	4	Class 1 & 2	Class 3 & 4
K	Retail – Multi Tenant 1 st Floor, Residential 2 nd to 4 th Floor	4	Class 1 & 2	Class 3 & 4
L	Residential – Multifamily	3	Class 1 & 2	Class 3 & 4
M	Residential – Multifamily	3	Class 1 & 2	Class 3 & 4
N	Retail – Anchor	1	Class 1 & 2	N/A
O	Retail – Single Tenant	1	Class 1 & 2	N/A

Section 5: Building Design Elements

In addition to Exterior Building Material Standards, all buildings within the Centennial Village PUD shall comply with the following Building Design Elements requirements.

1. Building facades shall provide architectural detail and character that contain windows at the ground level in areas oriented to the pedestrian activities of the development to create views into buildings with focus to building main entries. The building and pedestrian interface is a crucial part of the urban design and the design shall provide visual interest, create opportunities for pedestrian socialization and overall pedestrian safety and comfort.



2. The use and appearance of all exterior building materials within the development shall be compatible with adjacent and surrounding buildings.
3. The use and appearance of all exterior building materials used on side and rear building walls of any building shall be similar to and compatible with its front building wall.
4. All buildings shall be located such that the front doors of the building front a public street or parking areas. Any building with a building wall adjacent to a public street that does not provide for the front door to front the public street shall design the building wall adjacent to the public street with Primary Building Materials and with design features to make the adjacent wall to the public street look as if it is a main entry wall.
5. Parking Garages shall be located to the rear or interior of the site. Entrance ramps to underground parking areas shall be located near service areas of buildings and screened from public view with landscaping or other structural screening walls.
6. Main entries to buildings shall be emphasized through the use of architectural features such as covered roof overhangs, increased building heights with columns, featured roof elements, and recession or extension of the building façade or other architectural details that highlight the importance of the entrances.
7. The rear entrance to a building can be utilized as an additional primary entrance when parking areas are located in the interior of a block as is typical for a traditional urban development plan. When rear building entrances are used as an additional primary entrance, the entries should be improved to include signs, lighting, canopies, windows, landscaping and other complementary elements to create a safe and inviting access to the additional building entry.

8. All building fronts shall include a minimum of 6 architectural details following the items listed below:

- a. Cornice Architectural Details
- b. Architectural Awning including Structural Steel or Canvas Awning
- c. Parapet Wall Detailing
- d. Brick Coursing changes such as soldier coursing, row lock coursing and stack bond coursing
- e. Masonry Stone Accenting around windows, doors and roof lines
- f. Entry Feature Columns
- g. A visually pleasing, clearly articulated entry which presents the obvious entry location from the street, sidewalk and parking area.
- h. A combination of horizontal and vertical design features
- i. Contrasting but complimentary materials and colors
- j. Irregular building shapes
- k. Horizontal offsets in the entry door wall relative to the primary front façade wall
- l. Vertical offsets in the roof line of the entry door wall relative to the primary front façade wall
- m. Varying roof lines and accents



9. Multi-story buildings shall have the ground floor distinguished from the upper floors by having one or more of the following:

- a. Awnings
- b. Trellis
- c. Window Lintels
- d. Cornice Line delineating the change between the First Floor level and the 2nd Floor level
- e. Brick detailing such as quoins or corbels delineating the change between the First Floor level and the 2nd Floor level
- f. A change in Primary Building materials between the First Floor level and the 2nd Floor level

10. All buildings within the development will utilize a variety of complimentary architectural materials, design elements, colors and the use of vertical and horizontal design features in such a way so that no one building is identical or monotonous with any other building. The Neo Traditional Design Style defined for the Centennial Village project encourages the architectural, color and building material differences between buildings on all lots within the development.



Section 6: Site Circulation – Vehicular & Service

The Centennial Village Site will be provided vehicular access from public right of ways depicted in the Development Plan and specifically defined below:

1. Development Area North of 45th Street:
 - a. Full Access Entry Driveway on the north side of 45th Street approximately 500 feet west of the Calumet Avenue center line. The Full Access Entry Driveway will be controlled by a traffic control signal to be provided by the Town of Munster in the 45th Street public infrastructure project plans and coordinated with the Centennial Village development plans on the south side of 45th Street.
 - b. Right in – Right out entry drive on the east side of Calumet Avenue approximately 200-feet north of the 45th Street center line.
2. Development Area South of 45th Street:
 - a. Full Access Entry Driveway on the south side of 45th Street approximately 500 feet west of the Calumet Avenue center line. The Full Access Entry Driveway will be controlled by a traffic control signal to be provided by the Town of Munster in the 45th Street public infrastructure project plans and coordinated with the Centennial Village development plans on the north side of 45th Street.
 - b. Right in – Right out entry drive on the east side of Calumet Avenue approximately 400-feet south of the 45th Street center line.
 - c. Full Access Entry Driveway at the Centennial Drive and Calumet Avenue intersection. The Centennial Drive Entry Driveway shall be shared by the Centennial Village PUD area and the Town of Munster Centennial Park. The existing Centennial Drive Traffic Signal and intersection at Calumet Avenue will be modified by the Centennial Village PUD to accommodate the additional traffic generated by the development project.
3. The Development Plan for the development area south of 45th Street is divided into 4 development quadrants by the location of 2 main access roadways. The site is divided by a main north-south roadway and an east-west roadway. All vehicular roadways within the Centennial Village PUD shall be privately constructed, owned and maintained.
4. The main north-south thoroughfare named “Centennial Drive” will be developed to intersect with Calumet Avenue at the southwest corner of the site, extend easterly to connect with the existing Centennial Park parking lot, then extend northerly to a proposed Centennial Drive Town Center Green round about, and then further extend north to intersect with 45th Street.



5. The main east-west thorough fare named “Village Parkway” extends easterly from Calumet Avenue at the west central edge of the site into the Centennial Drive Town Center Green round about.
6. All parking areas located within each of the 4 quadrants shall be connected to both Centennial Drive and Village Parkway.
7. Centennial Drive and Village Parkway shall have 12-foot minimum vehicular travel lane widths. The minimum lane width of Centennial Drive at the Calumet Avenue and 45th Street intersections shall be 11-feet wide. Lane widths shall be measured from the center line of any lane striping to the face of curb. For conditions where there is not lane striping, the lane width shall be measured between face of curb to face of the opposite curb.
8. Minimum cross slopes perpendicular to the direction of travel shall be 2%. Minimum longitudinal slope of the curb gutter flow line shall be 0.50%.
9. The minimum pavement cross section for roadways and parking lots shall consist of 10-inches of No. 53 aggregate placed on a stable subgrade with 3-inches of H.A.C. Binder Course and 1 ½-inches of H.A.C. Surface Course. The final pavement cross section specification will be developed to accommodate the specific subgrade conditions where roadways and parking lots are placed.
10. Minimum combination curb and gutter sections widths shall be a combination of a 6-inch wide curb with a 12-inch wide gutter flag.
11. Boulevards located in the center of Centennial Drive and Village Parkway shall be bordered at the street with a 6-inch wide stand up curb.
12. Cross Access Easements and shared Public Common Space Agreements will be developed during the subdivision platting process to provide for the sharing of parking, vehicular circulation and pedestrian access among all property owners, business tenants and residents within the development.

