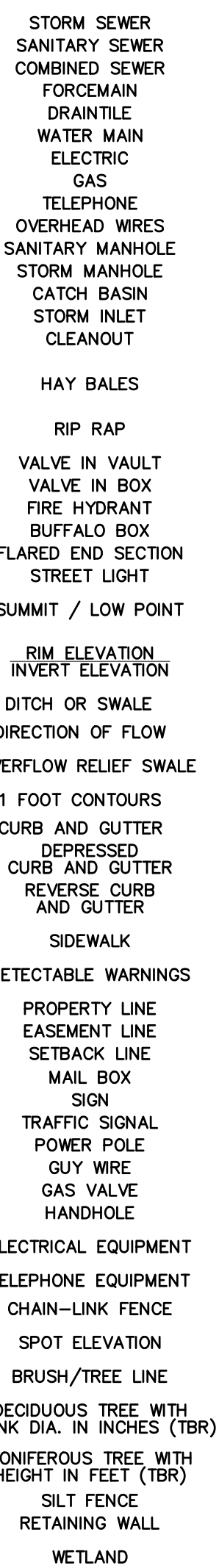
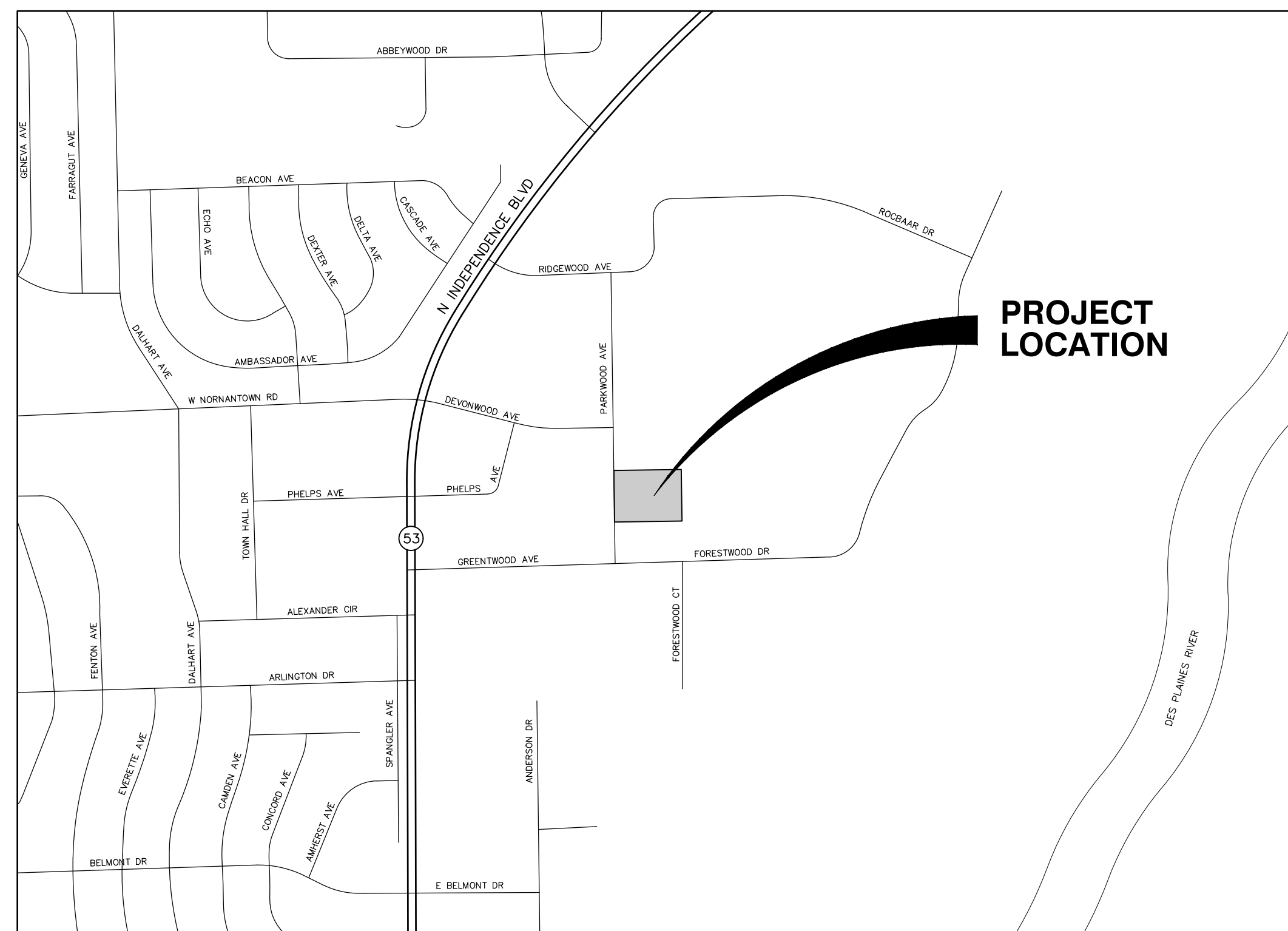


**Proposed Improvements
for
NRY BUILDING
645 PARKWOOD AVENUE
VILLAGE OF ROMEVILLE, ILLINOIS**

EXISTING



A vertical strip of various symbols and icons, including musical notes, letters, geometric shapes, and technical drawings.



N.T.S.

ABLE MASONRY DEVELOPMENT CO.
645 PARKWOOD AVENUE
ROMEOVILLE, ILLINOIS 60446
(815) 293-1770

KMA & ASSOCIATES INC.
1121 LAKE COOK ROAD, #F
DEERFIELD, IL, 60015
(847) 945-6869

I, KEVIN COUGHLIN, HEREBY CERTIFY THAT ADEQUATE STORM WATER STORAGE AND DRAINAGE CAPACITY HAS BEEN PROVIDED FOR THIS DEVELOPMENT, SUCH THAT SURFACE WATER FROM THE DEVELOPMENT WILL NOT BE DIVERTED ONTO AND CAUSE DAMAGE TO ADJACENT PROPERTY FOR STORMS UP TO AND INCLUDING THE ONE HUNDRED (100) YEAR EVENT, AND THAT THE DESIGN PLANS ARE IN COMPLIANCE WITH ALL APPLICABLE STATE, COUNTY, AND VILLAGE ORDINANCES.

