

GENERAL NOTES

- 1. REFERENCED CODES
A. ALL PAVEMENT AND STORM SEWER CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (SSBRC) AND SUPPLEMENTAL SPECIFICATIONS AND REQUIRING SPECIAL PROVISIONS...
B. ALL SANITARY SEWER AND WATERMAIN CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS...
C. ALL SIDEWALK AND PUBLIC AREAS MUST BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ADA, ILLINOIS HANDICAP ACCESSIBILITY AND ANY APPLICABLE LOCAL ORDINANCES...
D. THE CITED STANDARD SPECIFICATIONS, CODES AND PERMITS, WITH THESE CONSTRUCTION PLANS AND DETAILS, ARE ALL TO BE CONSIDERED PART OF THE CONTRACT...

- 22. GENERAL EXCAVATION/UNDERGROUND NOTES
A. SLOPE SIDES OF EXCAVATIONS TO COMPLY WITH CODES AND ORDINANCES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE EITHER BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL...
B. PROVIDE MATERIALS FOR SHORING AND BRACING, SUCH AS SHEET PILING, UPRIGHTS, STRINGERS AND CROSS BRACES, IN GOOD SERVICEABLE CONDITION...
C. PREVENT SURFACE WATER AND SUBSURFACE OR GROUNDWATER FROM FLOWING INTO EXCAVATIONS...
D. IMMEDIATELY REPORT CONDITIONS THAT MAY CAUSE UNSOUND BEARING TO THE OWNER/DEVELOPER BEFORE CONTINUING WORK...
23. FINAL ACCEPTANCE
A. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR AND HIS SURETY FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE OF THE PROJECT...
B. BEFORE ACCEPTANCE BY THE OWNER AND FINAL PAYMENT, ALL WORK SHALL BE INSPECTED BY THE OWNER OR HIS REPRESENTATIVE...
C. NO UNDERGROUND WORK SHALL BE COVERED UNTIL IT HAS BEEN APPROVED BY THE MUNICIPALITY...
D. AT THE CLOSE OF EACH WORKING DAY AND AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS...
24. UNDERGROUND NOTES
A. UNDERGROUND WORK SHALL INCLUDE TRENCHING, INSTALLATION OF PIPE, CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTION AND TESTING AS SHOWN ON THE CONSTRUCTION PLANS...
B. WHERE SHOWN ON THE PLANS OR DICTATED BY THE ENGINEER, EXISTING DRAINAGE STRUCTURES AND SYSTEMS SHALL BE CLEANED OF DEBRIS AND PATCHED AS NECESSARY TO ASSURE INTEGRITY OF THE STRUCTURE...
C. ANY DETERIORATED OF SEWER AND WATER TRENCHES AS WELL AS TEMPORARY SHEETING OR BRACING THAT MAY BE REQUIRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL NOT BE CONSIDERED EXTRA WORK...
D. TRENCH BACKFILL WILL BE REQUIRED FOR THE FULL TRENCH DEPTH WITHIN TWO (2) FEET OF PROPOSED OR EXISTING PAVEMENTS, UTILITIES, DRIVEWAYS, AND SIDEWALKS...
E. THE CONTRACTOR SHALL INSTALL A 4" X 4" X 8' (NOMINAL) POST AT THE TERMINUS OF THE SANITARY, WATER AND STORM SERVICE, SANITARY AND STORM MANHOLES, CATCH BASINS, INLETS AND WATER VAULTS...
F. AFTER THE STORM SEWER SYSTEM HAS BEEN CONSTRUCTED, THE CONTRACTOR SHALL PLACE EROSION CONTROL AT REAR YARD INLET LOCATIONS, AND AT OTHER LOCATIONS SELECTED BY THE ENGINEER...
G. HYDRANTS SHALL NOT BE FLUSHED DIRECTLY ON THE ROAD SUBGRADES...
H. ALL TOP OF FRAMES FOR STORM AND SANITARY SEWERS AND VALVE VAULT COVERS ARE TO BE ADJUSTED TO MEET FINAL FINISH GRADE...
I. SLEEVES FOR UTILITY (COMED, TELEPHONE, ETC.) STREET CROSSING, SHALL BE INSTALLED WHERE DIRECTED BY THE OWNER...
J. THE CONTRACTOR SHALL VERIFY THE SIZE AND INVERT ELEVATION OF ALL CONNECTIONS TO AVOID ANY CONFLICTS BEFORE STARTING WORK...
25. IT SHALL BE UNDERSTOOD THAT NEITHER THE MUNICIPALITY, ITS OFFICIALS, CONSULTANTS, NOR ITS EMPLOYEES ARE AGENTS OR REPRESENTATIVES OF THE OWNER...
1. GENERAL
A. SANITARY SEWER PIPE SHALL BE PVC (POLYVINYL CHLORIDE) PLASTIC PIPE WITH A STANDARD DIMENSION RATIO (SDR) OF 26 CONFORMING TO ASTM D-3034 WITH PUSH-ON JOINTS CONFORMING TO ASTM D-3212 AND PVC (POLYVINYL CHLORIDE) PLASTIC PIPE, DR18 CONFORMING TO ANNA C-900 WITH PUSH-ON JOINTS CONFORMING TO ANNA C-900 AS SHOWN ON THE PLANS...
B. SANITARY SEWER PIPE 18" AND LARGER, WHERE NOTED ON THE PLANS, OR WHERE THE ILEPA MINIMUM SEPARATION CANNOT BE MAINTAINED, SHALL BE ONE OF THE FOLLOWING:
C. "HAND-SEAL" OR SIMILAR FLEXIBLE TYPE COUPLINGS SHALL BE USED WHEN CONNECTING SEWER PIPES OF DISSIMILAR MATERIALS...
D. ALL SANITARY SEWERS ARE TO BE CONSTRUCTED USING A LASER INSTRUMENT TO MAINTAIN LINE AND GRADE...
E. ALL FLOOR DRAINS SHALL CONNECT TO THE SANITARY SEWER...
F. CONNECTIONS TO EXISTING SANITARY SEWER SYSTEM SHALL NOT BE DONE UNTIL AUTHORIZED BY THE MUNICIPALITY...
G. WATERMANS SHALL BE SEPARATED FROM SANITARY SEWERS AND STORM SEWERS IN ACCORDANCE WITH ILEPA REQUIREMENTS AS SPECIFIED IN "WATER MAIN" SECTION...
H. NO WATER LINE SHALL BE PLACED IN THE SAME TRENCH AS A SEWER LINE EXCEPT UNDER SPECIAL CIRCUMSTANCES AND THEN ONLY UNDER THE FOLLOWING RULES:
1) PERMISSION SHALL BE OBTAINED FROM THE MUNICIPAL ENGINEERING DEPARTMENT IN WRITING PRIOR TO BEGINNING CONSTRUCTION...
2) THE BOTTOM OF A WATER LINE SHALL BE INSTALLED ON A SHELVE A MINIMUM OF 18" ABOVE THE TOP OF THE SEWER AND 18" HORIZONTALLY AWAY FROM THE EDGE OF THE SEWER...
2. BEDDING:
A. BEDDING SHALL CONSIST OF A MINIMUM OF FOUR (4") INCHES OF COMPACTED CRUSHED GRAVEL OR STONE, 1/4" - 3/4" IN SIZE...
B. ALL UNSUITABLE MATERIAL SHALL BE REMOVED BELOW THE PROPOSED SANITARY SEWER AND REPLACED WITH COMPACTED CA-6 CRUSHED GRAVEL OR STONE...
C. ALL TRENCHES BENEATH PROPOSED OR EXISTING UTILITIES, PAVEMENTS, ROADWAYS, SIDEWALKS, AND FOR A DISTANCE OF FIVE (5') FEET ON EITHER SIDE OF SAME, AND/OR WHERE SHOWN ON THE PLANS SHALL BE BACKFILLED WITH SELECT GRANULAR BACKFILL PER ASTM D33, SIZE 67 AND THOROUGHLY MECHANICALLY COMPACTED IN 9" THICK (LOOSE MEASUREMENT) LAYERS...
3. MANHOLES:
A. SANITARY SEWER MANHOLES SHALL BE 4'-0" I.D. PRECAST CONCRETE SECTIONS CONFORMING TO ASTM D-478 WITH PRESTRESSED BITUMINOUS OR "O" RING JOINTS, IN ACCORDANCE WITH MUNICIPAL REGULATIONS...
B. ALL PIPE CONNECTION OPENINGS SHALL BE PRECAST WITH RESILIENT RUBBER WATER TIGHT SLEEVES...
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A. UNDERGROUND WORK SHALL INCLUDE TRENCHING, INSTALLATION OF PIPE, CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTION AND TESTING AS SHOWN ON THE CONSTRUCTION PLANS...
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SANITARY SEWER NOTES

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- 4. FRAMES AND LIDS:
A. ALL SANITARY SEWER MANHOLE FRAMES AND LIDS SHALL BE NEENAH R-1712 UNLESS OTHERWISE NOTED ON THE PLANS...
B. A MAXIMUM OF SIX (6") INCHES OF CONCRETE ADJUSTING RINGS SHALL BE USED TO ADJUST FRAME ELEVATIONS...
5. DROP MANHOLE ASSEMBLIES:
A. DROP MANHOLE ASSEMBLIES: DROP MANHOLE ASSEMBLIES SHALL BE PROVIDED AT THE JUNCTION OF SANITARY SEWERS WHERE THE DIFFERENCE IN INVERT GRADES EXCEEDS TWO FEET (2'), OR AS SHOWN ON THE PLANS...
6. CLEANING:
A. ALL MANHOLES AND PIPES SHALL BE THOROUGHLY CLEANED OF DIRT AND DEBRIS, AND ALL VISIBLE LEAKAGE ELIMINATED, BEFORE FINAL INSPECTION AND ACCEPTANCE...
7. TESTING:
A. DEFLECTION AND LEAKAGE TESTING WILL BE REQUIRED...
B. TESTING THE ALIGNMENT/STRAIGHTNESS SHALL BE IN ACCORDANCE WITH MUNICIPAL CODE...
C. ALL SANITARY MANHOLES SHALL BE VACUUM TESTED FOR LEAKAGE IN ACCORDANCE WITH ASTM C1244...
8. TELEVISION:
A. ALL SANITARY SEWERS SHALL BE TELEVIEWED AND A COPY OF THE TAPE /DVD AND A WRITTEN REPORT SHALL BE SUBMITTED AND REVIEWED BY THE OWNER OR MUNICIPALITY BEFORE FINAL ACCEPTANCE...
9. TEST RESULTS:
A. IF THE SANITARY SEWER INSTALLATION FAILS TO MEET THE TEST REQUIREMENTS SPECIFIED, THE CONTRACTOR SHALL DETERMINE THE CAUSE OR CAUSES OF THE DEFECT AND SHALL, AT HIS OWN EXPENSE, REPAIR OR REPLACE ALL MATERIALS, AND WORKMANSHIP AS MAY BE NECESSARY TO COMPLY WITH THE TEST REQUIREMENTS...
10. CERTIFICATION:
A. CONTRACTOR SHALL SUBMIT CERTIFIED COPIES OF ALL REPORTS OF TESTS CONDUCTED BY AN INDEPENDENT LABORATORY BEFORE INSTALLATION OF PVC PLASTIC PIPE...
11. RECORD DRAWINGS:
A. THE CONTRACTOR SHALL PROVIDE ALL INFORMATION TO PREPARE RECORD DRAWING(S) INCLUDING SERVICE STUB LOCATIONS, TO SPACED, SPACED SHALL PREPARE RECORD DRAWINGS AND SUBMIT TO APPROPRIATE PUBLIC AGENCIES...
12. GENERAL:
A. ALL STORM SEWER PIPE SHALL BE RCP, UNLESS OTHERWISE NOTED ON THE PLANS...
B. PLAN CODE: MATERIAL RCP: REINFORCED CONCRETE PIPE (ASTM C-76) WITH O-RING GASKETED JOINTS...
C. PVC: POLYVINYL CHLORIDE SEWER PIPE, SDR 26, CONFORMING TO ASTM D-3034 WITH ASTM D-3212 PUSH-ON GASKETED JOINTS...
D. LID: RIGID, PERFORATED PVC UNDERDRAIN PIPE (ASTM D-2729), SDR 26, OR ADS N-12, WITH SOLVENT WELD JOINTS AND FILTER FABRIC WRAPPING OR SOCK...
E. "HAND SEAL" OR SIMILAR COUPLINGS SHALL BE USED WHEN JOINING SEWER PIPES OF DISSIMILAR MATERIALS...
F. ALL STORM SEWERS ARE TO BE CONSTRUCTED USING A LASER INSTRUMENT TO MAINTAIN LINE AND GRADE...
G. ALL FOOTING DRAIN AND SUMP PUMP DISCHARGE PIPES SHALL BE CONNECTED TO THE STORM SEWER SYSTEM...
H. THE CONTRACTOR SHALL MAINTAIN AT LEAST THREE (3') FEET OF COVER OVER THE TOP OF SHALLOW PIPES AT ALL TIMES DURING CONSTRUCTION...
I. BEDDING:
A. ALL STORM SEWERS SHALL BE INSTALLED ON A TYPE A GRANULAR BEDDING, 1/4" TO 3/4" IN SIZE...
J. STRUCTURES:
A. MANHOLE, CATCH BASIN AND INLET BOTTOMS SHALL BE PRECAST CONCRETE SECTIONAL UNITS OR MONOLITHIC CONCRETE...
B. THE FRAME, GRATE, AND/OR CLOSED LID SHALL BE CAST IRON OF THE STYLE SHOWN ON THE PLANS...
C. MANHOLE LIDS SHALL BE MACHINE SURFACED, NON-ROCKING DESIGN...
K. CASTINGS:
A. CASTINGS FOR SEWER OR OTHER STRUCTURES SHALL BE "NEENAH" OR APPROVED EQUAL...
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A. THE STORM SEWER SYSTEM SHALL BE THOROUGHLY CLEANED PRIOR TO FINAL INSPECTION AND TESTING...
M. TELEVISION & TESTING:
A. THE STORM SEWER SYSTEM SHALL BE TELEVIEWED AND TESTED PER VILLAGE CODE...

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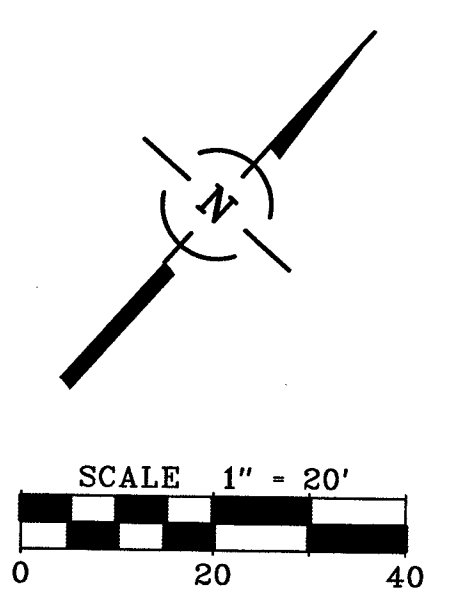
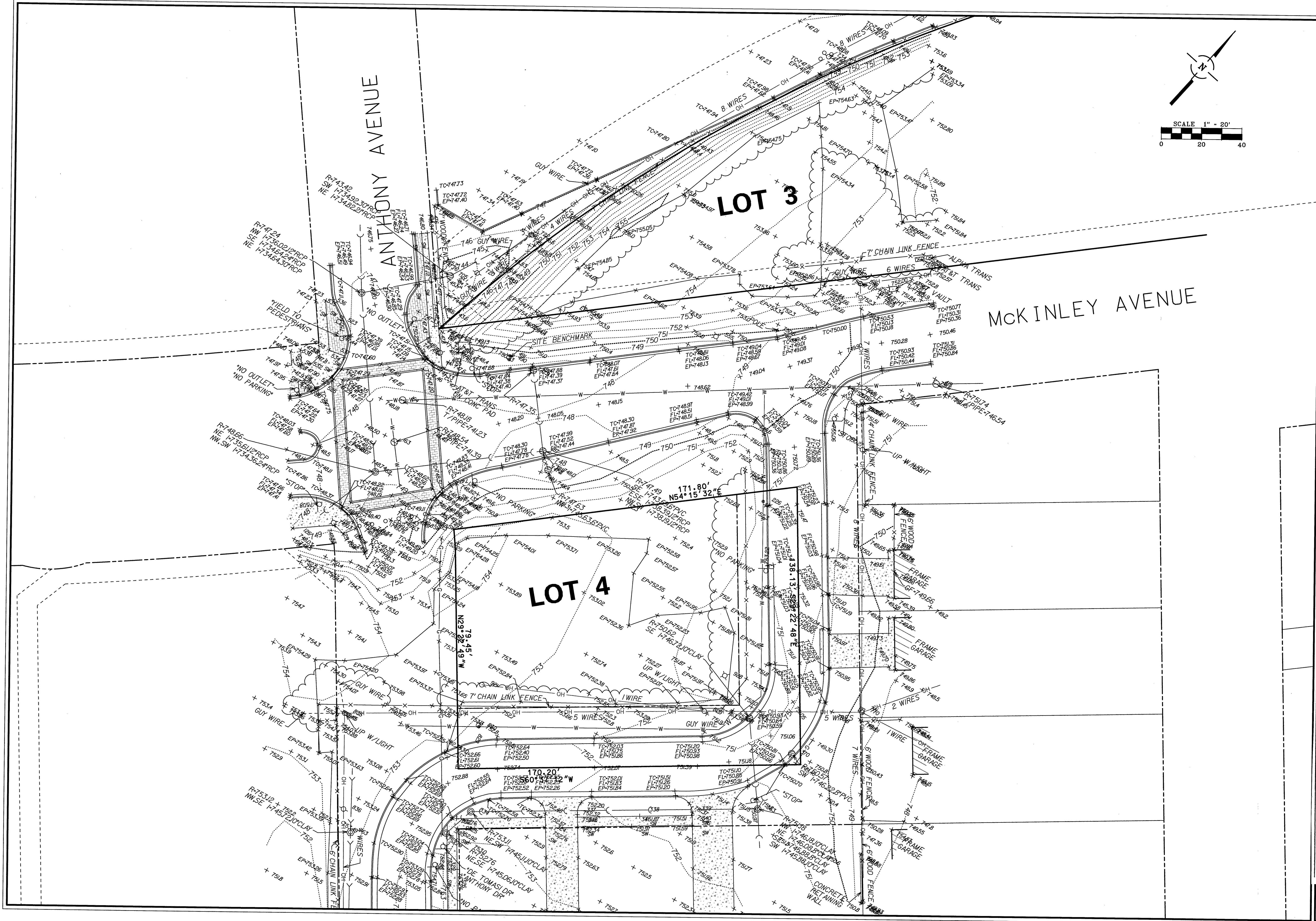
LEGEND table with columns: EXISTING, DESCRIPTION, PROPOSED. Includes symbols for DRAIN TILE, STORM SEWER, SANITARY SEWER, WATER MAIN, PIPE TRENCH BACKFILL, GAS MAIN, TELEPHONE LINES, ELECTRIC LINE, FENCE, RIGHT-OF-WAY, EASEMENT, PROPERTY LINE, SETBACK LINE, CENTERLINE, CONTOUR, SANITARY MANHOLE, STORM MANHOLE, CATCH BASIN, INLET, FIRE HYDRANT, PRESSURE CONNECTION, PIPE REDUCER, VALVE AND VAULT, VALVE, FLARED END SECTION, STREET LIGHT, UTILITY POLE, CONTROL POINT, SIGN, SPOT ELEVATION, SOIL BORING, OVERLAND FLOW ROUTE, DRAINAGE SLOPE, GUARDRAIL, WATER'S EDGE, CONCRETE, REVERSE PITCH CURB, TREE, FIRE TREE, BUSH, & PROPOSED TREE TO REMOVE.

ABBREVIATIONS table with columns: M, S, CB, LP, VV, E, FH, GR, I, T/P, B/P, GF, TC, TD, TW, BW, OP, F/T - TOP OF PIPE, B/P - BOTTOM OF PIPE, GF - GARAGE FLOOR, TC - TOP OF CURB, TD - TOP OF DEPRESSED CURB, TW - TOP OF RETAINING WALL, BW - BOTTOM OF RETAINING WALL, OP - OUTLET OF PIPE.

PERMITS table with columns: DESCRIPTION, LOG NO., PERMIT NO., DATE ISSUED. Includes entry for VILLAGE OF MUNDELEIN.

CONTACT INFORMATION table with columns: VILLAGE OF MUNDELEIN, PEOPLES ENERGY, AT&T, COMED. Includes addresses and contact persons.

TYPICAL SECTIONS AND GENERAL NOTES
CARDINAL SQUARE
MUNDELEIN, ILLINOIS
VANTAGEPOINT ENGINEERING
18311 NORTH CREEK DRIVE, TINEY PARK, IL 60477
TS1
2 OF 20



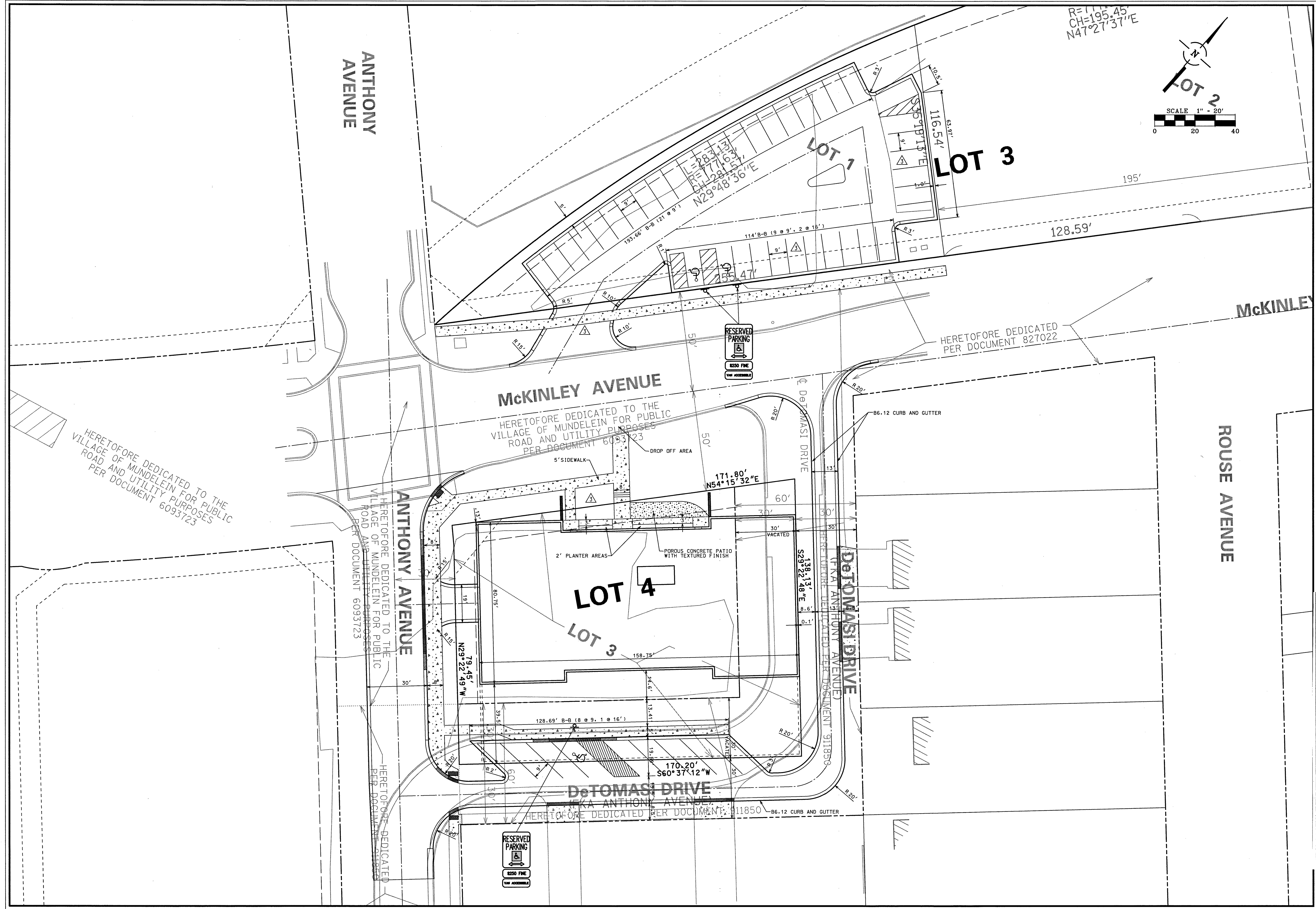
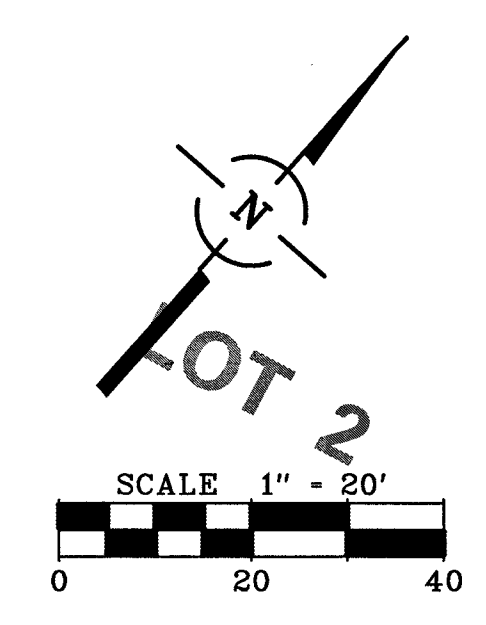
NO.	DATE	REMARKS

NO.	DATE	REMARKS
2	12/10/13	PER VILLAGE COMMENTS
1	9/17/13	PER VILLAGE COMMENTS

EXISTING CONDITIONS
CARDINAL SQUARE
 MUNDELEIN, ILLINOIS

VANTAGEPOINT
 ENGINEERING
13311 NORTH CREEK DRIVE
 TIMBER LAKE, IL 60477
 TEL: 708.478.4004
 INFO@VPENG.COM

R=111.45'
CH=195.45'
N47°27'37"E

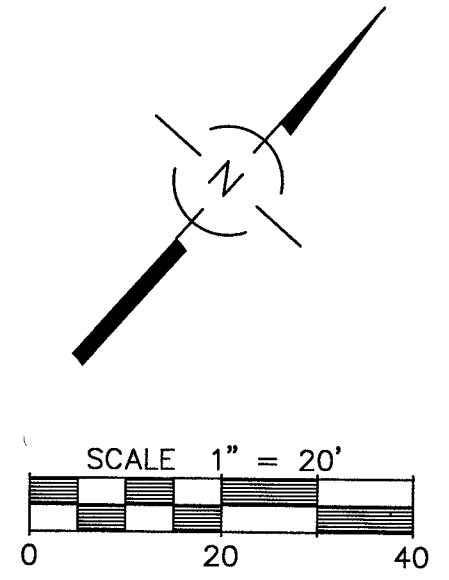
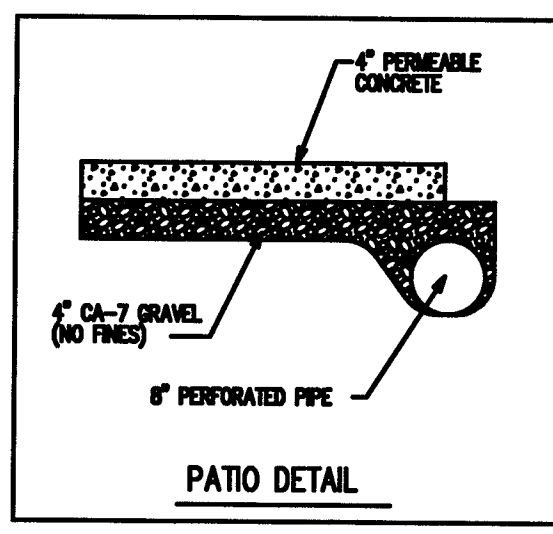
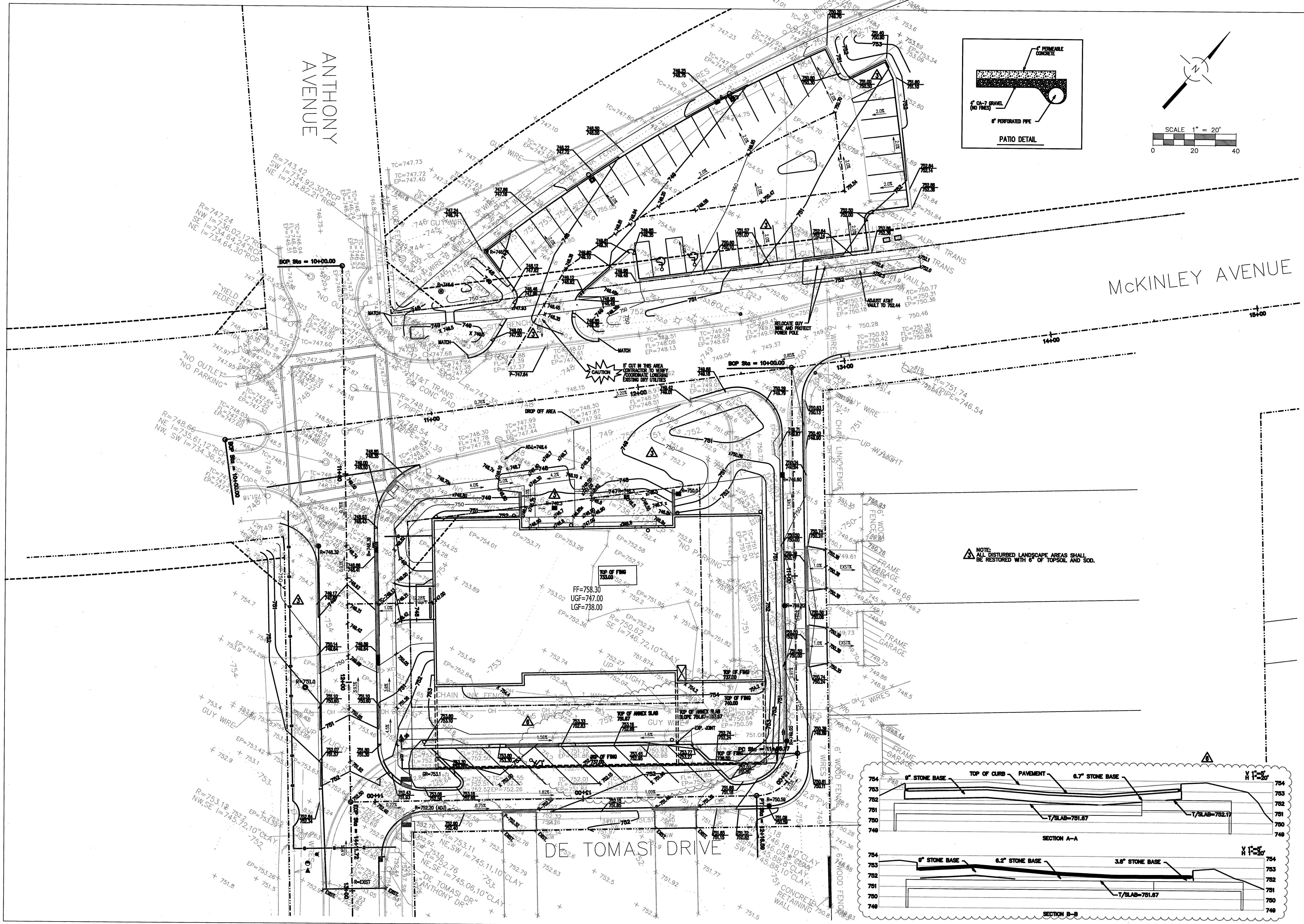


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3	03/03/14	PER VILLAGE COMMENTS
1	9/17/13	PER VILLAGE COMMENTS

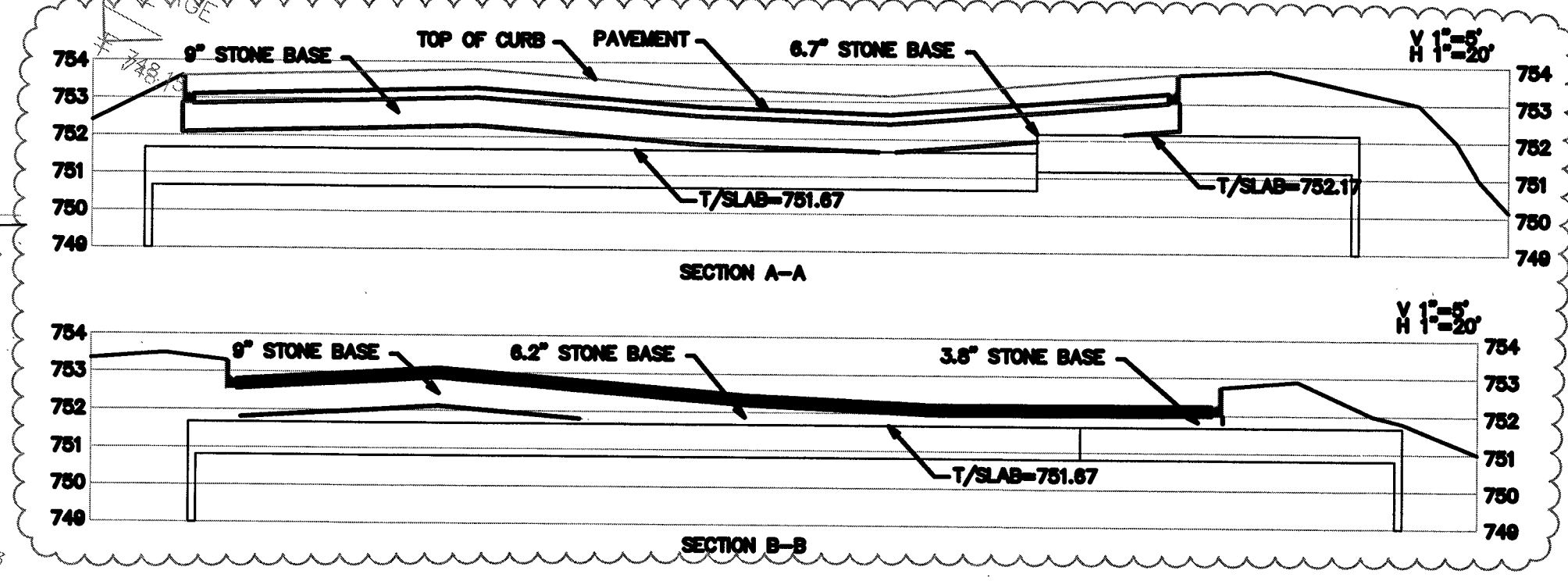
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GEOMETRIC PLAN
CARDINAL SQUARE
 MUNDELEIN, ILLINOIS

VANTAGE POINT
 ENGINEERING
1708 W. WISCONSIN DRIVE
 SUITE 100
 TINLEY PARK, IL 60477



NOTE: ALL DISTURBED LANDSCAPE AREAS SHALL BE RESTORED WITH 6\"/>



VANTAGEPOINT ENGINEERING

18311 NORTH WISCONSIN DRIVE
SUITE 100
MUNDELEIN, ILLINOIS 60060

TEL: 815.478.4004
INFO@VPENG.COM

VANTAGEPOINT ENGINEERING, L.L.C. LAND PLANNING, I. SURVEYING
PROFESSIONAL DESIGN FIRM NO. 184-002786

CLIENT:
MUNDELEIN DOWNTOWN PROPERTIES, LLC
300 ANTHONY AVENUE, #205
MUNDELEIN, ILLINOIS 60060

PHONE:
MUNDELEIN, ILLINOIS

FAX:
MUNDELEIN, ILLINOIS

CARDINAL SQUARE BUILDING "C"

REVISIONS

DATE:
10-01-14

SCALE:

PROJ MGR: BZ

DESIGNED: BZ

DRAFTED BY: JJS

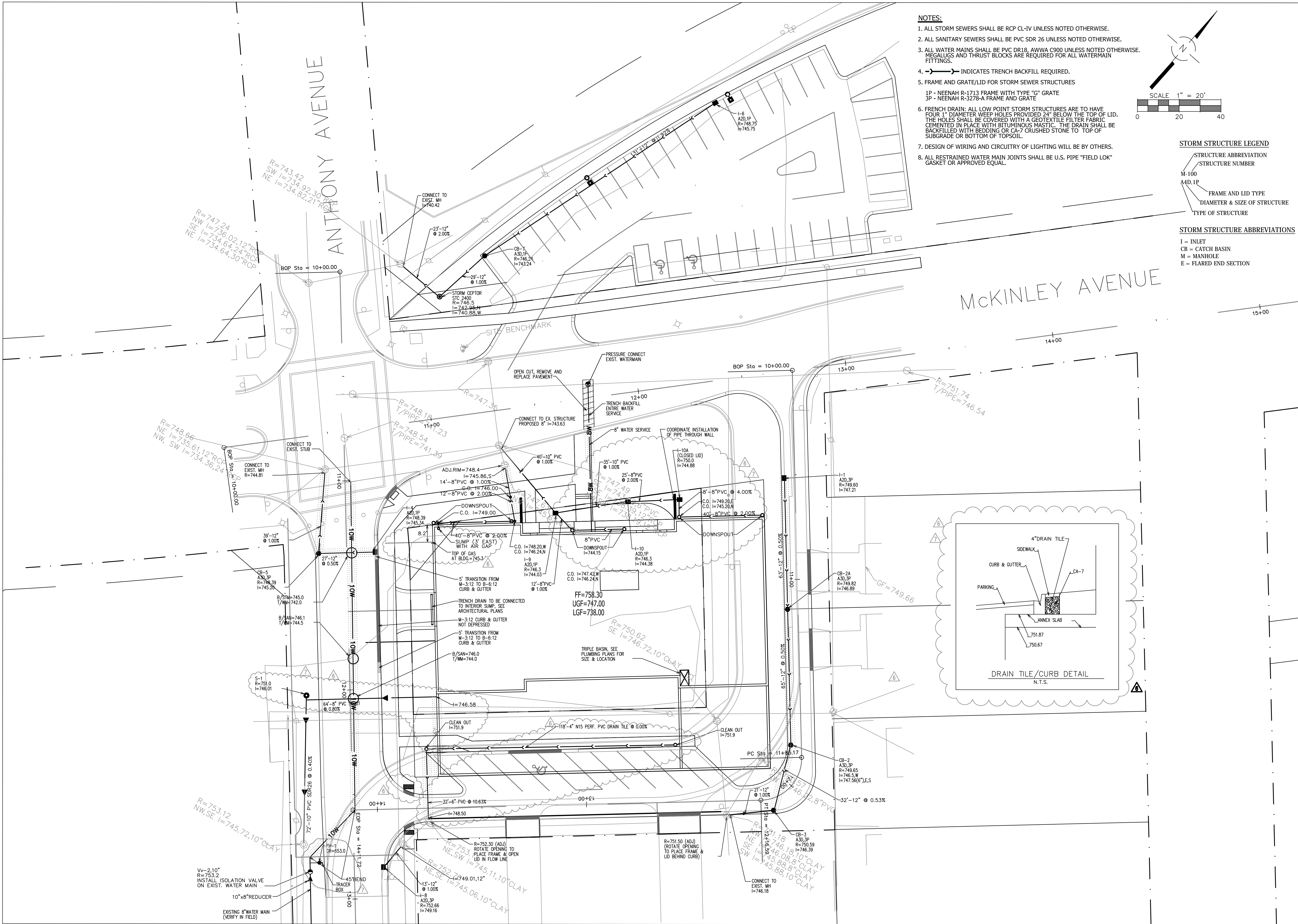
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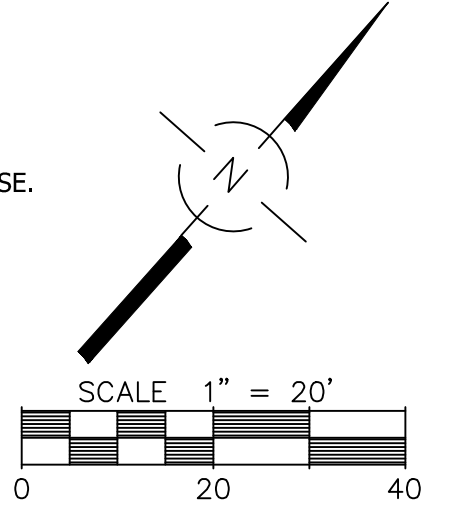
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VANTAGEPOINT ENGINEERING LLC, 2012