Section 7: Site Circulation – Pedestrian

The Centennial Village PUD is located adjacent to the recreational activities within Centennial Park including the regional Pensey Greenway Trail. The Centennial Village PUD site design shall emphasize pedestrian connections with Centennial Park walkways, the Pensey Greenway Trail and future sidewalks proposed by the Town of Munster in the 45th Street and Calumet Avenue public infrastructure improvement plans.

1. The Pensey Greenway Trail will be extended from the south boundary of the Centennial Village PUD and extend along the west shore line of Clay Hole Lake to the south right of way line of the new 45th Street right of way. This trail extension will be completed by the Centennial Village PUD and will be constructed to standards matching the existing trail south of the Centennial Village PUD.
2. Pedestrian walkways adjacent to and within the Centennial Drive corridor connecting Calumet Avenue to 45th Street shall be a minimum of 10-feet wide. Pedestrian walkways adjacent to buildings within the Village Parkway corridor shall be a minimum of 10-feet wide. Pedestrian walkways adjacent to buildings in all other areas of the development shall be a minimum of 8-feet wide.
3. Where sidewalks are integral with parking area curbs within parking areas of the development, the minimum sidewalk width shall be 5-feet.
4. All sidewalks shall be constructed of Portland Cement Concrete and shall be a minimum of 4-inches in thickness for pedestrian use only areas and a minimum of 6-inches in thickness for vehicular service loadings areas and shall be placed on a minimum of 4-inches of base sand or No. 53 aggregate.
5. Pedestrian routes crossing streets and driveways within the development shall be constructed with a material contrasting with the pavement material of the street or driveway. Acceptable materials for pedestrian route street and driveway crossings shall include colored concrete, paver bricks and paver blocks.
6. All pedestrian routes crossing streets and driveways within the development will be provided with ADA Accessible Ramps meeting the design requirements of all State and Federal Accessibility Requirements.
7. Sidewalks within the development and the Calumet Avenue and 45th Street right of ways will be maintained by the Centennial Village PUD. Snow removal of sidewalks within the development and the will Calumet Avenue & 45th Street right of ways will be the responsibility of the Centennial Village PUD.
8. The Centennial Village PUD shall plat the appropriate pedestrian access easements during the site development and subdivision platting process through the Town of Munster Plan Commission.

Section 8: Parking – Site and Under Building Parking Areas

The Centennial Village PUD is an urban development plan designed to provide for shared parking for all lots within the development. All building lots within the development will be platted with Cross Access Easements and all parking lots shall be designed to be interconnected for both pedestrian and vehicular access. Off-street and on-street parking shall be provided within the development on common parking lots, along circulation roadways and in parking structures.

1. The total minimum number of parking spaces required for the Centennial Village PUD shall be calculated on the following basis:

Land Use	Minimum Required Parking
Retail – Single Tenant	3.25 parking spaces per 1,000 sf of Gross Building Floor Area
Retail – Multi-tenant	3.25 parking spaces per 1,000 sf of Gross Building Floor Area
Restaurant	1.0 space per 4 customer seats
Office Uses	4.0 parking spaces per 1,000 sf of Gross Building Floor Area
Hotel	1.05 parking spaces per number of Hotel Room Units
Residential – Multi-family	1.25 spaces per Residential Unit

Off-street parking for commercial uses shall be sufficient to provide parking for employees of all proposed uses as well as customer parking. Spaces reserved for employees may be designated by means of striping and signage. The location, quantity, signage and design standards for parking spaces for the disabled shall be designed to meet the requirements of all State and Federal Accessibility Requirements.

2. Parking Areas shall be designed to conform to the following standards:
 - a. Parking space dimensions (other than those designed for the disabled) perpendicular to the parking area drive aisles shall be a minimum of 18-feet long and 9-feet wide. Angle parking shall maintain a full 18-foot x 9-foot block within the angled parking space. Parking spaces shall be dimensioned in relation to face of curbs and walks and to the centerline of parking space striping lines.
 - b. Parking space dimensions parallel to roadways within the development shall be a minimum of 20-feet long by 8-feet wide.
 - c. Parking spaces in under building parking garages may be a minimum of 17-foot x 9-foot with 20-foot drive aisles.
 - d. Where feasible, tandem parking spaces may be provided in under building parking garages.
 - e. Parking space dimensions for the disabled shall meet the design requirements of the Federal Americans with Disabilities Act.
 - f. Parking lots shall be constructed of Hot Asphaltic Concrete, Portland Cement Concrete or other acceptable hard surface material approved by the Town of Munster Plan Commission and meeting Town Standards.
 - g. All parking areas shall be edged with Portland Cement Concrete vertical curbs, curb and gutters and mono-thically formed curb sidewalks.

- h. Parking areas shall be landscaped in Planting Areas as defined in the Centennial Village PUD Development Plan. The parking area Planting Areas shall be landscaped with Trees, shrubs and perennial flowers.
 - i. Parking area landscaping shall conform to an approved Landscaping Plan and to the design standards defined in the Site Landscaping – Section 10.
3. Parking Areas shall be owned, operated and maintained by the Centennial Village PUD land and building owners. The parking areas shall be kept clean and well maintained and shall conform to the following operations standards:
- a. Striping defining parking areas, loading and service zones, stop bars, directional arrows, lane division and other pavement markings shall be clearly visible at all times. Parking area striping shall be re-painted when the parking area markings are faded and compromises safety to patrons of the development.
 - b. Failed pavement shall be properly repaired to assure safe and convenient travels within the development.
 - c. Snow removal of sidewalk, parking areas and driveways within the Centennial Village PUD shall be the responsibility of the Centennial Village PUD owners. Snow removal shall be completed during any snow event on all building lots within the development on a unified basis. Snow shall be placed on the perimeter and islands of parking areas and driveways. During heavier snow events, snow will be removed from the site and deposited at designated locations into Clay Hole Lake. The Development Plan shall identify the specific designated snow deposit areas. The design of the snow deposit areas shall be detailed and designed to accommodate the needed grading and structural loading of the snow removal equipment.
 - d. Parking areas shall be regularly cleaned of debris.