KEVIN COUGHLIN, P.E.

SHEET NO.

1	TITLE SHEET
2	EXISTING CONDITIONS AND DEMOLITION PLAN
3	SITE DIMENSIONAL AND PAVING PLAN
4	GRADING PLAN
5	UTILITY PLAN
6	SOIL EROSION AND SEDIMENT CONTROL PLAN
7	SOIL EROSION AND SEDIMENT CONTROL PLAN DETAILS
8	CONSTRUCTION DETAILS
9	CONSTRUCTION DETAILS
10	CONSTRUCTION DETAILS
11	CONSTRUCTION SPECIFICATIONS

1. THE BOUNDARY LINES AND TOPOGRAPHY FOR THIS PROJECT ARE BASED ON A FIELD SURVEY COMPLETED BY MANHARD CONSULTING, LTD. ON JUNE 25, 2020. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY MANHARD CONSULTING AND THE CLIENT IN WRITING OF ANY DIFFERING CONDITIONS.

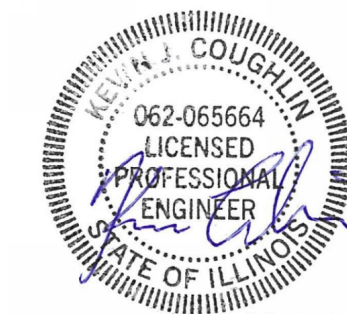
REFERENCE BENCHMARK:
ELEVATIONS AND SITE BENCHMARKS SHOWN HEREON WERE ESTABLISHED UTILIZING A TRIMBLE REAL-TIME KINEMATIC (RTK) GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) AND THE TRIMBLE VRS NOW NETWORK. THE OBSERVED ELEVATIONS ARE THE BASIS FOR ALL ELEVATIONS SHOWN HEREON AND THIS INFORMATION HAS NOT BEEN DIRECTLY COMPARED TO ANY OTHER KNOWN OR FIXED BENCHMARK. ALL ELEVATIONS ARE BASED ON NAVD 88 DATUM (GEOID18).

CUT SQUARE IN CONCRETE HEADWALL APPROXIMATELY 33 FEET EAST OF THE CENTERLINE OF PARKWOOD AVENUE AND APPROXIMATELY 366 FEET SOUTH OF THE CENTERLINE OF DEVONWOOD AVENUE.
ELEVATION=605.16 DATUM=NAVD88-GEOD 12B

SITE BENCHMARK: 2
NORTHWEST BOLT ON HYDRANT APPROXIMATELY 28 FEET WEST OF THE CENTERLINE OF PARKWOOD AVENUE AND APPROXIMATELY 390 FEET SOUTH OF THE CENTERLINE OF DEVONWOOD AVENUE.
ELEVATION=605.16 DATUM=NAVD88-GEOD 12B

ADJ	ADJUST	F/L	FLOW LINE
AGG.	AGGREGATE	FM	FORCE MAIN
ARCH	ARCHITECT	G	GROUND
A.S.A.M.	BITUMINOUS AGGREGATE MIXTURE	G/F	GRADE AT FOUNDATION
B-B	BACK TO BACK	GW	GUY WIRE
B/C	BACK OF CURB	HDWL	HEADWALL
B/P	BOTTOM OF PIPE	HH	HANDHOLE
B/W/H	BANK OF HIGHWAY	HWL	HIGH WATER LEVEL
-BOX	BUFFALO BOX	HYD.	HYDRANT
BIT.	BITUMINOUS	INL	INLET
BM	BENCHMARK	INV.	INVERT
B.O.	BY OTHERS	IP	IRON PIPE
C.E.	COMMERCIAL ENTRANCE	LT	LEFT
CB	CATCH BASIN	MAX.	MAXIMUM
C	CENTERLINE	MB	MAILBOX
GMP	CORRUGATED METAL PIPE	M/E	MEET EXISTING
CNTRL	CONTROL	MH	MANHOLE
C.O.	CLEANOUT	MIN.	MINIMUM
CONC.	CONCRETE	NWL	NORMAL WATER LEVEL
CY	CUBIC YARD	P.E.	PRIVATE ENTRANCE
D	DITCH	PC	POINT OF CURVATURE
DIA.	DIAMETER	PCG	POINT OF COMPOUND CURVE
DIP	DUCTILE IRON PIPE	PGL	PROFILE GRADE LINE
DIWM	DUCTILE IRON WATER MAIN	PI	POINT OF INTERSECTION
DS	DOWNSPOUT	R	PROPERTY LINE
DT	DRAIN TILE	RP	POWER POLE
E	ELECTRIC	PROP.	PROPOSED
E-E	EDGE TO EDGE	PT	POINT OF TANGENCY
ELEV.	ELEVATION	PVC	POLYVINYL CHLORIDE PIPE
E/P	EDGE OF PAVEMENT	PVC	POINT OF VERTICAL CURVATURE
EXT.	EXTENDING	PVI	POINT OF VERTICAL INTERSECTION
F	FIELD ENTRANCE	PVT	POINT OF VERTICAL TANGENCY
F-F	FACE TO FACE	P	PAVEMENT
F.F.	FINISHED FLOOR	P.U.D.E.	PUBLIC UTILITY & DRAINAGE EASEMENT
F.F.S	FLARED FND SECTION	R	RADIUS

<p><u>ELECTRIC</u> COMED 2 LINCOLN CENTER ACAD BROOK TERRACE, IL. 60181 (800) 334-7661</p>	<p><u>WATER</u> VILLAGE OF ROMEOVILLE PUBLIC WORKS 615 ANDERSON DRIVE ROMEOVILLE, IL. 60446 (815) 886-1870 CONTACT: ERIC BJORK</p>	<p><u>SEWER</u> VILLAGE OF ROMEOVILLE PUBLIC WORKS 615 ANDERSON DRIVE ROMEOVILLE, IL. 60446 (815) 886-1870 CONTACT: ERIC BJORK</p>
<p><u>GAS</u> NICOR 1844 FERRY ROAD NAPERVILLE, IL. 60563 (888) 642-6748</p>	<p><u>TELEPHONE</u> AT&T 297 S. WEBER ROAD ROMEOVILLE, IL. 60446 (815) 836-6730</p>	<p><u>VILLAGE CONTACT</u> VILLAGE OF ROMEOVILLE 615 ANDERSON DRIVE ROMEOVILLE, IL. 60446 (815) 886-1870 CONTACT: MR. JONATHAN A. ZABROCKI, P.E.</p>