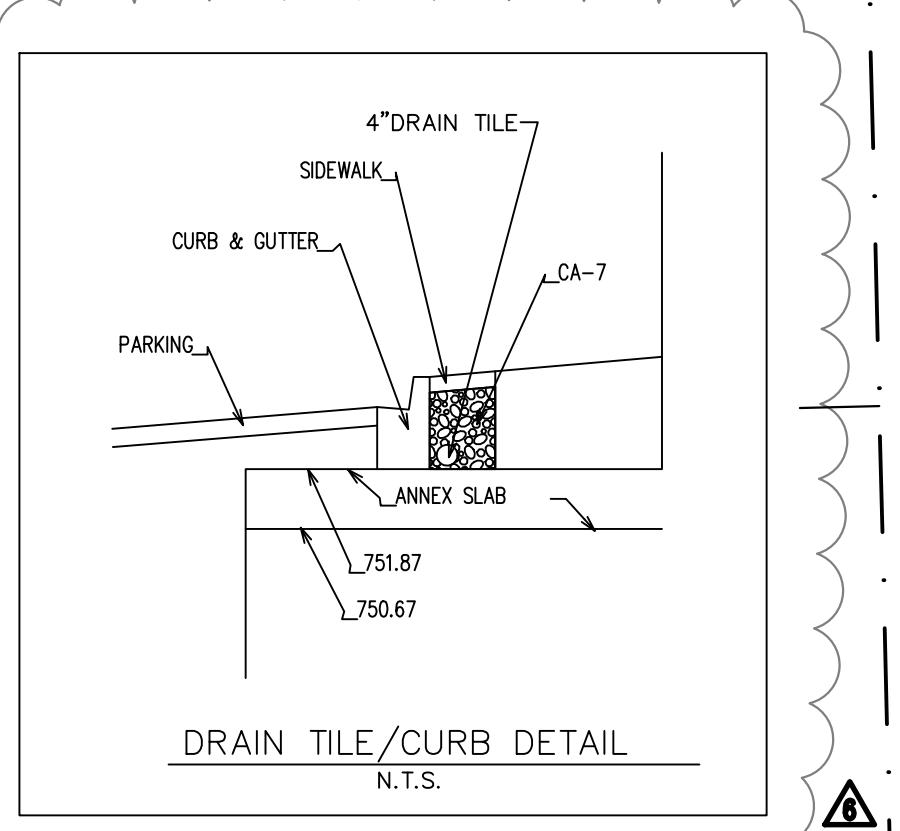


- NOTES:**
1. ALL STORM SEWERS SHALL BE RCP CL-IV UNLESS NOTED OTHERWISE.
 2. ALL SANITARY SEWERS SHALL BE PVC SDR 26 UNLESS NOTED OTHERWISE.
 3. ALL WATER MAINS SHALL BE PVC DR18, AWWA C900 UNLESS NOTED OTHERWISE. MEGALUGS AND THRUST BLOCKS ARE REQUIRED FOR ALL WATERMAIN FITTINGS.
 4. \rightarrow INDICATES TRENCH BACKFILL REQUIRED.
 5. FRAME AND GRATE/LID FOR STORM SEWER STRUCTURES
 1P - NEENAH R-1713 FRAME WITH TYPE "G" GRATE
 3P - NEENAH R-3278-A FRAME AND GRATE
 6. FRENCH DRAIN: ALL LOW POINT STORM STRUCTURES ARE TO HAVE FOUR 1" DIAMETER WEEP HOLES PROVIDED 24" BELOW THE TOP OF LID. THE HOLES SHALL BE COVERED WITH A GEOTEXTILE FILTER FABRIC CEMENTED IN PLACE WITH BITUMINOUS MASTIC. THE DRAIN SHALL BE BACKFILLED WITH BEDDING OR CA-7 CRUSHED STONE TO TOP OF SUBGRADE OR BOTTOM OF TOPSOIL.
 7. DESIGN OF WIRING AND CIRCUITRY OF LIGHTING WILL BE BY OTHERS.
 8. ALL RESTRAINED WATER MAIN JOINTS SHALL BE U.S. PIPE "FIELD LOK" GASKET OR APPROVED EQUAL.



- STORM STRUCTURE LEGEND**
- STRUCTURE ABBREVIATION
 - STRUCTURE NUMBER
 - M-100
 - A&D, 1P
 - FRAME AND LID TYPE
 - DIAMETER & SIZE OF STRUCTURE
 - TYPE OF STRUCTURE
- STORM STRUCTURE ABBREVIATIONS**
- I = INLET
 - CB = CATCH BASIN
 - M = MANHOLE
 - E = FLARED END SECTION

MCKINLEY AVENUE



VANTAGEPOINT ENGINEERING

17088 478 8004
 INFO@VPENC.COM

18311 NORTH WISBECK DRIVE
 SUITE 100
 TIMLEY PARK, IL 60477

VPENC.COM | CIVIL ENGINEERING | LAND PLANNING | SURVEYING
 PROFESSIONAL DESIGN FIRM NO. 184-05786

CLIENT:
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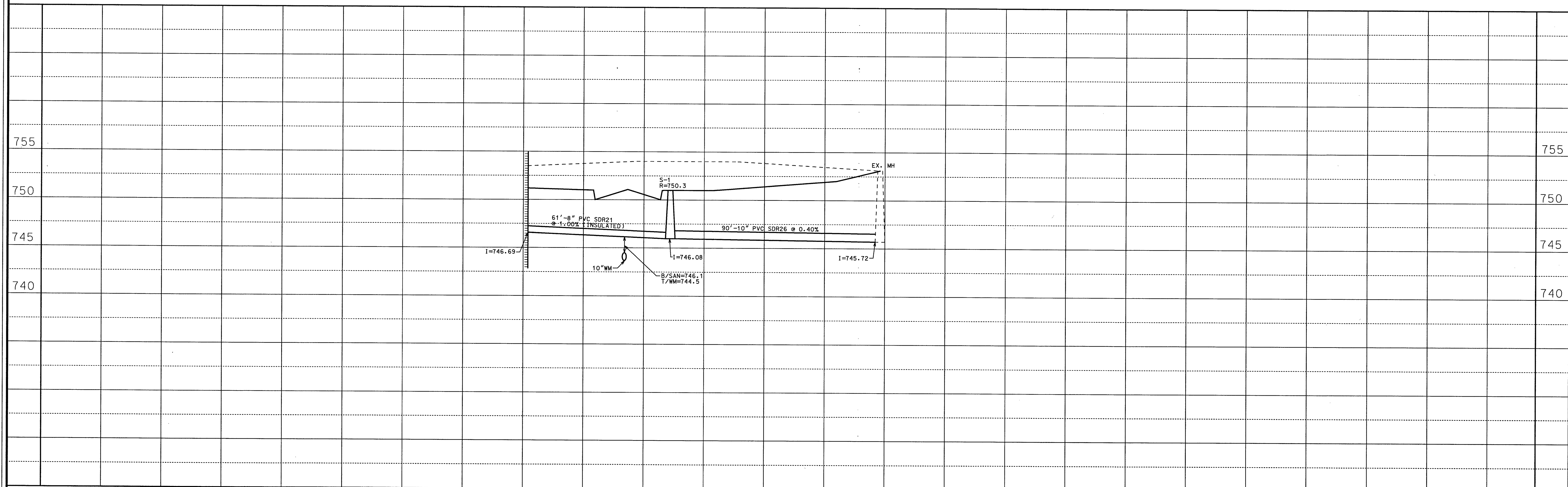
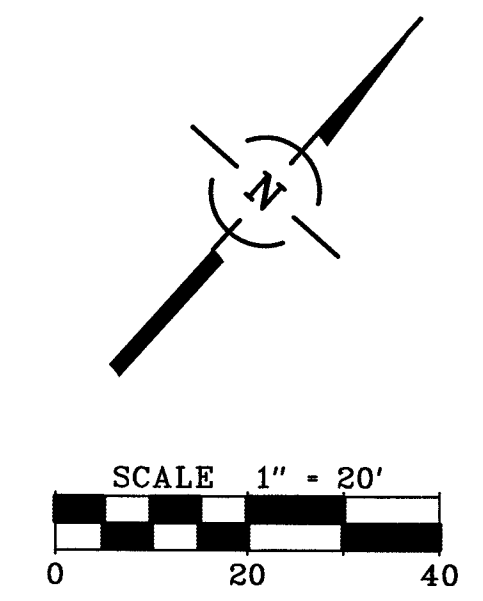
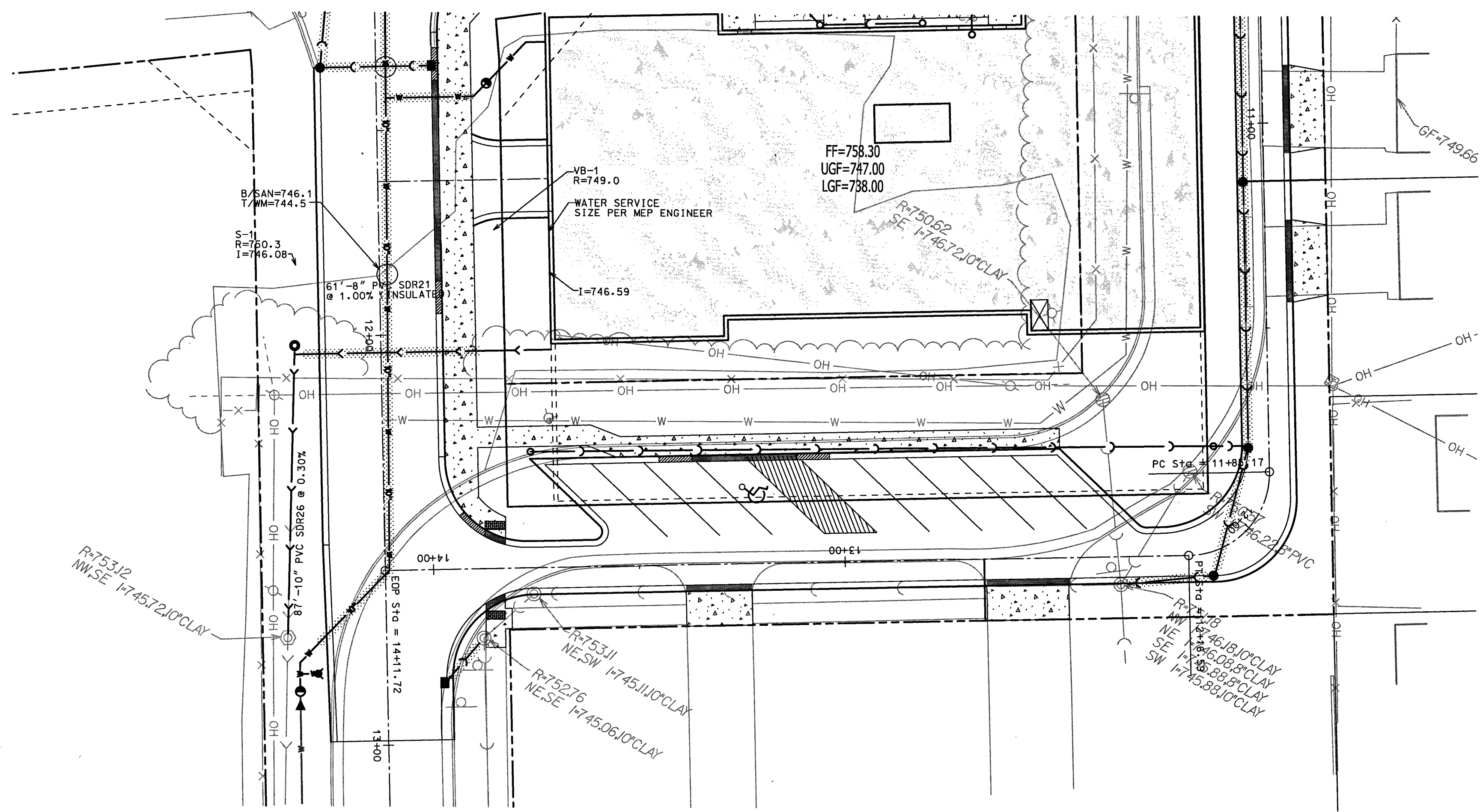
FAX:
 (708) 478-8004

CARDINAL SQUARE BUILDING "C"

MUNDELEIN, ILLINOIS

NOTE - DISCLAIMER: The information contained herein is designed for the sole benefit of the Owner/Client. The Engineer assumes no liability whatsoever for the unauthorized use or reuse of this design document(s).

REVISIONS	
DATE:	10-01-14
SCALE:	
PROJ MGR:	DESIGNED: BZ
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DRAFTED BY:	CHECKED: JJS
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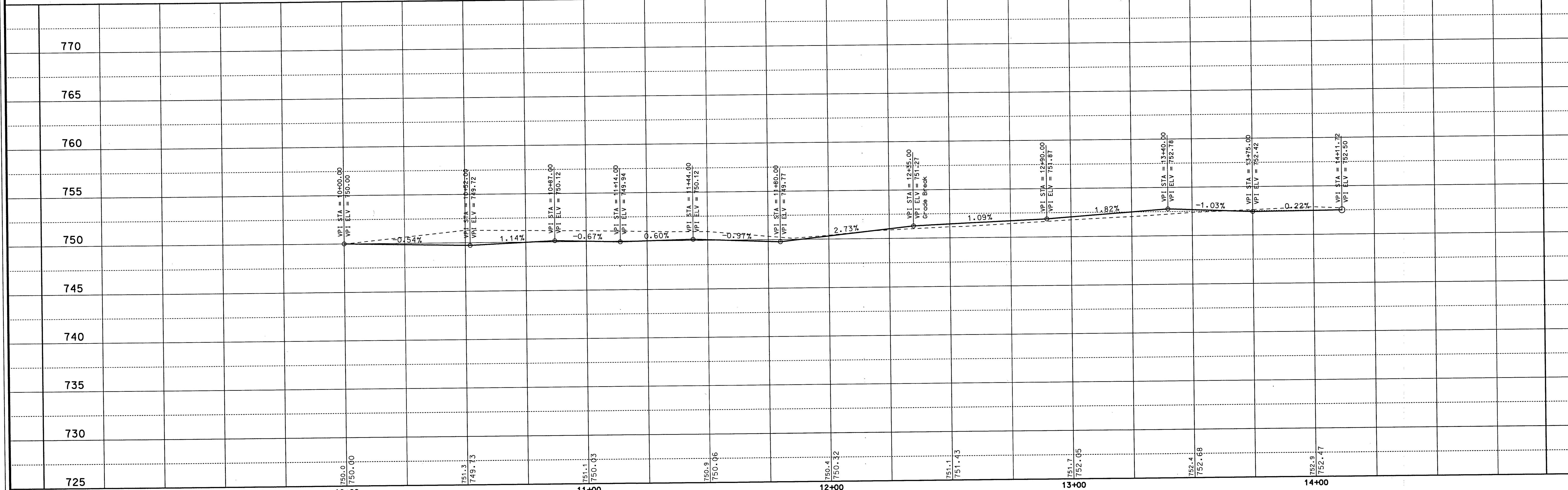
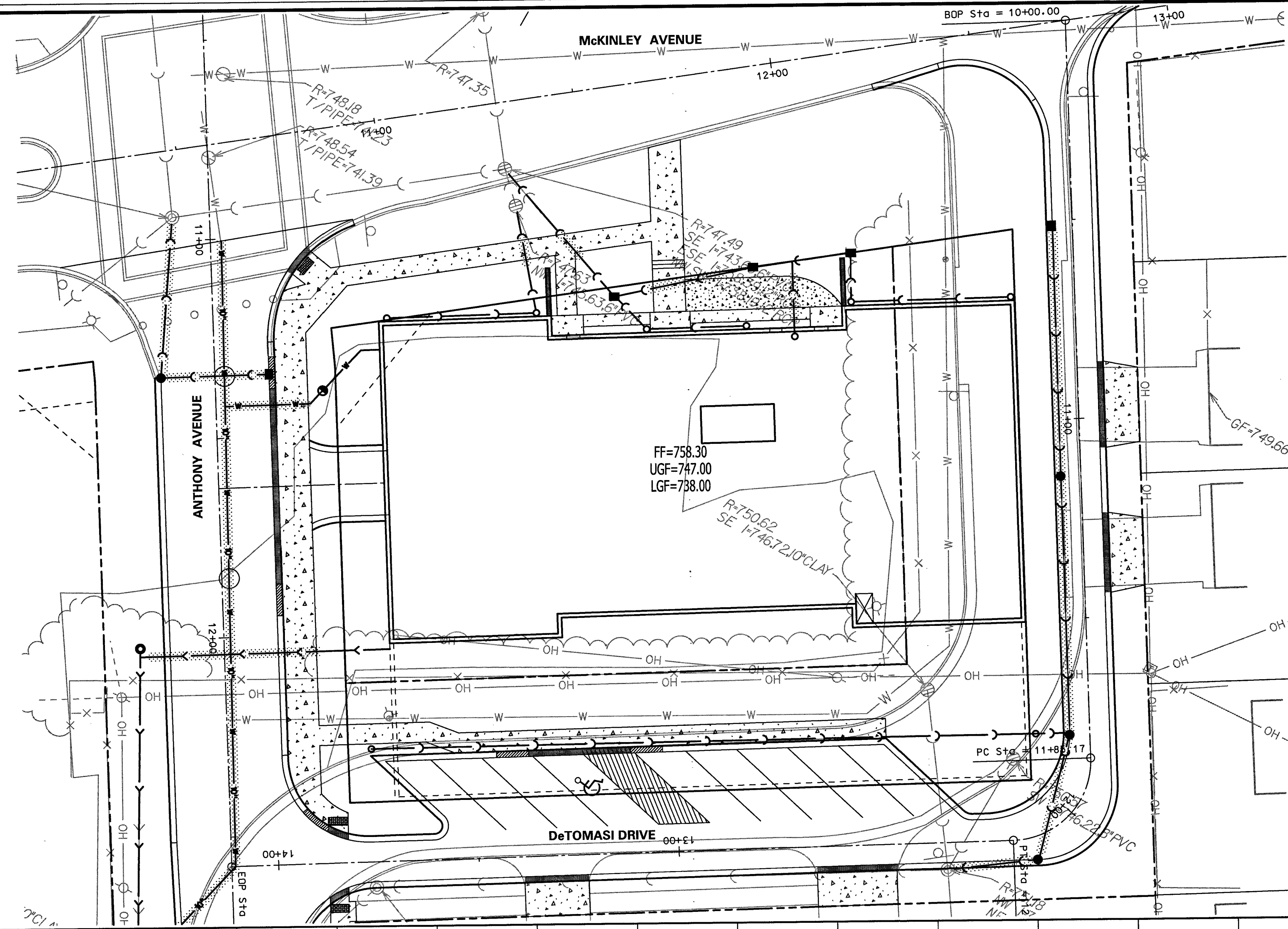
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SANITARY PLAN AND PROFILE
CARDINAL SQUARE
 MUNDELEIN, ILLINOIS

VANTAGEPOINT
ENGINEERING

18311 NORTH CREEK DRIVE
 TINLEY PARK, IL 60477
 708.478.4004
 INFO@VPENG.COM

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PLAN AND PROFILE - DeTOMASI DRIVE

CARDINAL SQUARE

MUNDELEIN, ILLINOIS

NO. DATE REMARKS

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VANTAGEPOINT

ENGINEERING

18311 NORTH CHESTNUT
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TINLET PARK, IL 60477

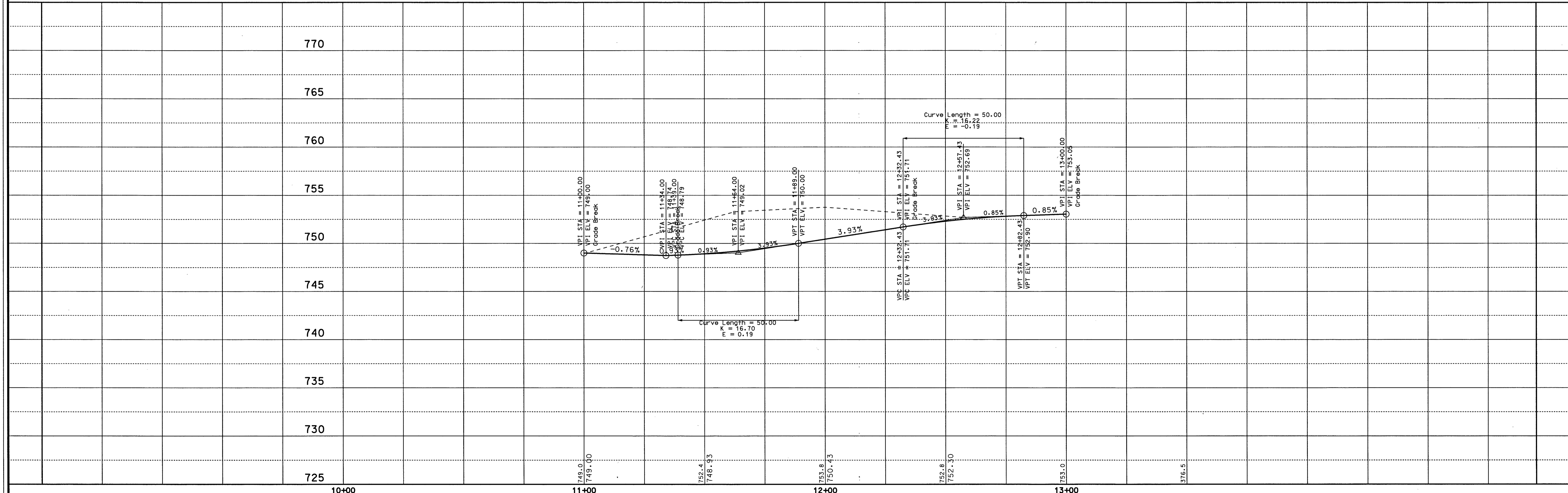
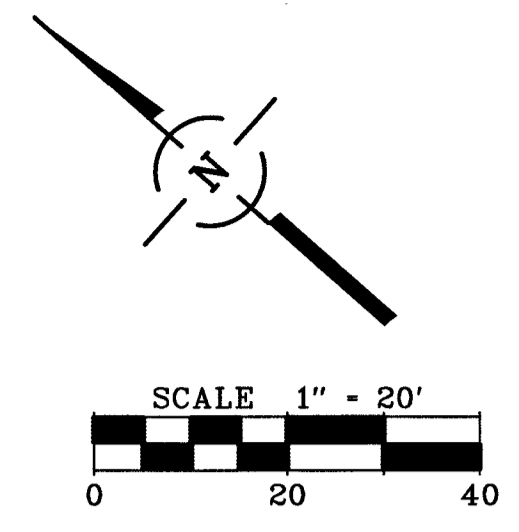
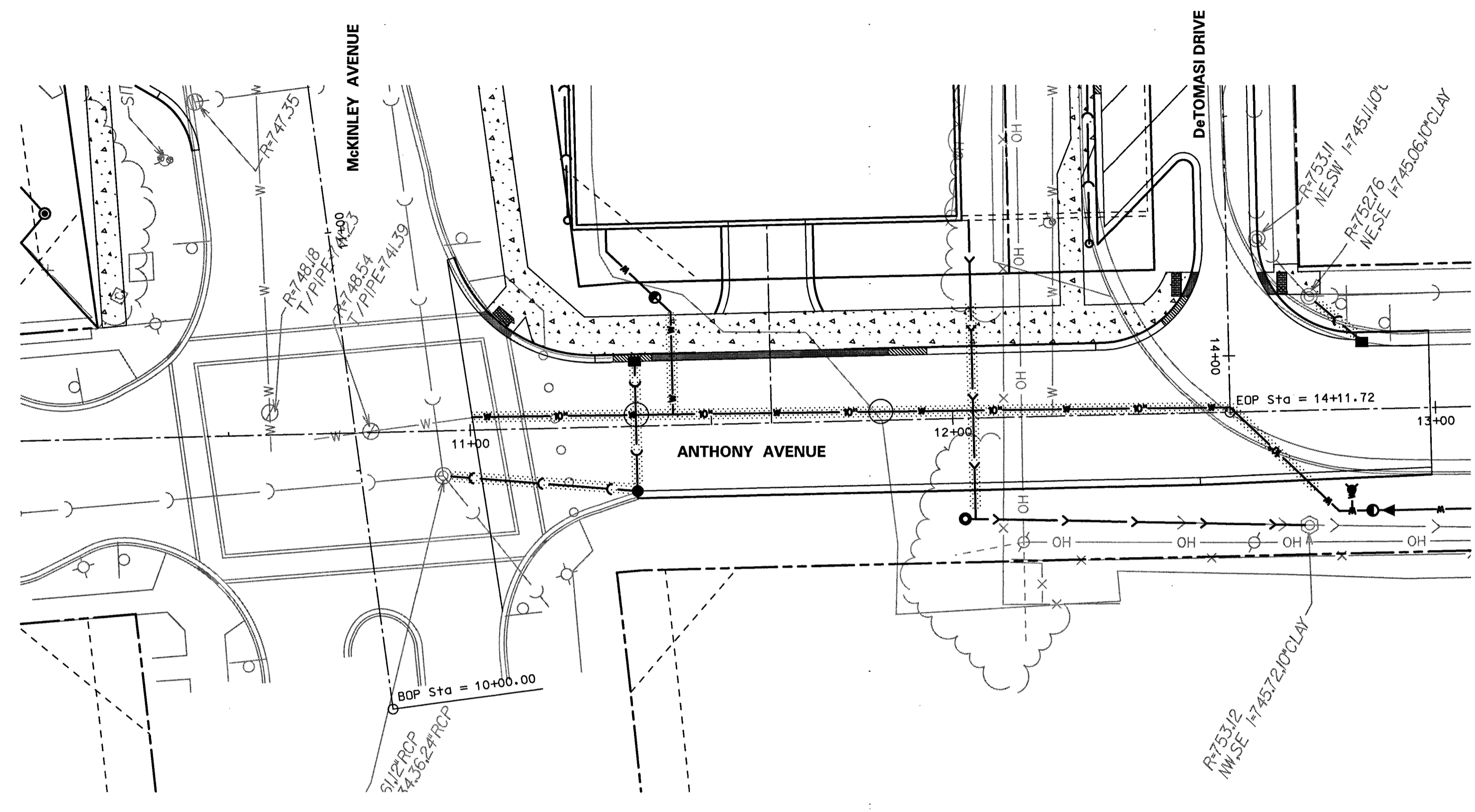
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SHEET

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9 OF 20



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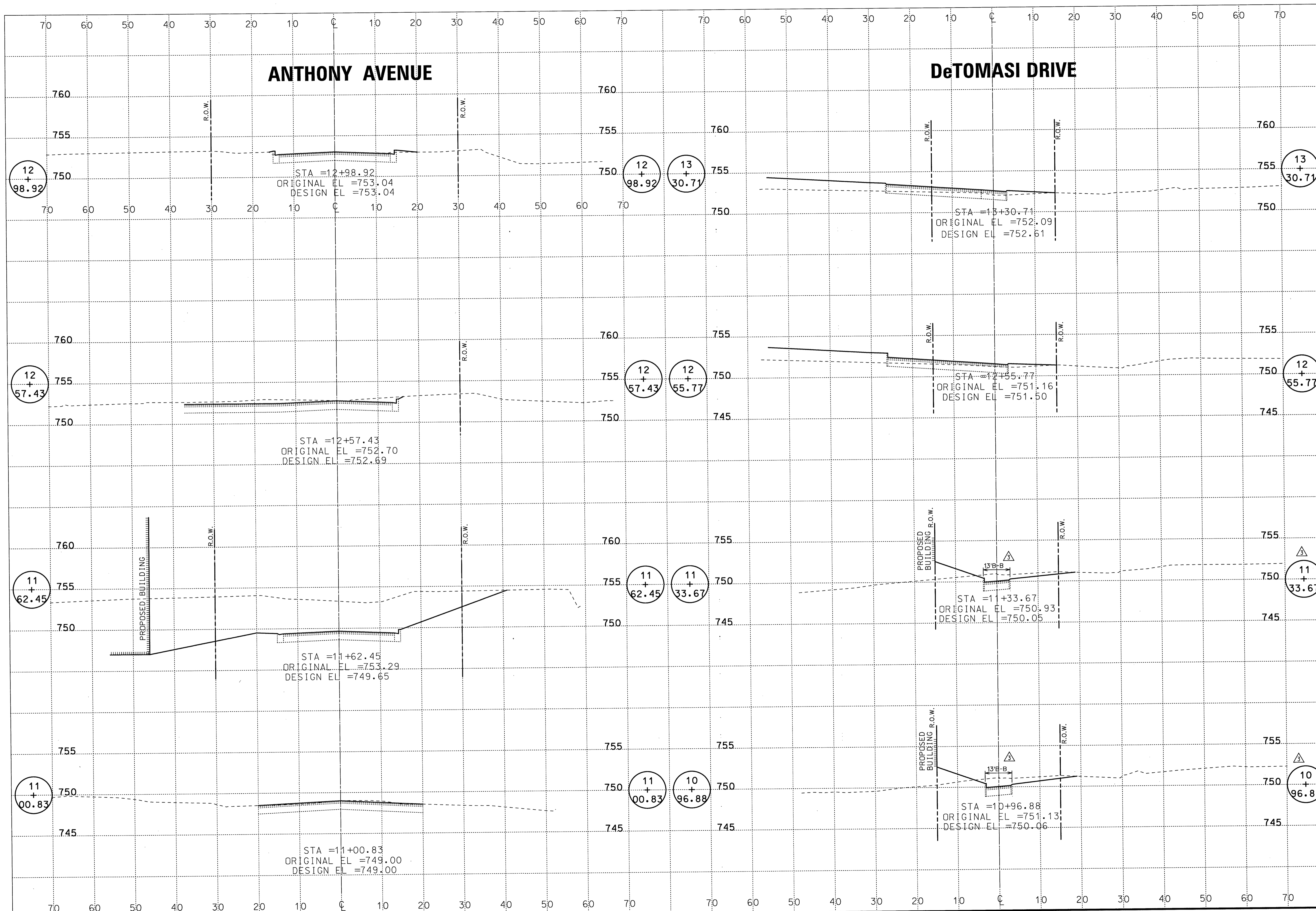
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PLAN AND PROFILE - ANTHONY AVENUE
CARDINAL SQUARE
 MUNDELEIN, ILLINOIS

VANTAGEPOINT
 ENGINEERING

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NO.	DATE	REMARKS

NO.	DATE	REMARKS
3	03/03/14	PER VILLAGE COMMENTS, ADD R.O.W.
2	12/10/13	PER VILLAGE COMMENTS
1	09/17/13	PER VILLAGE COMMENTS

CROSS SECTIONS
CARDINAL SQUARE
 MUNDELEIN, ILLINOIS

VANTAGE POINT
 ENGINEERING

1811 NORTH CREEK DRIVE
 TIMLEY PARK, IL 60477

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This Soil Erosion & Sediment Control (SESC) Plan has been prepared to fulfill one of the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit No. ILR10... The SESC Plan should be maintained on site as an integral component of the Storm Water Pollution Prevention Plan (SWPPP)...

- 1. SITE DESCRIPTION
A. The following is a description of the nature of the construction activity: construction of apartment building, parking lot and access road.
B. The following is a description of the intended sequence of construction activities which will disturb soils for major portions of the construction site:
Describe proposed construction sequence, sample follows:
1) Install perimeter sediment control measure
a) Selective vegetation removal for silt fence installation
b) Silt fence installation
c) Construction fencing around areas not to be disturbed
d) Stabilized construction entrance
e) Clear and grub (as necessary)
f) Construct sediment trapping devices (sediment traps, sediment basins, etc.)
g) Construct detention facilities and outlet control structure with restrictor & temporary perforated pipe
h) Strip topsoil, stockpile topsoil and grade site
i) Temporarily stabilize topsoil stockpiles (seed and silt fence around top of slope)
j) Install storm sewer restrictor and outlet control structure
k) Permanently stabilize detention basins with seed and erosion control blanket
l) Temporarily stabilize all areas including lots that have received mass grade
m) Install roadways
n) Permanently stabilize all outlet areas
o) Install buildings and grade individual lots
p) Permanently stabilize lots
q) Remove all temporary soil erosion and sediment control measures after the site is stabilized with vegetation
C. The site has a total acreage of approximately 1.7 acres. Construction activity will disturb approximately 1.7 acres of the site.
D. 1) An estimated runoff coefficient of the site after construction activities are completed is 0.65.
2) Existing data describing the soil or quality of any discharge from the site is included in:

- E. Refer to Sheets S1-EC3 for a site plan indicating:
1) drainage patterns
2) approximate slopes anticipated before and after major grading activities
3) locations where vehicles enter or exit the site and controls to minimize off-site sediment tracking
4) areas of soil disturbance
5) the location of major structural and nonstructural controls
6) the location of areas where stabilization practices are expected to occur
7) surface waters (including wetlands) and
8) locations where storm water is discharged to a surface water.
F. 1) The name of the receiving water(s) is/are: Savage Drainage Basin.
2) The name of the ultimate receiving water is: Casselburg River.
3) The extent of wetland acreage of the site is: 0 acres.
G. Potential sources of pollution associated with this construction activity may include:
- sediment from disturbed soils
- portable sanitary stations
- fuel tanks
- storage areas
- waste containers
- oil or other petroleum products
- adhesives
- pig solvents
- detergents
- fertilizers
- raw materials (e.g., bagged Portland cement)
- construction debris
- landscape waste
- concrete and concrete trucks
- litter
2. CONTROLS
This section of the SESC Plan describes the various controls that should be implemented for each of the major construction activities described in the "Site Description" section. For each measure identified in the SWPPP, the contractor shall implement the measure that will implement the intent of the SWPPP and subcontractors that are identified should be required to sign a copy of the certification statement from Part IV.F. of the ILR10 Permit (in accordance with Part VI.G., "Signatory Requirements," of the ILR10 Permit). All signed certification statements should be maintained in the SWPPP.

- A. Approved State or Local Plans
The management practices, controls and other provisions contained in the SWPPP should be at least as protective as the requirements contained in the Illinois Environmental Protection Agency's (IEPA) and the United States Department of Agriculture's Natural Resources Conservation Service's Illinois Urban Manual, 2002. Requirements specified in sediment and erosion control site plans or site permits or storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submission of a Notice of Intent (NOI) to be authorized to discharge under the ILR10 permit. Incorporated by reference and are enforceable under the ILR10 permit even if they are not specifically included in a SWPPP required under the ILR10 permit. This provision does not apply to provisions or master plans, comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit that is issued for the construction site.
The soil erosion and sediment control measures for this site should meet the requirements of the following agencies:
- Village of Mundelein
- Lake County
- IEPA
- U.S. Army Corps of Engineers
B. Control Implementation Schedule
Best Management Practices will be implemented on an as-needed basis to protect water quality. Perimeter controls of the site should be installed prior to soil disturbance (excluding soil disturbance necessary to install the controls), including demolition activities. Perimeter controls, including the silt fence, should be actively maintained until final stabilization of those portions of the site upland of the perimeter control. Stabilized construction entrances and sediment traps should be installed as described in the intended sequence of construction activities. The contractor is responsible for the adequate protection (including sediment control) of existing sewers and sewer structures during construction operations. As necessary, the appropriate sediment control measure should be installed prior to land disturbing activities.
Stabilization measures should be initiated where construction activities have temporarily or permanently ceased, in accordance with Local and State requirements, as described below. Once construction activity in an area has permanently ceased, that area should be permanently stabilized. Temporary perimeter controls should be removed after final stabilization of those portions of the site upland of the perimeter control.
C. Erosion and Sediment Controls
The appropriate soil erosion and sediment controls should be implemented on site and should be modified to reflect the current phase of construction. All temporary sediment and erosion control measures should be repaired or replaced as soon as practicable to maintain NPDES compliance. Permittee or an authorized agent is responsible for inspecting all sediment and erosion control measures at a minimum of every 7 calendar days and within 24 hours of the end of 0.5-inch (or greater) rain event, or snowfall equivalent.
Unless otherwise indicated, all vegetative and structural erosion and sediment control practices should be installed to the Standard Practice. The contractor is responsible for the installation of any additional erosion and sediment control measures necessary to minimize erosion and sedimentation as determined by the Engineer or Primary Contact.