Section 9 – Site Lighting

Site lighting shall be decorative in nature and consistent with the architectural design of buildings within the development. All site lighting within the Centennial Village PUD shall adhere to the following requirements for illumination of parking areas, pedestrian walkways and roadways.

- All exterior lighting shall be designed and constructed to direct light away from adjacent properties.
- All exterior lighting shall be arranged and designed with a common light fixture type and with a variety of heights based on lighting system use. Vehicular and pedestrian level lights shall illuminate directly below or inboard of the property lines of the property such that the point source of light is not directly viewed by pedestrian or vehicular traffic in adjacent public right of ways.
- Lighting shall be designed such that there is a minimum of 0.5 foot-candles at any property line. A photometric plan inclusive of all site and building sconce lighting for each fixture shall be submitted for review by the Town of Munster at each site plan review application. Photometric lighting levels within parking, roadway and pedestrian areas shall be illuminated to a range of 3 to 10 foot candles.
- Lighting which is flashing or revolving in nature or that otherwise resembles a traffic control signal shall not be permitted in any development area where it could cause a hazard for pedestrian or vehicular traffic.
- Parking areas shall be adequately lighted for the safety of pedestrian and vehicular movements using decorative style lighting with a design style equal to the “Genesis Series” model manufactured by Sternberg Lighting. No “shoe box” style lighting shall be permitted. Parking Lot lighting shall have a maximum height to the top of the fixture of 26-feet.
- Roadway areas shall be adequately lighted for the safety of pedestrian and vehicular movements using decorative style lighting with a design style equal to the “Genesis Series” model manufactured by Sternberg Lighting. No “shoe box” style lighting shall be permitted. Roadway area lighting shall have a maximum height to the top of the fixture of 22-feet.

Sternberg Lighting
ESTABLISHED 1923 / EMPLOYEE OWNED
GENESIS Product Configurator

Catalog Number: 2-1912C-ARZPM-10PS-CC351PS120MEDDBA0K Type: _____

Customer Approval: _____

Signature: _____ Date: _____

Conceptual assembly drawing, subject to Engineering verification by factory.

NUMBER OF ARMS: 2

ARM MOUNTED FIXTURE: 1912
The 1912 Summit series is a decorative downlight fixture consisting of a decorative cast aluminum litter, ballast housing assembly and a prismatic glass, polycarbonate or acrylic clear drop screen. Its dome housing is made of cast aluminum having 4 wide band vertical ribs matching the cap ribs in its upper section.

ARM: R2PM 12PM

POLE: 671BP5
The 116" diameter cast aluminum base and aluminum shaft shall be a one piece construction. The pole shall be U.L. or E.I.L. listed in U.S. and Canada.

POLE CAP: FCC
FINIAL CENTER CAP

LIGHT SOURCE: 35HPS120MED
Ballast - 35HPS
Voltage - 120
Socket Type - MFD

ACCESSORY: DBA
The double banner arms mount to the side of the pole and are made from heavy-wall aluminum. Banners by others.

FINISH: BK
Assembly shall be powder coated to Black Smooth finish. Prior to coating, the assembly shall be chemically cleaned and etched in a 5 stage washing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse osmosis water rinsing, and non-chrome sealing to ensure corrosion resistance.

Street Side | Access Door/Sidewalk Side

180° | 10" DIAR2PM BOLT CENTER LINE | 3" | 270°

Rev	Description	By	Date	Job Name

Job Location:	Drawing No.:	Drawing Title:	Drawing Date:

7. Pedestrian walkways not lighted by parking or roadway lighting shall be adequately lighted for the safety of pedestrians using decorative style lighting with a design style equal to the “Genesis Series” model manufactured by Sternberg Lighting. Pedestrian area lighting shall have a maximum height to the top of the fixture of 14-feet. Pedestrian walkways can also be illuminated using decorative wall sconce lighting matching the style of parking and roadway lighting mounted on buildings adjacent to pedestrian walkways. No “shoe box” wall mounted fixture lighting shall be permitted.
8. Decorative wall mounted or ground mounted lighting may be used on building fronts visible from streets and parking areas to illuminate building entries and highlight building architectural features.
9. Lighting Pole and Fixture locations shall be out of the way of service and pedestrian access to buildings throughout the development site.

Section 10 – Site Landscaping

Landscaping for the Centennial Village PUD shall be required in accordance with a final detailed Landscaping Plan approved by the Town of Munster Plan Commission for each building and development phase at the Site Development Plan submittal. All areas of the site not occupied by buildings, parking areas and other site improvements or paving shall be planted with trees, shrubs, hedges, perennials, annual flowers, ground cover and or grasses unless such plantings shall cause a public safety or safe sight line condition for vehicles and pedestrians. Site Landscaping within the Centennial Village PUD shall adhere to the following requirements:

1. Landscaping Design Standards and Specifications shall generally follow the requirements of Article X of Chapter 26 of the Munster Land Development Code.
2. Landscaping shall be integrated with other functional and ornamental site design elements such as pedestrian paths and walkways, site furniture, fountains, trellises, gazebos, screen walls and public art.
3. Plant suitability, maintenance and compatibility with site and construction features shall be considered in the final landscape design plans for each building lot. Plantings should be designed with repetition, structured patterns and complimentary textures and colors and should reinforce the overall character of the development. After construction, maintenance of plants and landscaping will be completed to a high standard, keeping lawns, grasses and plants regularly groomed, planted areas free from weeds and debris, and plants that have died replaced.
4. All stumps and other tree parts, litter, brush, weeds and vegetation debris shall be removed from the development and lawfully disposed. If trees and limbs are reduced to chips, they may be used as mulch in landscaped areas. Areas which are to remain as undeveloped open space shall be cleaned of all vegetation debris.
5. Landscaping of cut and fill areas for the creation of proper drainage shall be constructed with grading slopes and plant materials to prevent soil erosion.
6. Planted landscaping shall meet the following specification at the time of planting unless otherwise specified in the Landscape Plan.
 - a. Deciduous trees shall be at least a 2 ½-inch caliper and have an average 8-foot height
 - b. Evergreen trees shall be a minimum of 6-feet in height
 - c. Shrubs shall be 3-feet in height
7. Material and installation specifications for all trees, shrubs, bushes, annuals and perennials shall be specified to meet local horticultural standards and meet the local growing and climatic conditions. The materials and installation shall be appropriate for an Urban Development environment. Shrub plant selection shall be made using drought tolerant vegetation to the extent possible. Plant materials shall be nursery stock grown conforming to ANSI Z60.1. No trees planted in the development shall be topped, tipped or deformed in any way at the time of planting.