SIGNED 03/31/2021

SEAL

**ABLE MASONRY BUILDING ADDITION
VILLAGE OF ROMEOVILLE, ILLINOIS**

TITLE SHEET

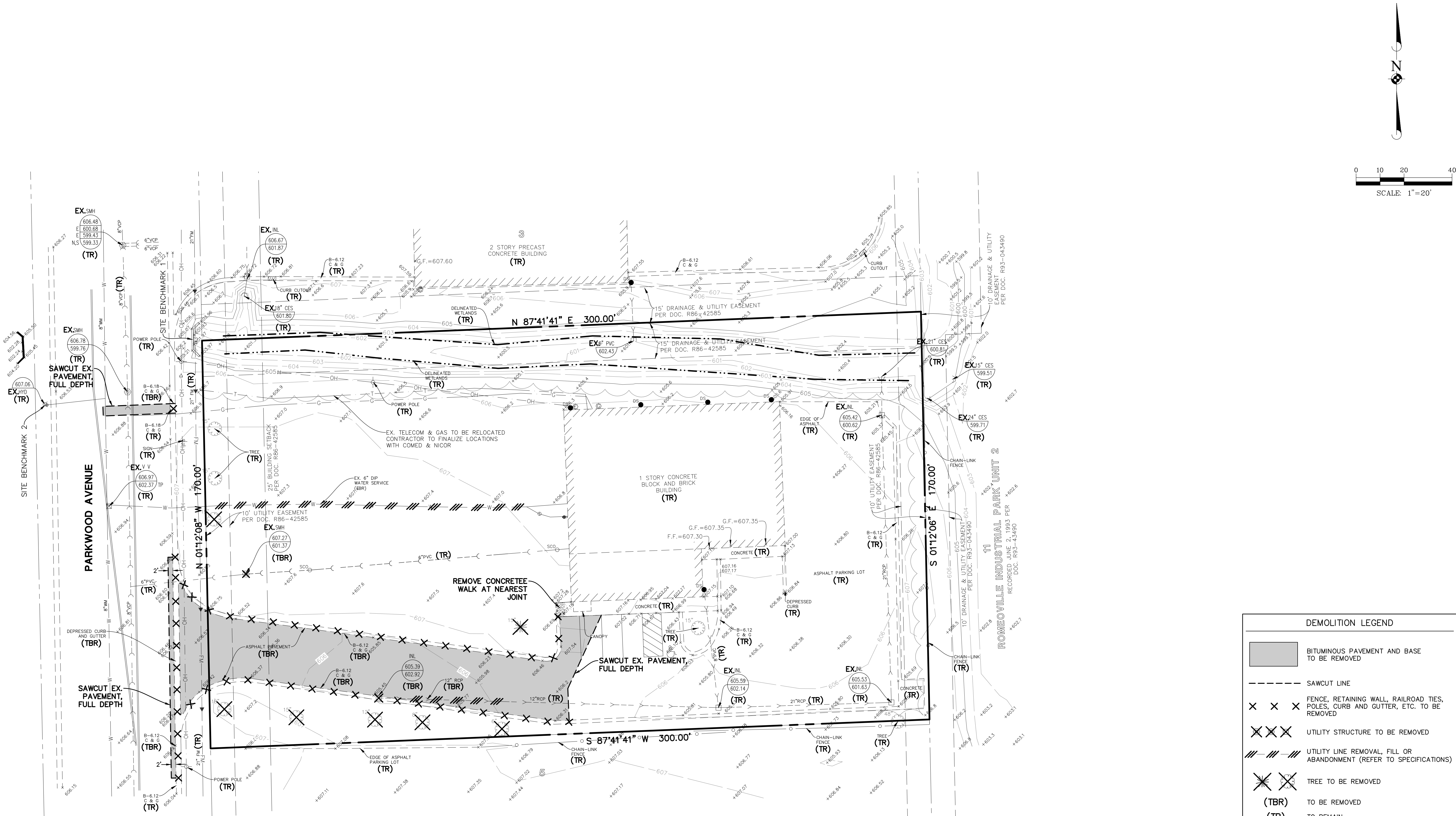
PROJ. MGR.: KJC
PROJ. ASSOC.: MDE
DRAWN BY: MCL
DATE: 08-05-20
SCALE: N.T.S.

SHEET

1 OF 11

AMD.ROLL01

PERMIT SET - NOT FOR CONSTRUCTION



DEMOLITION LEGEND	
	BITUMINOUS PAVEMENT AND BASE TO BE REMOVED
	SAWCUT LINE
	FENCE, RETAINING WALL, RAILROAD TIES, POLES, CURB AND GUTTER, ETC. TO BE REMOVED
	UTILITY STRUCTURE TO BE REMOVED
	UTILITY LINE REMOVAL, FILL OR ABANDONMENT (REFER TO SPECIFICATIONS)
	TREE TO BE REMOVED
(TBR)	TO BE REMOVED
(TR)	TO REMAIN

- EXISTING CONDITIONS AND DEMOLITION NOTES:**
- EXISTING CONDITIONS AND DEMOLITION PLAN REPRESENT SITE CONDITIONS AS OF JUNE 25, 2020. CONTRACTOR SHALL INSPECT SITE PRIOR TO BIDDING WORK TO VERIFY ACTUAL FIELD CONDITIONS AS PORTIONS OF THE DEMOLITION WORK MAY HAVE SINCE BEEN COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE ALL DEMOLITION WORK AS PER PLANS TO PREPARE THE SITE FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
 - THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY, WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.
 - THE CONTRACTOR IS RESPONSIBLE FOR DEMOLITION, REMOVAL AND DISPOSAL (IN A LOCATION APPROVED BY ALL JURISDICTIONAL GOVERNING ENTITIES) OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, ROAD, PARKING LOTS, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THESE PLANS CAN BE CONSTRUCTED. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
 - REFER TO SPECIFICATIONS SHEET FOR DEMOLITION NOTES.