- 1) Stabilization Practices - Areas that will not be paved or covered with non-erosive material should be stabilized using procedures in substantial conformance with the Illinois Urban Manual. This SESC Plan includes site-specific soil erosion and sediment control measures. Additional erosion controls should be implemented as necessary, as determined by the Engineer or Primary Contact.
The following temporary and permanent stabilization practices, at a minimum, are proposed:
- permanent seeding
- temporary seeding
- erosion control blanket
- other measures
Site-specific scheduling of the implementation of these practices is included in the Soil Protection Chart. A record of the dates when major grading activities occur, when construction activities cease on a portion of the site, and when stabilization measures are initiated should be included in the SWPPP.
Except as provided in paragraphs (a) and (b) below, stabilization measures shall be initiated as soon as practicable on portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity on that portion of the site has temporarily or permanently ceased.
(a) Where the initiation of stabilization measures by the 7th day after construction activity temporarily or permanently ceased is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
(b) Where construction activity will resume on a portion of the site within 14 days from when activities ceased, (e.g., the total time period that construction activity is temporarily ceased is less than 14 days) then stabilization measures do not have to be initiated on that portion of site by the 7th day after construction activity temporarily ceased.
2) Structural Practices - Provided below is a description of structural practices that should be implemented, to the degree attainable to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices should be placed on upland soils to the degree practicable. The installation of the following devices may be subject to Section 404 of the Clean Water Act:
- stabilized construction entrance
- silt fence
- sediment traps (provide locations and dimensions in plan set)
- other measures

- D. Storm Water Management
Provided below is a description of measures that will be installed during the construction process to control the pollutants in storm water discharges that will occur after the construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.
1) The practices selected for implementation were determined on the basis of technical guidance contained in IEPA's Illinois Urban Manual, Federal, State, and/or Local Requirements. The storm water management measures include:
- storm sewers
- existing detention ponds
2) Velocity dissipation devices, such as rip-rap aprons at flood and sections or level spreaders, shall be placed at discharge locations and along the length of any natural channel as necessary to provide a non-erosive velocity flow from the structure to a watercourse so that the natural, physical, and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions, such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).
E. Waste Management
Solid waste materials including trash, construction debris, excess construction materials, machinery, tools and other items will be collected and disposed of off site by the contractor. The contractor is responsible to acquire the permit required for such disposal. Burning on site will not be permitted. No solid materials, including building materials, shall be discharged to waters of the State, except as authorized by a Section 404 permit. All waste materials should be collected and stored in approved receptacles. No wastes should be placed in any location other than in the approved containers appropriate for the materials being disposed. There should be no liquid waste deposited into dumpsters or other containers which may leak. Receptacles with deficiencies should be replaced as soon as possible and the appropriate clean-up procedure should take place, if necessary. Construction waste material is not to be buried on site. Waste disposal should comply with all Local, State, and Federal regulations.
On-site hazardous material storage shall be minimized and stored in labeled, separate receptacles from non-hazardous waste. All hazardous waste should be disposed of in the manner specified by Local or State regulation or by the manufacturer.
F. Concrete Waste Management
Concrete waste or washout should not be allowed in the street or allowed to reach a storm water drainage system or watercourse. When practicable, a sign should be posted at each location to identify the washout. To the extent practicable, concrete washout areas should be located a reasonable distance from a storm water drainage inlet or watercourse, and should be located at least 10 feet behind the curb, if the washout area is adjacent to a paved road. A stabilized entrance that meets Illinois Urban Manual standards should be installed at each washout area.
The containment facilities should be of sufficient volume to completely contain all liquid and concrete waste materials including enough capacity for anticipated levels of rainwater. The dried concrete waste material should be picked up and disposed of properly when 75% capacity is reached. Hardened concrete can be properly recycled and used again on site (as approved by the Engineer) or hauled off site to an appropriate landfill.
G. Concrete Cutting
Concrete waste management should be implemented to contain and dispose of saw-cutting slurries. Concrete cutting should be cleaned-up and disposed into the concrete washout facility as described above.
H. Vehicle Storage and Maintenance
When not in use, construction vehicles should be stored in a designated area(s) outside of the regulatory floodplain, away from any natural or created watercourse, or storm drainage or storm drain. Controls should be installed to minimize the potential of runoff from the storage areas from reaching storm drains or water courses. Vehicle maintenance (including both routine maintenance as well as on-site repairs) should be made within a designated area(s) to prevent the migration of mechanical fluids (oil, antifreeze, etc.) into watercourses, wetlands or storm drains. Drip pans or absorbent pads should be used for all vehicle and equipment maintenance that involves greases, oil, or other vehicle fluids. Construction vehicles should be inspected frequently to identify any leaks; leaks should be repaired immediately and the vehicle should be removed from site. Dispose of all used oil, antifreeze, solvents and other vehicle-related chemicals in accordance with United States Environmental Protection Agency (USEPA) and IEPA regulations and per Material Safety Data Sheet (MSDS) and/or manufacturer instructions. Contractors should immediately report spills to the Primary Contact.

- I. Material Storage and Good Housekeeping
Materials and/or contaminants should be stored in a manner that minimizes the potential to discharge into storm drains or watercourses. An on-site area should be designated for material delivery and storage. All materials kept on site should be stored in their original containers with legible labels, and if possible under a roof or other enclosure. Labels should be replaced if damaged or difficult to read. Bermed, bonded storage areas are an acceptable control measure to prevent contamination of storm water. MSDS should be available for referencing cleanup procedures. Any release of chemicals/contaminants should be immediately cleaned up and disposed of properly. Contractors should immediately report all spills to the Primary Contact, who should notify the appropriate agencies, if needed.
To reduce the risks associated with hazardous materials on site, hazardous products should be kept in original containers until they are no longer needed. The original labels and MSDS should be retained on site until all these hazardous materials and all other material kept on site should be stored in accordance with manufacturer or MSDS specifications. When disposing of hazardous materials, follow manufacturer or Local and State recommended methods.
The following good housekeeping practices should be followed on site during the construction project:
- An effort should be made to store only enough product required to do the job.
- All materials stored on site should be stored in a neat, orderly manner in their appropriate containers and adequately protected from the environment.
- Products should be kept in their original containers with the original manufacturer's label.
- Substances should not be mixed with one another unless recommended by the manufacturer.
- Operations should be observed as necessary to ensure proper use and disposal of materials on site.
- Whenever possible, all of a product should be used up before disposing of the container.
- Manufacturer's recommendations for proper use and disposal should be followed.
J. Management of Portable Sanitary Stations
To the extent practicable, portable sanitary stations should be located in an area that does not drain to any protected natural areas, waters of the State, or storm water structures and should be anchored to the ground to prevent from tipping over. Portable sanitary stations located on impervious surfaces should be placed on top of a secondary containment device, or be surrounded by a control device (e.g., gravel-bag berm). The contractor should not create or allow unsanitary conditions. Sanitary waste should be disposed of in accordance with applicable State and/or Local regulations.
K. Spill Prevention and Clean-Up Procedures
Manufacturer's recommended methods for spill clean-up should be available and site personnel should be made aware of the procedures and the location of the information and clean-up supplies. Materials and equipment necessary for spill clean-up should be kept in the material storage area on site. Equipment and materials include brooms, dust pans, rags, gloves, goggles, kitty litter, sand, sawdust and plastic and/or metal trash containers specifically for this purpose.
Discharges of a hazardous substance or oil caused by a spill (e.g., a spill of oil into a separate storm sewer or Waters of the State) are not authorized by the ILR10 permit. If a spill occurs, notify the Primary Contact immediately. The construction site should have the capacity to control, contain, and remove spills. If they occur, spills should be cleaned up immediately (after discovery) in accordance with MSDS and should not be buried on site or washed into storm sewer drainage inlets, drainage-ways, or Waters of the State.
Spills in excess of Federal Reportable Quantities (as established under 40 CFR Parts 110, 117, or 302), should be reported to the National Response Center by calling (800) 424-8802. MSDS often include information on Federal Reportable Quantities for materials that are toxic or hazardous materials should be reported to the appropriate State or Local government agency, as required. When cleaning up a spill, the area should be kept well ventilated and appropriate personal protective equipment should be used to minimize injury from contact with a hazardous substance.
In addition to the good housekeeping and other management practices discussed in the previous sections of these Notes, the following minimum practices should be followed to reduce the risk of spills:
- On-site vehicles should be monitored for leaks and should receive regular preventative maintenance to reduce the chance of leakage.
- Petroleum products should be stored in tightly sealed and clearly labeled containers.
- Contractors should follow the manufacturer's recommendations for proper use, storage, and disposal of materials. Excess materials should be disposed of according to the manufacturer's instructions or State and Local regulations, and should not be discharged to the storm sewer or waterbody.

- L. De-Watering Operations
During de-watering/pumping operations, only uncontaminated water should be allowed to discharge to protected natural areas, waters of the State, or to a storm sewer system (in accordance with Local permits). Inlet hoses should be placed in a stabilized silt pit or floated at the surface of the water in the amount of sediment intake. Pumping operations may be discharged to a stabilized area that consists of an energy dissipating device (e.g., stone), sediment filter bag, or both. Adequate erosion control should be used during de-watering operations as necessary. Stabilized conveyance channels should be installed to direct water to the desired location as applicable. Additional control measures may be installed at the outlet area at the discretion of the Primary Contact or Engineer.
M. Off-Site Vehicle Tracking
The site should have one or more stabilized construction entrances in conformance with the Plan details. Stabilized construction entrances should be installed to help reduce vehicle tracking of sediments. Streets should be swept as needed to reduce excess sediment, dirt, or stone tracked from the site. Maintenance may include top dressing the stabilized entrance with additional stone and removing top layers of stone and sediment as needed. Vehicles hauling erodible material to and from the construction site should be covered with a tarp.
N. Topsoil Stockpile Management
If topsoil is to be stockpiled at the site, select a location so that it will not erode, block drainage, or interfere with work on site. Topsoil stockpiles should not be located in the 100-year floodplain or designated buffer protecting Waters of the State. During construction of the project, soil stockpiles should be stabilized or protected with sediment trapping measures. Perimeter controls, such as silt fence, should be installed immediately. Stabilization of the stockpile should be completed if the stockpile is to remain undisturbed for longer than thirty days.

- O. Dust Control
Dust control should be implemented on site as necessary. Repetitive treatment should be applied as needed to accomplish control when temporary dust control measures are used. A water truck should be present on site (or available) for sprinkling/irrigation to limit the amount of dust leaving the site. Watering should be applied daily (or more frequently) to be effective. Caution should be used not to overwater, as that may cause erosion.
If field observations indicate that additional protection from wind erosion (in addition to, or in place of watering) is necessary, alternative dust suppressant controls should be implemented at the discretion and approval of the Engineer and/or Primary Contact.
Street cleaning should also be used as necessary to control dust. Paved areas that have soil on them from the construction site should be cleaned as needed, utilizing a street sweeper or bucket-type endloader or scraper at the direction of the Engineer and/or Primary Contact.
3. MAINTENANCE
Maintenance of the controls incorporated into this project should be performed as needed to assure their continued effectiveness. This includes prompt and effective repair and/or replacement of deficient control measures. The following is a description of procedures that should be used to maintain, in good and effective operating condition, erosion and sediment control measures and other protective measures identified in the SESC Plan and Standard Specifications.
Dust control: When temporary dust control measures are used, repetitive treatment should be applied as needed to accomplish control.
Sediment filter bags: Sediment filter bags should be installed on pump outlet hoses that discharge off site or to sensitive on-site areas, and should be placed in an area that allows for the bag to be removed without producing a sediment discharge. The bags should be inspected frequently and repaired or replaced as needed.
Silt fence: Silt fences should be inspected regularly for undercutting where the fence meets the ground, overlapping and tears along the length of the fence. Deficiencies should be repaired immediately. Remove accumulated sediments from the fence base when the sediment reaches one-half the fence height. During final stabilization, properly dispose of any sediment that has collected behind the silt fence. Alternative sediment control measures should be considered for areas where silt fence continuously fails.
Stabilized construction entrances: The stabilized construction entrances should be maintained to prevent tracking of sediment onto public streets. Maintenance includes top dressing with additional stone and removing top layers of stone and sediment. The sediment tracked onto the public right-of-way should be removed immediately.
Temporary sediment traps: Temporary sediment traps should be inspected after each period of significant rainfall. Remove sediment and restore the trap to its original dimensions when the sediment has accumulated to one-half the design depth of the permanent pool. Place the sediment that is removed in a designated disposal area. The structure for damage from erosion or piping. After all sediment-producing areas have been permanently stabilized, remove the structure and all unstable sediment. Grade the area to blend with the adjoining areas and stabilize properly.
4. INSPECTIONS
The Permittee (or their authorized representative) will be responsible for conducting site inspections in compliance with the ILR10 NPDES Permit. After each inspection, a report should be prepared by the qualified personnel who conducted the inspection. The inspection report should be maintained on site as part of the SWPPP.
Inspections should be conducted at least once every seven calendar days and within 24 hours of the end of a storm event that is 0.5 inches or greater, or equivalent snowfall.
Each inspection should include the following components:
A. Disturbed areas and areas used for the storage of materials that are exposed to precipitation should be inspected for evidence of, or the potential for, pollutants entering the drainage system. The erosion and sediment control measures identified in the SWPPP should be observed to ensure that they have been installed and are operating correctly. Where discharge points are accessible, they should be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to the receiving waters. Locations where vehicles enter or exit the site should be inspected for off-site sediment tracking. All pumping operations and other potential non-storm water discharge sources should also be inspected.
B. Based on the results of the inspection, the description of potential pollutant sources identified, and the pollution prevention measures described in the SWPPP should be revised, as appropriate, as soon as practicable after the inspection, if any, shall provide for timely implementation of any changes to the SWPPP within 7 calendar days following the inspection.
C. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP, and actions taken in accordance with paragraph B. above should be made and retained as part of the SWPPP for at least three years from the date that permit coverage expires or is terminated. The report shall be signed in accordance with Part VI.G. (Signatory Requirements) of the ILR10 NPDES Permit.
D. The Permittee shall notify the appropriate agency field operations section office by e-mail at: epa-npdes@epa.gov, telephone or fax within 24 hours of any incidence of non-compliance for any violation of the storm water pollution prevention plan observed during any inspection conducted or for violation of any condition of this permit. The Permittee should complete and submit within 5 days an "Incidence of Non-Compliance" (INCR) report for any violation of the SWPPP observed during an inspection conducted, including those not required by the SWPPP. Submission should be on forms provided by IEPA and include specific information on the cause of non-compliance, actions which were taken to prevent any further causes of non-compliance, and a statement detailing any environmental impact, which may have resulted from the non-compliance.
E. All reports of non-compliance shall be signed by a responsible authority as defined in Part VI.G. (Signatory Requirements), of the ILR10 NPDES Permit.
F. After the initial contact has been made within the appropriate agency field operations section office, all reports of non-compliance shall be mailed to IEPA at the following address:
Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

- 5. NON-STORM WATER DISCHARGES
Except for flows from fire fighting activities, possible sources of non-storm water that may be combined with storm water discharges associated with the proposed activity, are described below:
- Water used to wash vehicles where detergents are not used;
- Water used to control dust;
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless spilled materials have been removed) and where detergents are not used;
- Irrigation ditches;
- Uncontaminated ground water and;
- Foundation or roofing drains where flows are not contaminated with process materials such as solvents;
- Landscape irrigation drainage;
- Uncontaminated air conditioning condensate.
Pollution prevention measures should be implemented for non-storm water components of the discharge.

- OWNER SWPPP CERTIFICATION
PROJECT:
PERMIT #: ILR10
I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY REVIEWED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.
SIGNATURE OF OWNER DATE
PRINTED NAME OF OWNER
NOTE: THE CERTIFICATION ILLUSTRATED ABOVE SHALL BE SIGNED BY THE OWNER LISTED ON THE NOTICE OF INTENT IN ACCORDANCE WITH PART VI.G. OF THE ILR10 NPDES PERMIT. THE SIGNED STATEMENT SHALL BE MAINTAINED ON THE SITE WITH THE SWPPP.

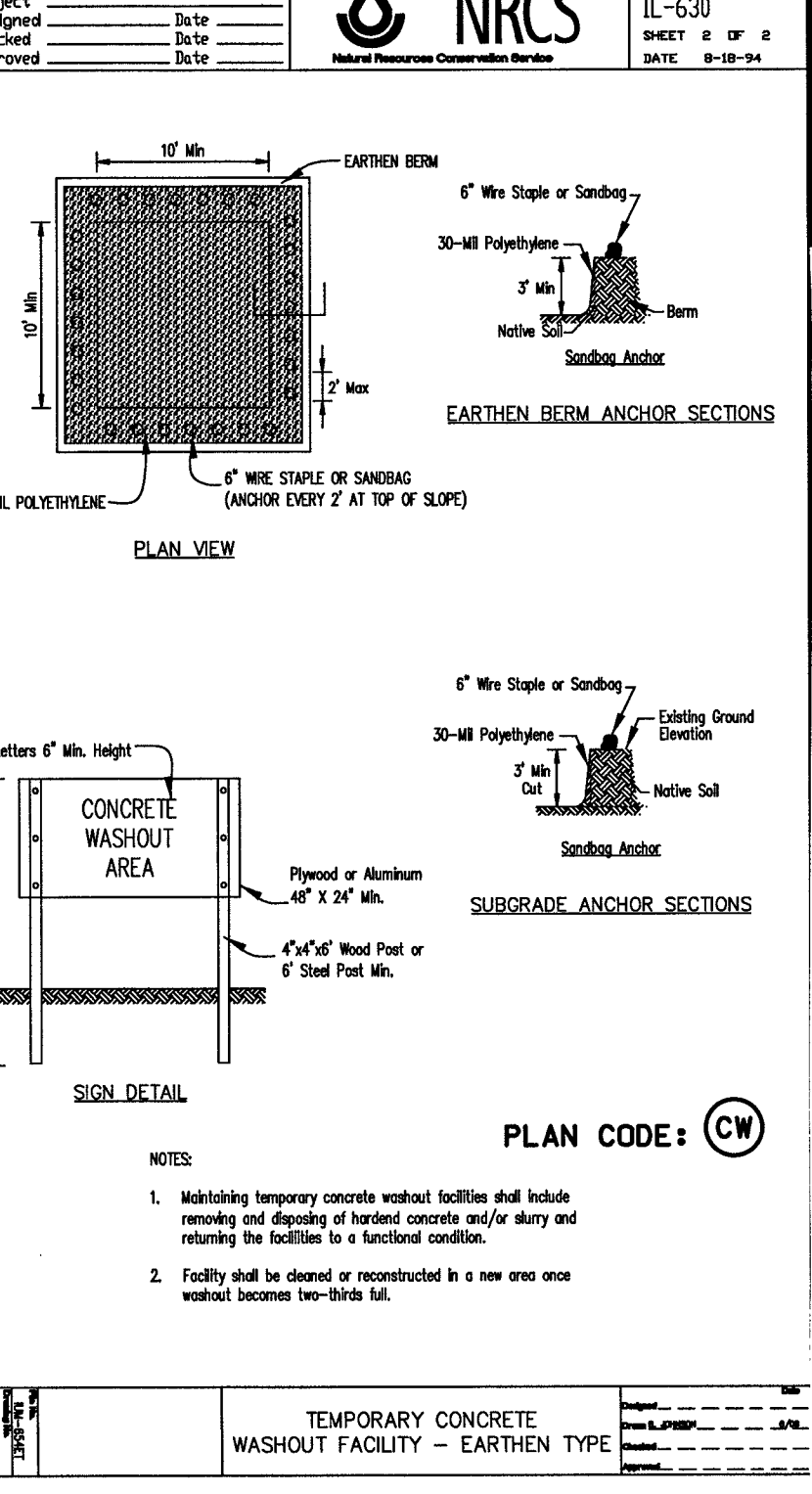
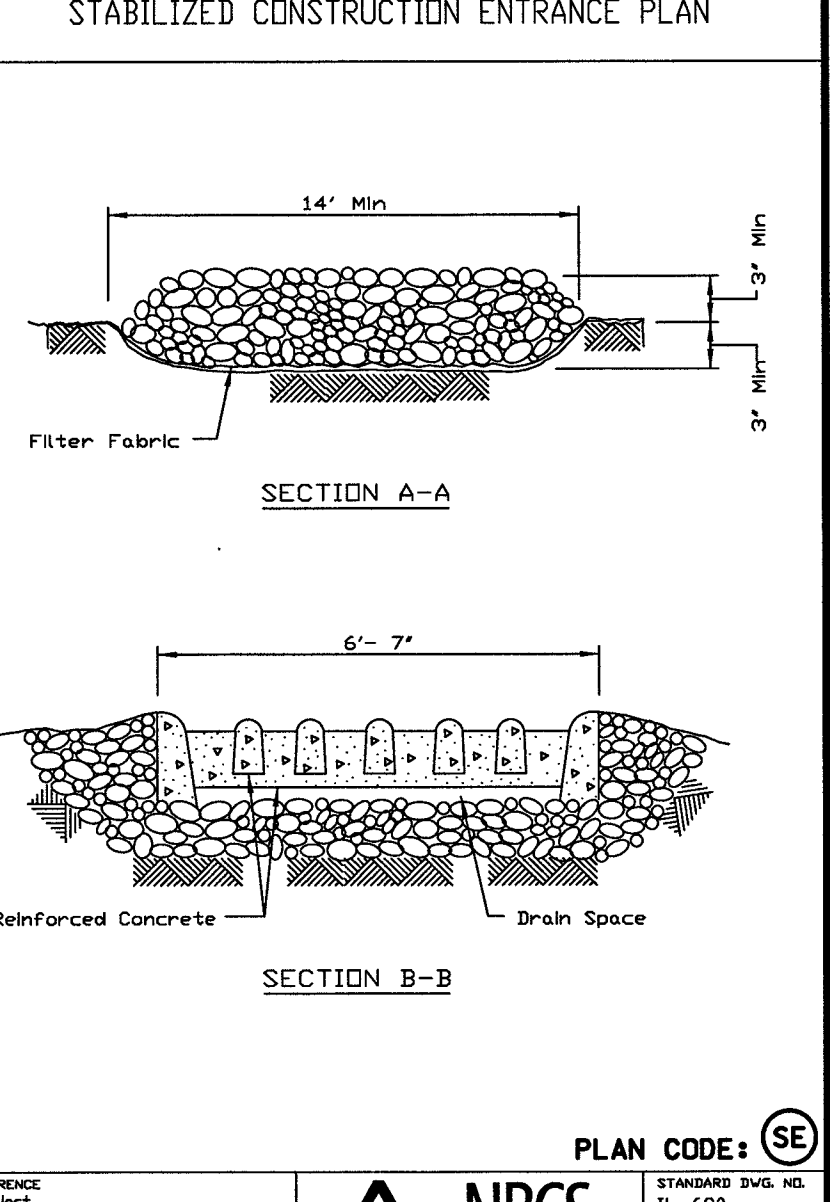
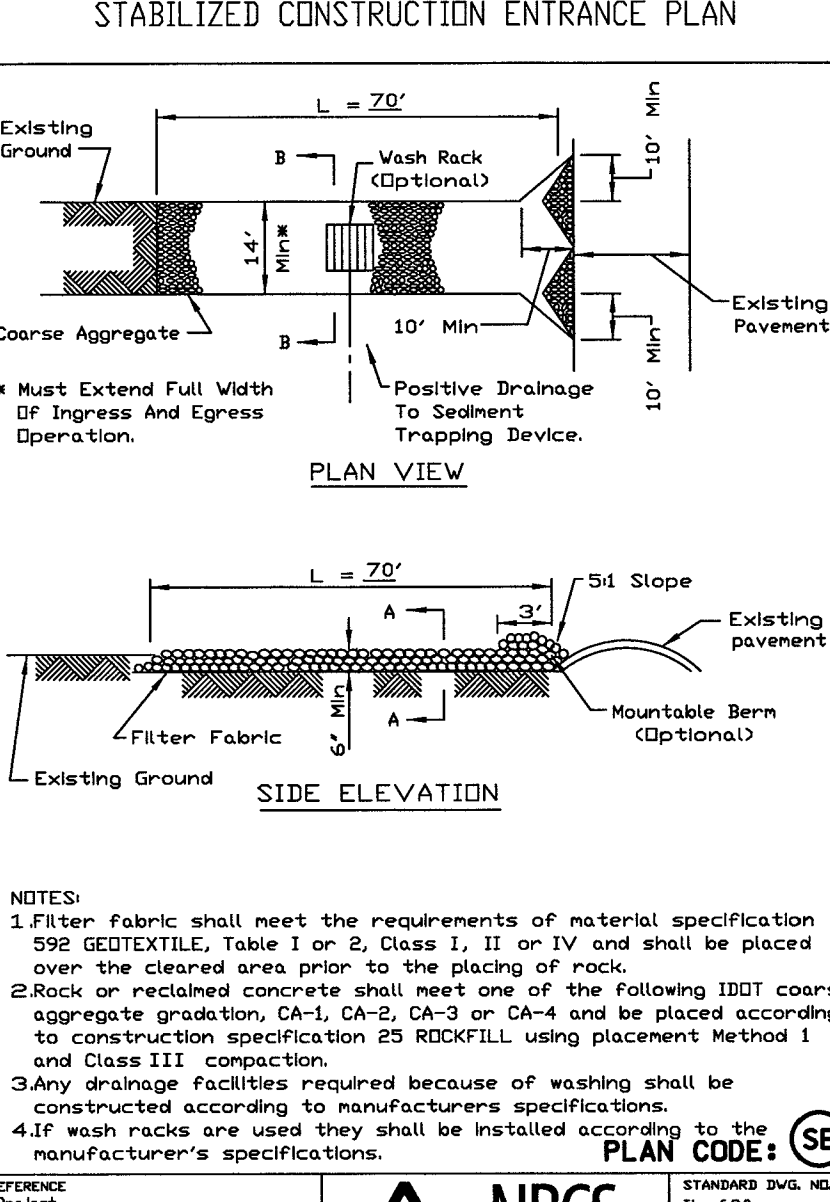
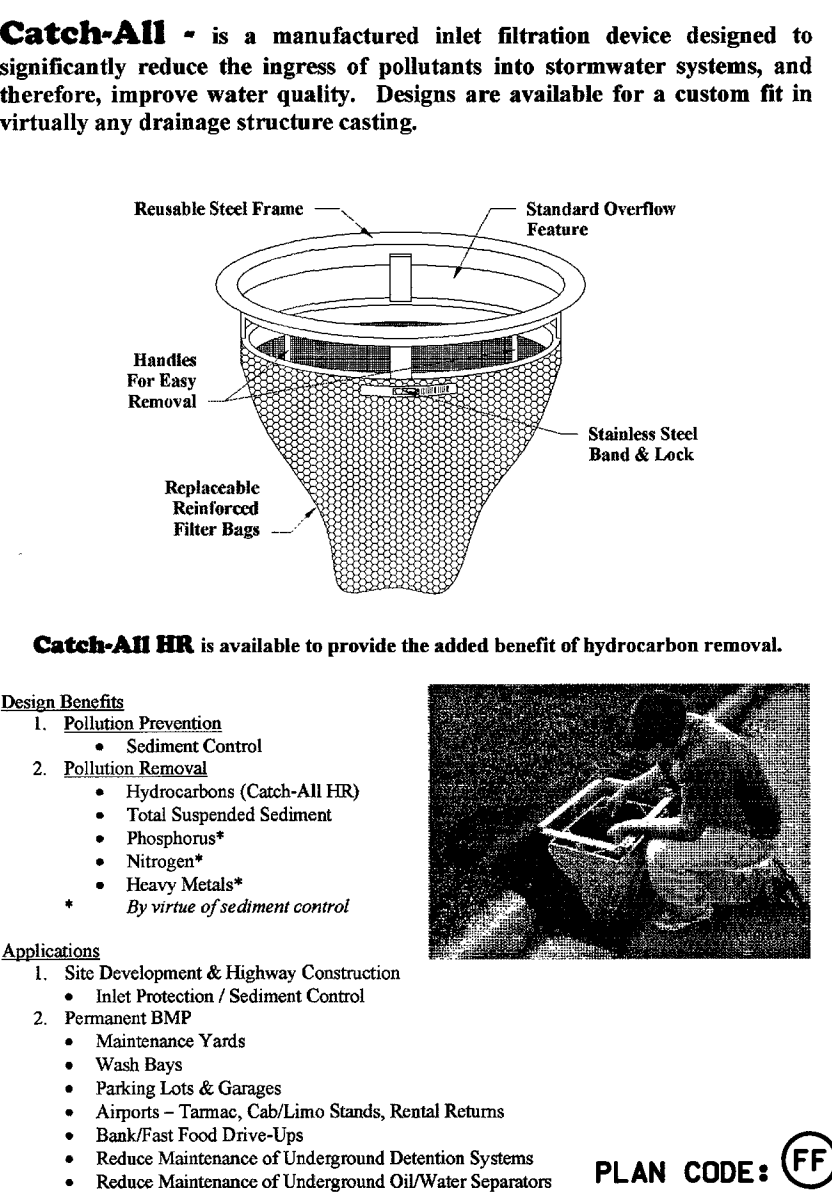
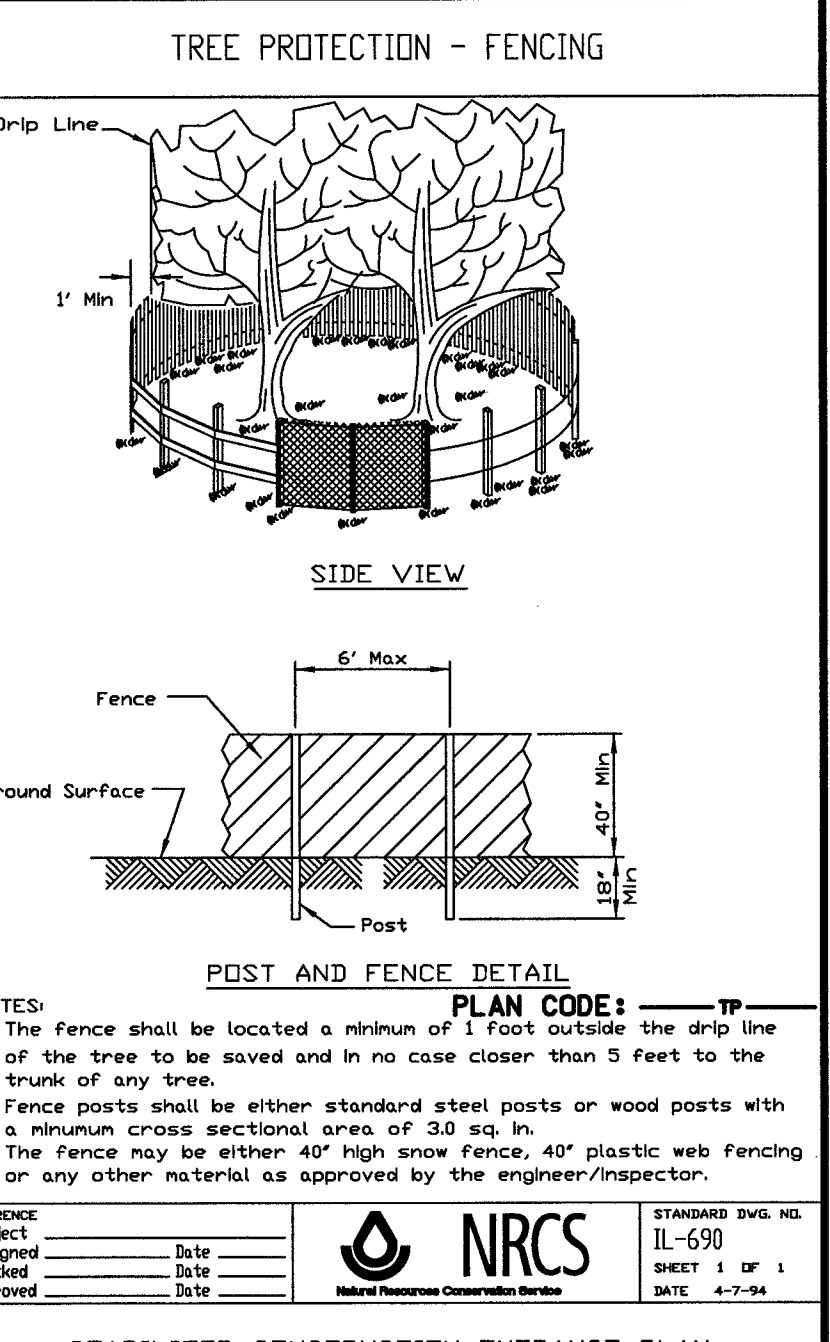
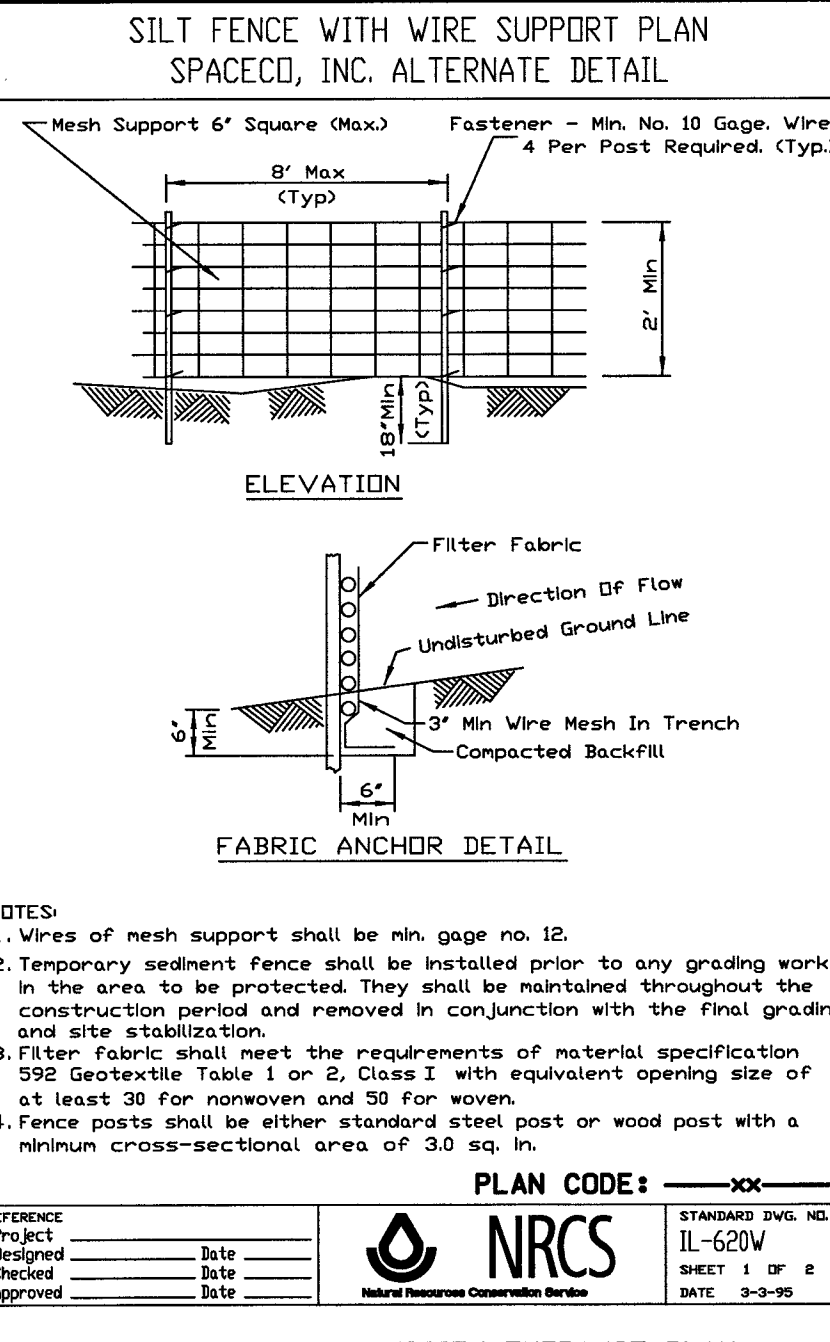
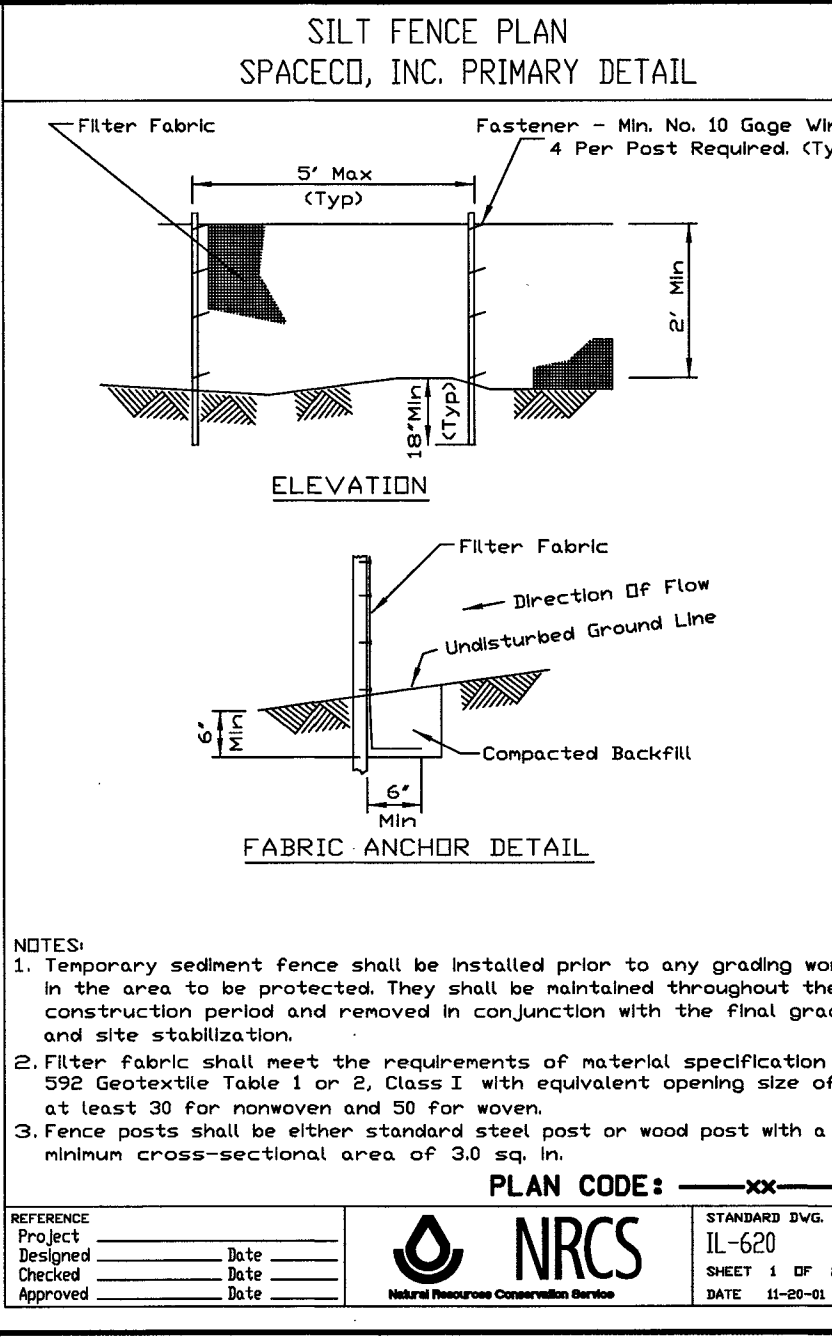
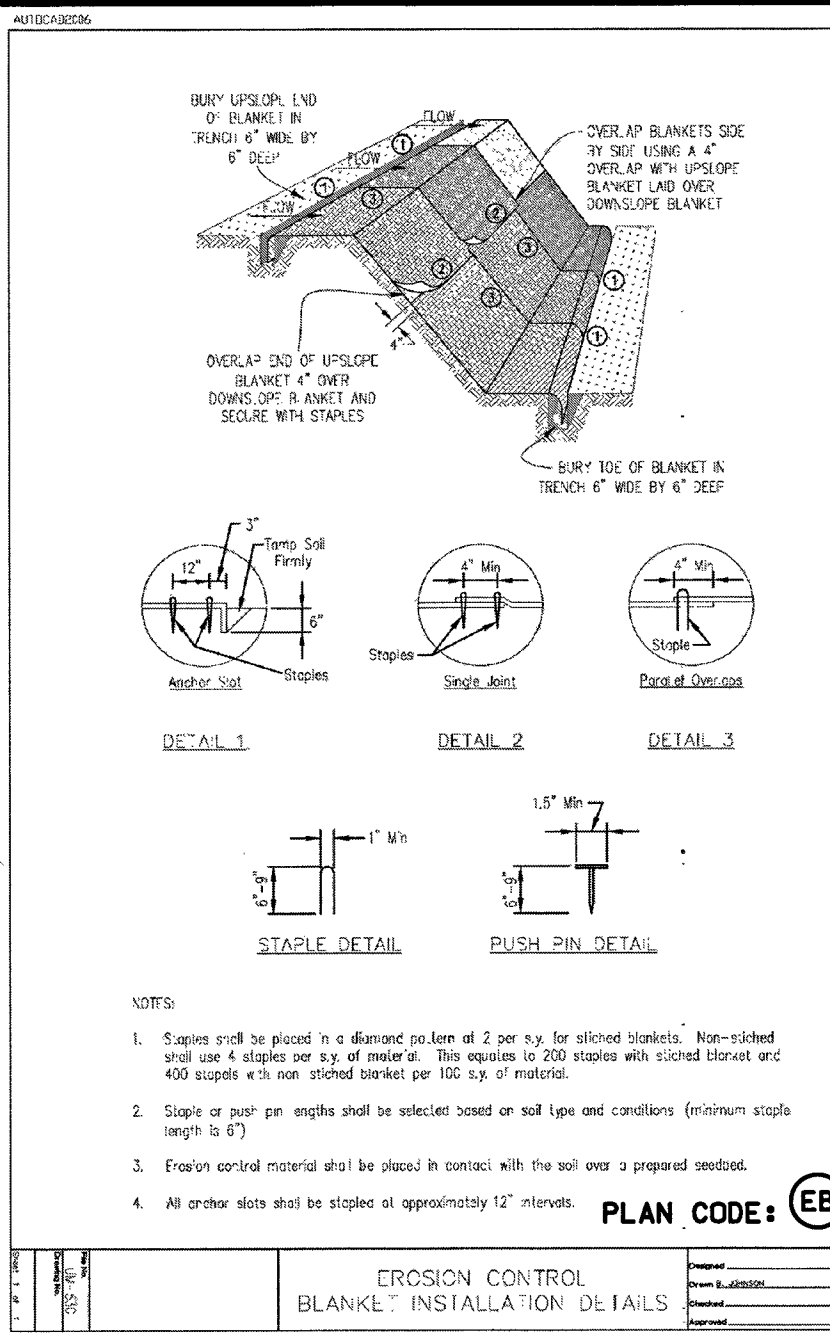
Table with columns for Stabilization Type (Permanent Seeding, Dormant Seeding, Temporary Seeding, Sodding, Mulching) and months (Jan-Dec). Includes a legend for A-F and irrigation notes.