8. Within one year from the time of installation, all dead or dying plants and lawns shall be replaced in kind in the locations and specifications in accordance with the Landscape Plan.
9. Tree spacing shall be determined and identified in the Landscape Plan based on the tree species type. As a general guide to the Landscape Plan basis of design, larger maturing trees shall be planted a minimum of 30-feet on center. Smaller maturing trees shall be planted at a minimum of 20-feet on center. Larger maturing trees will generally be planted along street frontages, right of ways and on the perimeter edges of the development.
10. Refuse and recycling collection areas and other building utility service areas shall be screened with a combination of structural screen walls and landscaping designed to match the building architecture it services. The screen walls shall be a minimum of 5-feet in height with a corresponding landscaping buffer against the wall designed to grow in height to match the height of the screen wall. A mixture of hardy flowering and/or decorative evergreen and deciduous trees will be planted with bushes and shrubs in the screen wall buffer against the screen wall and with a decorative stone ground cover.
11. Larger landscape areas will be provided with irrigation systems. The following areas may be serviced with irrigation systems:
 - a. Center Green Boulevard Area between Buildings J & K
 - b. Main Sign Location at the Southeast Corner of 45th Street & Calumet Avenue
 - c. Boulevard Islands on Village Parkway
 - d. Boulevard Islands on Centennial Drive
 - e. Outdoor Plazas in the rear of Buildings G, H, J & K
 - f. Outdoor Plazas on the sides of Buildings N
12. Maintenance of all Landscaping within the Centennial Village PUD shall be completed by the Centennial Village development.
13. Acceptable for tree plantings within planting islands and parkways are set out in Table 10-13-1 and Table 10-13-2:

Table 10-13-1 Trees for Parking Lot Islands and General Landscaping		
Common Name	Scientific Name	Mature Height
Chinquapin Oak	Quercus Muehlenbergii	80-feet
Hackberry	Celtis Occidentalis	60-feet
Kentucky Coffee Tree	Gymnocladus	60-feet
Skyline Honey Locust	Gleditsia Triacanthos	60-feet
Shingle Oak	Quercus Imbarcaria	50-feet
Swamp White Oak	Quercus Bicolor	50-feet
Sour Gum	Nyssa Sylvatica	40-feet
Ironwood	Ostrya Virginiana	30-feet
Japanese Tree Lilac	Syringa Reticulata	30-feet
Blue Beech American Hornbeam	Carpinus Caroliniana	20-feet

Common Name	Scientific Name	Mature Height
Chinquapin Oak	Quercus Muehlenbergii	80-feet
Burr Oak	Quercus Macrocarpa	80-feet
American Elm	Ulmus Americana	70-feet
Hackberry	Celtis Occidentalis	60-feet
Kentucky Coffee Tree	Gymnocladus	60-feet
American Linden	Tilia Americana	60-feet
Skyline Honey Locust	Gleditsia Triacanthos	60-feet
Shingle Oak	Quercus Imbarcaria	50-feet
Hills Oak	Quercus Ellipsoidallis	50-feet
Scarlet Oak	Quercus Coccinea	50-feet
Sugar Maple	Acer Saccharum	50-feet
Swamp White Oak	Quercus Bicolor	50-feet
Sour Gum	Nyssa Sylvatica	40-feet
Littleleaf Linden	Tilia Cordata	40-feet
Ironwood	Ostrya Virginiana	30-feet
Japanese Tree Lilac	Syringa Retuculate	20-feet
Blue Beech American Hornbeam	Carpinus Caroliniana	20-feet
Serviceberry	Amelanchier Sp.	20-feet
Nannyberry Viburnum	Viburnum Lentago	18-feet

14. Acceptable for shrub plantings within planting islands and general landscape areas are set out in Table 10-14-1 and Table 10-14-2:

Common Name	Scientific Name
Spicebush	Lindera Benzoin
Downy Serviceberry	Amerlanchier Arborea
Dommon Chokecherry	Prunus Viriniana
Forsythia	Forsythia Spp.
Lilac	Syringa Spp.
Viburnums	Viburnum Spp.
Currant Gooseberry	Ribes Spp.
Weigla	Weigela Spp.
Smoketree	Cotinus Coggyria
Beautybush	Kolkwitzia Amabilis
Red Twig Dogwood	Cornus Alba Sibirica

Table 10-14-2 Shrubs for Parking Lot Islands and General Landscaping – Summer Flowering	
Common Name	Scientific Name
Buttonbush	Cephalanthus Occidentalis
American Elderberry	Sambucus Canadensis
Common Ninebark	Physocarpus Opulifolius
Black Chokeberry	Aronia Melanocarpa
Winterberry	Ilex Verticillata
Wild Hydrangea	Hydrangea Aborescens
Virginia Sweetspire	Itea Virginica
Butterfly Bush	Buddleia Davidii
Sumac	Rhus Spp.
Coralberry, Snowberry	Symphoricarpos Spp.

15. Trees and plants identified as “Invasive Species” as defined by the Indiana Department of Natural Resources shall not be planted within the Centennial Village PUD.

Section 11 – Signage

All signs located within the development shall be regulated and conform to the current edition of the Town of Munster Zoning Ordinance, Land Development Code Chapter 26, Article VI, Division 10, Signs. Additionally, the Centennial Village Planned Unit Development building and site sign design shall comply with the following standards:

1. Prohibited signs:
 - a. Signs that extend above the highest point of a roof line
 - b. Billboards
 - c. Signs painted or mounted upon the exterior side or rear wall of any principal or accessory structure except as otherwise identified in the Design Standards.
 - d. Signs which contain blinking, pulsating, flashing, or moving lighting.
 - e. Neon Lighting Signs
2. Traffic Control Signs including street name, stop signs, parking signs, directional signs and other traffic control signs that are used to implement public safety and wayfinding within the development shall be of an ornamental design similar to the site lighting posts and fixtures, following the decorative style of the Genesis Series by Sternburg Lighting.
3. No sign shall be located to block or obscure the vision of motor vehicle drivers for safe travel through streets and parking areas.
4. No sign shall be erected, located or maintained to prevent access to any door, window, public walkway or fire escape.
5. Materials and color palettes for signs shall follow the approved materials and colors defined in the Town of Munster Zoning Ordinance, Land Development Code Chapter 26, Article VI, Division 10, Signs.
6. A sign located on the main entry door or adjacent to the main entry door identifying the business name, hours of operation, address shall not exceed 6 square feet in total area.
7. Each business within multi-tenant buildings will be permitted one principal sign. Such signs may be wall mounted and with a total sign area as calculated below:
 - a. The total area of all signs for each business shall not exceed 1 square foot of sign area for each 30-feet of interior retail or business space, excluding storage area. Each business shall be allowed a minimum of 12-square feet of sign area. The maximum total square footage of sign area for a business shall not exceed:
 - i. 75 square feet for businesses having a total gross floor area of 0 square feet to 5,000 square feet.
 - ii. 125 square feet for businesses having a total gross floor area of 5,001 square feet to 20,000 square feet.
 - iii. 200 square feet for businesses having a total gross floor area of 20,001 square feet and larger

8. Signs affixed to the exterior of a building shall be architecturally compatible with the style, composition, materials, colors and details of the building. Box Panel signs shall not be permitted on any building within the development.
9. The location of tenant signs shall be integrated with the building façade design and not obstruct architectural details and wall signs shall not extend more than 12-inches out from the exterior face of the building for “non-projection or non-blade” signs.