Manhard CONSULTING LTD

115 West Illinois, 7th Floor, Chicago, IL 60654 ph:312.824.3800 x:847.634.0095 manhard.com
Construction Managers | Environmental Scientists | Landscape Architects | Planners

DATE	REVISIONS	DRAWN BY
03-31-21	REVISED PER VILLAGE COMMENTS	MDE
02-22-21	REVISED PER VILLAGE COMMENTS	MDE

ABLE MASONRY BUILDING ADDITION
VILLAGE OF ROMEOVILLE, ILLINOIS
EXISTING CONDITIONS AND DEMOLITION PLAN

PROJ. MGR.: KJC
PROJ. ASSOC.: MDE
DRAWN BY: MH
DATE: 08-05-20
SCALE: 1"=20'

SHEET
2 OF 11
AMD.ROIL01

PERMIT SET - NOT FOR CONSTRUCTION

CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION OF SIDEWALKS, SIDEWALK SCORING, BENCHES, BIKE RACKS, FLAG POLES, ETC., DIMENSIONS OF VESTIBULE, RAMPS AND TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS

NOTE: PAVEMENT SECTIONS SHOWN ARE PER GEOTECHNICAL REPORT BY TERRACON DATED 02-18-2021. CONTRACTOR SHALL ADHERE TO RECOMMENDATIONS IN TERRACON GEOTECHNICAL REPORT, INCLUDING SUBGRADE PREPARATION.

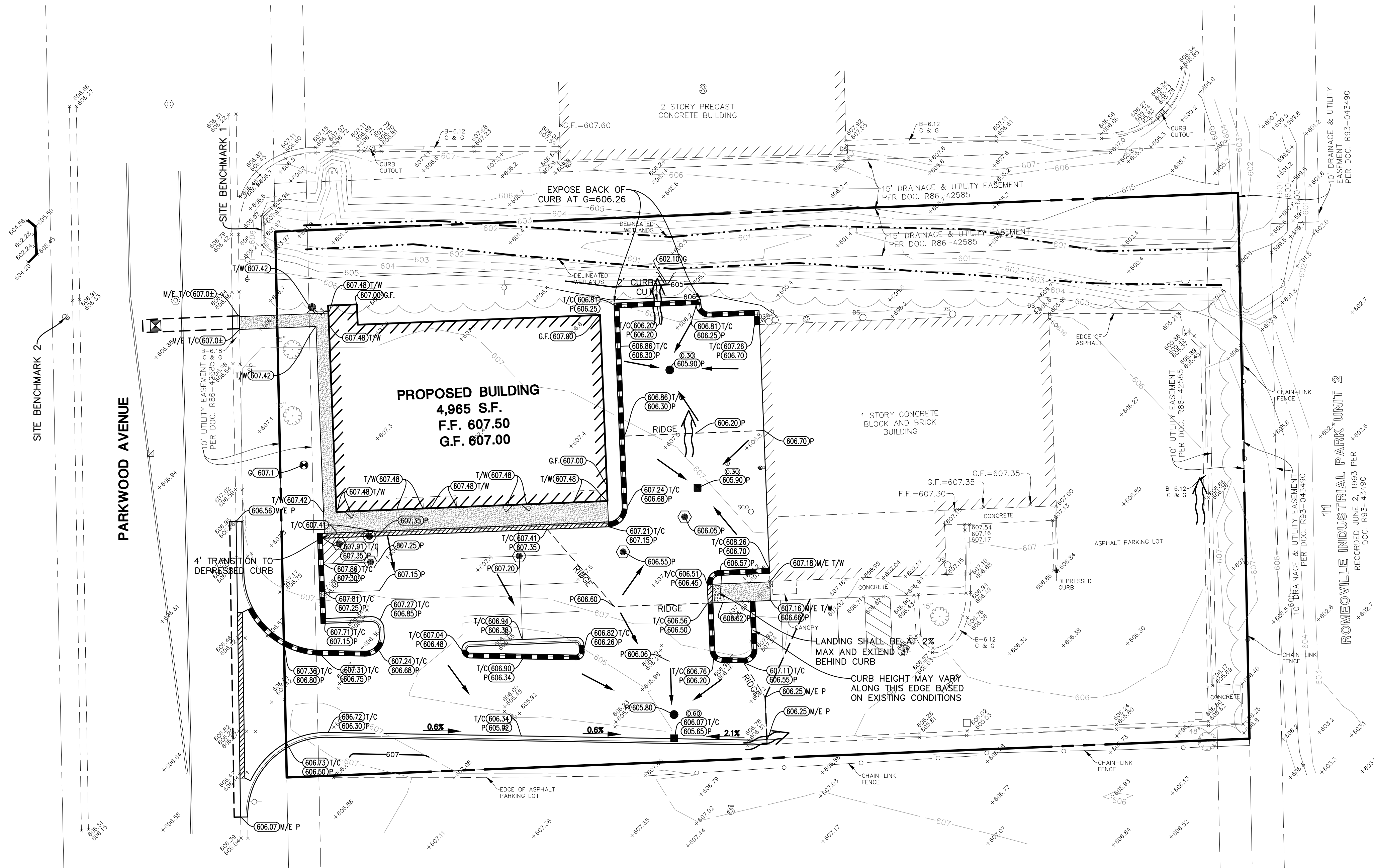
PROJ. MGR.: KJC
 PROJ. ASSOC.: MDE
 DRAWN BY: MH
 DATE: 08-05-20
 SCALE: 1"=20'

SHEET

3 OF 11

AMD.ROILO1

March 31, 2024 - 11:00 - Data Name: P:\Vmrz001\AbleMasonry\AbleMasonry\Plan\Set4\Grading\Grading\Grading.dwg - User: J. B. M. -



Grading Plan Legend	
	PROPOSED 1 FOOT CONTOURS
	PROPOSED SPOT ELEVATION
	PROPOSED FINISHED FLOOR ELEVATION
	PROPOSED GRADE AT FOUNDATION
	PROPOSED PAVEMENT ELEVATION
	PROPOSED TOP OF CURB
	PROPOSED TOP OF WALK
	MEET EXISTING
	PROPOSED GROUND GRADE OR GROUND AT BASE OF RETAINING WALL
	PROPOSED DITCH OR SWALE
	PROPOSED DIRECTION OF FLOW
	OVERFLOW RELIEF
	PROPOSED RIDGE LINE
	PROPOSED DEPTH OF PONDING

- Grading Notes:**
- PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
 - ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2.00% OR LESS.
 - MEET EXISTING GRADE AT PROPERTY LIMITS UNLESS NOTED OTHERWISE.
 - CONTRACTOR SHALL REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN AND DETAILS FOR CONSTRUCTION SCHEDULING AND EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
 - THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
 - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
 - ALL UNPAVED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
 - EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY MANHARD CONSULTING LTD. ON JUNE 25TH, 2020. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
 - TRANSITIONS FROM DEPRESSED CURB TO FULL HEIGHT CURB SHALL BE TAPERED AT 2H:1V UNLESS OTHERWISE NOTED.