SOIL PROTECTION CHART with columns for Stabilization Type (Permanent Seeding, Dormant Seeding, Temporary Seeding, Sodding, Mulching) and months (Jan-Dec). Includes a legend for A-F and irrigation notes.

CONTRACTOR CERTIFICATION form with fields for Project, Permit #, Contractor Signature, Date, Telephone Number, Printed Name & Title, Name of Contracting Firm, Street Address, City, State, Zip Code, Trade/Responsibilities.

OWNER SWPPP CERTIFICATION form with fields for Project, Permit #, Signature of Owner, Date, Printed Name of Owner.

Vertical title block for Vantage Point Engineering, Inc. including company name, address (3818 North Creeper Drive, Tinley Park, IL 60477), phone (708.478.4004), fax (708.478.4004), email (info@vpeng.com), website (www.vpengineering.com), and sheet information (SHEET EC1 OF 20).



NO.	DATE	REMARKS
1	9/17/13	PER VILLAGE COMMENTS

SOIL EROSION AND SEDIMENT CONTROL PLAN

CARDINAL SQUARE

MUNDELEIN, ILLINOIS

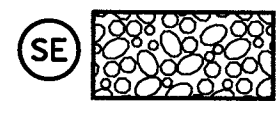
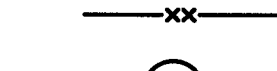


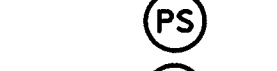



VANTAGEPOINT ENGINEERING

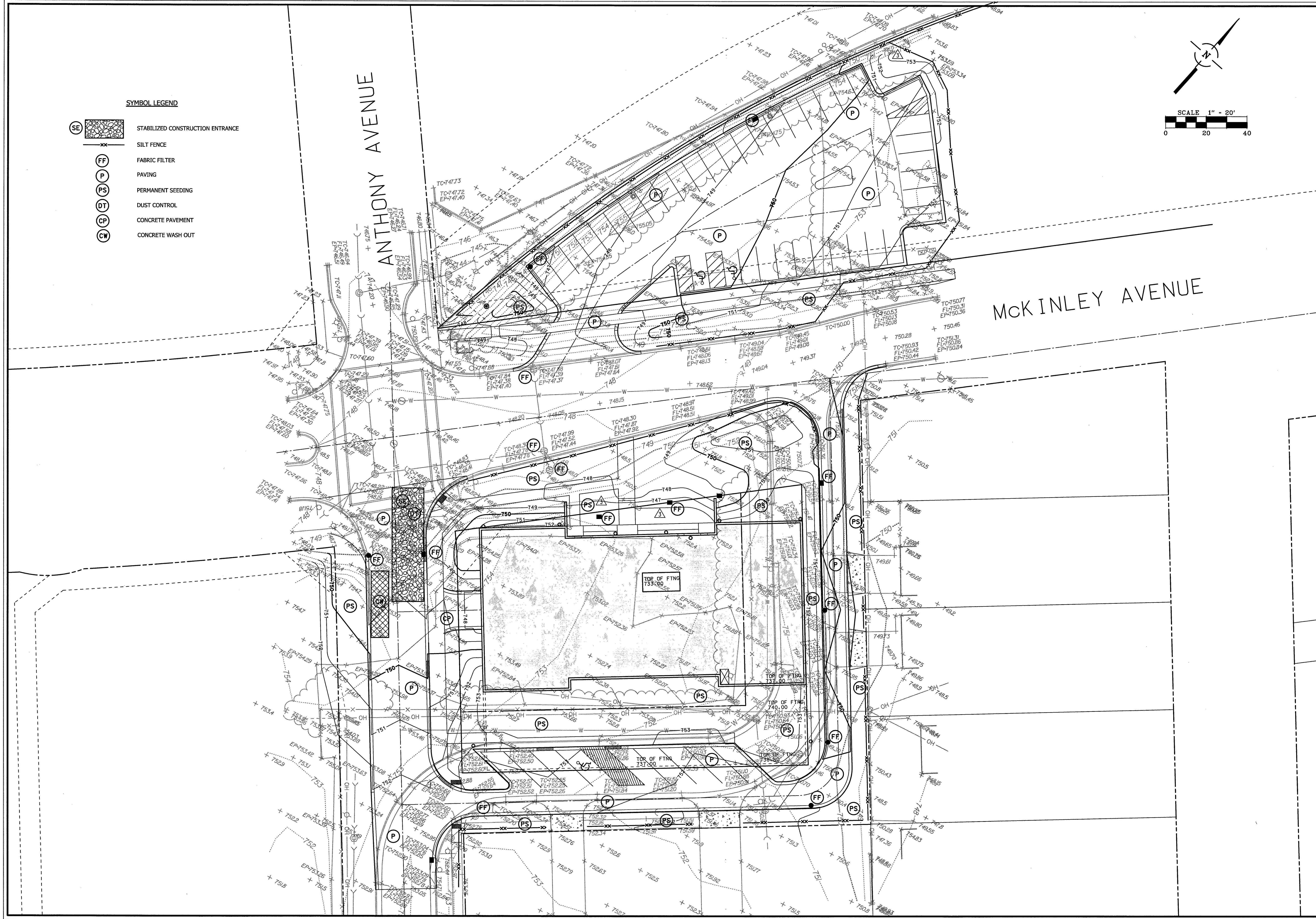
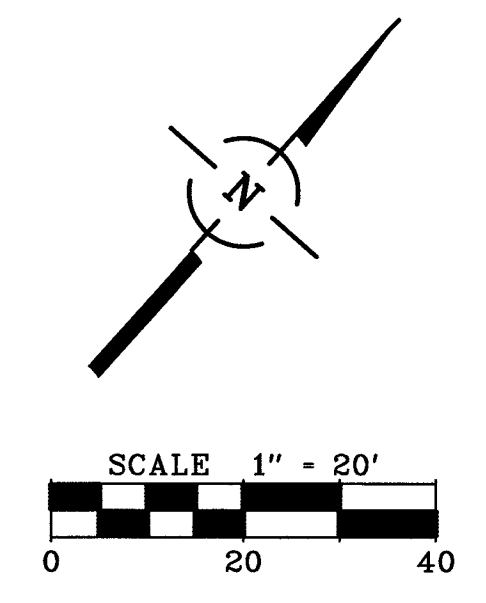
18311 NORTH CREEK DRIVE
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SYMBOL LEGEND

	STABILIZED CONSTRUCTION ENTRANCE
	SILT FENCE
	FABRIC FILTER
	PAVING
	PERMANENT SEEDING
	DUST CONTROL
	CONCRETE PAVEMENT
	CONCRETE WASH OUT



NO.	DATE	REMARKS

3	03/03/14	PER VILLAGE COMMENTS
1	9/17/13	PER VILLAGE COMMENTS

SOIL EROSION CONTROL PLAN
CARDINAL SQUARE
MUNDELEIN, ILLINOIS

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EARTHWORK NOTES

- 1. GENERAL
A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE SOIL AND GROUNDWATER CONDITIONS AT THE SITE. THE CONTRACTOR SHALL OBTAIN AND READ THE GEOTECHNICAL REPORTS AVAILABLE FROM THE OWNER.
B. ANY QUANTITIES IN THE BID PROPOSAL ARE INTENDED AS A GUIDE FOR THE CONTRACTOR'S USE IN DETERMINING THE SCOPE OF THE COMPLETED PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRAISE HIMSELF OF ALL SITE CONDITIONS. THE CONTRACT PRICE SUBMITTED BY THE CONTRACTOR SHALL BE CONSIDERED AS LUMP SUM FOR THE COMPLETE PROJECT. NO CLAIMS FOR EXTRA WORK WILL BE RECOGNIZED UNLESS SET IN WRITING BY THE OWNER.
C. THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE ELEVATIONS AND THAT PAVEMENT THICKNESS, TOPSOIL, ETC. MUST BE SUBTRACTED TO DETERMINE SUBGRADE ELEVATIONS.
D. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION, AND PREVENT STORMWATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS. THE FAILURE TO PROVIDE PROPER DRAINAGE WILL NEGATE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION AND TRAFFIC.
E. PLANS FOR THE SITE DRAINAGE, IF EMPLOYED, SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER PRIOR TO IMPLEMENTATION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DRAINAGE DURING CONSTRUCTION.
F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE "SOIL EROSION AND SEDIMENTATION CONTROL MEASURES". THE INITIAL ESTABLISHMENT OF EROSION CONTROL PROCEDURES AND THE PLACEMENT OF SILT AND FILTER FENCING, ETC. TO PROTECT ADJACENT PROPERTY, WETLANDS, ETC. SHALL OCCUR BEFORE GRADING BEGINS. A MUNICIPAL EROSION CONTROL INSPECTION MAY BE REQUIRED BEFORE ANY EARTHWORK IS PERFORMED.
G. PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, THE CONTRACTOR SHALL ERECT A "SNOW FENCE" AROUND ANY TREE DESIGNATED TO BE PRESERVED. SAID FENCE SHALL BE PLACED IN A CIRCLE CENTERED AROUND THE TREE, THE DIAMETER OF WHICH SHALL BE SUCH THAT THE ENTIRE DRIP ZONE (EXTENT OF FURTHEST EXTENDING BRANCHES) SHALL BE WITHIN THE FENCE LIMITS. THE EXISTING GRADE WITHIN THE FENCED AREA SHALL NOT BE DISTURBED.
H. EXCESS MATERIALS, IF NOT UTILIZED AS FILL, SHALL BE COMPLETELY REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.
I. ALL EARTHWORK SHALL BE DONE UNDER THE SUPERVISION OF AN ILLINOIS LICENSED ENGINEER WHO SPECIALIZES IN THE GEOTECHNICAL FIELD (SOILS ENGINEER). THIS ENGINEER WILL BE RESPONSIBLE FOR ENSURING THAT ALL UNSUITABLE MATERIALS ARE REMOVED, ALL STRUCTURAL FILL MATERIALS ARE PROPERLY PLACED AND COMPACTED, ALL PAVEMENT SUBGRADES ARE PROPERLY PREPARED, PROOF ROLLING SUBGRADES AND BASE COURSES, AND ENSURING THAT ALL WATER RETAINING EMBANKMENTS ARE PROPERLY CONSTRUCTED. THE DEVELOPER PAYS FOR ALL GEOTECHNICAL SERVICES.
2. TOPSOIL EXCAVATION INCLUDES:
A. EXCAVATION OF TOPSOIL AND OTHER STRUCTURALLY UNSUITABLE MATERIALS WITHIN THOSE AREAS THAT WILL REQUIRE EARTH EXCAVATION OR COMPACTED EARTH FILL MATERIAL. EXISTING VEGETATION SHALL BE REMOVED PRIOR TO STRIPPING TOPSOIL OR FILLING AREAS.
B. PLACEMENT OF THE EXCAVATED MATERIAL IN OWNER DESIGNATED AREAS FOR FUTURE USE WITHIN AREAS TO BE LANDSCAPED, AND THOSE AREAS NOT REQUIRING STRUCTURAL FILL MATERIAL. PROVIDE NECESSARY EROSION CONTROL MEASURES FOR STOCKPILE.
C. TOPSOIL STOCKPILED FOR RESPAID SHALL BE FREE OF CLAY AND SHALL NOT CONTAIN ANY OF THE TRANSITIONAL MATERIAL BETWEEN THE TOPSOIL AND CLAY. THE TRANSITIONAL MATERIAL SHALL BE USED IN NON-STRUCTURAL FILL AREAS OR DISPOSED OF OFF-SITE.
D. TOPSOIL RESPAID SHALL INCLUDE HAULING AND SPREADING 6" OF TOPSOIL OVER AREAS TO BE LANDSCAPED WHERE SHOWN ON THE PLANS OR DIRECTED BY THE OWNER.
E. MODERATE COMPACTION IS REQUIRED IN NON-STRUCTURAL FILL AREAS.
3. EARTH EXCAVATION INCLUDES:
A. EXCAVATION OF CLAY AND OTHER MATERIALS WHICH ARE SUITABLE FOR USE AS STRUCTURAL FILL. THE EXCAVATION SHALL BE TO WITHIN A TOLERANCE OF 0.1 FEET OF THE PLAN SUBGRADE ELEVATIONS WHILE MAINTAINING PROPER DRAINAGE. THE TOLERANCE WITHIN PAVEMENT AREAS SHALL BE SUCH THAT THE EARTH MATERIALS SHALL "BALANCE" DURING THE FINE GRADING OPERATION.
B. PLACEMENT OF THE CLAY AND OTHER SUITABLE MATERIALS SHALL BE WITHIN THOSE AREAS REQUIRING STRUCTURAL FILL IN ORDER TO ACHIEVE THE PLAN SUBGRADE ELEVATIONS TO WITHIN A TOLERANCE OF 0.1 FEET. THE FILL MATERIAL SHALL BE PLACED IN LOTS THAT SHALL NOT EXCEED EIGHT (8) INCHES IN THICKNESS, AND THE WATER CONTENT SHALL BE ADJUSTED IN ORDER TO ACHIEVE REQUIRED COMPACTION. STRUCTURAL FILL MATERIAL MAY BE PLACED WITHIN THOSE PORTIONS OF THE SITE NOT REQUIRING STRUCTURAL FILL TO WITHIN SIX (6) INCHES OF THE PLAN FINISHED GRADE ELEVATION. IN AREAS REQUIRING STRUCTURAL FILL, HOWEVER, THIS MATERIAL SHALL NOT BE PLACED OVER TOPSOIL OR OTHER UNSUITABLE MATERIALS UNLESS SPECIFICALLY DIRECTED BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.
C. COMPACTION OF THE CLAY AND OTHER SUITABLE MATERIALS SHALL BE TO AT LEAST 93% OF THE MODIFIED PROCTOR DRY DENSITY WITHIN PROPOSED PAVEMENT AREAS, SIDEWALKS, ETC. COMPACTION SHALL BE AT LEAST 95% OF THE MODIFIED PROCTOR WITHIN PROPOSED BUILDING PAD AREAS.
D. EXCAVATION: QUANTITIES OF EARTH EXCAVATION INDICATED ELSEWHERE IN THIS CONTRACT HAVE BEEN COMPUTED BY THE END AREA METHOD AS PROVIDED FOR IN SECTION 202 OF THE STANDARD SPECIFICATIONS. EXCAVATED MATERIALS NOT NEEDED FOR THIS JOB SITE SHALL BE LEGALLY DISPOSED OF. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER CUBIC YARD OF EARTH EXCAVATION.
4. UNSUITABLE MATERIAL
UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUBGRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.
5. MISCELLANEOUS THE CONTRACTOR SHALL:
A. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS.
B. SCARIFY, DISC, AERATE, AND COMPACT, TO THE DEGREE SPECIFIED, THE UPPER TWELVE (12) INCHES OF THE SUITABLE SUBGRADE MATERIAL, IN ALL AREAS THAT MAY BE SOFT DUE TO EXCESS MOISTURE CONTENT. THIS APPLIES TO CUT AREAS AS WELL AS FILL AREAS.
C. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION.
D. BACKFILL THE CURB AND GUTTER AFTER ITS CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE MATERIAL. THE CURBS SHALL NOT BE BACKFILLED UNTIL THE CONCRETE HAS CURED FOR AT LEAST 7 DAYS.
E. TRENCH COMPACTION: ALL TRENCHES SHALL BE COMPACTED BY MECHANICAL TECHNIQUES APPROVED BY THE SOILS ENGINEER UNTIL PROPER COMPACTION IS ACHIEVED. THE REQUIREMENT FOR MECHANICAL COMPACTION MAY BE WAIVED BY THE SOILS ENGINEER AND THE MUNICIPAL ENGINEER, WHEN THE BACKFILLED TRENCHES MEET THE DENSITY REQUIREMENTS. JETTING OF TRENCHES FOR COMPACTION WILL NOT BE ALLOWED.
6. TESTING AND FINAL ACCEPTANCE
A. THE CONTRACTOR SHALL PROVIDE AS A MINIMUM, A FULLY LOADED SIX-WHEEL TANDEM AXLE TRUCK FOR PROOF ROLLING THE PAVEMENT SUBGRADE, CURB AND GUTTER AND THE PLACEMENT OF THE BASE MATERIAL. THIS SHALL BE WITNESSED BY MUNICIPAL ENGINEER AND THE OWNER. SEE PAVING SPECIFICATION.
B. ANY UNSUITABLE AREA ENCOUNTERED AS A RESULT OF PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL, OR OTHERWISE CORRECTED, APPROVED BY THE SOILS CONSULTANT.
C. ANY TESTING THAT IS REQUIRED OF THIS CONSTRUCTION IS CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION. NO SEPARATE PAYMENT WILL BE MADE.

PAVING NOTES

- 1. GENERAL
A. PAVING WORK INCLUDES FINAL SUBGRADE PREPARATION AND COMPACTION; PLACEMENT OF CURB OR BASE COURSE MATERIALS; BITUMINOUS BINDER AND/OR SURFACE COURSES; FORMING, FINISHING AND CURING CONCRETE PAVEMENT, CURBS AND WALKS; AND FINAL CLEAN-UP AND ALL RELATED WORK.
B. COMPACTION REQUIREMENTS: (REFERENCE ASTM D-1557 (MODIFIED PROCTOR)) SUB-GRADE = 95%; SUB-BASE = 95%; AGGREGATE BASE COURSE = 95%; BITUMINOUS COURSES = REFER TO SPEC. ARTICLE 406.07. THE SOILS ENGINEER IS RESPONSIBLE FOR ENSURING THAT ALL MATERIALS ARE PROPERLY PLACED AND COMPACTED.
C. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE PROPER BARRICADING, WARNING DEVICES AND THE SAFE MANAGEMENT OF TRAFFIC WITHIN THE AREA OF CONSTRUCTION. ALL SUCH DEVICES AND THEIR INSTALLATION SHALL CONFORM TO THE ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION AND IN ACCORDANCE WITH THE MUNICIPAL CODE.
2. SUB-GRADE PREPARATION
A. EARTHWORK FOR PROPOSED PAVEMENT SUBGRADE SHALL BE FINISHED TO WITHIN 0.1 FOOT, PLUS OR MINUS, OF PLAN ELEVATION. THE CONTRACTOR SHALL SATISFY HIMSELF THAT THE SUBGRADE HAS BEEN PROPERLY PREPARED AND THAT THE FINISH TOP SUBGRADE ELEVATION HAS BEEN GRADED WITHIN TOLERANCES ALLOWED IN THESE SPECIFICATIONS. UNLESS THE CONTRACTOR ADVISES THE OWNER AND ENGINEER IN WRITING PRIOR TO FINE GRADING FOR BASE COURSE CONSTRUCTION, IT IS UNDERSTOOD THAT HE HAS APPROVED AND ACCEPTS THE RESPONSIBILITY FOR THE SUBGRADE.
B. PRIOR TO THE PLACEMENT OF THE BASE COURSE, THE SUBGRADE MUST BE PROOF ROLLED AND INSPECTED FOR UNSUITABLE MATERIALS AND/OR EXCESSIVE MOVEMENT. THE SOILS ENGINEER SHALL CONDUCT AND THE VILLAGE SHALL WITNESS ALL PROOF ROLLS. IF UNSUITABLE SUBGRADE IS ENCOUNTERED, IT SHALL BE CORRECTED IN A MANNER APPROVED BY THE OWNER OR HIS REPRESENTATIVE. THIS MAY INCLUDE ONE OR MORE OF THE FOLLOWING METHODS:
1) SCARIFY DISC AND AERATE.
2) REMOVE AND REPLACE WITH STRUCTURAL CLAY FILL.
3) REMOVE AND REPLACE WITH GRANULAR MATERIAL.
4) USE OF GEOTEXTILE FABRIC.
MAXIMUM DEFLECTION ALLOWED IN ISOLATED AREAS MAY BE 1/4" TO 1/2" IF NO DEFLECTION OCCURS OVER THE MAJORITY OF THE AREA.
C. PRIOR TO THE CONSTRUCTION OF THE CURB AND GUTTER AND THE PLACEMENT OF THE BASE MATERIAL, THE PAVEMENT AREA SHALL BE FINE GRADED TO WITHIN 0.04 FEET (1/2") OF FINAL SUBGRADE ELEVATION, TO A POINT TWO (2) FEET BEYOND THE BACK OF CURB, SO AS TO INSURE THE PROPER THICKNESS OF PAVEMENT COURSES. NO CLAIMS FOR EXCESS QUANTITY OF BASE MATERIALS DUE TO IMPROPER SUBGRADE PREPARATION WILL BE HONORED.
D. PRIOR TO PLACEMENT OF THE BASE COURSE, ALL SUBGRADES MUST BE APPROVED BY THE MUNICIPAL ENGINEER, SOILS ENGINEER AND/OR OWNER.

- 3. CONCRETE WORK
A. ALL EXTERIOR CONCRETE SHALL BE PORTLAND CEMENT CONCRETE CLASS S1 OR PV PER (SSRBC) SECTION 1020.04 WITH AIR ENTRAINMENT OF NOT LESS THAN FIVE (5%) OR MORE THAN EIGHT (8%) PERCENT. CONCRETE SHALL BE A MINIMUM OF SIX (6) BAG MIX AND SHALL DEVELOP A MINIMUM OF 3,500 PSI COMPRESSIVE STRENGTH AT FOURTEEN (14) DAYS. ALL CONCRETE SHALL BE BROOM FINISHED PERPENDICULAR TO THE DIRECTION OF TRAVEL. THE ADDITION OF CALCIUM CHLORIDE AND THE SUBSTITUTION OF 1% ASH FOR PORTLAND CEMENT IS PROHIBITED. 1.50 lbs of COLLATED, FILLERATED, POLYPROPYLENE FIBER IN FIBERS 0.50 TO 0.75 INCHES IN LENGTH SHALL BE ADDED TO EACH CUBIC YARD OF CONCRETE USED FOR SIDEWALKS. THE FIBERS SHALL BE AS MANUFACTURED UNDER THE NAME "FIBERMESH" OR EQUAL.
B. CONCRETE CURB AND/OR COMBINATION CURB AND GUTTER SHALL BE OF THE TYPE SHOWN ON THE PLANS. THE CONTRACTOR IS CAUTIONED TO REFER TO THE CONSTRUCTION STANDARDS AND THE PAVEMENT CROSS-SECTION TO DETERMINE THE GUTTER FLAT THICKNESS AND THE AGGREGATE BASE COURSE THICKNESS BENEATH THE CURB AND GUTTER. PREMULDED FIBER EXPANSION JOINTS, WITH TWO 3/4" X 18" EPOXY COATED STEEL DOWEL BARS, SHALL BE INSTALLED AT SIXTY (60) FOOT INTERVALS AND AT ALL PO. 50, PT. 50 AND CURB RETURN. ALTERNATE ENDS OF THE DOWEL BARS SHALL BE GRASSED AND FITTED WITH METAL EXPANSION TUBES. SAWED OR FORMED CONSTRUCTION JOINTS SHALL BE PROVIDED AT NO GREATER THAN FIFTEEN (15) FOOT INTERVALS BETWEEN EXPANSION JOINTS. NO HOPE-COMBING OF THE CURB AND GUTTER WILL BE ACCEPTED.
C. CURBS SHALL BE DEPRESSED AT LOCATIONS WHERE PUBLIC WALKS/PEDESTRIAN PATHS INTERSECT CURB LINES, AND OTHER LOCATIONS AS DIRECTED FOR THE PURPOSE OF PROVIDING ACCESSIBILITY. (SEE CONSTRUCTION STANDARDS FOR DETAIL). BARRIER CURB SHALL ALSO BE DEPRESSED AT DRIVEWAY LOCATIONS.
D. THE CURBS SHALL BE BACKFILLED AFTER THEIR CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE. THE CONCRETE MUST CURE FOR AT LEAST SEVEN DAYS BEFORE THE CURBS ARE BACKFILLED.
E. CONCRETE SIDEWALK SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. PROVIDE SCORED JOINTS AT 5 FOOT INTERVALS AND 1/2" PREMULDED FIBER EXPANSION JOINTS AT 50 FOOT INTERVALS, AND ADJACENT TO CONCRETE CURBS, DRIVEWAYS, FOUNDATIONS, ETC.
F. CONCRETE DRIVEWAY APRONS SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. PROVIDE 6" X 6" NO. 6 WELDED WIRE MESH IN DRIVEWAYS. PROVIDE 1/2" PREMULDED FIBER EXPANSION JOINT ADJACENT TO CURBS AND CONCRETE SIDEWALKS. PROVIDE SAWED OR FORMED CONSTRUCTION JOINT AT MID-POINT AND 15 FOOT MAXIMUM.
G. STANDARD REINFORCED CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. SAWED OR FORMED CONSTRUCTION EXPANSION JOINTS SHALL BE AS SHOWN ON THE PLANS.
H. CONCRETE CURING AND PROTECTION SHALL BE IN ACCORDANCE WITH (SSRBC) - METHOD 1, II, OR III.
I. THE COST OF AGGREGATE BASE OR SUB-BASE UNDER CONCRETE WORK SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE CONCRETE ITEM.
4. FLEXIBLE PAVEMENT
A. THE PAVEMENT MATERIALS FOR BITUMINOUS STREETS, PARKING LOTS, DRIVEWAYS, SIDEWALKS AND PATHS SHALL BE AS DETAILED ON THE PLANS. UNLESS OTHERWISE SHOWN ON THE PLANS, THE FLEXIBLE PAVEMENTS SHALL CONSIST OF AGGREGATE BASE COURSE, TYPE S1; BITUMINOUS CONCRETE BINDER COURSE; AND BITUMINOUS CONCRETE SURFACE COURSE OF THE THICKNESS AND MATERIALS SPECIFIED ON THE PLANS. THICKNESSES SPECIFIED SHALL BE CONSIDERED TO BE THE MAXIMUM COMPACTION THICKNESS. THE PAVING IS TO BE DONE IN ACCORD WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS.
B. ALL TRAFFIC SHALL BE KEPT OFF THE COMPLETED AGGREGATE BASE UNTIL THE BINDER COURSE IS LAID. THE AGGREGATE BASE SHALL BE UNIFORMLY PRIME COATED AT A RATE OF 0.4 TO 0.5 GALLONS PER SQUARE YARD PRIOR TO PLACING THE BINDER COURSE. PRIME COAT MATERIALS SHALL BE BITUMINOUS W.C. - 30.
C. PRIOR TO PLACEMENT OF THE SURFACE COURSE, THE BINDER COURSE SHALL BE CLEANED, AND TACK COATED IF DUSTY OR DIRTY. ALL DAMAGED AREAS IN THE BINDER, BASE OR CURB SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER PRIOR TO LAYING THE SURFACE COURSE. THE CONTRACTOR SHALL PROVIDE WATER/EQUIPMENT AND MANPOWER NECESSARY, INCLUDING THE USE OF POWER BROOMS IF REQUIRED BY THE OWNER, TO PREPARE THE PAVEMENT FOR APPLICATION OF THE SURFACE COURSE. THE TACK COAT SHALL BE UNIFORMLY APPLIED TO THE BINDER COURSE AT A RATE OF 0.05 TO 0.10 GALLONS PER SQUARE YARD. TACK COAT SHALL BE AS SPECIFIED IN (SSRBC) SECTION 406.02.
D. SEAMS IN BASE, BINDER AND SURFACE COURSE SHALL BE STAGGERED A MINIMUM OF 6".
E. FOR NEW STREETS, THE CONTRACTOR SHALL PERMIT THE BITUMINOUS CONCRETE BINDER COURSE TO WEATHER ONE (1) WINTER SEASON PRIOR TO THE INSTALLATION OF THE BITUMINOUS CONCRETE SURFACE COURSE UNLESS OTHERWISE SPECIFIED BY THE MUNICIPAL ENGINEER OR OWNER.
5. TESTING AND FINAL ACCEPTANCE
A. THE CONTRACTOR SHALL FOLLOW THE QUALITY CONTROL TESTING PROGRAM FOR CONCRETE AND PAVEMENT MATERIALS ESTABLISHED BY THE OWNER AND/OR MUNICIPALITY. TESTING SHALL BE DONE IN ACCORD WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS AND THE TESTING REQUIREMENTS OF THE MUNICIPALITY.
B. WHEN REQUESTED BY THE OWNER, TEST RESULTS AND DOCUMENTATION FOR THE CONCRETE, BASE COURSE, BITUMINOUS CONCRETE BINDER, AND/OR SURFACE COURSE, SHALL BE SUBMITTED FOR VERIFICATION.
C. PRIOR TO PLACEMENT OF THE BITUMINOUS CONCRETE SURFACE COURSE, THE CONTRACTOR, WHEN REQUIRED BY THE OWNER OR MUNICIPALITY, SHALL PROVIDE THE BINDER COURSE WITH A CORE DRILL WHERE DIRECTED, FOR THE PURPOSE OF THICKNESS VERIFICATION.
D. WHEN REQUESTED BY THE OWNER OR MUNICIPALITY, THE CONTRACTOR SHALL OBTAIN SPECIMENS OF THE FULL DEPTH BITUMINOUS CONCRETE PAVEMENT STRUCTURE WITH A CORE DRILL WHERE DIRECTED, IN ORDER TO CONFIRM THE PLAN THICKNESS. DEFICIENCIES IN THICKNESS SHALL BE ADJUSTED FOR BY THE METHOD DESCRIBED IN (SSRBC), ART. 407.10.
E. FINAL ACCEPTANCE OF THE TOTAL PAVEMENT INSTALLATION SHALL BE SUBJECT TO THE TESTING AND CHECKING REQUIREMENTS CITED ABOVE.

WATERMAIN NOTES

- 1. PIPE MATERIALS:
A. SEE VILLAGE OF MUNDELEIN SPECIFICATIONS THIS SHEET FOR PIPE MATERIAL SPECIFICATIONS.
2. FITTINGS:
A. SEE VILLAGE OF MUNDELEIN SPECIFICATIONS THIS SHEET FOR FITTINGS SPECIFICATION.
3. WATER SERVICES:
A. SEE VILLAGE OF MUNDELEIN SPECIFICATIONS THIS SHEET FOR WATER SERVICE SPECIFICATIONS.
4. VALVES:
A. SEE VILLAGE OF MUNDELEIN SPECIFICATIONS THIS SHEET FOR VALVE SPECIFICATIONS.
5. VALVE VAULTS:
A. VALVE VAULTS SHALL BE PRECAST CONCRETE STRUCTURES AS NOTED ON THE PLANS. THE FRAME AND LID SHALL BE NEENAH R-1712, OR EQUAL, WITH "WATER" EMBOSSED ON THE LID.
6. FIRE HYDRANTS:
A. FIRE HYDRANTS SHALL CONFORM TO AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARD NO. C-502, LATEST REVISION, AND SHALL BE A MODEL SHOWN ON THE PLANS AND APPROVED BY THE MUNICIPALITY. FIRE HYDRANTS SHALL BE INSTALLED WITH AN AUXILIARY VALVE AND CAST IRON VALVE BOX. THE PUMPER CONNECTION SHALL FACE ROADWAY.
B. PROVIDE THE RODS FROM THE MAINLINE TEE TO THE AUXILIARY VALVE, AND BETWEEN THE AUXILIARY VALVE AND HYDRANT BARREL, WERE NOT BOLTED TOGETHER.
C. THE BREAK FLANGE AND ALL BELOW GRADE FITTINGS SHALL HAVE STAINLESS STEEL NUTS AND BOLTS.
7. CORPORATION STOPS:
A. CORPORATION STOPS SHALL BE BRONZE BODY KEY STOPS CONFORMING TO AWWA C-800, AND SHALL INCLUDE 1" BEND, TAIL PIECE, AND COMPRESSION FITTINGS. SIZE AND LOCATION AS SHOWN ON PLANS.
B. TAPPING SADDLES SPECIFICALLY DESIGNED FOR USE WITH PVC PIPE SHALL BE IN CONJUNCTION WITH THE CORPORATION STOP.
8. SERVICE BOX:
A. PROVIDE CURB VALVE AND CURB BOX AS INDICATED ON THE PLANS. BOX SHALL BE EXTENSION TYPE WITH FOOT PIECE AND STATIONARY RODS FOR SIX (6) FEET OF BURY.
B. MAXIMUM DEFLECTION AT PIPE JOINTS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURER'S CURRENT RECOMMENDATIONS AND AWWA SPECIFICATIONS.
9. BEDDING:
A. ALL DUCTILE IRON WATERMAIN SHALL HAVE COARSE SAND BEDDING/EXTENDED TO AT LEAST SIX INCHES (6") ABOVE THE TOP OF THE PIPE. COST OF BEDDING SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THIS PIPE. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS ITEM.
B. GRANULAR BEDDING MATERIAL OR GRANULAR BACKFILL MATERIAL SHALL BE CAREFULLY PLACED TO 12" OVER THE TOP OF THE PIPE BEFORE FINAL BACKFILLING AND COMPACTION.
C. A MINIMUM DEPTH OF COVER OF 5'-6" SHALL BE MAINTAINED OVER THE WATER LINES. THE MAXIMUM COVER SHALL BE EIGHT (8) FEET EXCEPT AT SPECIAL CROSSINGS.
D. CONCRETE THRUST BLOCKING SHALL BE INSTALLED ON WATERMAIN AT ALL BENDS, TEE, ELBOWS, ETC.