10. Projecting and Blade Signs extending perpendicular from the wall of a principal structure may be permitted so long as they do not interfere with clear vision to other adjacent business signs and do not interfere with the safe movement of vehicles and pedestrians. The Centennial Village PUD shall evaluate all requests for Projecting and Blade signs on a case by case basis and determine its approval based on the sign’s design, materials and number of adjacent projecting banner signs. Projecting and Blade Signs may not extend a distance greater than 4-feet from a principal structure wall, be a minimum of 8-feet from the bottom of the sign to the top of the sidewalk below, may not exceed a total of 15 square feet and shall be counted against the total maximum business signage area.



11. Awning signs are permitted within the Centennial Village PUD following the approved sign design criteria, standards, materials and colors for awning signs defined in the Town of Munster Ordinance 1679.
12. In cases where businesses have rear or side parking lots or adjoins a public street, an additional sign developed to the same restrictions identified in Section 11 – Signage, shall be permitted only on one side or rear of the building.
13. Business signs shall be permitted to be back lighted or front lighted provided the sign illumination does not cause a nuisance to adjoining businesses and properties.
14. A sign bearing the name of a business of the principal tenant occupying space in the rear or upper floors of a building shall be allowed at the principal structure entrance to the business and the area of such sign identifying such business shall not exceed 4 square feet.
15. Free Standing Monument Signs shall be located and permitted to identify the Centennial Village PUD development areas at the locations as defined below:
 - a. Lot A – Identifying the development parcel north of 45th Street
 - b. Lot B – Identifying the development parcel south of 45th Street
 - c. Lot E – Identifying the development parcel south of 45th Street and the Lot E use
16. Free Standing Monument Signs shall have a maximum total surface area for any display surface of 100 square feet and a maximum height of 6-feet. The calculation of display surface does not include the surface area of the sign structure that the display surface is mounted.

17. All signs and sign structures shall be maintained in good repair and safe condition. The owner of each sign shall be responsible for the proper maintenance of their respective sign. A sign shall be at all times legible, working and safe for the public.
18. No sign shall be constructed within the development unless the sign information has been reviewed and approved by the Centennial Village PUD developer and the proper permits and approvals have been granted by the Town of Munster.

Section 12 – Refuse & Recycling Management

The handling of refuse and recycling materials generated by the development is an important function for businesses within the Centennial Village PUD. Pick up and removal of these materials from the site shall be scheduled during times that do not conflict with normal hours of operation for the majority of businesses within the development.

All trash, recycling and related material handling equipment shall be stored within the principal structure, within an attached structure accessible from the principal structure or within an un-attached refuse enclosure structure nearby the building it serves. Trash, recycling and related material handling equipment and structures shall be totally screened from view from public streets, residential areas and main vehicular and pedestrian routes within the development. Trash and recycling structures and enclosures shall be constructed of the same materials and design style of the principal structure it serves. The structures and enclosures shall be constructed with these materials on 3 sides and provided with an opaque easily operated access door or gate. The door or gate shall remain closed at all times other than when the material is being picked up and removed.

The location of trash and recycling structure enclosures will be positioned so that the removal equipment can readily access the storage containers and not conflict with service requirements of the site improvements and buildings within the development.

Section 13 – Screening of Loading & Service Areas

The screening requirements to visually enhance loading and service areas to buildings within the development shall utilize architectural screen walls, landscape hedging and architectural fencing.

1. The perimeter views of all external loading and service areas must be screened from public right of ways, residential areas and main vehicular and pedestrian routes with the development except at the points of access.
2. Architectural screen walls and architectural fencing shall be constructed of the same materials and design style of the principal structure it serves. Such walls shall be a minimum of 5-feet in height measured from the finish grade at the base of the wall.
3. Landscape hedges and shrubs used to screen loading and service areas shall maintain a minimum opaqueness of 80% throughout the entire year and shall be a minimum of 5-feet in height at full maturity. Landscaping shall be maintained and any dead plantings shall be promptly replaced.
4. The screening of loading and service areas shall maintain a collective minimum opaqueness of 80% throughout the entire year.
5. Loading and service areas are not permitted to be screen where equipment is required to access the buildings and utility service areas.
6. No outdoor storage of materials shall be permitted.

Section 14 – Site Furniture, Fixtures & Equipment

Site Furniture & Equipment will be incorporated into the final site design of all Buildings. Clear internal pedestrian circulation routes and connections to the Pennsey Greenway Trail will be provided as defined in the Development Plan. Featured locations within development such as key circulation corners shall be highlighted with enhanced design of pedestrian crossings and be provided with other pedestrian amenities as defined in this section.

1. The individual site development plans for all buildings will where applicable include detail design of the listed site amenities:
 - a. Bicycle Racks
 - b. Decorative Trash Receptacles
 - c. Pedestrian Benches
 - d. Decorative Plant Containers
 - e. Fountains
 - f. Public Art
2. Traffic Control Signs including Stop Signs, Traffic Directional Signs and Street Signs will be designed to match the design style of the Site Lighting System Fixtures.
3. The design of Bike Racks, Refuse Dispensers and Pedestrian Benches will be designed to match the design style of the Lighting System Fixtures.



Section 15 – Utility Service

All buildings within the Centennial Village Development shall be serviced with public utilities from the Town of Munster Municipal Utilities and Public Utilities with Franchise service agreements within the Town of Munster. Specifically, the development will be provided with the following utilities and associated utility service providers:

Utility Type	Utility Service Company
Sanitary Sewer	Town of Munster Sanitary Sewer Utility
Storm Water	Centennial Village PUD
Water	Town of Munster Water Utility
Electric	NISPCO
Gas	NISPCO
Communication	AT&T
Communication	Comcast

1. Sanitary Sewer Service for the development areas on the south side of 45th Street will be provided by connecting to an existing 10-inch PVC sanitary sewer line located on the south side of Centennial Drive between Calumet Avenue and the Centennial Park parking lot. A new 10-inch sanitary sewer will connect into the existing manhole located on the west side of the Centennial Park parking lot and extend north into the new Centennial Drive.