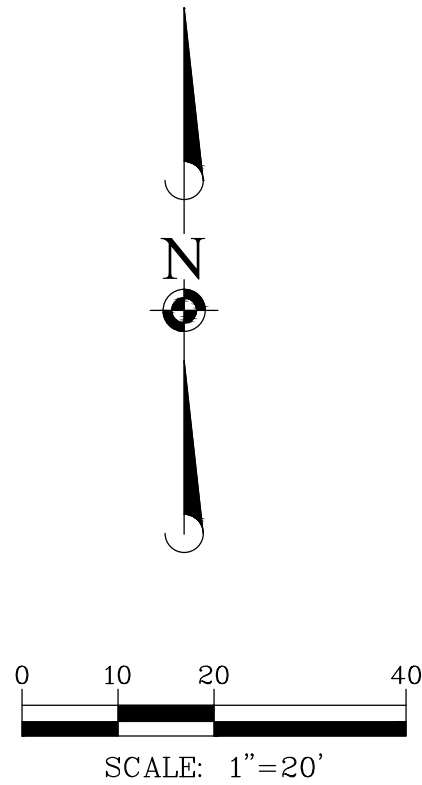
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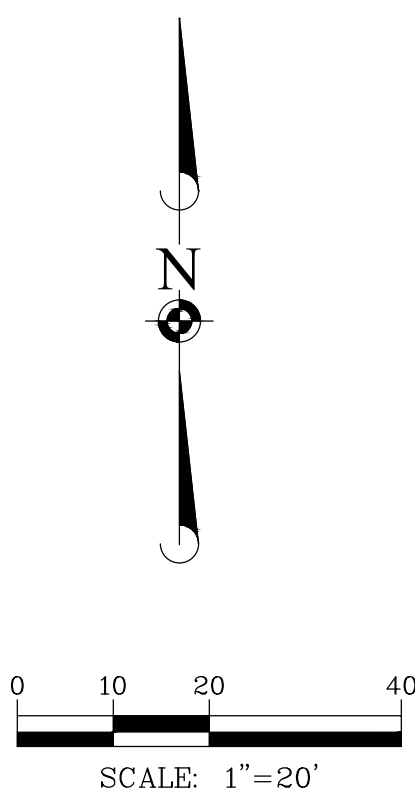
DATE	REVISIONS	BY	CHKD
03-31-21	REVISED PER VILLAGE COMMENTS	MDE	
02-22-21	REVISED PER VILLAGE COMMENTS	MDE	

ABLE MASONRY BUILDING ADDITION
VILLAGE OF ROMEOVILLE, ILLINOIS
Grading Plan

PROJECT MANAGER: KJC
PROJECT ASSOCIATE: MDE
DRAWN BY: EAF
DATE: 08-05-20
SCALE: 1"=20'
SHEET
4 OF 11
AMD.ROIL01

PERMIT SET - NOT FOR CONSTRUCTION





- | <u>SOIL PROTECTION CHART</u> | | | | | | | | | | | |
|------------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| STABILIZATION CHART | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT NOV DEC |
| PERMANENT SEEDINGS | D | B | A | C | E | F | G | H | I | J | K |
| DORMANT SEEDINGS | D | B | A | C | E | F | G | H | I | J | K |
| TEMPORARY SEEDINGS | D | B | A | C | E | F | G | H | I | J | K |
| SEEDING | D | B | A | C | E | F | G | H | I | J | K |
| MULCHING | F | E | D | C | B | A | Z | Y | X | W | V |

A - KENTUCKY BLUEGRASS
 90 LBS./AC. MIXED WITH PERENNIAL RYEGRASS
 30 LBS./AC.
 B - KENTUCKY BLUEGRASS
 135 LBS./AC. MIXED WITH PERENNIAL RYEGRASS
 45 LBS./AC. 2 TONS STRAW MULCH PER ACRE
 C - SPRING OATS
 D - WHEAT OR CEREAL RYE
 E - SO (NURSERY GROUND FERTILITY BLUEGRASS)
 F - STRAW MULCH 2 TONS PER ACRE
 * IRRIGATION NEEDED DURING JUN., JULY AND SEPTEMBER
 ** IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SODDING

NOTE: APPLY FERTILIZERS AND CONDITIONS AT THE RATE SPECIFIED PER SOIL TEST FINDINGS. IN VIEW OF SOIL TEST RESULTS, APPLY TWO (2) TONS OF GROUND AGRICULTURAL LIMESTONE PER ACRE AND 1,000 LBS. 10-10-10 OR EQUIVALENT ANALYSIS FERTILIZER PER ACRE. AT LEAST 40% OF THE FERTILIZER NITROGEN SHALL BE OF AN ORGANIC ORIGIN.

NOTE: THIS CHART IS A GUIDE TO ASSIST THE CONTRACTOR IN UNDERSTANDING OPTIONS FOR SOIL STABILIZATION. THE LANDSCAPE PLAN SHALL TAKE PRECEDENCE OVER THIS CHART. ANY CONFLICT SHALL BE DISCUSSED WITH THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.

"THESE EROSION CONTROL PLANS ARE A PORTION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA) TOTAL REQUIREMENTS FOR A COMPLETE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THE GENERAL NPDES PERMIT NO. ILR10. CLIENT AND/OR CONTRACTOR WILL BE RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE GENERAL NPDES PERMIT AND COMPILATION OF THE COMPLETE SWPPP."