- 10. JEPA WATERMAIN PROTECTION:
A. HORIZONTAL SEPARATION
a) WATERMANS SHALL BE LAID AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED DRAIN, STORM SEWER, SANITARY SEWER OR SEWER SERVICES CONNECTION.
b) WATERMANS MAY BE LAID DEEPER THAN TEN FEET TO A SEWER LINE WHEN:
1) LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF TEN FEET;
2) THE WATERMAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER;
3) THE WATERMAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE SEWER.
c) BOTH THE WATERMAIN AND DRAIN OR SEWER SHALL BE CONSTRUCTED WITH PIPE EQUIVALENT TO WATERMAIN STANDARDS OF CONSTRUCTION WHEN IT IS IMPOSSIBLE TO MEET (a) OR (b) ABOVE. THE DRAIN OR SEWER SHALL BE PRESSURE TESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACKFILLING.
B. VERTICAL SEPARATION
a) A WATERMAIN SHALL BE LAID SO THAT ITS INVERT IS 18 INCHES ABOVE THE CROWN OF THE DRAIN OR SEWER WHENEVER WATERMANS CROSS STORM SEWERS, SANITARY SEWERS OR SEWER SERVICE CONNECTIONS. THE VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATERMAIN LOCATED WITHIN TEN FEET HORIZONTALLY OF ANY SEWER OR DRAIN CROSSING. A LENGTH OF WATERMAIN PIPE SHALL BE CENTERED OVER THE SEWER TO BE CROSSED WITH JOINTS EQUIDISTANCE FROM THE SEWER OR DRAIN.
b) BOTH THE WATERMANS AND SEWER SHALL BE CONSTRUCTED WITH PIPE EQUIVALENT TO WATERMAIN STANDARDS OF CONSTRUCTION WHEN:
1) IT IS IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION AS DESCRIBED IN (a) ABOVE; OR
2) THE WATERMAIN PASSES UNDER A SEWER OR DRAIN.
c) A VERTICAL SEPARATION OF 18 INCHES BETWEEN THE INVERT OF THE SEWER OR DRAIN AND THE CROWN OF THE WATERMAIN SHALL BE MAINTAINED WHERE A WATERMAIN CROSSES UNDER SEWER. SUPPORT THE SEWER OR DRAIN LINES TO PREVENT SETTLING AND BREAKING THE WATER MAIN.
d) CONSTRUCTION SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE NORMAL DISTANCE FROM THE WATERMAIN TO THE SEWER OR DRAIN LINE IS AT LEAST TEN FEET.

- 11. TESTING:
A. ALL WATERMANS SHALL BE PRESSURE TESTED, FLUSHED AND DISINFECTED IN ACCORDANCE WITH AWWA AND MUNICIPAL SPECIFICATIONS. EACH VALVE SECTION SHALL BE PRESSURE TESTED FOR A MINIMUM OF 4 HOURS ALLOWING LEAKAGE IS TO BE ONLY THAT WHICH IS DETERMINED BY THE STANDARD SPECIFICATIONS FOR SEWER AND WATERMAIN CONSTRUCTION IN ILLINOIS. AT NO TIME IS THERE TO BE ANY VISIBLE LEAKAGE FROM THE MAIN.
B. CONTRACTOR IS RESPONSIBLE FOR PRESSURE TESTING AGAINST EXISTING WATER VALVES.

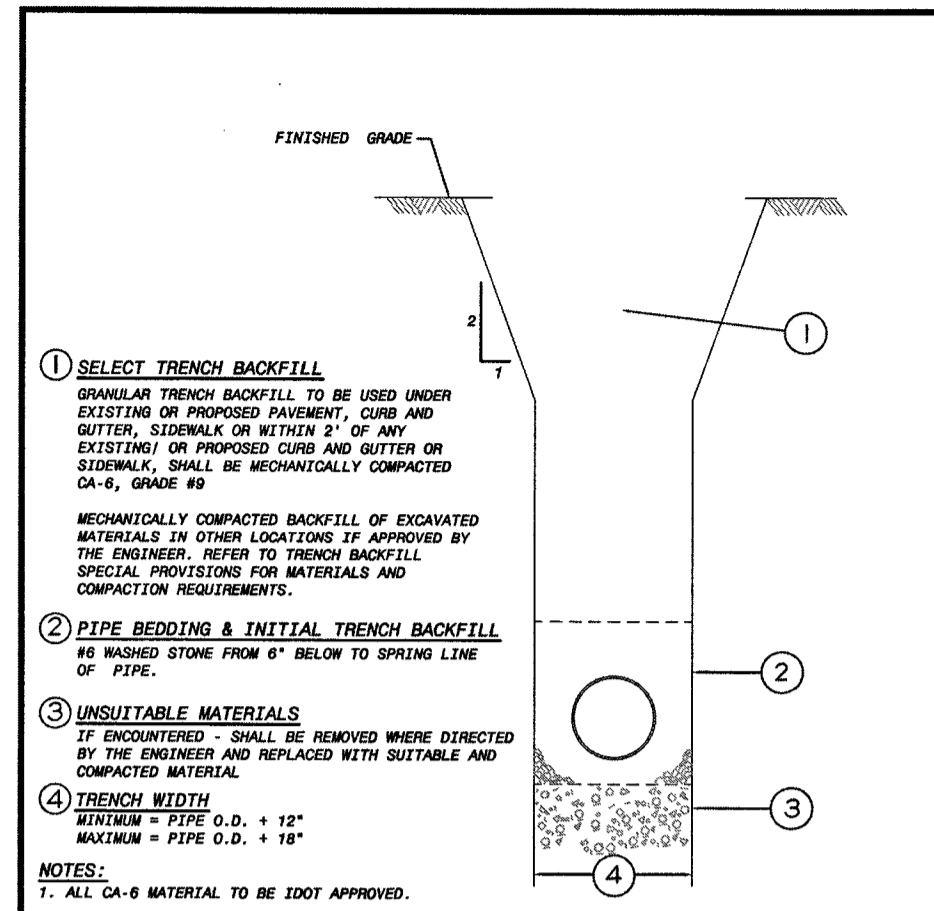
Miscellaneous Water Main Notes
Water Main
A. Water Main Pipe Materials
• PVC SDR 18 AWWA C-900 PVC Pipe
• Water main pipe must have a minimum of five (5)-feet six (6)-inches cover per the Trench Material Detail.
B. Restrained Joints
1. All mechanical joint fittings are to be restrained with mega-lugs produced by EBBA Iron Inc. or approved equivalent. This shall be for C-900 PVC Pipe or Class 52 Ductile Iron Pipe.
2. All mechanical joint fittings to be assembled with stainless steel Teflon coated nuts and bolts.
3. All mechanical joint fittings must contain two (2) zinc anode (6 ounce minimum) caps attached to every other foot of each fitting (see detail).
C. Tracer Wire
1. Tracer wire -12 awg copper wire with 30-mil polyethylene jacket must be buried with all water main pipe materials including Ductile Iron Pipe.
2. Tracer wire must be "duct" taped to the top of water main pipe at intervals not to exceed four (4)-feet.
3. Tracer wire split bolt connectors required when connecting two (2) pieces together. Bare wire and connector must be wrapped with electrical tape must be taped over (see example for split bolt connector).
4. Tracer wire must be brought up to grade using the locating wire box at each fire hydrant (per detail).
5. Tracer wire must be brought to top step in valve vaults (per detail).
Fire Hydrants
A. Materials
1. The Fire Hydrant must be Mueller Super Centurion 250, A-423 Model.
2. The below grade nuts & bolts on the hydrant must be stainless steel installed from the manufacturer.
3. Water main "spool" pieces of pipe between the branch tee and the hydrant shoe must be made of ductile iron pipe material.
4. Fire hydrant tees must be installed in a horizontal position to the water main. Hydrant auxiliary valve boxes of excessive depth must have an extension on the valve operative nut to permit clear operation above the hydrant.
W-0 (1 of 4)

Water Service/Fire Lines (Two (2)-Inches and Smaller)
B. Spacing and Locations
1. Fire hydrants shall be installed along all water mains constructed in public right-of-way, at a maximum spacing of 350-feet. However, fire hydrants must be installed on lot lines in single-family residential installations.
2. Fire hydrants must be at least 20-feet from any intersection.
3. Hydrants shall be installed no closer than three (3)-feet to the back of curb from the steamer port (pumper nozzle), nor further than eight (8)-feet from the back curb. No hydrant shall be installed within 48-inches of any obstruction, nor shall any obstruction be placed within 48-inches of an existing hydrant. A minimum five (5)-foot distance from any driveway entrance must be maintained.
C. Distance
Fire Department review required for distance from building.
D. Paintings
1. All hydrants shall be painted "Safety Red" with Sherwin-Williams brand "SHIR-CRL SAFETY RED". Rustoleum brand "FIRE HYDRANT PAINT RED", or as approved by the Water Superintendent.
Valves
A. Materials
All water valves must be Mueller Brand (per detail).
B. Spacing and Location
Water main valves shall be spaced at a minimum of 400-feet, or at a distance such that in the event of a required shut down of the public main, no more than 24 single family residential units shall be out of water service, whichever results in the shortest valve spacing or as approved by the Public Works Department. Valve vaults shall not be allowed within driveways or sidewalks.
Connection to Existing Mains
All connections to the Village water distribution system shall be made under full water service pressure in accordance with Village Engineering Design Details or as required.
A. Materials
1. When connection is size on size piping, a two (2) piece Ductile Iron Sleeve is required.
2. When branch size is smaller than existing pipe, a stainless steel tapping sleeve will be used.
3. All tapping sleeves must be air tested prior to tapping water main.
W-0 (2 of 4)

Water Service/Fire Lines (Larger Than Two (2)-Inches)
Water services that are larger than two (2)-inch Type K copper services shall be a minimum size of four (4)-inch water main pipe. (Three (3)-inch piping is not permitted.) These water services can be a combination system for both domestic use and fire protection.
A. Materials
Water service lines larger than two (2)-inches must follow all the materials, procedures, policies, and details for water main installations.
B. Fire Protection
Any water service line designated for fire protection must be sized appropriately in order to sufficiently supply water for fire protection based on the fire flow requirement of the building. Documentation must be submitted and approved by the Village of Mundelein Fire Department.
C. Combination Fire/Domestic Usage
Any water service line designated for both fire and domestic usage must meet the following requirements:
1. Water service line must be sized to meet the fire protection requirements and domestic usage of the building.
2. Water service line must enter the building in a designated Meter/Fire Suppression Room when domestic service is manifolded into multiple water meters. Meter/Fire Suppression Room must meet Village of Mundelein Code 16.08.260(f) meter rooms.
3. Upon entering the building or Meter/Fire Suppression Room, the domestic service will branch off from the fire service with valves installed on the fire line and domestic service prior to pressure testing.
D. Inspections and Testing
The inspections and testing of the water service for fire/domestic usage shall follow the guidelines and methods for water main inspections and testing procedures.
W-0 (4 of 4)

Water Service/Fire Lines (Larger Than Two (2)-Inches)
Water services that are larger than two (2)-inch Type K copper services shall be a minimum size of four (4)-inch water main pipe. (Three (3)-inch piping is not permitted.) These water services can be a combination system for both domestic use and fire protection.
A. Materials
Water service lines larger than two (2)-inches must follow all the materials, procedures, policies, and details for water main installations.
B. Fire Protection
Any water service line designated for fire protection must be sized appropriately in order to sufficiently supply water for fire protection based on the fire flow requirement of the building. Documentation must be submitted and approved by the Village of Mundelein Fire Department.
C. Combination Fire/Domestic Usage
Any water service line designated for both fire and domestic usage must meet the following requirements:
1. Water service line must be sized to meet the fire protection requirements and domestic usage of the building.
2. Water service line must enter the building in a designated Meter/Fire Suppression Room when domestic service is manifolded into multiple water meters. Meter/Fire Suppression Room must meet Village of Mundelein Code 16.08.260(f) meter rooms.
3. Upon entering the building or Meter/Fire Suppression Room, the domestic service will branch off from the fire service with valves installed on the fire line and domestic service prior to pressure testing.
D. Inspections and Testing
The inspections and testing of the water service for fire/domestic usage shall follow the guidelines and methods for water main inspections and testing procedures.
W-0 (4 of 4)

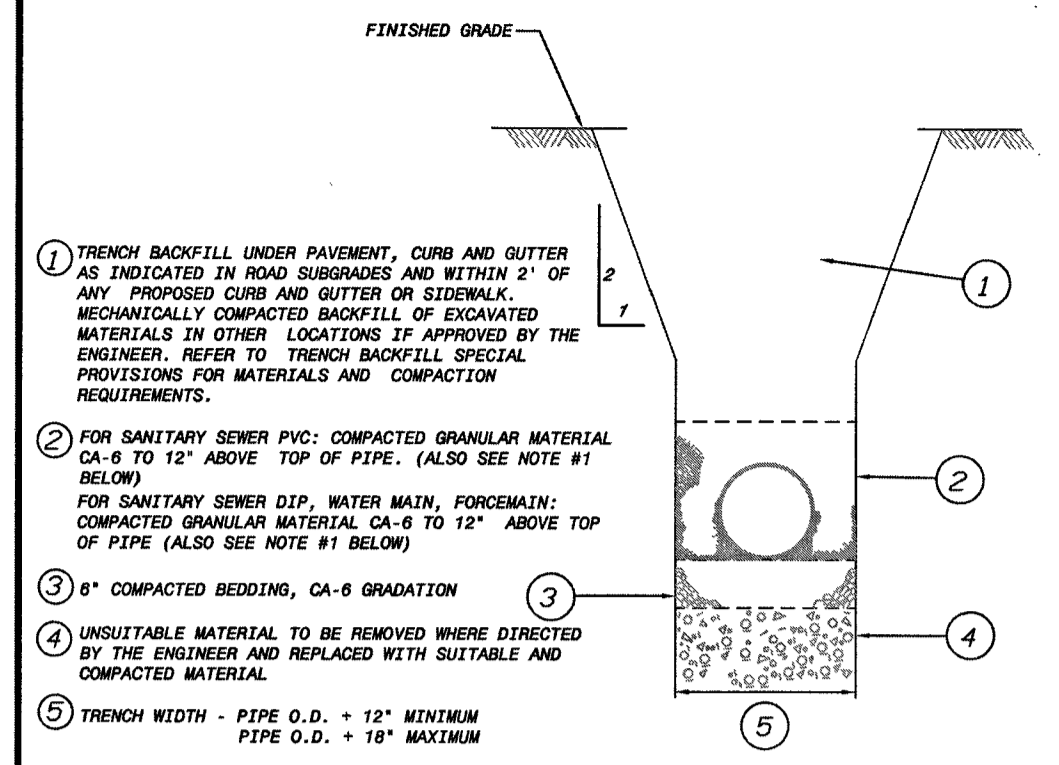
SPECIFICATIONS
CARDINAL SQUARE
MUNDELEIN, ILLINOIS
NO. DATE REMARKS
4 04/04/14 PER VILLAGE COMMENTS
1 9/17/13 PER VILLAGE COMMENTS
NO. DATE REMARKS
SPECIFICATIONS
VANTAGE POINT ENGINEERING
18311 NORTH CREEK DRIVE
TRILEY PARK, IL 60071
1/708.878.8006
INFO@VPENG.COM
VPENG.COM | CIVIL ENGINEERING | LAND PLANNING | SURVEYING
SHEET
S1
15 OF 20



- SELECT TRENCH BACKFILL**
GRANULAR TRENCH BACKFILL TO BE USED UNDER EXISTING OR PROPOSED PAVEMENT, CURB AND GUTTER, SIDEWALK OR WITHIN 2' OF ANY EXISTING OR PROPOSED CURB AND GUTTER OR SIDEWALK. SHALL BE MECHANICALLY COMPACTED TO 95% RELATIVE DENSITY.
- PIPE BEDDING & INITIAL TRENCH BACKFILL**
#6 WASHED STONE FROM 6" BELOW TO SPRING LINE OF PIPE.
- UNSATURABLE MATERIALS**
IF ENCOUNTERED - SHALL BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE AND COMPACTED MATERIAL.
- TRENCH WIDTH**
MINIMUM = PIPE O.D. + 12"
MAXIMUM = PIPE O.D. + 18"

NOTES:
1. ALL CA-6 MATERIAL TO BE IDOT APPROVED.

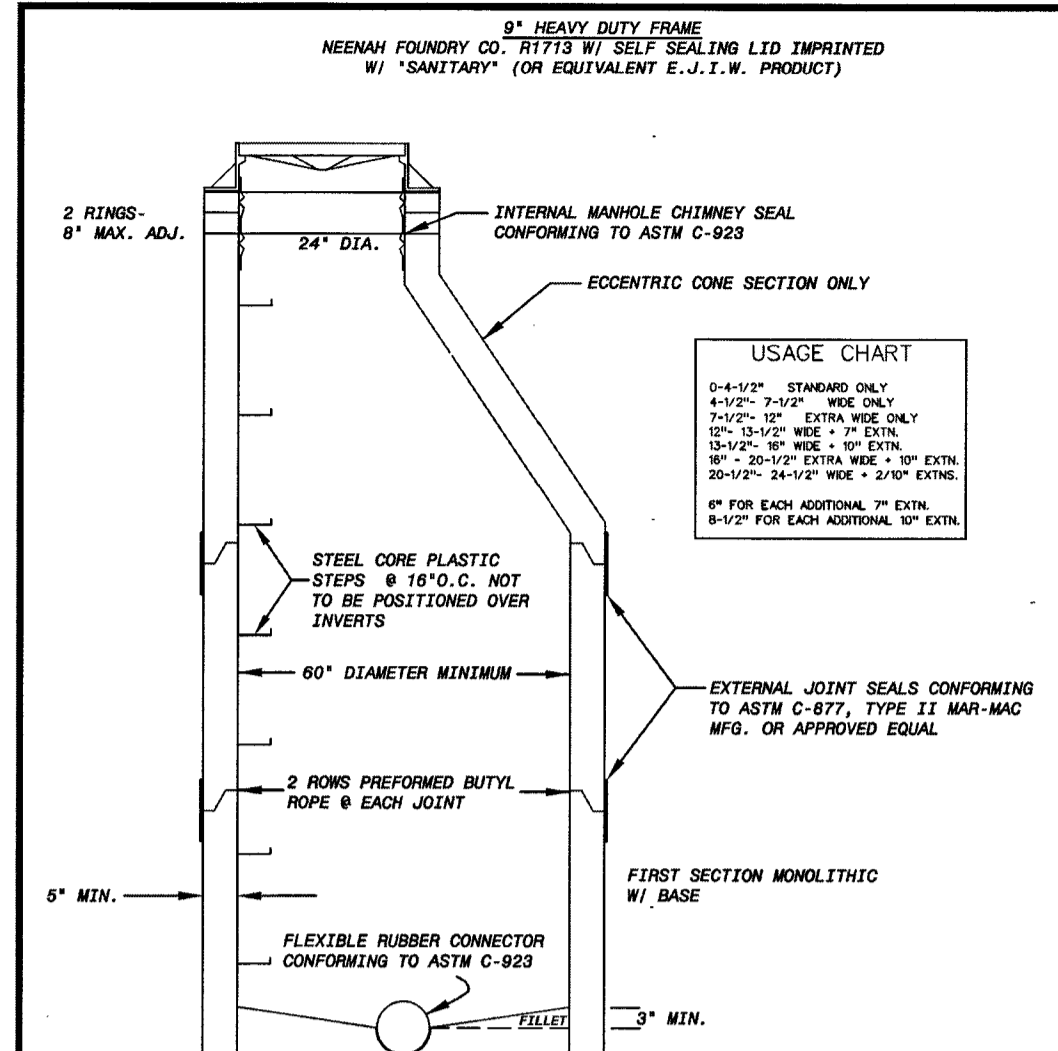
VILLAGE OF MUNDELEN ENGINEERING DETAILS
TYPICAL STORM SEWER TRENCH CROSS SECTION
DETAIL NO. ST-6



- TRENCH BACKFILL UNDER PAVEMENT, CURB AND GUTTER AS INDICATED IN ROAD SUBGRADES AND WITHIN 2' OF ANY PROPOSED CURB AND GUTTER OR SIDEWALK. MECHANICALLY COMPACTED BACKFILL OF EXCAVATED MATERIALS IN OTHER LOCATIONS IF APPROVED BY THE ENGINEER. REFER TO TRENCH BACKFILL SPECIAL PROVISIONS FOR MATERIALS AND COMPACTION REQUIREMENTS.
- FOR SANITARY SEWER PVC: COMPACTED GRANULAR MATERIAL CA-6 TO 12" ABOVE TOP OF PIPE. (ALSO SEE NOTE #1 BELOW)
- FOR SANITARY SEWER DTP, WATER MAIN, FORESLIM: COMPACTED GRANULAR MATERIAL CA-6 TO 12" ABOVE TOP OF PIPE. (ALSO SEE NOTE #1 BELOW)
- UNSATURABLE MATERIAL TO BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE AND COMPACTED MATERIAL.
- TRENCH WIDTH - PIPE O.D. + 12" MINIMUM
PIPE O.D. + 18" MAXIMUM

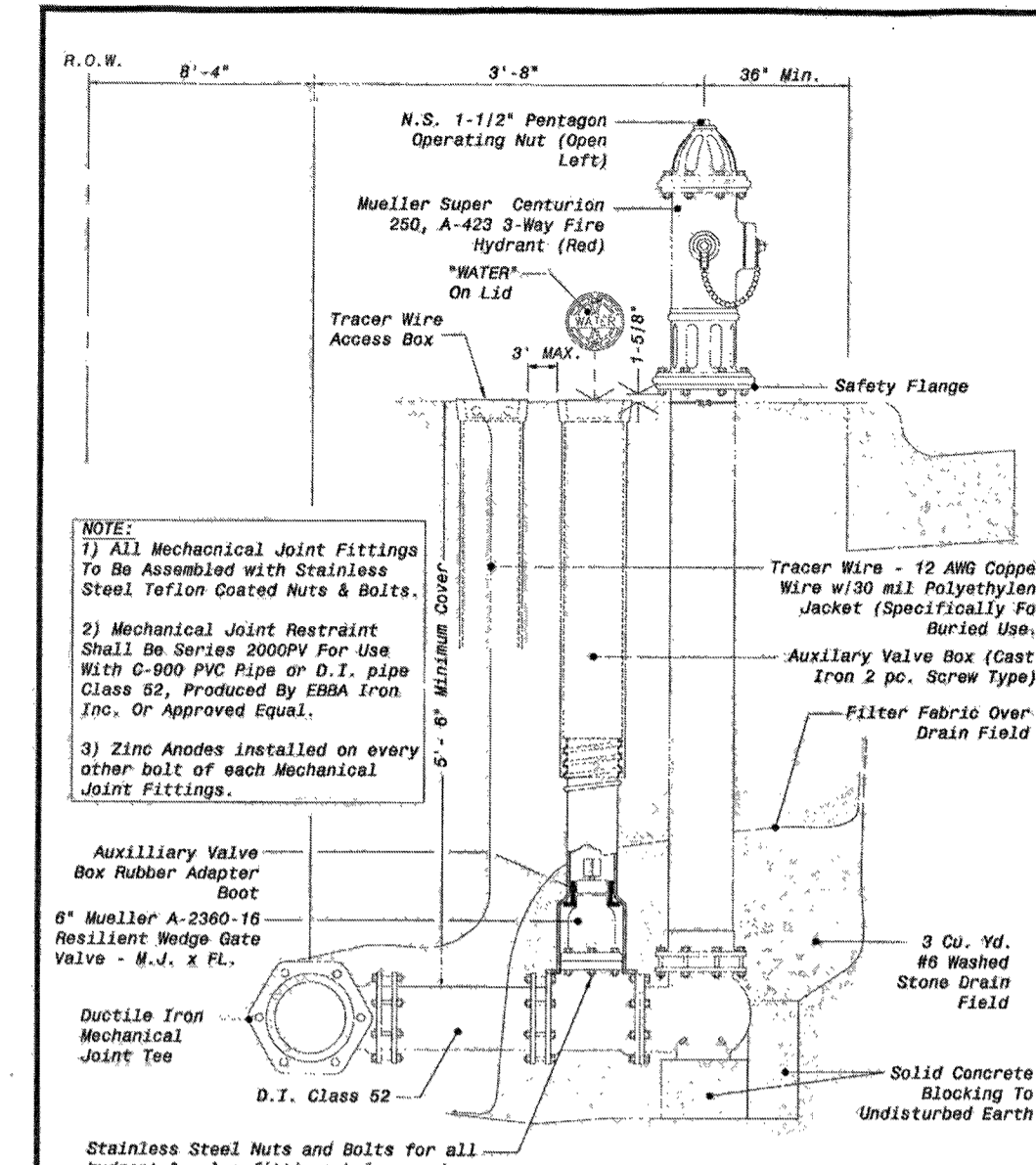
NOTES:
1. PVC PIPE CONFORMING TO THE SOR SPECIFIED IN THE PLANS SHALL BE INSTALLED TO THE LATEST REVISED SPECIFICATION REQUIREMENTS OF ASTM D2381 USING EITHER COMPACTED CLASS 1 OR CLASS 2 GRANULAR MATERIALS FOR BEDDING, HAUNCHING AND INITIAL BACKFILL OF 12" OVER THE TOP OF PIPE TO PROVIDE THE NECESSARY SUPPORT FOR THE PIPE SO THAT THE MAXIMUM DEFLECTION DOES NOT EXCEED 5% OF THE PIPE'S ORIGINAL INTERNAL DIAMETER.
2. ALL CA-6 MATERIAL TO BE IDOT APPROVED.

VILLAGE OF MUNDELEN ENGINEERING DETAILS
TYPICAL SANITARY TRENCH CROSS SECTION
DETAIL NO. SAN-1



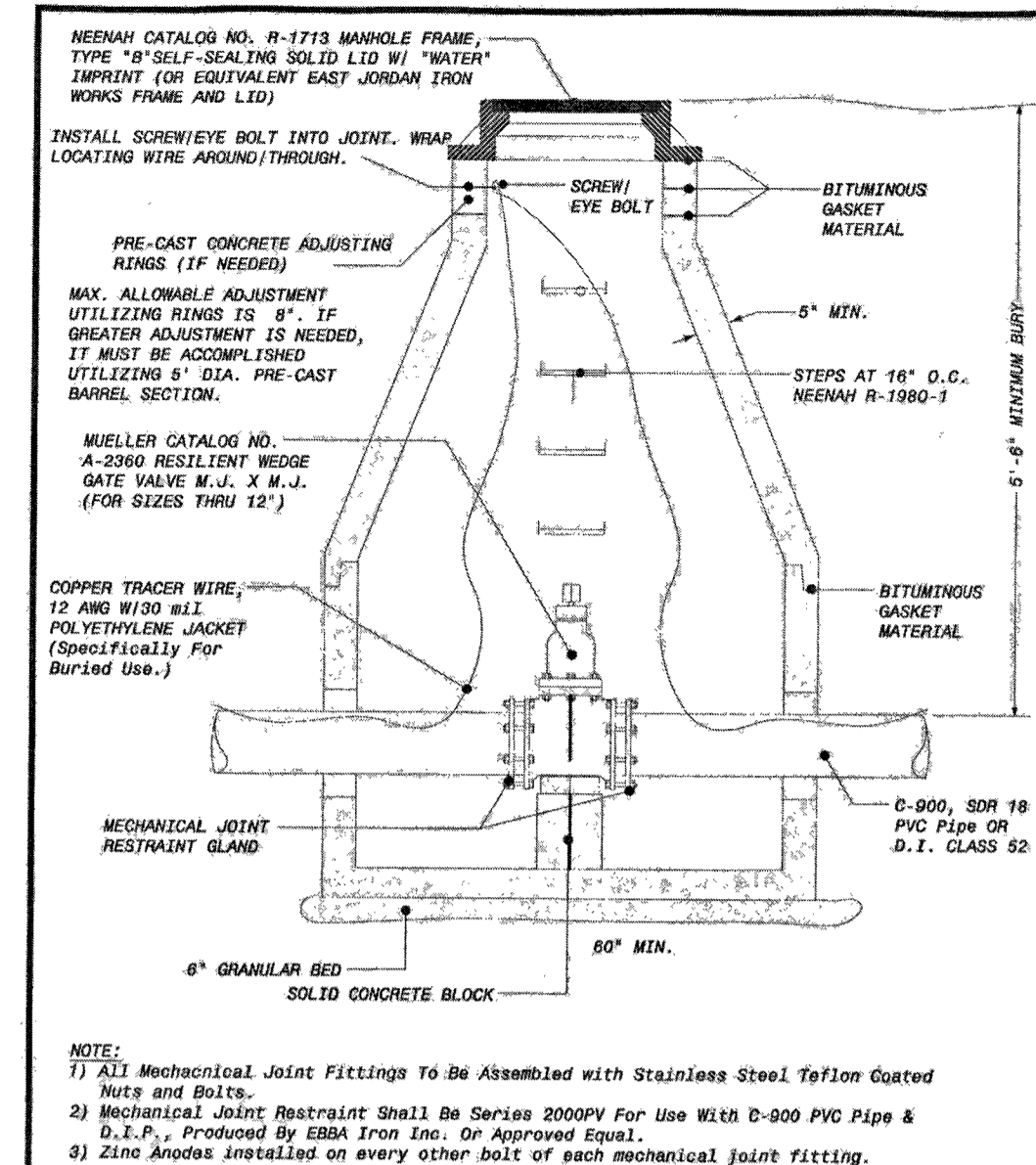
- 5" READY-DUTY FRAME
NEENAH FOUNDRY CO. RY715 W/ SELF SEALING LID IMPRINTED W/ "SANITARY" OR EQUIVALENT 2-I.I.W. PRODUCT
- INTERNAL MANHOLE CHIMNEY SEAL CONFORMING TO ASTM C-923
- ECCENTRIC CONE SECTION ONLY
- STEEL CORE PLASTIC STEPS @ 18" O.C. NOT TO BE POSITIONED OVER INVERTS
- 60" DIAMETER MINIMUM
- 2 ROWS PERFORMED BUTYL ROPE @ EACH JOINT
- EXTERNAL JOINT SEALS CONFORMING TO ASTM C-877, TYPE II MAR-MAC MFG. OR APPROVED EQUAL
- FIRST SECTION MONOLITHIC W/ BASE
- 3" MIN.
- 5" MIN.
- USAGE CHART:
4'-4 1/2" STEVED ONLY
4'-2 1/2" - 14'2" SEE ONLY
14'-2 1/2" - 18' EXTRA WIDE ONLY
18'-2 1/2" - 24' SEE ONLY
24'-2 1/2" - 30' EXTRA WIDE
30'-2 1/2" - 36' EXTRA WIDE
36'-2 1/2" - 42' EXTRA WIDE
42'-2 1/2" - 48' EXTRA WIDE
48'-2 1/2" - 54' EXTRA WIDE
54'-2 1/2" - 60' EXTRA WIDE
60'-2 1/2" - 66' EXTRA WIDE
66'-2 1/2" - 72' EXTRA WIDE
72'-2 1/2" - 78' EXTRA WIDE
78'-2 1/2" - 84' EXTRA WIDE
84'-2 1/2" - 90' EXTRA WIDE
90'-2 1/2" - 96' EXTRA WIDE
96'-2 1/2" - 102' EXTRA WIDE
102'-2 1/2" - 108' EXTRA WIDE
108'-2 1/2" - 114' EXTRA WIDE
114'-2 1/2" - 120' EXTRA WIDE
120'-2 1/2" - 126' EXTRA WIDE
126'-2 1/2" - 132' EXTRA WIDE
132'-2 1/2" - 138' EXTRA WIDE
138'-2 1/2" - 144' EXTRA WIDE
144'-2 1/2" - 150' EXTRA WIDE
150'-2 1/2" - 156' EXTRA WIDE
156'-2 1/2" - 162' EXTRA WIDE
162'-2 1/2" - 168' EXTRA WIDE
168'-2 1/2" - 174' EXTRA WIDE
174'-2 1/2" - 180' EXTRA WIDE
180'-2 1/2" - 186' EXTRA WIDE
186'-2 1/2" - 192' EXTRA WIDE
192'-2 1/2" - 198' EXTRA WIDE
198'-2 1/2" - 204' EXTRA WIDE
204'-2 1/2" - 210' EXTRA WIDE
210'-2 1/2" - 216' EXTRA WIDE
216'-2 1/2" - 222' EXTRA WIDE
222'-2 1/2" - 228' EXTRA WIDE
228'-2 1/2" - 234' EXTRA WIDE
234'-2 1/2" - 240' EXTRA WIDE
240'-2 1/2" - 246' EXTRA WIDE
246'-2 1/2" - 252' EXTRA WIDE
252'-2 1/2" - 258' EXTRA WIDE
258'-2 1/2" - 264' EXTRA WIDE
264'-2 1/2" - 270' EXTRA WIDE
270'-2 1/2" - 276' EXTRA WIDE
276'-2 1/2" - 282' EXTRA WIDE
282'-2 1/2" - 288' EXTRA WIDE
288'-2 1/2" - 294' EXTRA WIDE
294'-2 1/2" - 300' EXTRA WIDE

VILLAGE OF MUNDELEN ENGINEERING DETAILS
SANITARY MAN-HOLE TYPE 1
DETAIL NO. SAN-1



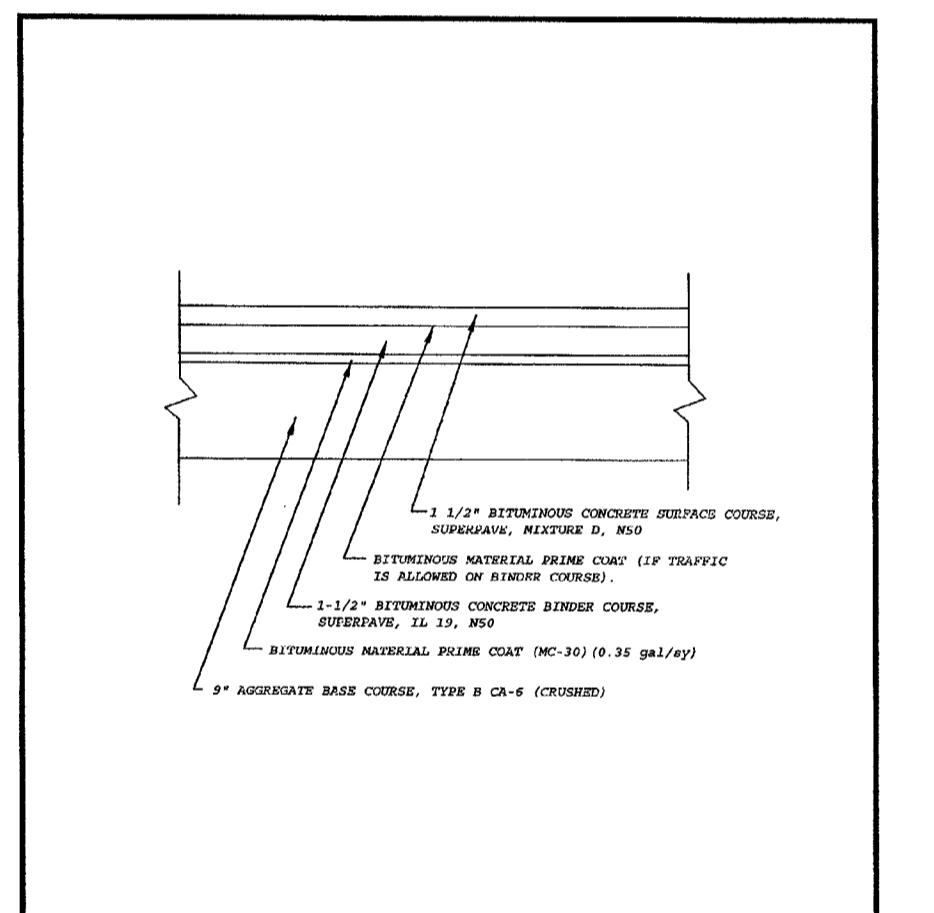
- N.S. 1-112" Pentagon Operating Nut (Open Left)
- Mueller Super Contourion 200, A-423 3-Way Fire Hydrant (Red)
- "WATER" IMPRINT OR EQUIVALENT EAST SIDE FROM WORKS FRAME AND LID
- Tracer Wire Access Box
- Safety Flange
- Tracer Wire - 12 AWG Copper Wire w/30 mil Polyethylene Jacket (Specifically For Buried Use.)
- Auxiliary Valve Box (Cast Iron 2 pc. Screw Type)
- Filter Fabric Over Drain Field
- Auxiliary Valve Box Rubber Adapter
- Boat
- 6" Mueller A-2380-16 Resilient Wedge Gate Valve - H.A. x FL.
- 3 Cu. Yd. #6 Braided Stone Drain Field
- Ductile Iron Mechanical Joint Tee
- D.I. Class 52
- 6" GRANULAR BED
- SOLID CONCRETE BLOCKING TO UNDISTURBED EARTH
- NOTES:
1) All Mechanical Joint fittings to be assembled with Stainless Steel Teflon Coated Nuts and Bolts.
2) Mechanical Joint Restraint shall be Series 2000PV For Use With D-900 PVC Pipe or D.I. pipe Class 52, Produced by EBBA Iron Inc. or Approved Equal.
3) Zinc Anodes installed on every other bolt of each mechanical joint fitting.