Sanitary Sewer Service for the development area on the north side of 45th Street will be provided by connecting to an existing gravity sewer located at the southeast corner of Calumet Avenue and the CN Railroad. A new 8-inch sanitary sewer will connect into the existing manhole located on the east side of Calumet Avenue and extend east parallel with the north property line of Lot A.

All Sanitary Sewer Main Lines shall be platted in public utility easements and be dedicated to the Town of Munster Sanitary Sewer Utility for ownership and maintenance. All public utility easements shall be a minimum of 20-feet in width and will be in locations that provide the Utility immediate access for maintenance. All sanitary sewer mains shall be constructed of SDR 26 PVC piping and constructed in accordance with the Munster Sanitary Sewer Utility standard specifications. Restoration repairs of the ground surface conditions including asphalt pavement, concrete pavement, landscaping and hardscaping shall be made by the Centennial Village PUD within 7 days of any repair by the Town of Munster to the utility infrastructure.

Sanitary Sewer Service lines connecting buildings to the Sanitary Sewer Main Lines shall be the owned and maintained by the ownership entity of the building it serves. The sanitary sewer service lines shall be constructed of SDR 26 PVC piping with fittings, manholes and gasket materials meeting the specifications defined in the Munster Sanitary Sewer Utility Use Ordinance.

2. Water Service for domestic and fire service for the development areas on the south side of 45th Street will be provided by connecting to an existing 12-inch water main located on the west side of Calumet Avenue. The development's water distribution system design will provide a water supply loop that connects to the existing 12-inch Calumet Avenue water main with a proposed

12-inch water main at Centennial Drive. The new 12-inch water main will extend along the route of Centennial Drive to 45th Street and further loop back to Calumet Avenue on 45th Street and connect to an existing 12-inch water main also located on the west side of Calumet Avenue. All proposed water main crossings of Calumet Avenue will be bored under Calumet Avenue. No open cuts of Calumet Avenue will be permitted.

There will be two 8-inch water main inner loops that will extend through the areas west and east of the proposed 12-inch Centennial Drive water main to service the buildings along Calumet Avenue and adjacent to Clay Hole Lake and all buildings located in the 4 quadrants of the development.

All Water Main Lines shall be platted in public utility easements and be dedicated to the Town of Munster Water Utility for ownership and maintenance. All public utility easements shall be a minimum of 20-feet in width and will be in locations that provide the Utility immediate access for maintenance. All water mains shall be constructed of Class 52 ductile iron piping and constructed in accordance with the Munster Water Utility standard specifications. Fire hydrants shall be spaced and located in accordance with Town Ordinance and with the approval of the Munster Fire Department. Restoration repairs of the ground surface conditions including asphalt pavement, concrete pavement, landscaping and hardscaping shall be made by the Centennial Village PUD within 7 days of any repair by the Town of Munster to the utility infrastructure.

Water Service lines connecting buildings to the Water Main Lines shall be the owned and maintained by the ownership entity of the building it serves. The water service lines shall be constructed of Type K copper or Class 52 ductile iron piping with valves, fittings, hydrants and gasket materials meeting the specifications defined in the Munster Water Utility Use Ordinance.

3. Electric and Gas service shall be provided by NIPSCO. Existing Electric Service overhead transmission lines are located on the east and west sides of Calumet Avenue. The specific electric service plan for the development will route electric lines underground to building pad mount transformers. The underground electric route plan will to the extent possible parallel the water and sanitary sewer utility routes. The specific electric service design shall be completed by NIPSCO.

Existing Gas Service mains are located on the east side of Calumet Avenue. The specific gas service plan for the development will route lines underground in a joint trench with the proposed electric lines to building meters. The underground gas route plan will to the extent possible parallel the water and sanitary sewer utility routes. The specific gas service design shall be completed by NIPSCO.

All Electric and Gas Lines shall be platted in public utility easements and be dedicated to the NIPSCO for ownership and maintenance. All NIPSCO utility easements shall be a minimum of 10-feet in width and will be in locations that provide the Utility immediate access for maintenance. Restoration repairs of the ground surface conditions including asphalt pavement, concrete pavement, landscaping and hardscaping shall be made by the Centennial Village PUD within 7 days of any repair by the NIPSCO to the utility infrastructure.

4. Communication service shall be provided by AT&T and Comcast. Existing Communication Service overhead transmission lines are located on the east and west sides of Calumet Avenue. The specific communication service plan for the development will route communication copper and potentially fiber lines underground to building service entry points. The underground communication route plan will to the extent possible parallel the water and sanitary sewer utility routes. The specific communication service design shall be completed by the respective communication utility company.

All Communication Lines shall be platted in public utility easements and be dedicated to the specific utility for ownership and maintenance. All communication utility easements shall be a minimum of 10-feet in width and will be in locations that provide the Utility immediate access for maintenance. Restoration repairs of the ground surface conditions including asphalt pavement, concrete pavement, landscaping and hardscaping shall be made by the Centennial Village PUD within 7 days of any repair by the AT&T and Comcast to the utility infrastructure.

Section 16 – Storm Water Management

Storm Water Runoff from the site shall meet the quantity and quality requirements of the Storm Water Ordinance of the Town of Munster. All storm water shall be permitted to discharge directly into Clay Hole Lake. Clay Hole Lake shall provide the storm water quantity management for all of the Centennial Village PUD development area.

1. The storm water collection system shall be designed following the Munster Storm Water Ordinance and sized to convey the 10-year, 24-hour storm event.
2. The on-site storm water collection system shall be designed to respect the natural drainage patterns of the site and adjacent properties. Inlets, catch basin and manholes shall generally be located to collect storm water along the outer edges of the development so that the development grading plan can match existing adjacent grades.
3. Locations of Inlets, Catch Basins and Manholes will be positioned to avoid main pedestrian walking routes, trash enclosures, and main building entries.
4. Storm Sewer collection system piping shall be made of either Reinforced Concrete Pipe (RCP), Poly Vinyl Chloride (PVC), or High Density Poly Ethylene (HDPE).
5. Building roof drains and footing drains may be connected directly to underground storm sewer system piping to minimize overland runoff to inlets.
6. Clay Hole Lake shall provide the storm water quantity storage requirement of the development. The water's edge of Clay Hole Lake shall be treated and landscaped to provide safe usage of the lake for pedestrians. The storm water management plan for Clay Hole Lake will incorporate the lake as a visual and recreational amenity of the development.
7. The storm water collection system shall be designed with storm water quality structural BMPs to remove suspended solids, oil and gas residuals, snow removal salts, and other pollutants from storm water runoff. The storm water quality system shall be incorporated into the pre and post construction Storm Water Pollution Prevention Plan for the development (SWPPP). The SWPPP construction and post construction period activity shall be strictly adhered and be submitted to the Town of Munster for Storm Water Permitting.
8. A storm water management plan shall be submitted with final site engineering design plans for each building phase of the development. The plan shall include storm water collection system sizing, quantity and quality calculations following the Town of Munster Storm Water Ordinance.
9. An IDEM Rule 5 NOI shall be submitted to the Indiana Department of Environmental Management for all construction related soil disturbing activities.
10. The Centennial Village PUD shall be permitted to modify the positions and locations of building, parking, curbing and other site improvements to accommodate the storm sewer routing for the 45th Street Town of Munster public improvement project. It is anticipated that storm water from the north side of the CN railroad will be routed through the Building A site and extend to