[illegible]

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Civil Engineers | Surveyors | Water Resource Engineers | Water & Waste Water Engineers
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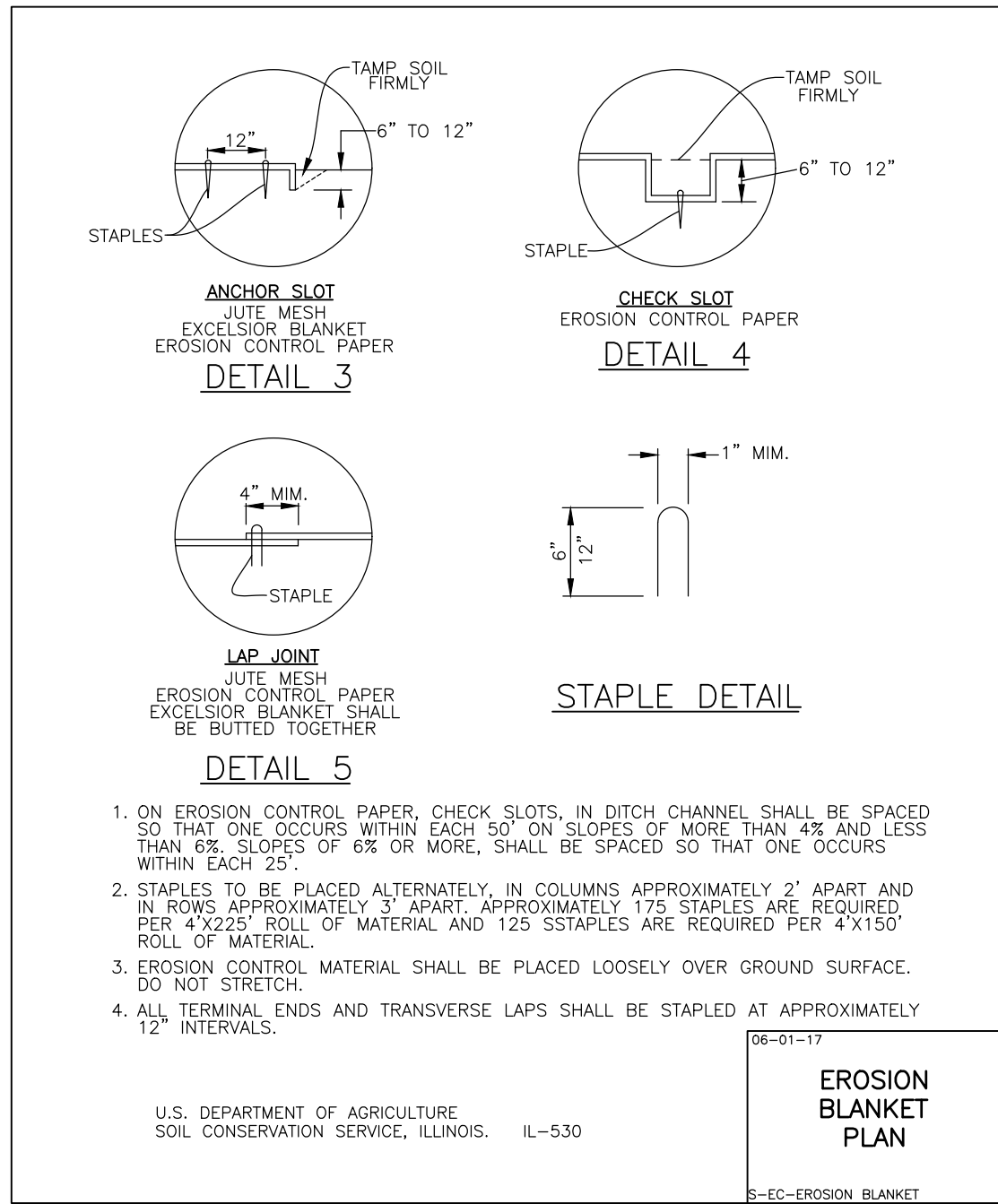
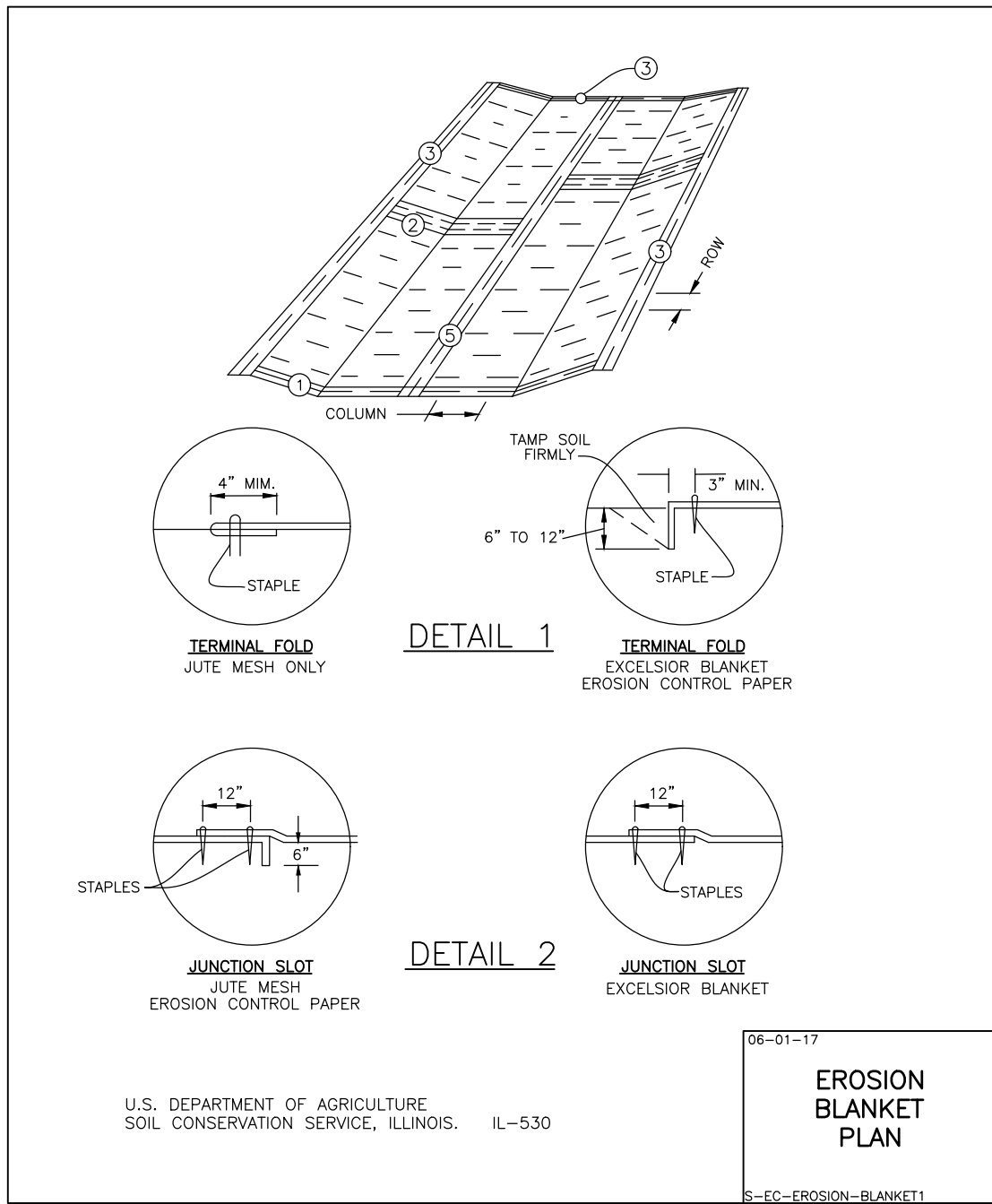