VILLAGE OF MUNDELEN CONSTRUCTION DETAILS
TYPICAL FIRE HYDRANT
DETAIL NO. W-1



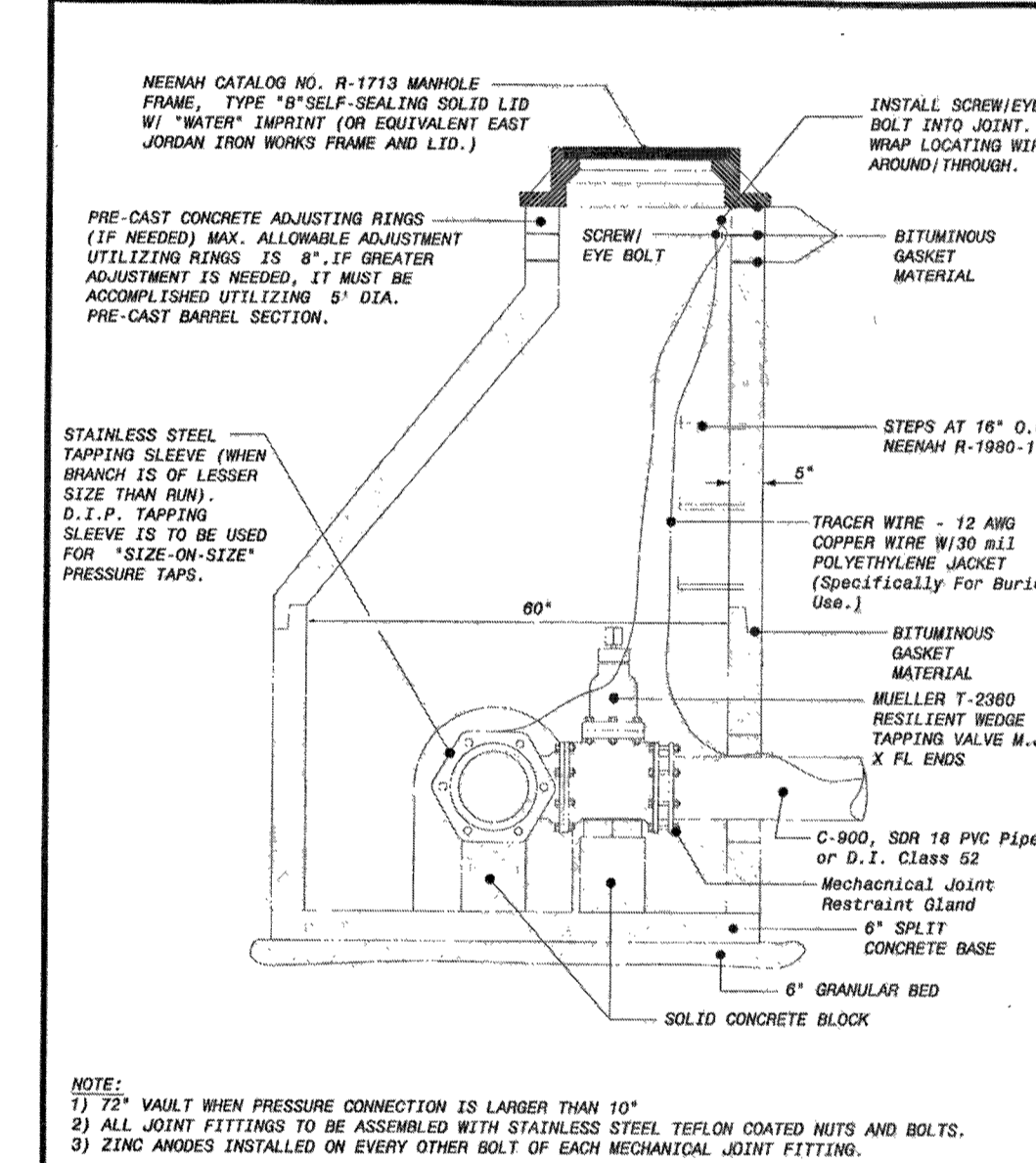
- NEENAH CATALOG NO. R-1713 MANHOLE FRAME, TYPE "B" SELF-SEALING SOLID LID W/ "WATER" IMPRINT OR EQUIVALENT EAST SIDE FROM WORKS FRAME AND LID
- INSTALL SCREW/EYE BOLT INTO JOINT. W/RAE LOCATING WIRE AROUND/THROUGH.
- PRE-CAST CONCRETE ADJUSTING RINGS (IF NEEDED)
- MAX. ALLOWABLE ADJUSTMENT UTILIZING RINGS IS 8". IF GREATER ADJUSTMENT IS NEEDED, IT MUST BE ACCOMPLISHED UTILIZING 5" DIA. PRE-CAST CONCRETE INVERT.
- MUELLER CATALOG NO. A-2380 RESILIENT WEDGE GATE VALVE W.J. X H.J. (FOR SIZES 12")
- COPPER TRACER WIRE 12 AWG W/30 MIL POLYETHYLENE JACKET (SPECIFICALLY FOR BURIED USE.)
- BITUMINOUS GASKET MATERIAL
- 5" MIN.
- STEPS AT 16" O.C. NEENAH R-1880-1
- 6" MIN. MINIMUM
- MECHANICAL JOINT RESTRAINT GLAND
- D-900, SOR 18 PVC PIPE OR D.I. CLASS 52
- 6" GRANULAR BED
- SOLID CONCRETE BLOCK
- NOTES:
1) All Mechanical Joint fittings to be assembled with Stainless Steel Teflon Coated Nuts and Bolts.
2) Mechanical Joint Restraint shall be Series 2000PV For Use With D-900 PVC Pipe & D.I.P., Produced by EBBA Iron Inc. or Approved Equal.
3) Zinc Anodes installed on every other bolt of each mechanical joint fitting.

VILLAGE OF MUNDELEN CONSTRUCTION DETAILS
TYPICAL VALVE VAULT (5' I.D.)
DETAIL NO. W-2



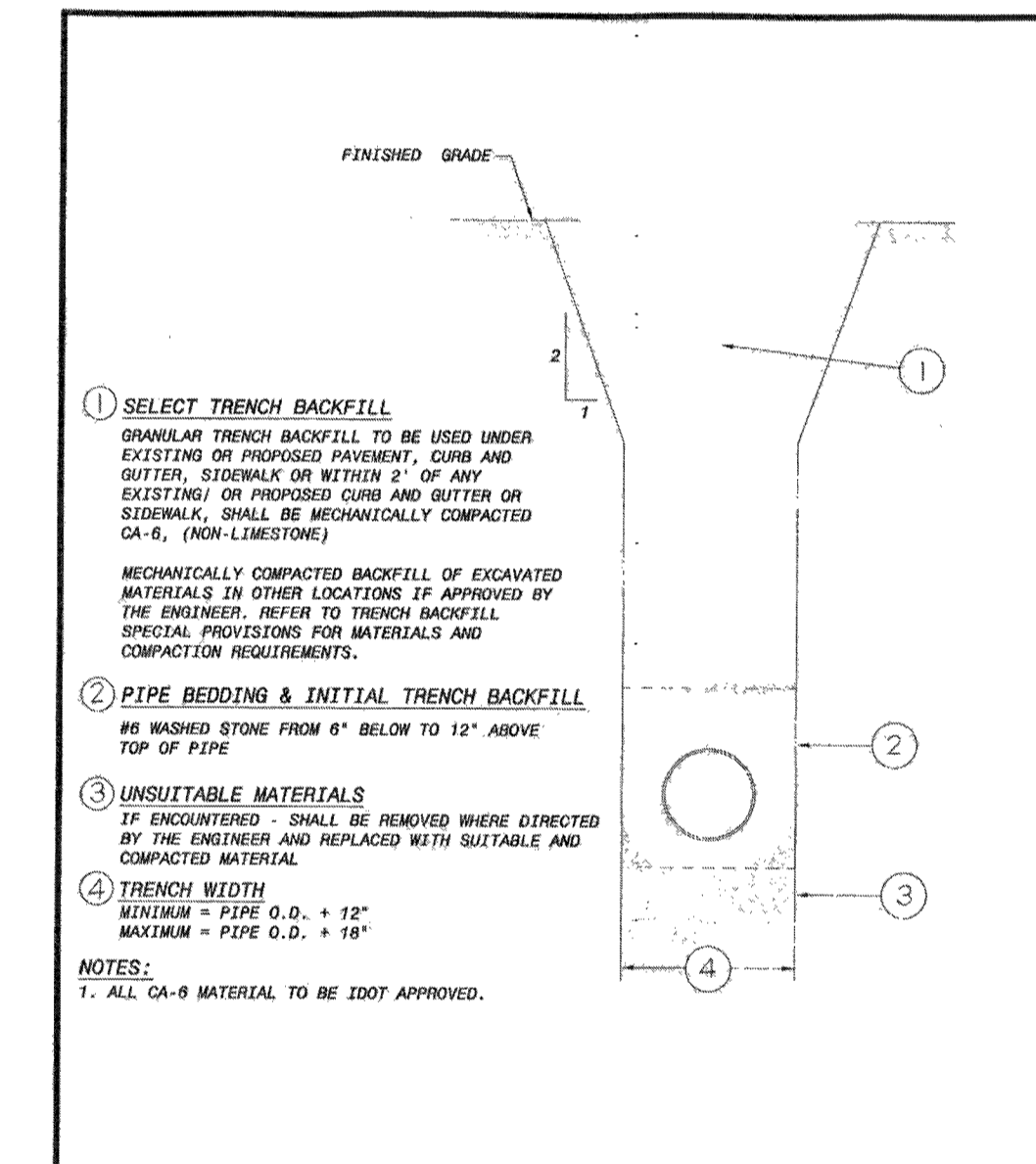
- 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, H.M.A., MIXTURE D NSO
- BITUMINOUS MATERIAL PRIME COAT (IF TRAFFIC IS ALLOWED ON BINDER COURSE)
- 2" BITUMINOUS CONCRETE BINDER COURSE, H.M.A. II-19 NSO
- BITUMINOUS MATERIAL PRIME COAT (MC-30) (0.35 gal/sy)
- 9 1/2" AGGREGATE BASE COURSE, TYPE B CA-6 (CRUSHED). H.M.A. WITH 4" GRANULAR MATERIAL SUBBASE MAY BE USED IN LIEU OF 9 1/2" OF AGGREGATE
- TOPSOIL FURNISH AND PLACE 4" (MIN.) AND SEEDING.
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12.
- P.C.C. SIDEWALK 5" THICKNESS (6" THICKNESS AT DRIVEWAYS)

VILLAGE OF MUNDELEN ENGINEERING DETAILS
PARKING LOT TYPICAL PAVEMENT SECTION
DETAIL NO. R-2



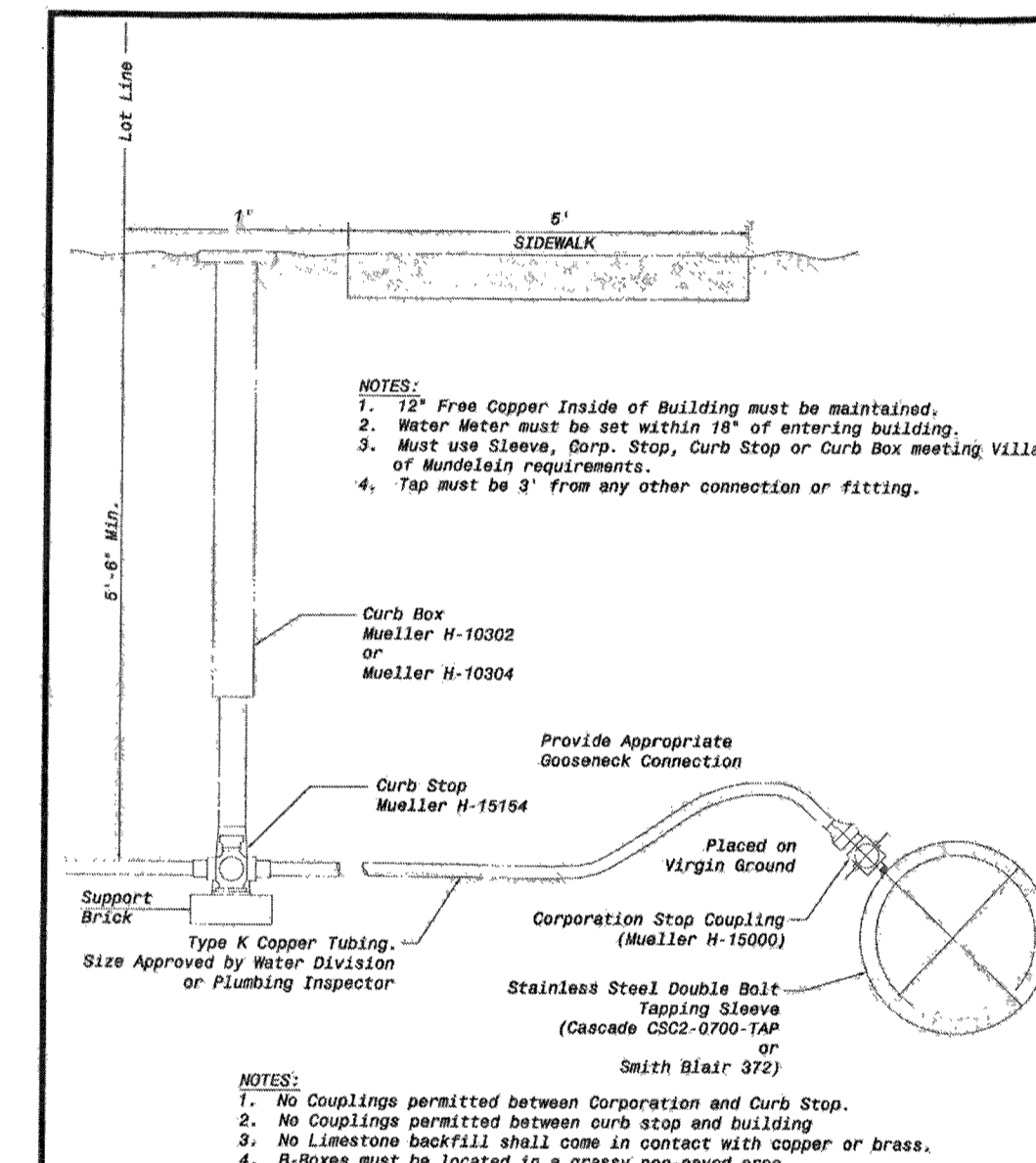
- NEENAH CATALOG NO. R-1713 MANHOLE FRAME, TYPE "B" SELF-SEALING SOLID LID W/ "WATER" IMPRINT OR EQUIVALENT EAST SIDE FROM WORKS FRAME AND LID
- INSTALL SCREW/EYE BOLT INTO JOINT. W/RAE LOCATING WIRE AROUND/THROUGH.
- PRE-CAST CONCRETE ADJUSTING RINGS (IF NEEDED) MAX. ALLOWABLE ADJUSTMENT UTILIZING RINGS IS 8". IF GREATER ADJUSTMENT IS NEEDED, IT MUST BE ACCOMPLISHED UTILIZING 5" DIA. PRE-CAST CONCRETE INVERT.
- STAINLESS STEEL TAPPING SLEEVE (WHEN BRANCH IS OF LESSER SIZE THAN RUN). D.I.P. TAPPING SLEEVE IS TO BE USED FOR "SIZE-ON-SIZE" PRESSURE TAPS.
- 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, H.M.A., MIXTURE D NSO
- BITUMINOUS MATERIAL PRIME COAT (IF TRAFFIC IS ALLOWED ON BINDER COURSE)
- 2" BITUMINOUS CONCRETE BINDER COURSE, H.M.A. II-19 NSO
- BITUMINOUS MATERIAL PRIME COAT (MC-30) (0.35 gal/sy)
- 9 1/2" AGGREGATE BASE COURSE, TYPE B CA-6 (CRUSHED)
- 6" GRANULAR BED
- SOLID CONCRETE BLOCK
- C-900, SOR 18 PVC PIPE OF D.I. CLASS 52
- MECHANICAL JOINT RESTRAINT GLAND
- 6" SPLIT CONCRETE BASE
- TRACER WIRE - 12 AWG COPPER WIRE W/30 MIL POLYETHYLENE JACKET (SPECIFICALLY FOR BURIED USE.)
- BITUMINOUS GASKET MATERIAL
- MUELLER T-2380 RESILIENT WEDGE TAPPING VALVE H.A. X FL ENDS
- STEPS AT 16" O.C. NEENAH R-1880-1
- 5"

VILLAGE OF MUNDELEN CONSTRUCTION DETAILS
WATERMAIN PRESSURE CONNECTION TAPPING VALVE 1/5" DIA. VAULT (FOR WATERMANS 10" & SMALLER)
DETAIL NO. W-3



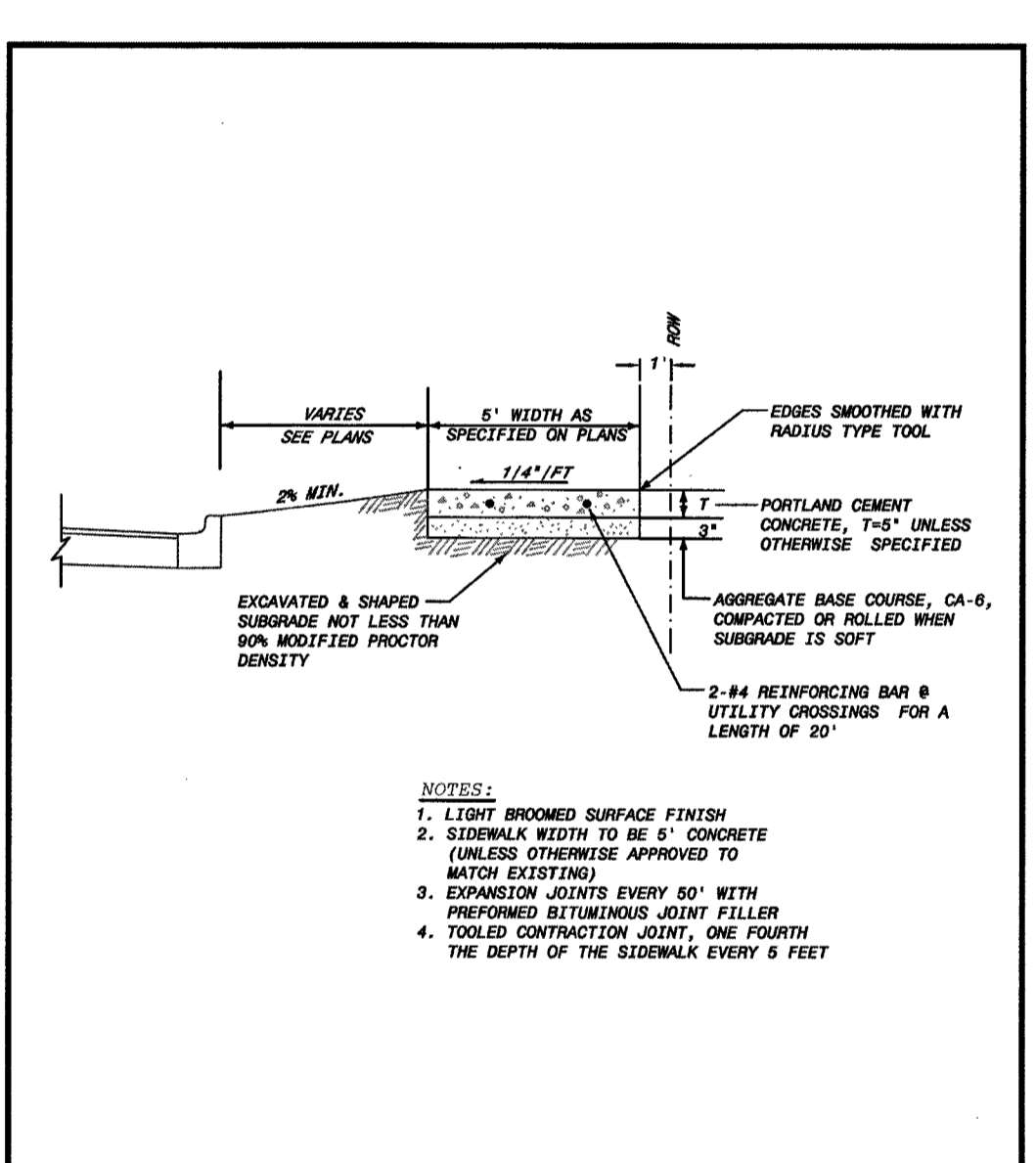
1. SELECT TRENCH BACKFILL
GRANULAR TRENCH BACKFILL TO BE USED UNDER EXISTING OR PROPOSED PAVEMENT, CURB AND GUTTER, SIDEWALK OR WITHIN 2' OF ANY EXISTING OR PROPOSED CURB AND GUTTER OR SIDEWALK. SHALL BE MECHANICALLY COMPACTED TO 95% RELATIVE DENSITY.
2. PIPE BEDDING & INITIAL TRENCH BACKFILL
#6 WASHED STONE FROM 6" BELOW TO 12" ABOVE TOP OF PIPE
3. UNSATURABLE MATERIALS
IF ENCOUNTERED - SHALL BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE AND COMPACTED MATERIAL.
4. TRENCH WIDTH
MINIMUM = PIPE O.D. + 12"
MAXIMUM = PIPE O.D. + 18"
- NOTES:
1. ALL CA-6 MATERIAL TO BE IDOT APPROVED.

VILLAGE OF MUNDELEN CONSTRUCTION DETAILS
TYPICAL WATERMAIN TRENCH CROSS SECTION
DETAIL NO. W-4



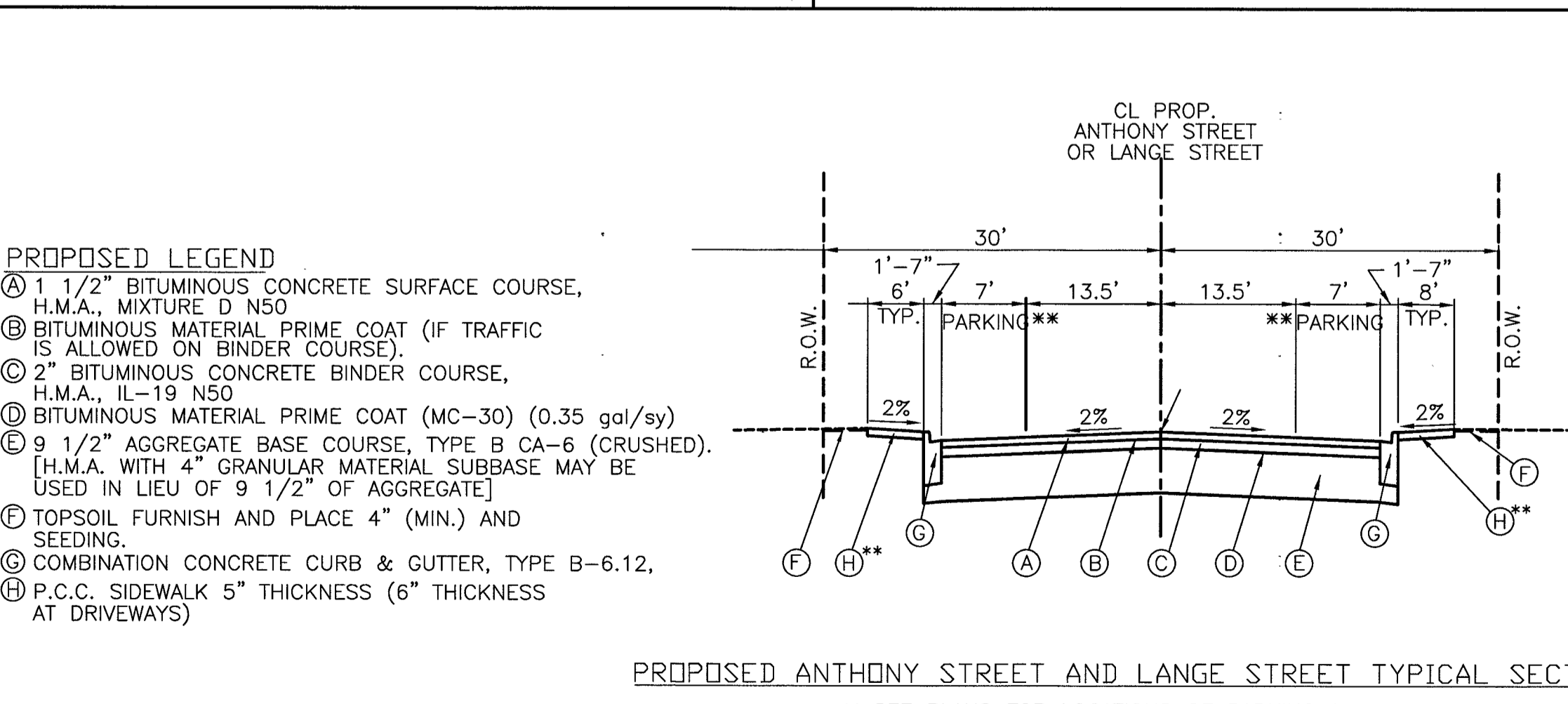
- Provide Appropriate Goose-neck Connection
- Placed on Virgin Ground
- Type K Copper Tubing - Size Approved by Water Division or Plumbing Inspector
- Corporation Stop Coupling (Mueller H-15000)
- Stainless Steel Double Bolt Tapping Sleeve (Cascade CSC-0700-148" or Sells Blair 372)
- NOTES:
1. No Couplings permitted between Corporation and Curb Stop.
2. No Couplings permitted between curb stop and building.
3. No Limestone backfill shall come in contact with copper or brass.
4. B-Boxes must be located in a grassy non-paved area.

VILLAGE OF MUNDELEN CONSTRUCTION DETAILS
WATER SERVICE CONNECTION
DETAIL NO. W-5



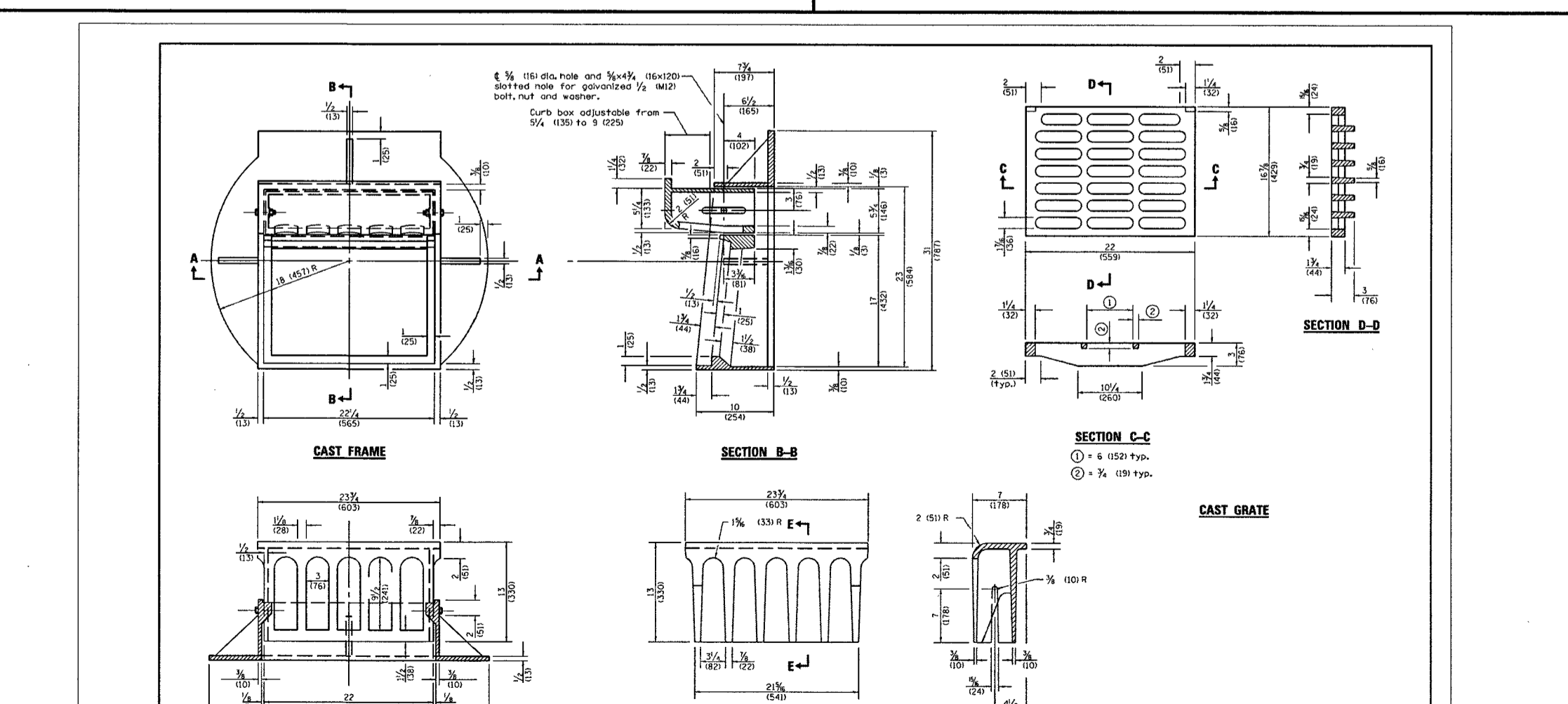
- VARIES
- 6" WIDTH AS SPECIFIED ON PLANS
- 1 1/4" x 1/2"
- EDGES SMOOTHED WITH RADIUS TYPE TOOL
- PORTLAND CEMENT CONCRETE, T-4 UNLESS OTHERWISE SPECIFIED
- 2-#4 REINFORCING BAR @ UTILITY CROSSINGS FOR A LENGTH OF 20'
- AGGREGATE BASE COURSE, CA-6, COMPACTED OR ROLLED WHEN SUBGRADE IS SOFT
- EXCAVATED & SHAPED SUBGRADE NOT LESS THAN SON MODIFIED PROCTOR DENSITY
- NOTES:
1. TYPED SMOOTH SURFACE FINISH
2. SIDEWALK WIDTH TO BE 6" CONCRETE (UNLESS OTHERWISE APPROVED TO MATCH EXISTING)
3. EXPANSION JOINTS EVERY 60' WITH PREFORMED BITUMINOUS JOINT FILLER
4. TOOLED CONTRACTION JOINT, ONE FOURTH THE DEPTH OF THE SIDEWALK EVERY 8 FEET

VILLAGE OF MUNDELEN ENGINEERING DETAILS
SIDEWALK DETAIL
DETAIL NO. R-4



- CL PROP. ANTHONY STREET OR LANGE STREET
- PROPOSED LEGEND
A 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, H.M.A., MIXTURE D NSO
B BITUMINOUS MATERIAL PRIME COAT (IF TRAFFIC IS ALLOWED ON BINDER COURSE)
C 2" BITUMINOUS CONCRETE BINDER COURSE, H.M.A. II-19 NSO
D BITUMINOUS MATERIAL PRIME COAT (MC-30) (0.35 gal/sy)
E 9 1/2" AGGREGATE BASE COURSE, TYPE B CA-6 (CRUSHED). H.M.A. WITH 4" GRANULAR MATERIAL SUBBASE MAY BE USED IN LIEU OF 9 1/2" OF AGGREGATE
F TOPSOIL FURNISH AND PLACE 4" (MIN.) AND SEEDING.
G COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12.
H P.C.C. SIDEWALK 5" THICKNESS (6" THICKNESS AT DRIVEWAYS)

PROPOSED ANTHONY STREET AND LANGE STREET TYPICAL SECTION
** SEE PLANS FOR LOCATIONS OF PARKING AND SIDEWALKS



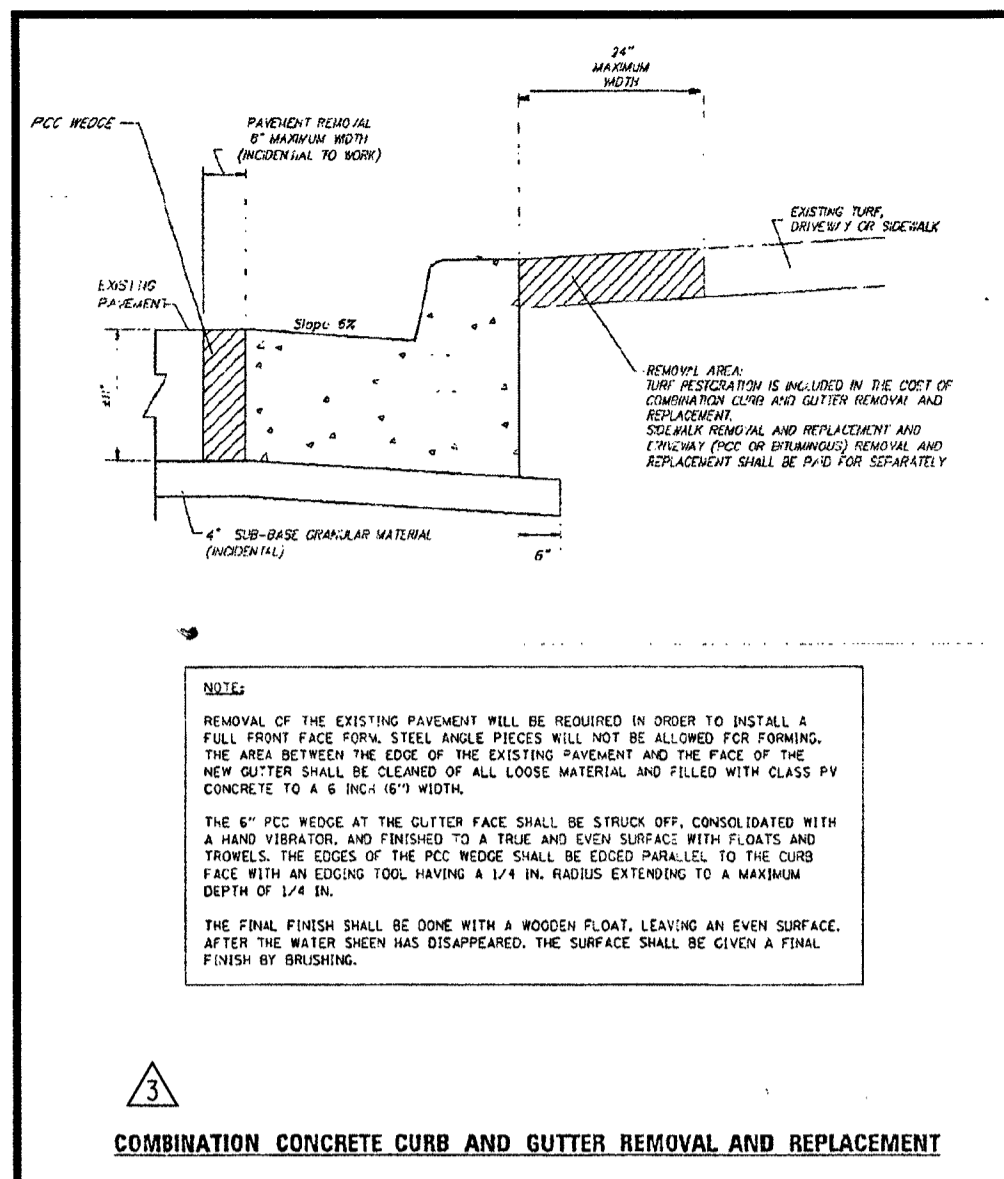
- CAST FRAME
- SECTION B-B
- SECTION C-C
- CAST GRATE
- SECTION A-A
- ALTERNATE CURB BOX
- SECTION E-E
- 48 dimensions are to be used unless otherwise specified.
- DATE: 11-15-10
DESIGNED BY: [Name]
CHECKED BY: [Name]
IN CHARGE: [Name]
SCALE: AS SHOWN
- FRAME AND GRATE TYPE 3
STANDARD 60400-04

VILLAGE OF MUNDELEN CONSTRUCTION DETAILS
FRAME AND GRATE TYPE 3
DETAIL NO. W-6

DETAILS - 1
CARDINAL SQUARE
MUNDELEN, ILLINOIS

VANTAGEPOINT ENGINEERING
18311 NORTH CREEK DRIVE
TINLEY PARK, IL 60477
708.478.4004
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NO.	DATE	REMARKS
4	04/04/14	PER VILLAGE COMMENTS
1	9/17/13	PER VILLAGE COMMENTS

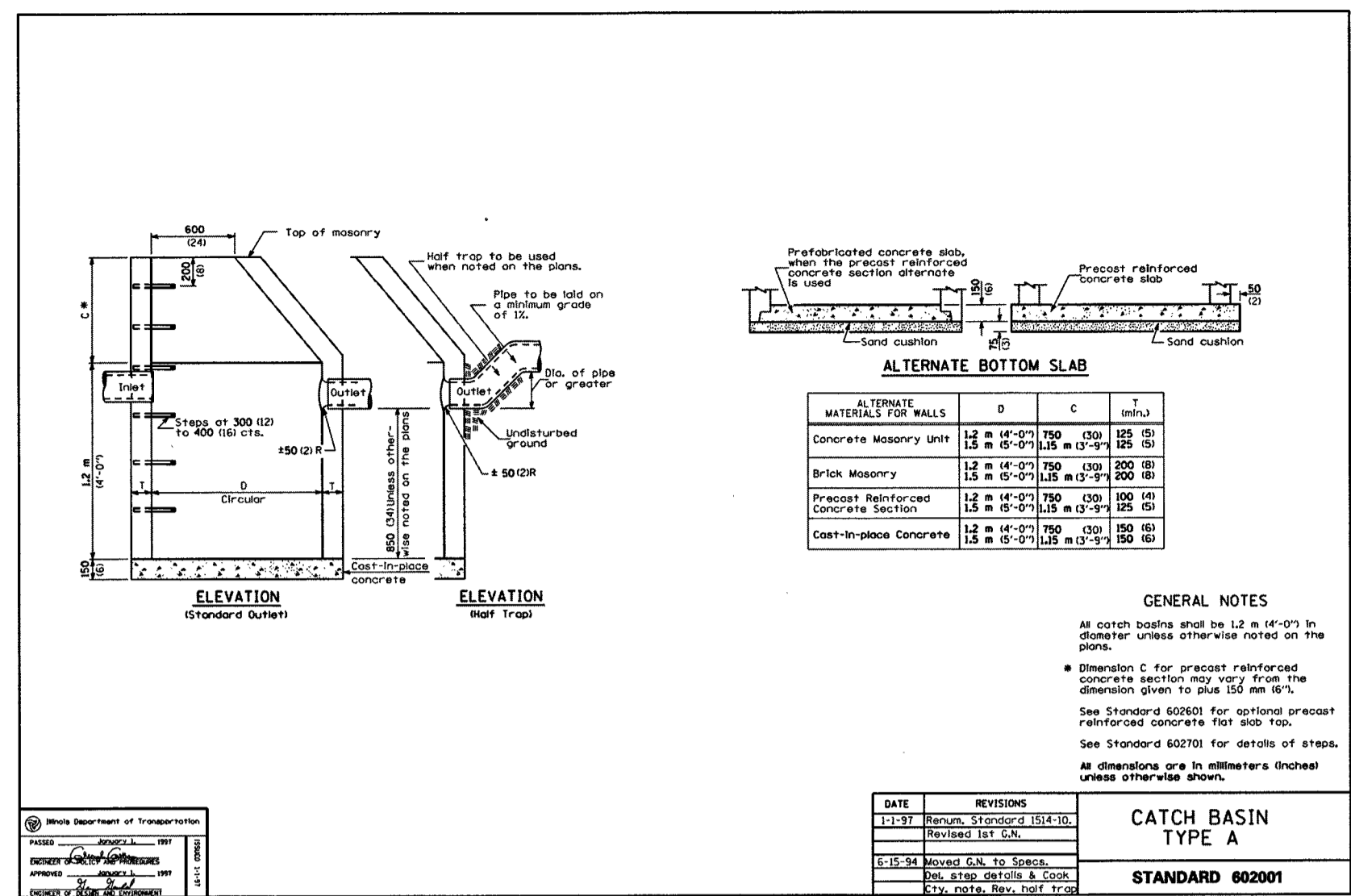
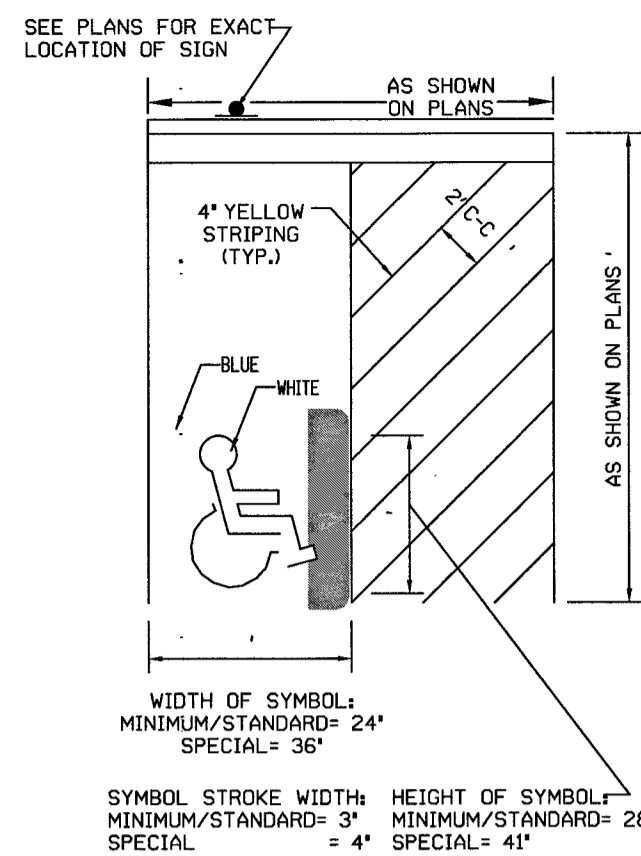


COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT

Copperhead Tracer Wire Specification:

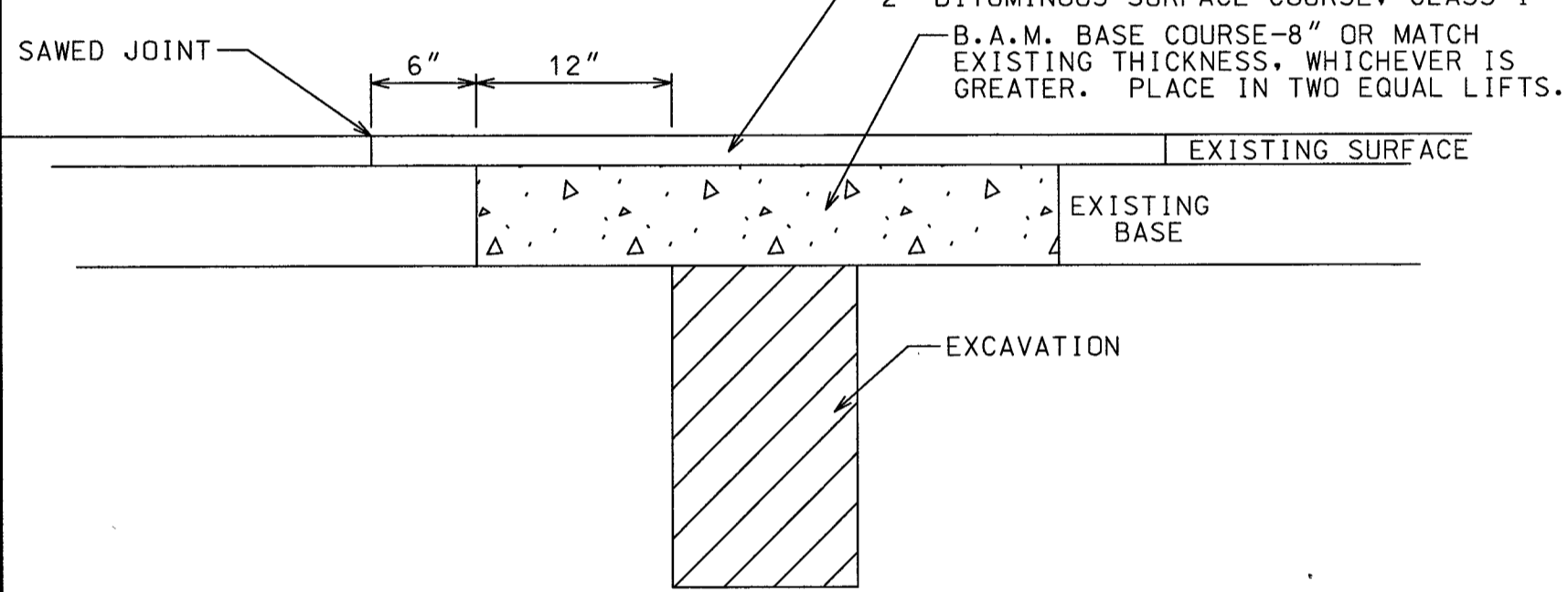
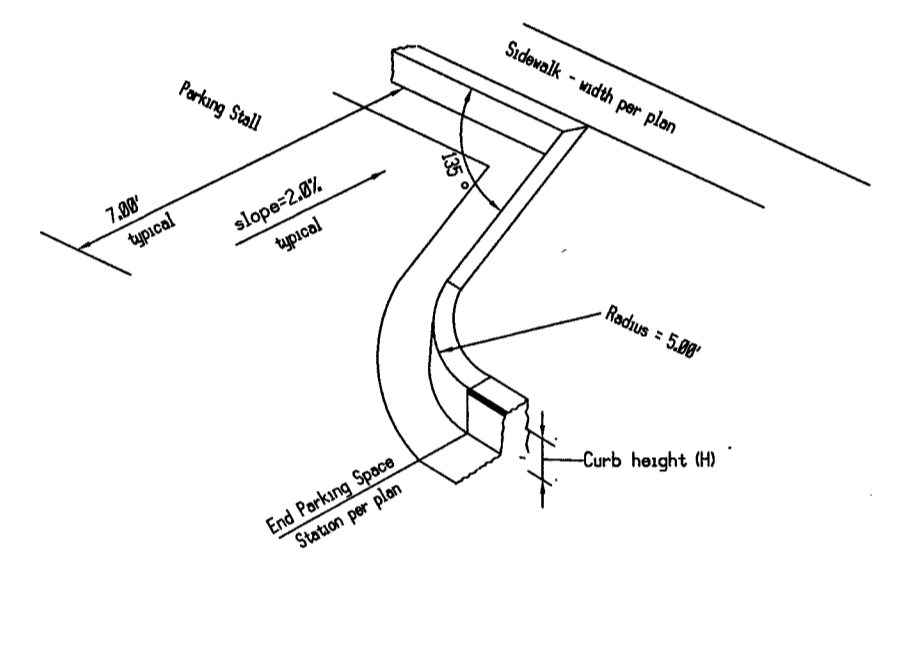
Locator Wire for Pipeline, Direct bury, and Open Cut

Tracer wire for open cut/open ditch shall be a #12 AWG HS-CCS high-strength copper clad steel conductor (HS-CCS), insulated with a 30 mil, high-density, high molecular weight polyethylene (HDPE) insulation, and rated for direct burial use at 30 volts. HS-CCS conductor must be at 21% conductivity for locate purposes, break load 380 lbs. minimum. HDPE insulation shall be RoHS compliant and utilize virgin grade material. Insulation color shall meet the APWA color code standard for identification of buried utilities. Manufacturers supplying copper clad steel tracer wire must have available detailed performance data including 5 years of underground testing in terms of durability related to damage of protective insulation and effects of potential corrosion of the specific copper clad steel used. Origin of copper clad steel manufacturer is required and steel core must be manufactured in the United States. If manufacturer has not completed 5 year corrosion testing, a 5 year warranty must be provided. Tracer wire shall be Copperhead™ HS-CCS HDPE 30 mil or pre-approved equal and made in the USA.

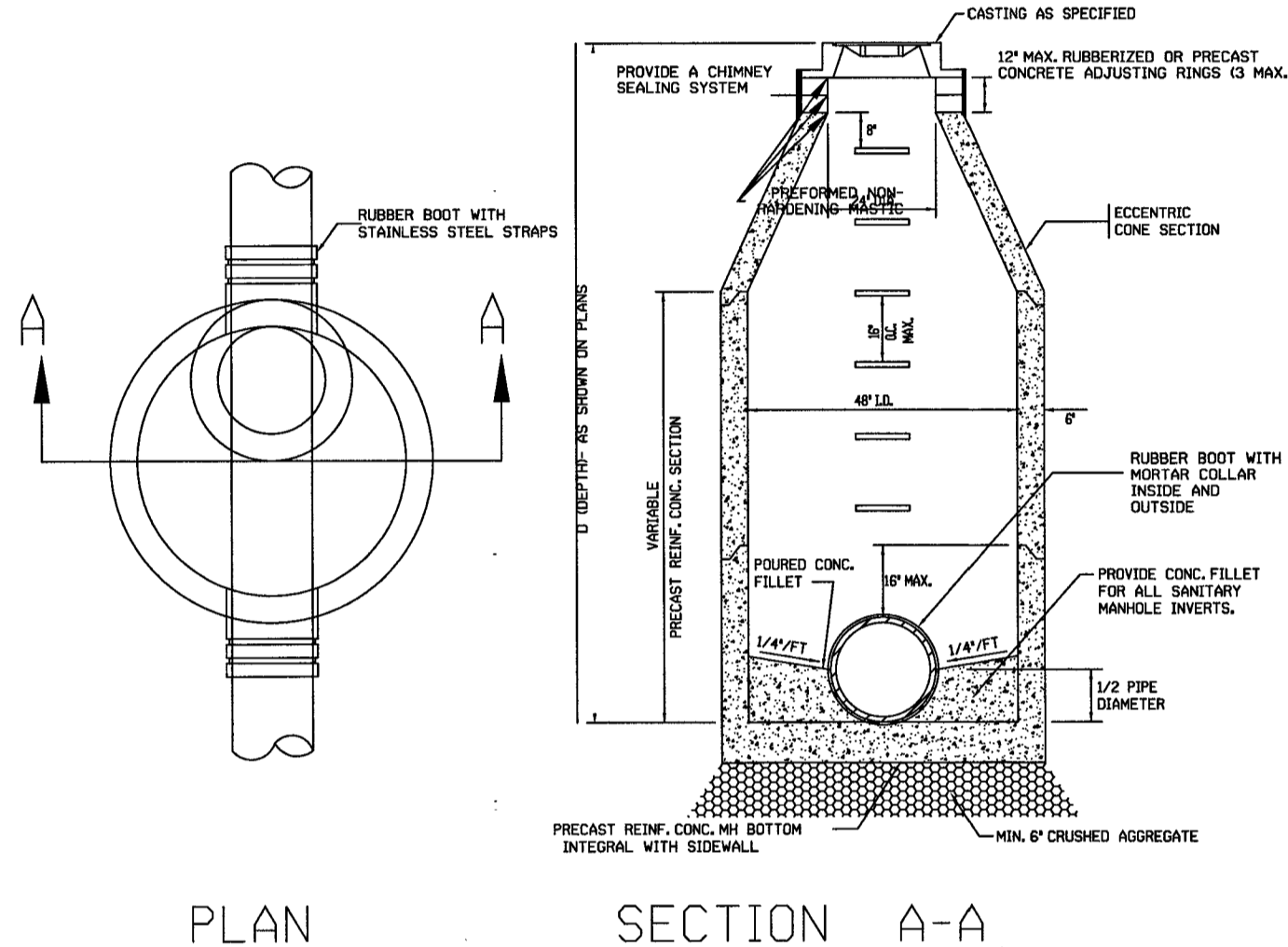


CATCH BASIN TYPE A

DATE	REVISION
03/03/14	Revise drawing to show 12\"/>
03/03/14	Revise drawing to show 12\"/>
03/03/14	Revise drawing to show 12\"/>
03/03/14	Revise drawing to show 12\"/>
03/03/14	Revise drawing to show 12\"/>

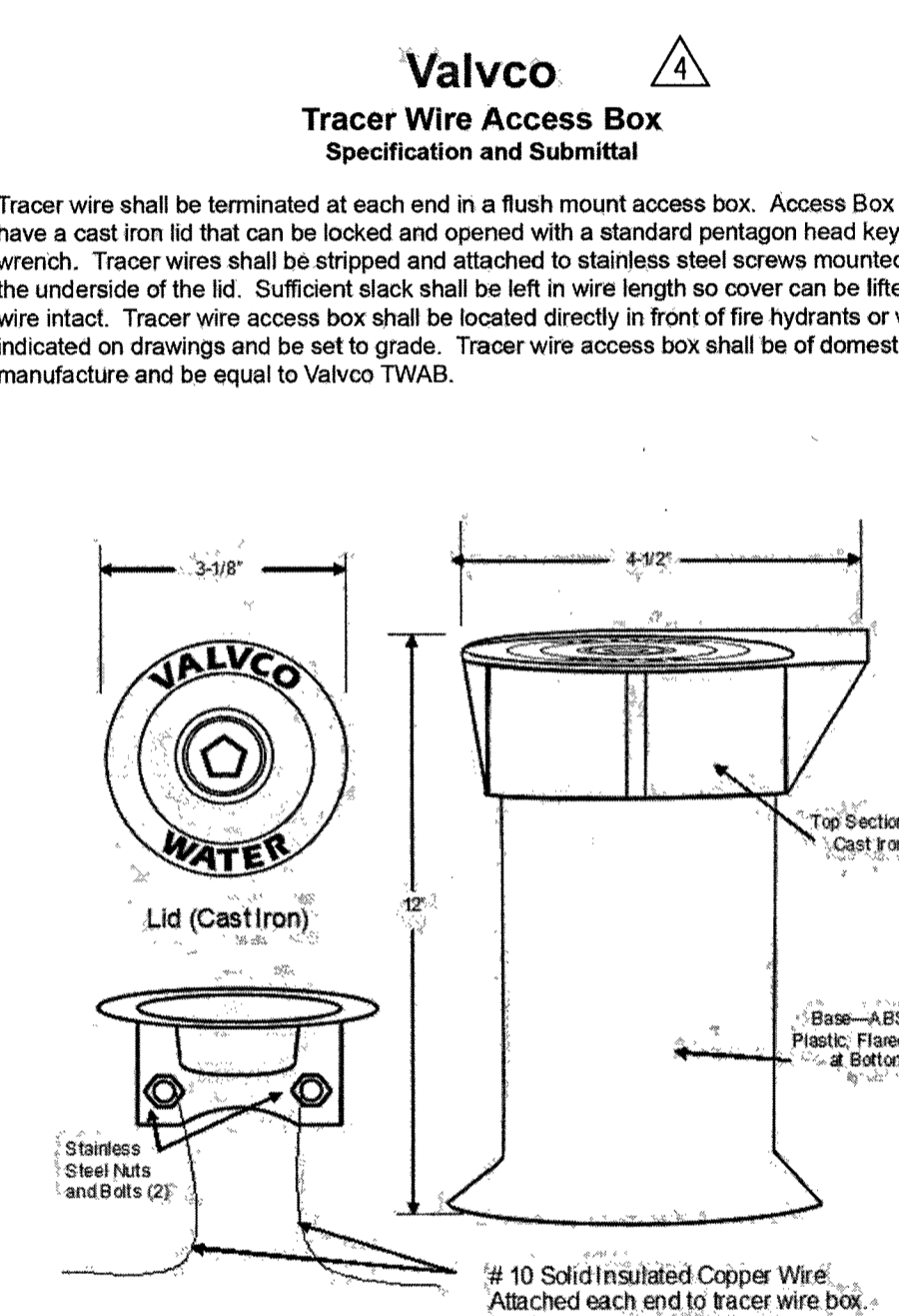


PAVEMENT REPAIR
N. T. S.

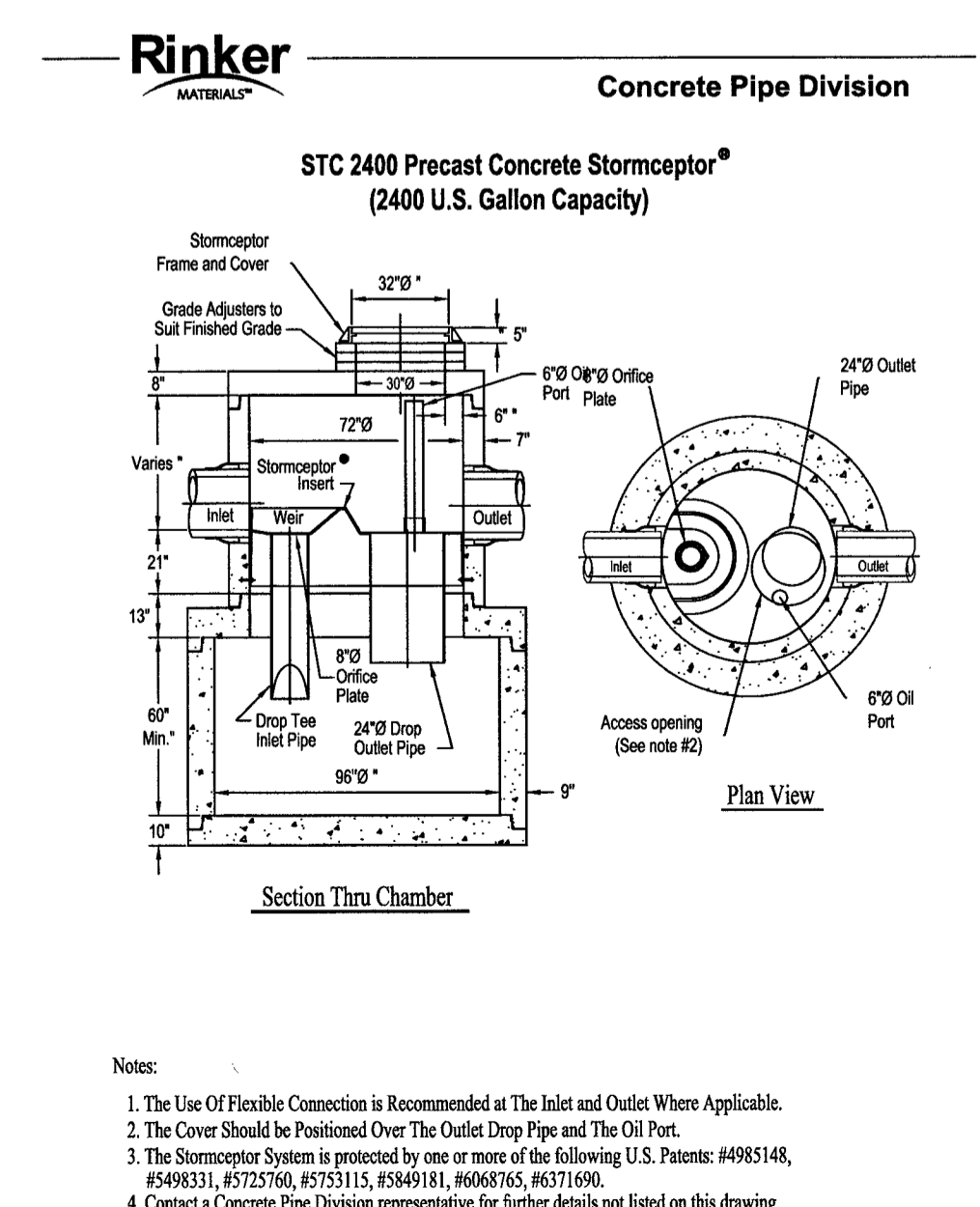


GENERAL NOTES:

1. PROVIDE PRECAST REINFORCED CONCRETE BARREL AND RISER SECTION. CONCRETE BLOCK CONSTRUCTION IS NOT PERMITTED.
2. PROVIDE SELECT GRANULAR BACKFILL AROUND MANHOLE TO SUBGRADE ELEVATION IN PAVED AREAS.
3. APPLY A CONTINUOUS LAYER OF NON-HARDENING PREFORMED BITUMINOUS MASTIC MATERIAL TO EACH JOINT TO PREVENT INFLOW.
4. MORTAR SHALL NOT BE USED TO DRESS UP ADJUSTING RINGS AND/OR FRAME.
5. WHEN MANHOLE DEPTH IS OVER 12 FEET, THE THICKNESS OF THE BASE SHALL BE A MINIMUM OF 10 INCHES; WHEN MANHOLE DEPTH IS LESS THAN 12 FEET, THE THICKNESS SHALL BE A MINIMUM OF 8 INCHES.
6. DRESS UP INTERIOR JOINTS WITH HYDRAULIC CEMENT.
7. SANITARY MANHOLES SHALL BE CONSTRUCTED WITH A CHIMNEY SEALING SYSTEM.

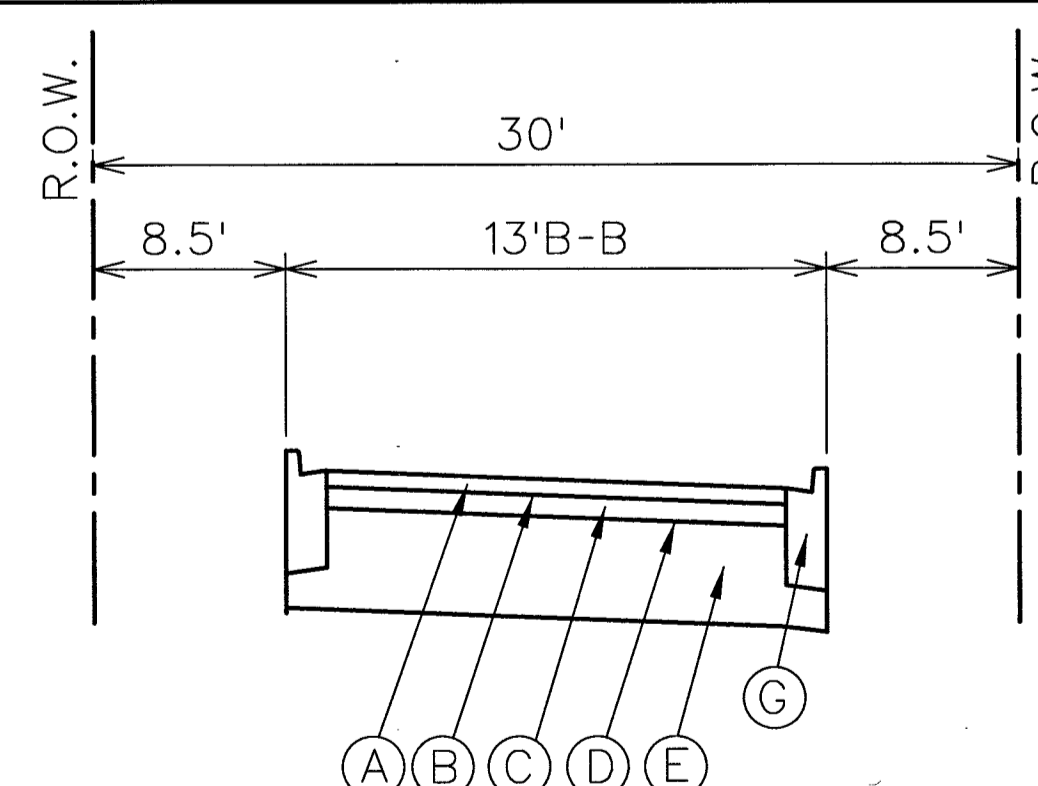


Valvco Tracer Wire Access Box Specification and Submittal



Notes:

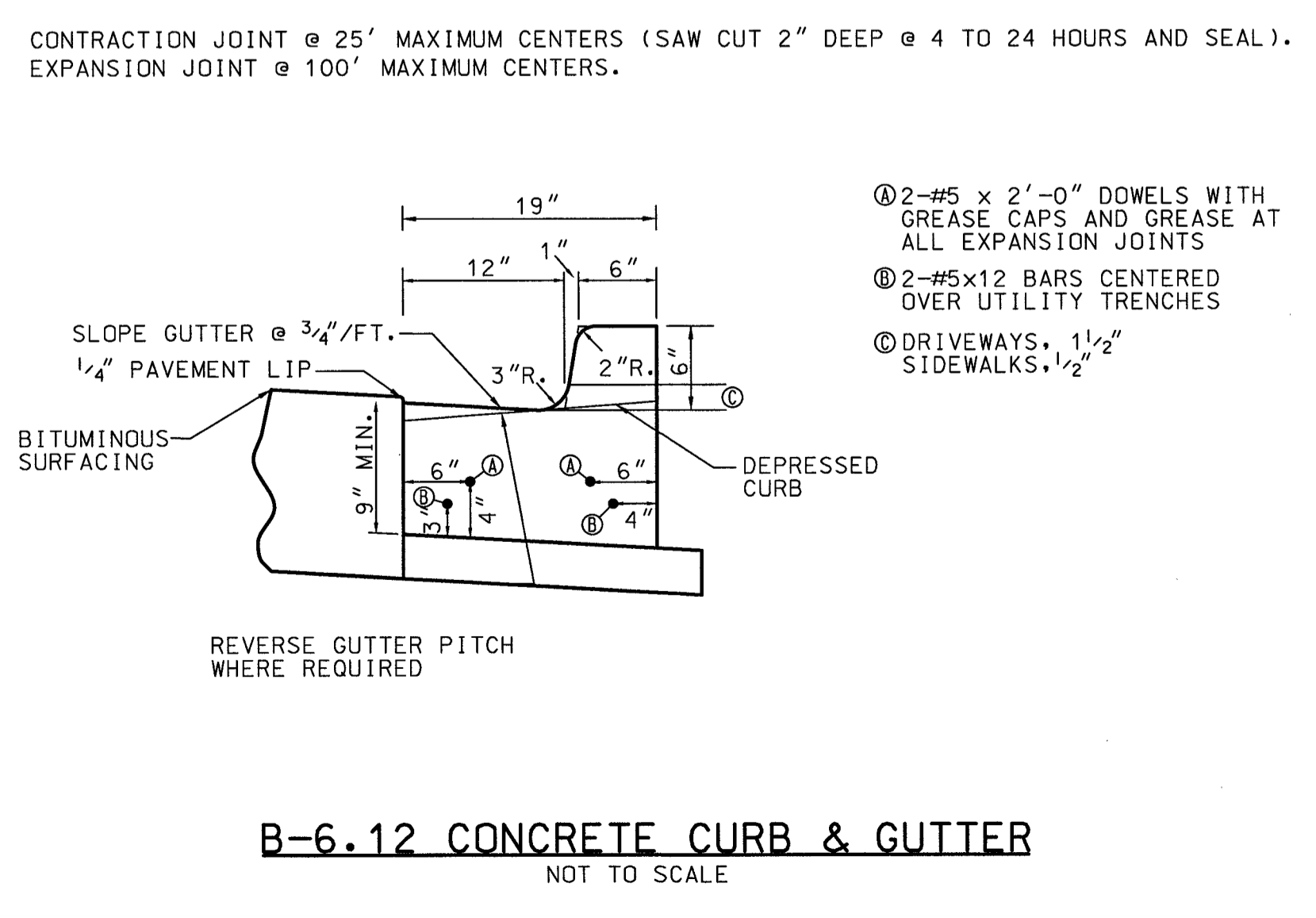
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Outlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: 4498514, #496251, #5722760, #5753115, #5849191, #6068795, #6271600.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.



PROPOSED LEGEND

- 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, H.M.A., MIXTURE U N50
- BITUMINOUS MATERIAL PRIME COAT (IF TRAFFIC IS ALLOWED ON BINDER COURSE)
- 2" BITUMINOUS CONCRETE BINDER COURSE, H.M.A., IL-19 N50
- BITUMINOUS MATERIAL PRIME COAT (MC-30) (0.35 gal/sy)
- 1/2" AGGREGATE BASE COURSE, TYPE B CA-6 (CRUSHED). [H.M.A. WITH 4" GRANULAR MATERIAL SUBBASE MAY BE USED IN LIEU OF 9 1/2" OF AGGREGATE]
- TOPSOIL FURNISH AND PLACE 4" (MIN.) AND SEEDING.
- COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12.

PROPOSED DeTOMASI SECTION



B-6.12 CONCRETE CURB & GUTTER NOT TO SCALE

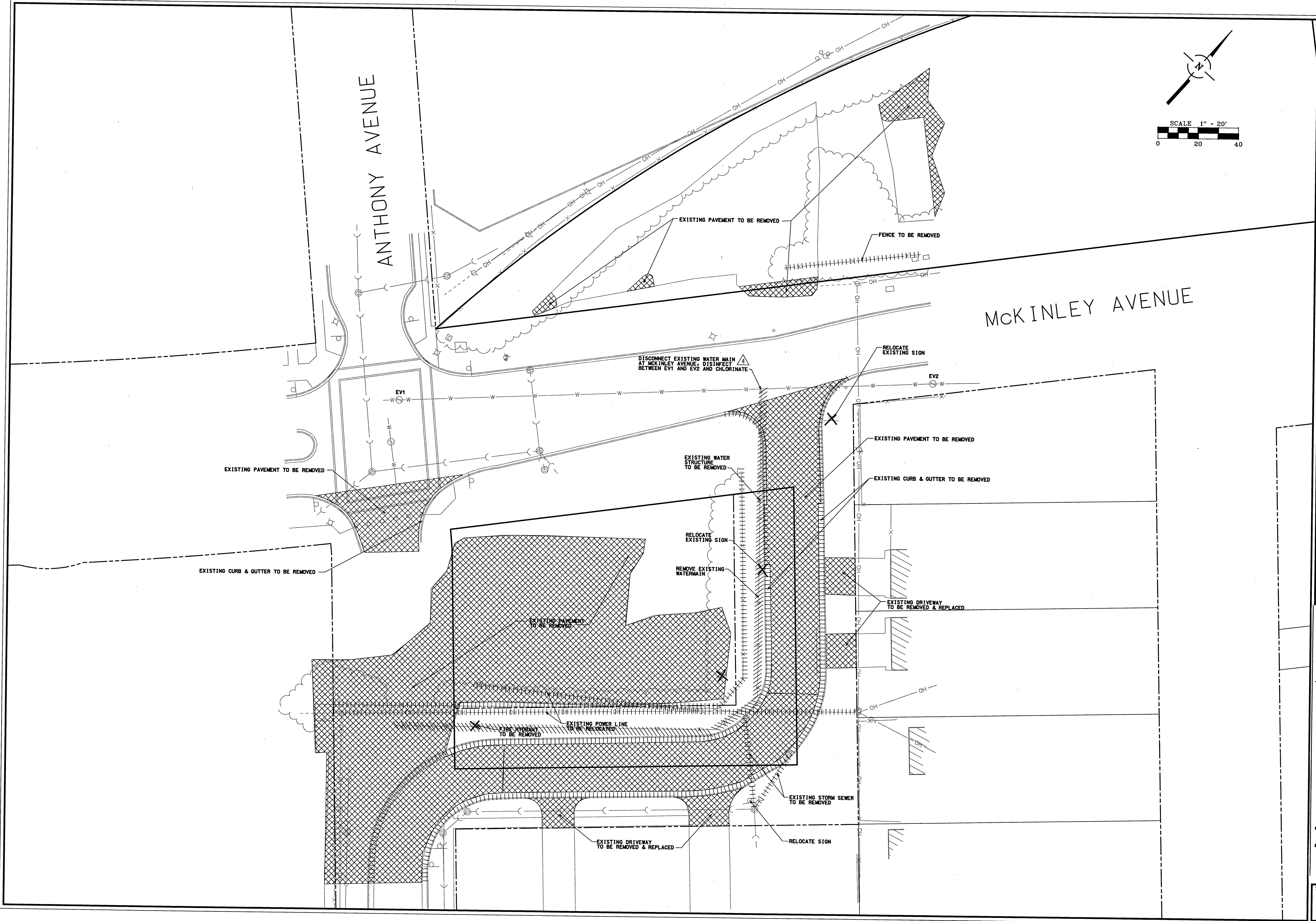
DETAILS - 2

CARDINAL SQUARE
MUNDELEIN, ILLINOIS

VANTAGEPOINT ENGINEERING
18811 NORTH CREEK DRIVE
SUITE 100
TINLEY PARK, IL 60477
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NO.	DATE	REMARKS
4	04/04/14	PER VILLAGE COMMENTS
3	03/03/14	PER VILLAGE COMMENTS
1	9/17/13	PER VILLAGE COMMENTS

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17 OF 20



NO.	DATE	REMARKS

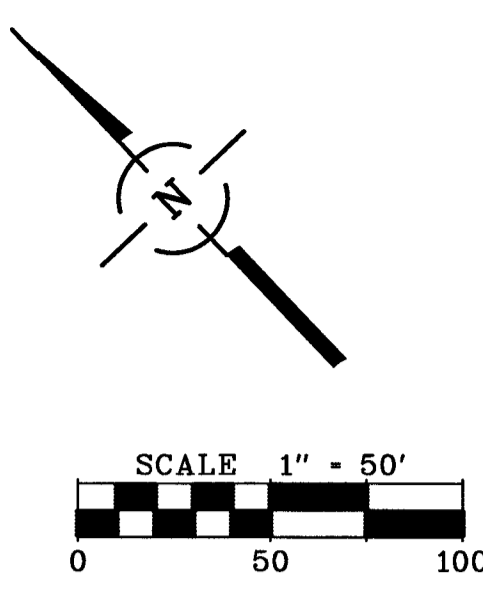
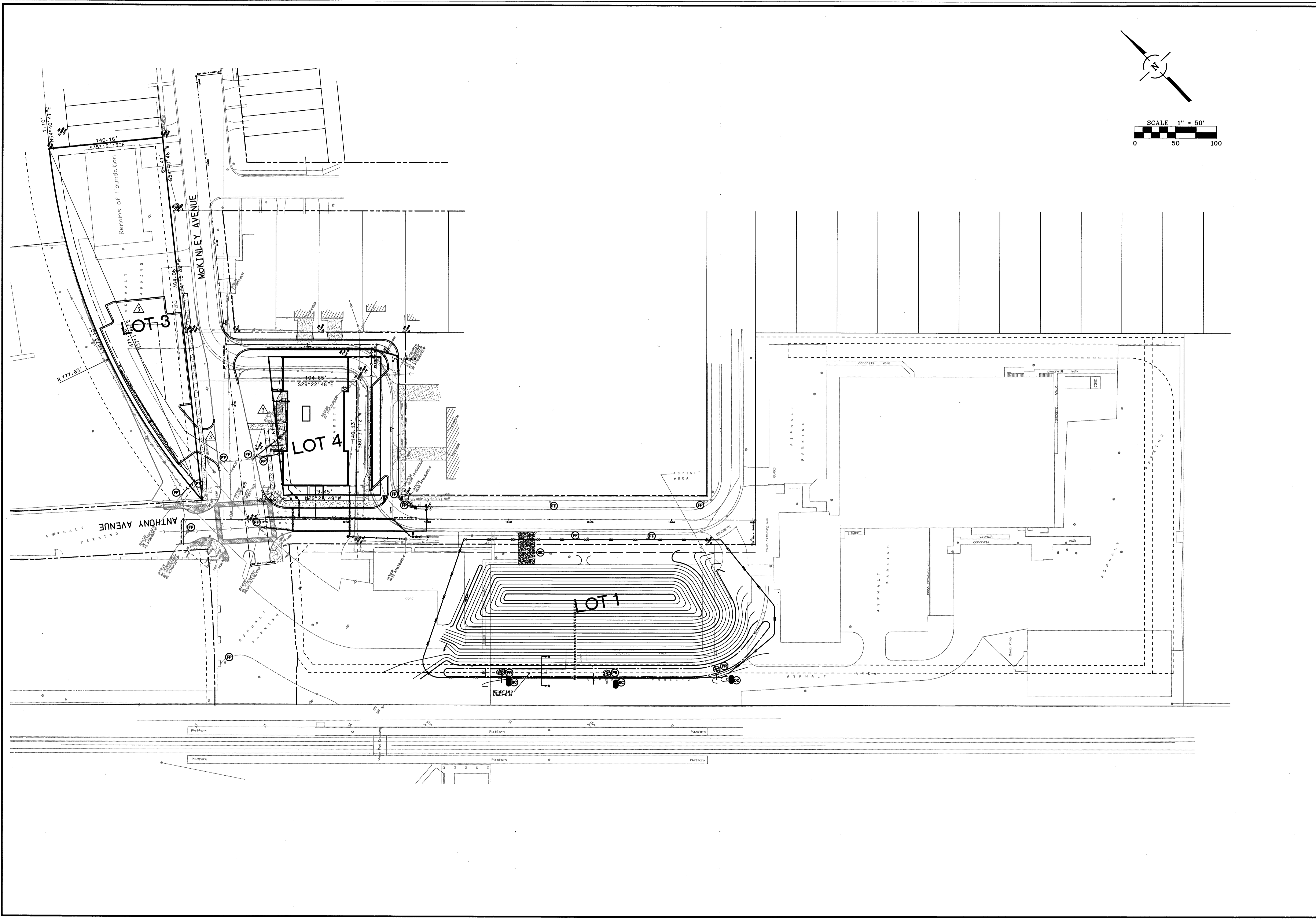
NO.	DATE	REMARKS
4	04/04/14	PER VILLAGE COMMENTS
2	12/10/13	PER VILLAGE COMMENTS
1	9/17/13	PER VILLAGE COMMENTS