45th Street near the proposed 45th traffic signal. From the signal area, storm sewer routing is anticipated to extend to the south side of 45th Street along Buildings I, M & L to eventually discharge into Clay Hole Lake. Additionally, a storm water pumping station is proposed adjacent to 45th Street between buildings M & L. Any modifications to the Centennial Village PUD due to the 45th Street storm water system shall be permitted to be completed administratively with the Town of Munster's administrative staff.

11. Maintenance of the Centennial Village storm sewer collection system and conveyance piping shall be the responsibility of the Centennial Village PUD excepting the 60-inch storm sewer and collection system designed and constructed by the Town of Munster to drain areas north of the Grand Trunk Canadian National Railroad and the 45th Street realignment project. The 60-inch storm sewer and collection system generally runs through the east half of the Centennial Village parcel north of 45th Street and the northeast quadrant of the Centennial Village parcel south of 45th Street.

Section 17 – Subdivision of Land and Site Development Approvals

The Centennial Village PUD consists of 15 building sites. Construction to be completed on all building sites shall submit to the Town of Munster Plan Commission an application for Site Development Plan Approval following Article IX of Chapter 26 of the Town of Munster Land Development Code. The development will complete the appropriate application documentation at the time of each building site development and process the Development Plan Approval through the Munster Plan Commission as outlined in Town Ordinance.

Certain building sites within the Centennial Village PUD may have benefit to execute the subdivision of land in accordance with Article V of Chapter 26 of the Town of Munster Land Development Code. The development will determine on a building site basis how best to hold land ownership interest. The Munster Plan Commission will review and approve all petitions and plats for the subdivision of lots within the Centennial Village PUD.

Appendix 1 – Centennial Village Plat of Survey & Legal Description

Appendix 2 – Preliminary Development Plan

Appendix 3 – Development Plan Set including Preliminary Landscape Plan

Appendix 4 – Project Implementation Phasing Plan

Section 6: Site Circulation – Vehicular & Service

The Centennial Village Site will be provided vehicular access from public right of ways depicted in the Development Plan and specifically defined below:

1. Development Area North of 45th Street:
 - a. Full Access Entry Driveway on the north side of 45th Street approximately 500 feet west of the Calumet Avenue center line. The Full Access Entry Driveway will be controlled by a traffic control signal to be provided by the Town of Munster in the 45th Street public infrastructure project plans and coordinated with the Centennial Village development plans on the south side of 45th Street.
 - b. Right in – Right out entry drive on the east side of Calumet Avenue approximately 200-feet north of the 45th Street center line.
2. Development Area South of 45th Street:
 - a. Full Access Entry Driveway on the south side of 45th Street approximately 500 feet west of the Calumet Avenue center line. The Full Access Entry Driveway will be controlled by a traffic control signal to be provided by the Town of Munster in the 45th Street public infrastructure project plans and coordinated with the Centennial Village development plans on the north side of 45th Street.
 - b. Right in – Right out entry drive on the east side of Calumet Avenue approximately 400-feet south of the 45th Street center line.
 - c. Full Access Entry Driveway at the Centennial Drive and Calumet Avenue intersection. The Centennial Drive Entry Driveway shall be shared by the Centennial Village PUD area and the Town of Munster Centennial Park. The existing Centennial Drive Traffic Signal and intersection at Calumet Avenue will be modified by the Centennial Village PUD to accommodate the additional traffic generated by the development project.
3. The Development Plan for the development area south of 45th Street is divided into 4 development quadrants by the location of 2 main access roadways. The site is divided by a main north-south roadway and an east-west roadway. All vehicular roadways within the Centennial Village PUD shall be privately constructed, owned and maintained.
4. The main north-south thoroughfare named “Centennial Drive” will be developed to intersect with Calumet Avenue at the southwest corner of the site, extend easterly to connect with the existing Centennial Park parking lot, then extend northerly to a proposed Centennial Drive Town Center Green round about, and then further extend north to intersect with 45th Street.



*THIS IS NOT TRUE.
SIGNAL IS MAINTAINED
BY DEVELOPMENT*

10. All buildings within the development will utilize a variety of complimentary architectural materials, design elements, colors and the use of vertical and horizontal design features in such a way so that no one building is identical or monotonous with any other building. The Neo Traditional Design Style defined for the Centennial Village project encourages the architectural, color and building material differences between buildings on all lots within the development.



Section 15 – Utility Service

All buildings within the Centennial Village Development shall be serviced with public utilities from the Town of Munster Municipal Utilities and Public Utilities with Franchise service agreements within the Town of Munster. Specifically, the development will be provided with the following utilities and associated utility service providers:

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1. Sanitary Sewer Service for the development areas on the south side of 45th Street will be provided by connecting to an existing 10-inch PVC sanitary sewer line located on the south side of Centennial Drive between Calumet Avenue and the Centennial Park parking lot. A new 10-inch sanitary sewer will connect into the existing manhole located on the west side of the Centennial Park parking lot and extend north into the new Centennial Drive.

Sanitary Sewer Service for the development area on the north side of 45th Street will be provided by connecting to an existing gravity sewer located at the southeast corner of Calumet Avenue and the CN Railroad. A new 8-inch sanitary sewer will connect into the existing manhole located on the east side of Calumet Avenue and extend east parallel with the north property line of Lot A.

All Sanitary Sewer Main Lines shall be platted in public utility easements and be dedicated to the Town of Munster Sanitary Sewer Utility for ownership and maintenance. All public utility easements shall be a minimum of 20-feet in width and will be in locations that provide the Utility immediate access for maintenance. All sanitary sewer mains shall be constructed of SDR 26 PVC piping and constructed in accordance with the Munster Sanitary Sewer Utility standard specifications. Restoration repairs of the ground surface conditions including asphalt pavement, concrete pavement, landscaping and hardscaping shall be made by the Centennial Village PUD within 7 days of any repair by the Town of Munster to the utility infrastructure.