DEMOLITION PLAN
CARDINAL SQUARE
 MUNDELEIN, ILLINOIS

VANTAGEPOINT
 ENGINEERING

18311 NORTH CREEK DRIVE
 TRIPLE PARK, IL 60077
 815.398.4768
 INFO@VPENG.COM

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NO.	DATE	REMARKS

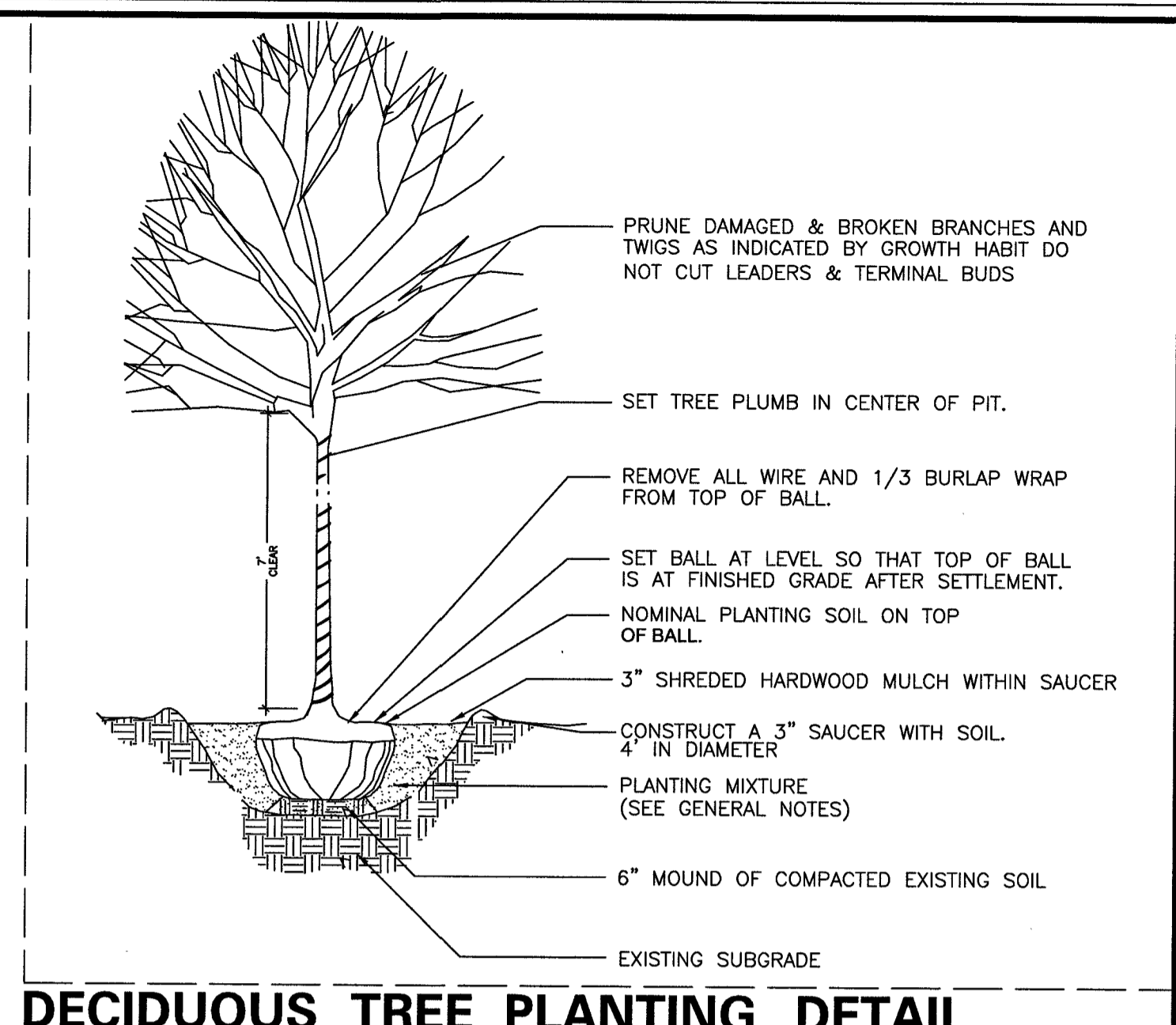
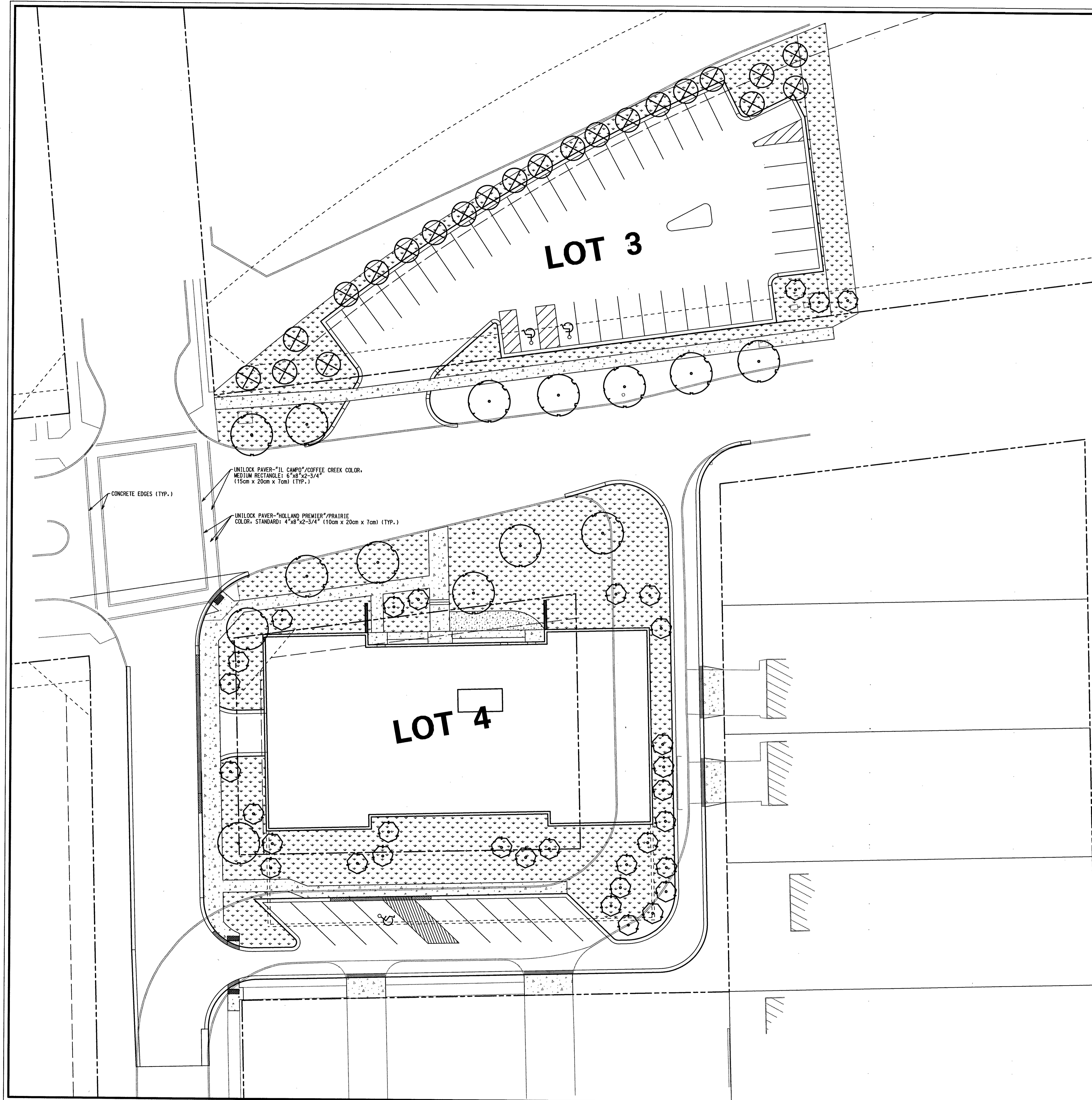
3	03/03/14	PER VILLAGE COMMENTS
2	12/10/13	PER VILLAGE COMMENTS
1	9/17/13	PER VILLAGE COMMENTS

OVERALL SITE PLAN
CARDINAL SQUARE
 MUNDELEIN, ILLINOIS

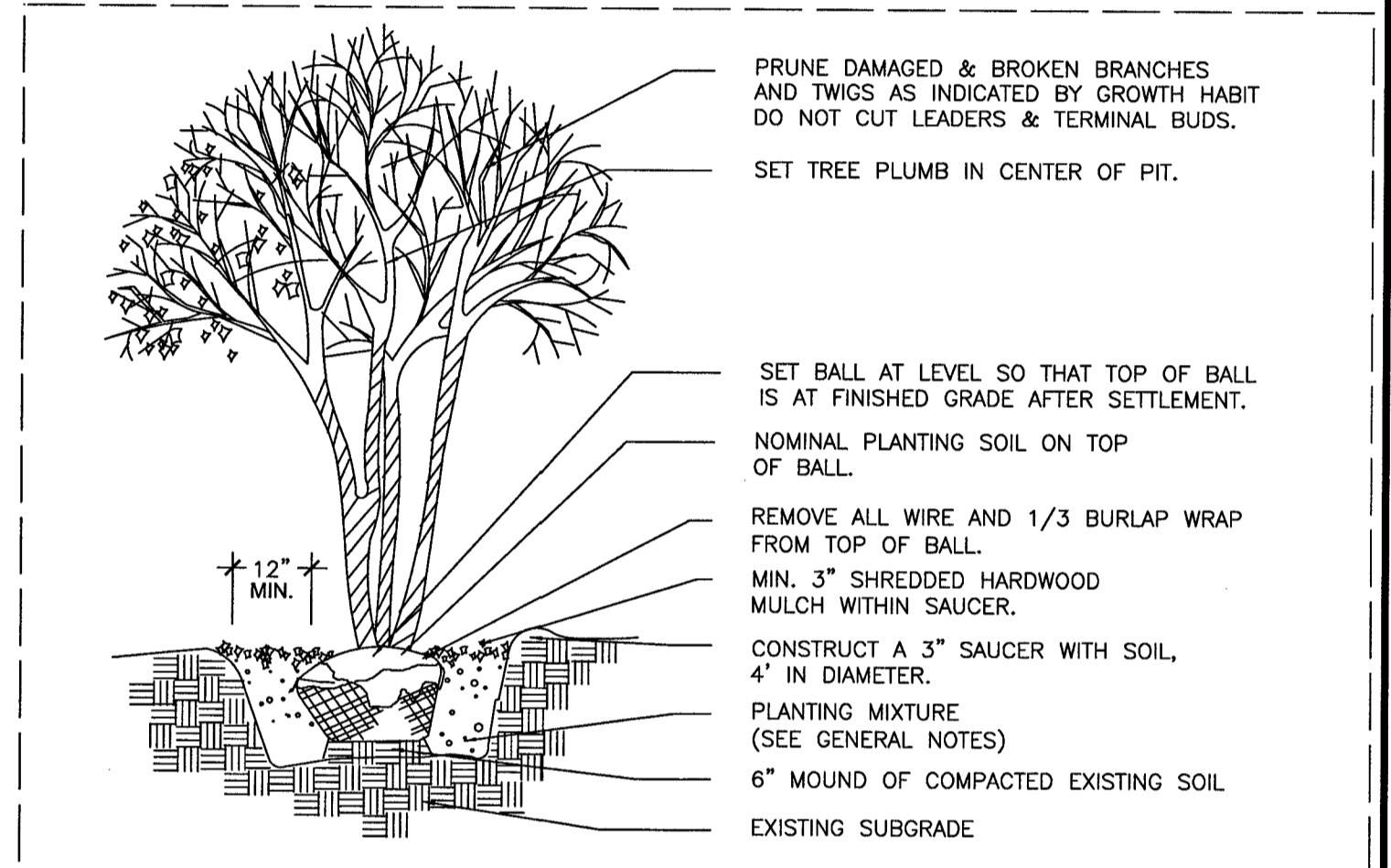
VANTAGE POINT
 ENGINEERING

18111 NORTH CREEK DRIVE
 TINLEY PARK, IL 60477
 708.878.4004
 INFO@VPINC.COM

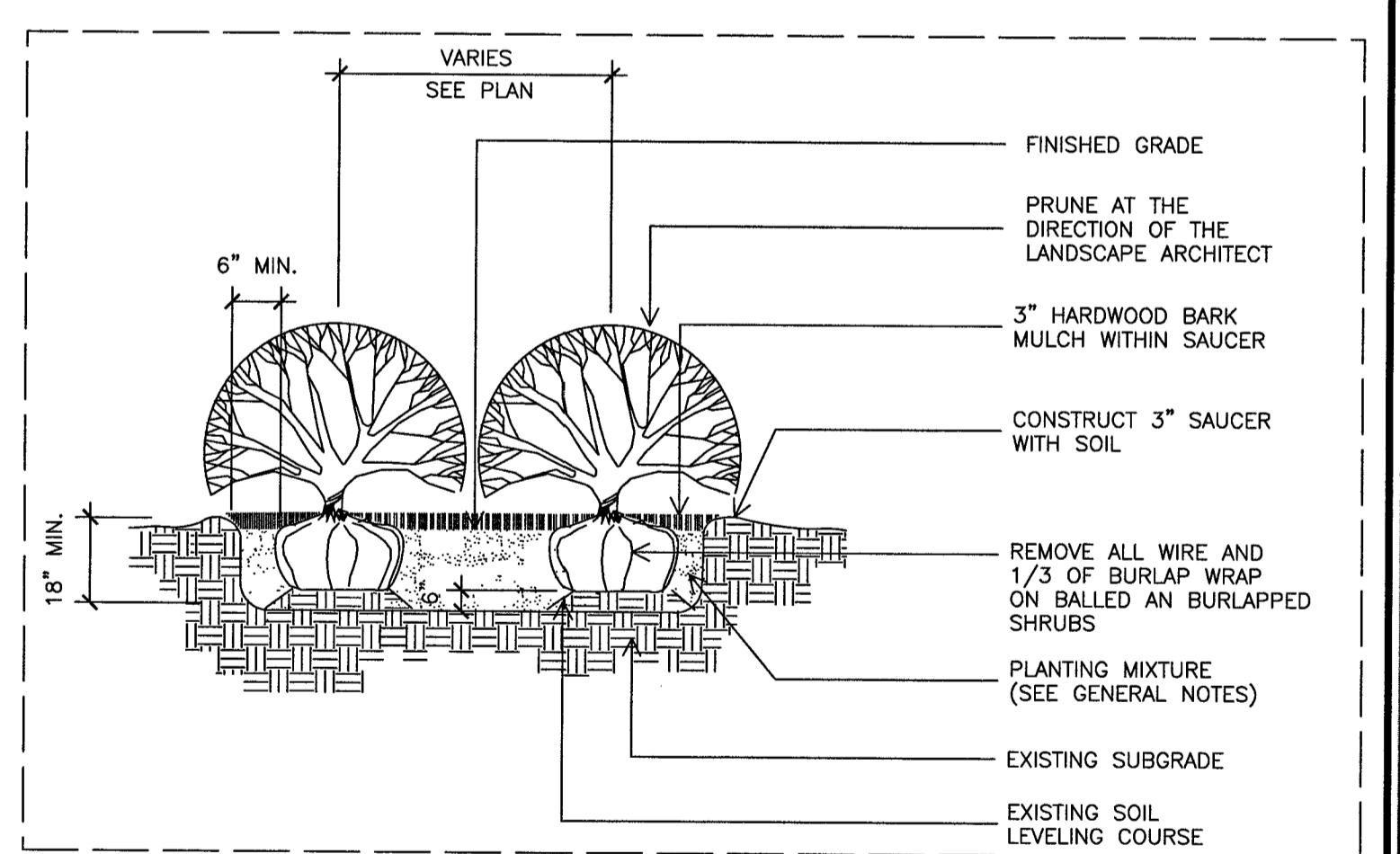
VPINC.COM | CIVIL ENGINEERING | LAND PLANNING | SURVEYING



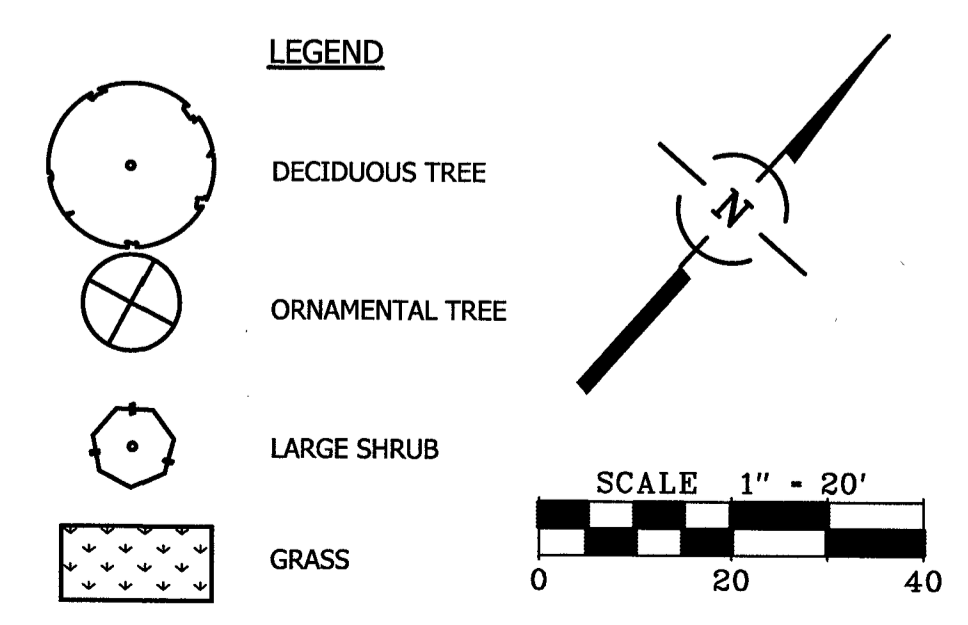
DECIDUOUS TREE PLANTING DETAIL



ORNAMENTAL TREE PLANTING DETAIL



SHRUB PLANTING DETAIL



NO.	DATE	REMARKS
5	07/30/14	ADDED SHEET TO SET

LANDSCAPE PLAN
CARDINAL SQUARE
 MUNDELEIN, ILLINOIS

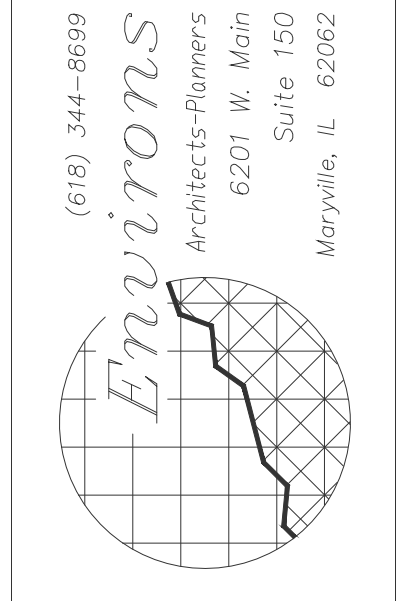
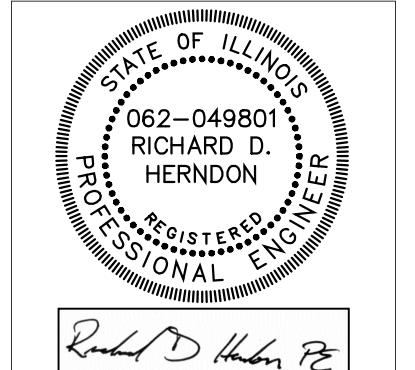
VANTAGE POINT
 ENGINEERING

18311 WORTHY CREEK DRIVE
 SUITE F
 TRILEY PARK, IL 60477

708-478-4004
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SHEET
LS
 20 OF 20



JOB NO.
13027

DATE:
NOVEMBER 15, 2013
REVISED:
FEBRUARY 20, 2014
AUGUST 22, 2014



A NEW APARTMENT BUILDING 'C':
CARDINAL SQUARE APARTMENTS
McKINLEY + ANTHONY AVE.
MUNDELEIN, ILLINOIS

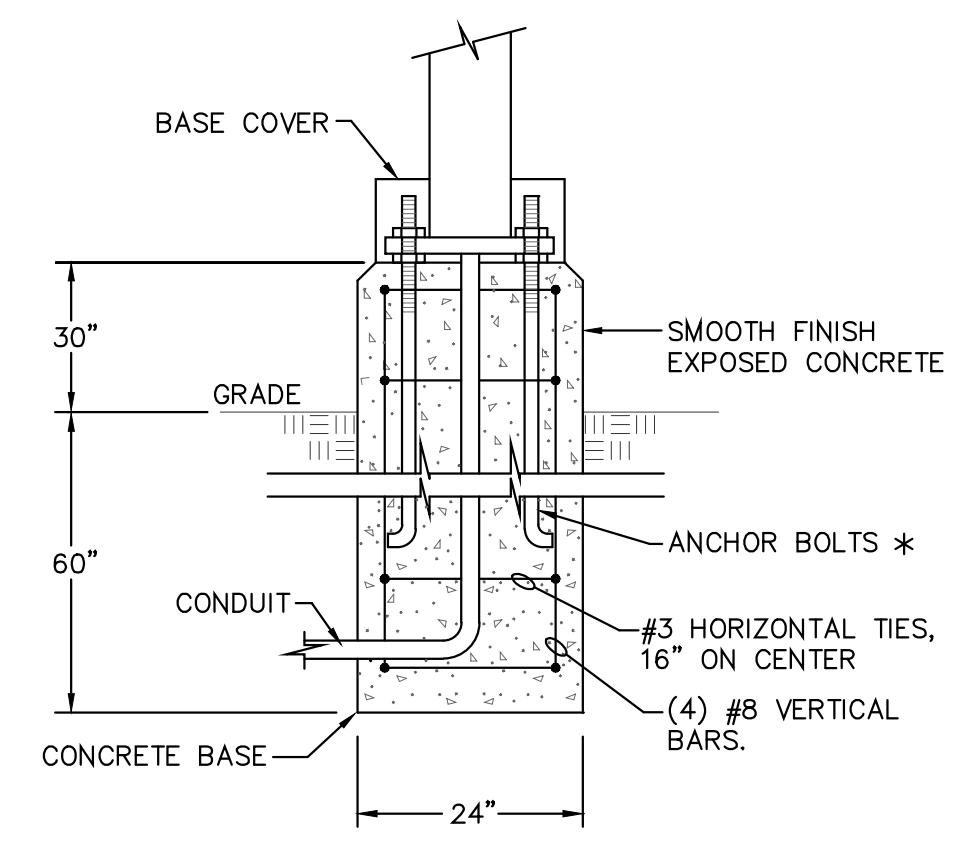
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OF

DRAWING KEY NOTE
1 ELECTRICAL CONTRACTOR TO WIRE THESE LIGHTING FIXTURES TO A PUBLIC STREET LIGHTING CONTROLLER, COORDINATE WITH VILLAGE OF MUNDELEIN.

- LUMINAIRE SCHEDULE**
- A SURFACE MOUNTED LED TYPE GARAGE LUMINAIRE UL LISTED FOR WET LOCATIONS COMPLETE WITH 24 LED'S EQUAL TO HUBBELL "SEDONA" CAT. #SCP-24LU-4K-5M-*. (*-COORDINATE COLOR WITH THE OWNER)
 - B 2FT X 4FT RECESSED DIRECT/INDIRECT FLUORESCENT LUMINAIRE, COMPLETE WITH (3) 32WT8 LAMPS AND ELECTRONIC BALLAST, EQUAL TO COLUMBIA CAT. #STE24-332G-MPO-EU.
 - C 4FT STRIP TYPE FLUORESCENT LUMINAIRE, COMPLETE WITH (2) 32WT8 LAMPS AND ELECTRONIC BALLAST, EQUAL TO COLUMBIA CAT. #K4-232-EU.
 - D 4FT WALL MOUNTED FLUORESCENT LUMINAIRE, COMPLETE WITH (2) 32WT8, (1) 17WT8 LAMPS, ELECTRONIC BALLAST AND EMERGENCY BATTERY, EQUAL TO COLUMBIA CAT. #BL4-232-EPU-EL.
 - E RECESSED INCANDESCENT CAN TYPE LUMINAIRE, COMPLETE WITH (1) 16W LED LAMP EQUAL TO PRESOLITE CAT. #DBX-TBW60 (LUMINAIRE) AND WITH SOLAIS CAT. #LRP38/40/27K (LAMP).
 - F SURFACE MOUNTED SCONCE TYPE FLUORESCENT LUMINAIRE, COMPLETE WITH (2) 13W PL LAMPS AND ELECTRONIC BALLAST, EQUAL TO ADVENT LIGHTING CAT. #AWB302-2F13-WHITE-120V. (MOUNT AT 7'-6" A.F.F.)
 - G WALL MOUNTED FLUORESCENT, COMPLETE WITH (2) 13W PL LAMPS AND ELECTRONIC BALLAST, EQUAL TO INDESSA LIGHTING CAT. #5012CFQ13*. (*-COORDINATE COLOR WITH OWNER)
 - H 30" WALL MOUNTED INCANDESCENT RESTROOM LUMINAIRE, COMPLETE WITH LAMPS, EQUAL TO PROGRESS LIGHTING CAT. #P3335-15.
 - J COMBINATION EXHAUST FAN AND LIGHTING COMBINATION, COMPLETE WITH LAMPS AND 80CFM FAN, EQUAL TO NUTONE CAT. #XN80L.
 - K WALL MOUNTED ELEVATOR PIT LIGHT UL LISTED FOR WET LOCATIONS, COMPLETE WITH (1) 100W. INCANDESCENT LAMP, EQUAL TO HUBBELL CAT. #VFB-15/VW-1/VG-15.
 - L WALL MOUNTED LED TYPE LUMINAIRE UL LISTED FOR WET LOCATIONS, COMPLETE WITH 7W LED'S, EQUAL TO LUMINAIRE CAT. #SPC4122CR-7WHP-3500-120V.-OP-*. (*-COORDINATE COLOR WITH THE OWNER)
 - M WALL MOUNTED LED TYPE LUMINAIRE UL LISTED FOR WET LOCATIONS, COMPLETE WITH (7) 16.4W LED'S, EQUAL TO HUBBELL "LAREDO" CAT. #LNC-7LU-5K-3-*. (*-COORDINATE COLOR WITH THE OWNER)
 - N 2FT WALL MOUNTED FLUORESCENT LUMINAIRE, COMPLETE WITH (1) 17WT8 LAMP AND ELECTRONIC BALLAST EQUAL TO COLUMBIA CAT. #W2-117-EU.
 - P1 POLE MOUNTED H.I.D. TYPE LUMINAIRE, COMPLETE WITH (1) 100W HIGH PRESSURE SODIUM LAMP, 14FT POLE AND ALL REQUIRED MOUNTING HARDWARE, HOLOPHNAE GRANDVILLE SERIES CAT. #GVJNT00HPMTB7RSB-P AND WADSWORTH SERIES STYLE POLE CAT. #W14F5/17-CA-BKH.
 - P2 POLE MOUNTED H.I.D. TYPE LUMINAIRE, COMPLETE WITH (1) 320W METAL HALIDE LAMP, 25FT SQUARE STRAIGHT STEEL POLE AND ALL REQUIRED MOUNTING HARDWARE, EQUAL TO SPAULDING LIGHTING "CIMERRON" CAT. #CR1-A-P32-H4P-F-Q-*-*HS (LUMINAIRE) AND CAT. #SSS-25-50-7-AX-* (POLE), COORDINATE THE COLOR WITH THE OWNER.
 - P3 POLE MOUNTED H.I.D. TYPE LUMINAIRE, COMPLETE WITH (1) 320W METAL HALIDE LAMP, 25FT SQUARE STRAIGHT STEEL POLE AND ALL REQUIRED MOUNTING HARDWARE, EQUAL TO SPAULDING LIGHTING "CIMERRON" CAT. #CR1-A-P32-H5-F-Q-*-*HS (LUMINAIRE) AND CAT. #SSS-25-50-7-AX-* (POLE), COORDINATE THE COLOR WITH THE OWNER.
 - EX LED EXIT SIGN COMPLETE WITH BATTERY AND RED LETTERS EQUAL TO DUAL LITE CAT. #LXURW.
 - EX1 LED EXIT SIGN COMPLETE WITH BATTERY, (2) HEADS, EXTRA CAPACITY AND RED LETTERS EQUAL TO DUAL LITE CAT. #LURW3.
 - EM EMERGENCY BATTERY UNIT COMPLETE WITH BATTERY AND (2) HEADS EQUAL TO DUAL LITE CAT. #LZ2.
 - RH REMOTE WEATHERPROOF EMERGENCY HEAD COMPLETE WITH 8W HALOGEN LAMP EQUAL TO DUAL LITE CAT. #OMSSW-0608.

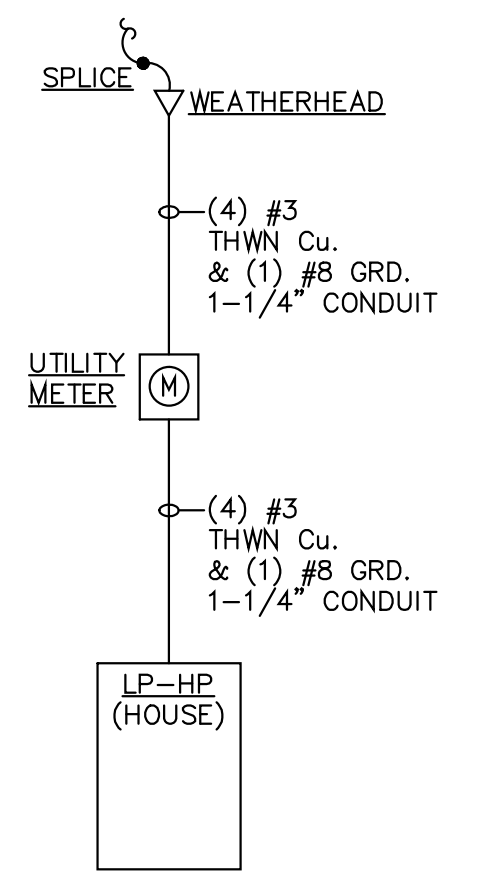
ELECTRICAL LEGEND

—	FLUORESCENT FIXTURE
○	CAN TYPE FIXTURE
○	WALL MOUNTED FIXTURE
⊗	EXIT LIGHT FIXTURE
⊕	EMERGENCY BATTERY UNIT
⊕	EXTERIOR REMOTE EMERGENCY HEAD
⊕	EXIT LIGHT WITH HEADS
□	JUNCTION BOX
□	DISCONNECT SWITCH (HEAVY DUTY ONLY)
□	COMBINATION STARTER DISCONNECT SWITCH
⊞	SINGLE POLE SWITCH
⊞	3 POLE SWITCH
⊞	MOTOR RATED SWITCH
⊞	DUPLEX RECEPTACLE
⊞	GFCI TYPE DUPLEX RECEPTACLE
⊞	SINGLE SPECIAL PURPOSE RECEPTACLE
⊞	PHONE JACK WITH 1" CONDUIT STUBBED TO ABOVE CEILING
—	CONDUIT AND WIRE ABOVE CLG. OR IN WALL
---	CONDUIT AND WIRE BELOW FLOOR OR GRADE
---	CONDUIT AND WIRE EXPOSED
→ A-1	HOME RUN TO PANEL WITH CIRCUIT NO.
⊕	FIXTURE TYPE
①	KEY NOTE
WP	WEATHER PROOF
N.F.	NON-FUSED



POLE BASE DETAIL
NOT TO SCALE

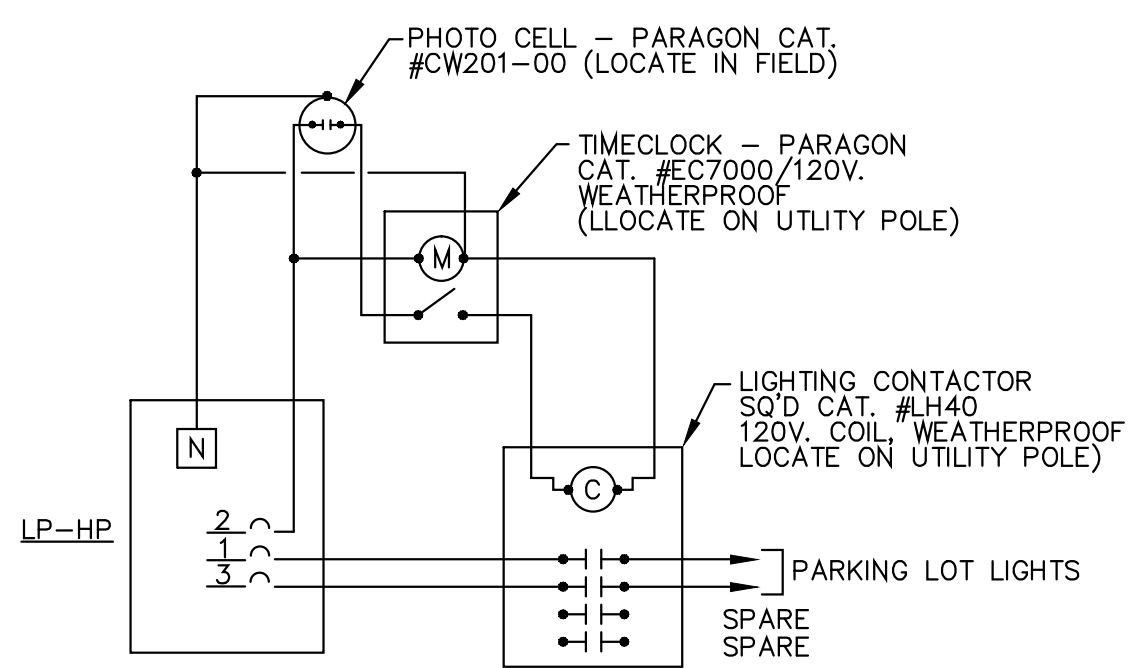
* = VERIFY EXACT REQUIREMENTS WITH POLE MANUFACTURER.



PARKING LOT LIGHTING SINGLE LINE RISER DIAGRAM

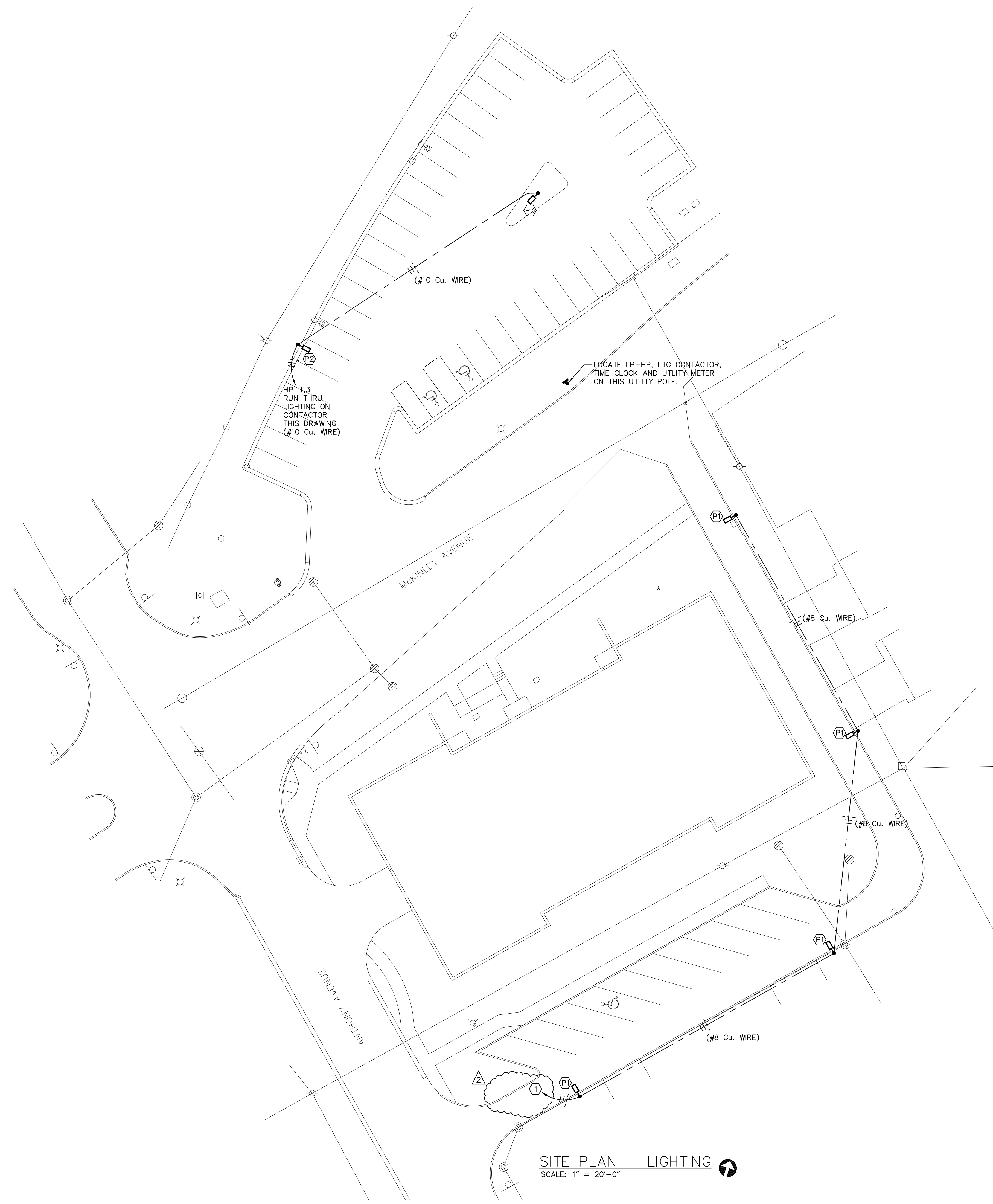
LP-HP (WEATHERPROOF)

VOLTAGE: 120/208V. 3φ 4W.		CONNECTED LOAD: 0.8KW.	
MOUNTING: SURFACE		MAIN: 100AMP MAIN BREAKER	
LOAD SERVED	KW BRK	BRK KW	LOAD SERVED
PARKING LOT LTG	.4 20	20	2 LGT CONTACTOR
SPACE	.4 2P	4	SPACE
		5	
		6	
		7	
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		24	



LIGHTING CONTROL WIRING DIAGRAM
NOT TO SCALE

HERNDON ENGINEERING SERVICES, Inc.
5870 COOK ROAD, SUITE B, MILFORD OH 45150
Voice: (513) 248-1313 Fax: (513) 248-2869
Email: herndon@herndoneng.com Website: www.herndoneng.com



SITE PLAN - LIGHTING
SCALE: 1" = 20'-0"

F:\IES\Projects\3058 Cardinal Square Apartments - Amy Electric\Drawings\EP3058.dwg, E.L.O. 8/21/2014 2:59:29 PM, bddm, DWG To PDF.pc3, ARCH expand D (36000 x 24100 inches), 11

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