AND PAID FOR

Sanitary Sewer Service lines connecting buildings to the Sanitary Sewer Main Lines shall be the owned and maintained by the ownership entity of the building it serves. The sanitary sewer service lines shall be constructed of SDR 26 PVC piping with fittings, manholes and gasket materials meeting the specifications defined in the Munster Sanitary Sewer Utility Use Ordinance.

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NORTH SIDE
OF EXISTING 45TH
NORTH OF THE
CN OR
TRACKS

12-inch water main at Centennial Drive. The new 12-inch water main will extend along the route of Centennial Drive to 45th Street and further loop back to Calumet Avenue on 45th Street and connect to an existing 12-inch water main also located on the west side of Calumet Avenue. All proposed water main crossings of Calumet Avenue will be bored under Calumet Avenue. No open cuts of Calumet Avenue will be permitted.

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AND ADD FOR

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Section 16 – Storm Water Management

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1. The storm water collection system shall be designed following the Munster Storm Water Ordinance and sized to convey the 10-year, 24-hour storm event.
2. The on-site storm water collection system shall be designed to respect the natural drainage patterns of the site and adjacent properties. Inlets, catch basin and manholes shall generally be located to collect storm water along the outer edges of the development so that the development grading plan can match existing adjacent grades.
3. Locations of Inlets, Catch Basins and Manholes will be positioned to avoid main pedestrian walking routes, trash enclosures, and main building entries. *PARKING SPACES*
4. Storm Sewer collection system piping shall be made of ~~either Reinforced Concrete Pipe (RCP), Poly Vinyl Chloride (PVC), or High Density Poly Ethylene (HDPE).~~
5. Building roof drains and footing drains may be connected directly to underground storm sewer system piping to minimize overland runoff to inlets.
6. Clay Hole Lake shall provide the storm water quantity storage requirement of the development. The water's edge of Clay Hole Lake shall be treated and landscaped to provide safe usage of the lake for pedestrians. The storm water management plan for Clay Hole Lake will incorporate the lake as a visual and recreational amenity of the development.
7. The storm water collection system shall be designed with storm water quality structural BMPs to remove suspended solids, oil and gas residuals, snow removal salts, and other pollutants from storm water runoff. The storm water quality system shall be incorporated into the pre and post construction Storm Water Pollution Prevention Plan for the development (SWPPP). The SWPPP construction and post construction period activity shall be strictly adhered and be submitted to the Town of Munster for Storm Water Permitting.
8. A storm water management plan shall be submitted with final site engineering design plans for each building phase of the development. The plan shall include storm water collection system sizing, quantity and quality calculations following the Town of Munster Storm Water Ordinance.
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10. The Centennial Village PUD shall be permitted to modify the positions and locations of building, parking, curbing and other site improvements to accommodate the storm sewer routing for the 45th Street Town of Munster public improvement project. It is anticipated that storm water from the north side of the CN railroad will be routed through the Building A site and extend to

45th Street near the proposed 45th traffic signal. From the signal area, storm sewer routing is anticipated to extend to the south side of 45th Street along Buildings I, M & L to eventually discharge into Clay Hole Lake. Additionally, a storm water pumping station is proposed adjacent to 45th Street between buildings M & L. Any modifications to the Centennial Village PUD due to the 45th Street storm water system shall be permitted to be completed administratively with the Town of Munster's administrative staff.

11. Maintenance of the Centennial Village storm sewer collection system and conveyance piping shall be the responsibility of the Centennial Village PUD excepting the 60-inch storm sewer and collection system designed and constructed by the Town of Munster to drain areas north of the Grand Trunk Canadian National Railroad and the 45th Street realignment project. The 60-inch storm sewer and collection system generally runs through the east half of the Centennial Village parcel north of 45th Street and the northeast quadrant of the Centennial Village parcel south of 45th Street.

12. OUELLAND FLOW PATHS RESULTING FROM THE 100-YR STORM EVENT SHALL BE DETERMINED, CLEARLY SHOWN AS HATCHED AREAS ON THE PLANS AND CLEARLY SITUATED WITHIN DRAINAGE EASEMENTS. THESE EASEMENTS SHALL BE CLEARLY MARKED AS OUELLAND FLOW PATHS ON FINAL PLATS. NO IMPROVEMENTS THAT CAN IMPEDE THE FLOW OF STORMWATER SHALL BE CONSTRUCTED W/IN THESE EASEMENTS.

Section 17 – Subdivision of Land and Site Development Approvals

The Centennial Village PUD consists of 15 building sites. Construction to be completed on all building sites shall submit to the Town of Munster Plan Commission an application for Site Development Plan Approval following Article IX of Chapter 26 of the Town of Munster Land Development Code. The development will complete the appropriate application documentation at the time of each building site development and process the Development Plan Approval through the Munster Plan Commission as outlined in Town Ordinance.

Certain building sites within the Centennial Village PUD may have benefit to execute the subdivision of land in accordance with Article V of Chapter 26 of the Town of Munster Land Development Code. The development will determine on a building site basis how best to hold land ownership interest. The Munster Plan Commission will review and approve all petitions and plats for the subdivision of lots within the Centennial Village PUD.

[Faint, illegible text, likely bleed-through from the reverse side of the page.]



RE: Centennial Village Developmental Standards

Jeffrey Ban to: 'Beth Miller'
Cc: Craig Hendrix, Anderson Dustin C.

12/09/2016 01:28 PM

Beth,

Attached is the revised Design Standards including the few items we discussed Wednesday afternoon. In talking with our client, we did not include a section referencing the formula business ordinance. It was felt that since the ordinance does not formally exist, making reference to a document in the making wasn't appropriate. When the ordinance is passed and the final details known, the Design Standards could then be amended.

If you have any questions, please feel free to call.

Jeff

From: Beth Miller [mailto:bmiller@sehinc.com]
Sent: Thursday, December 8, 2016 6:35 PM
To: Jeffrey Ban <jrban@dvgteam.com>
Cc: Craig Hendrix <chendrix@sehinc.com>; Anderson Dustin C. <danderson@munster.org>
Subject: Centennial Village Developmental Standards

Jeff,

Please provide me the updates for this ASAP.

Thanks,

Beth Miller | Graduate Landscape Architect
SEH of Indiana, LLC | 9200 Calumet Avenue, Suite N300 | Munster, IN 46321
219.513.2505 | 219.595.0935 fax
bmiller@sehinc.com
www.sehinc.com
SEH—Building a Better World for All of Us™



Think GREEN! Please do not print this e-mail unless necessary **Design Standards 12 9 16 rev 8.pdf**