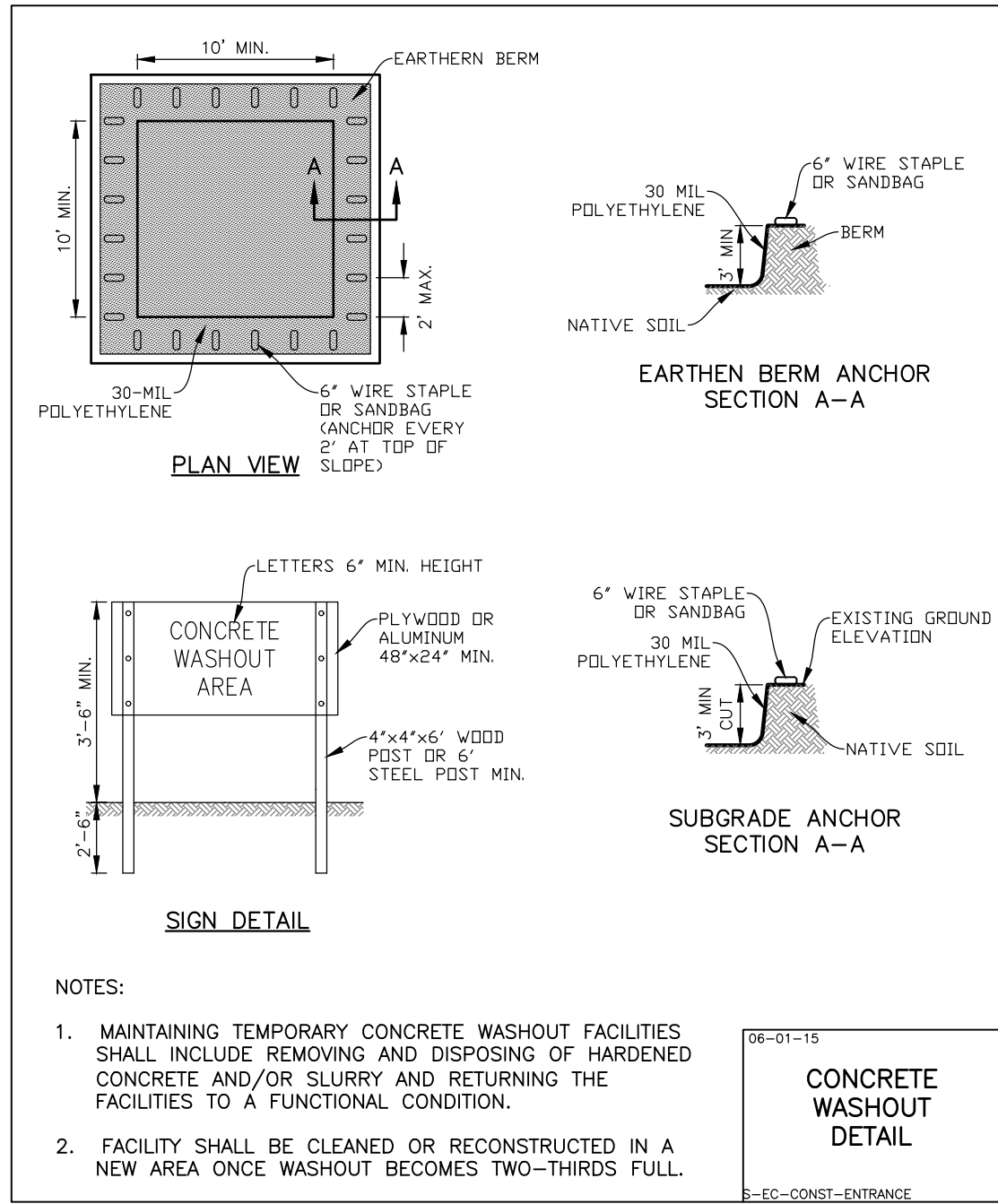
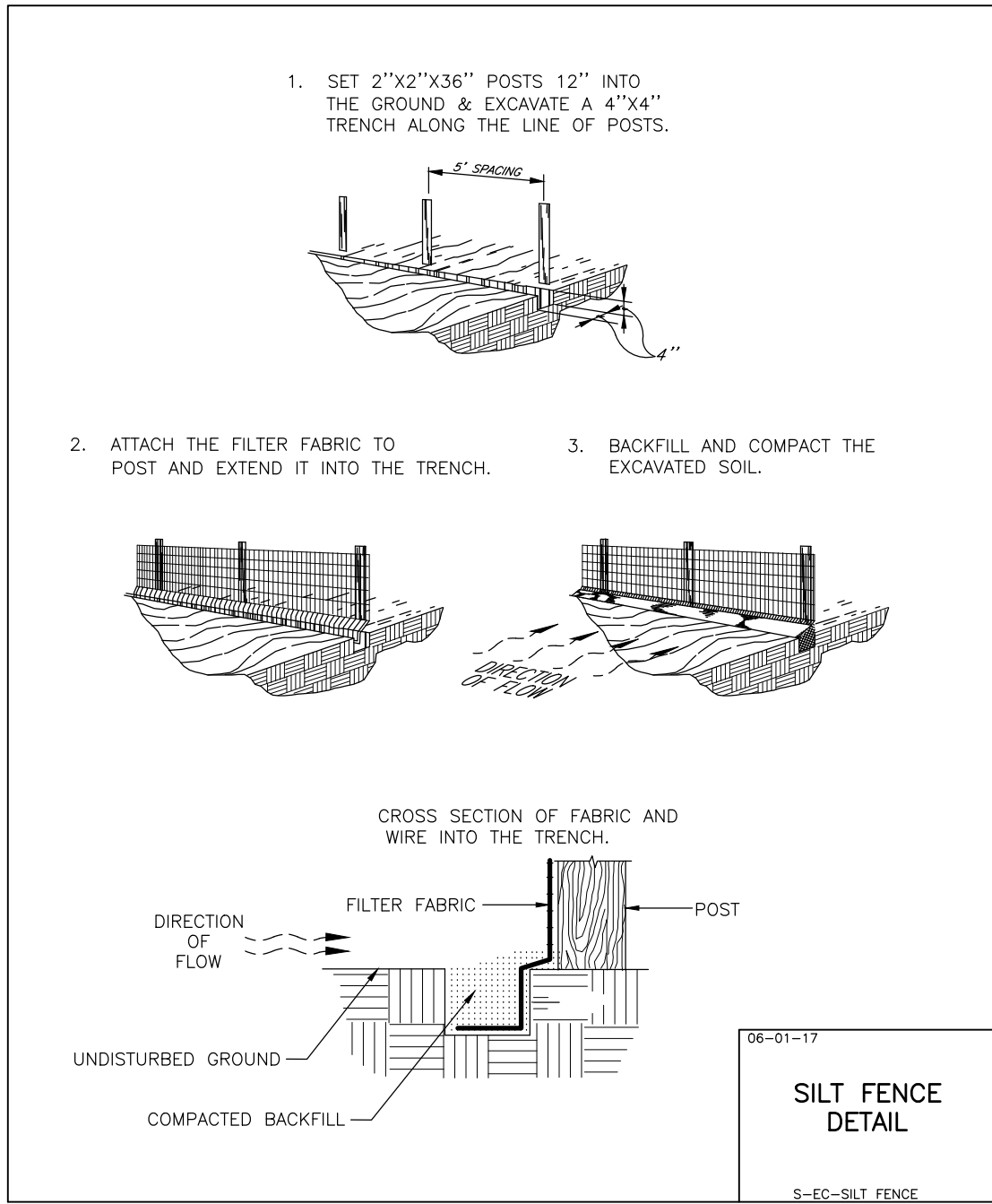
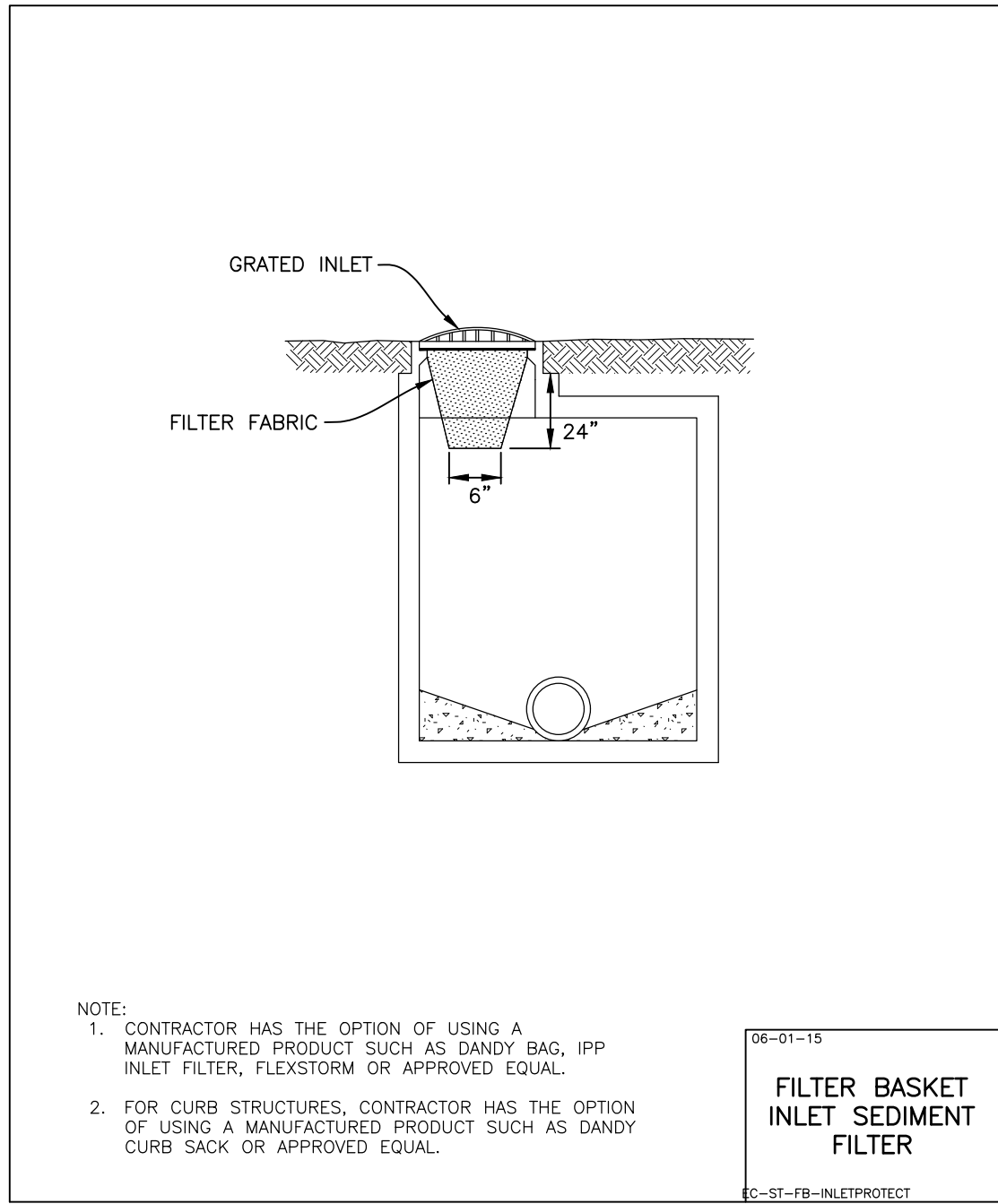
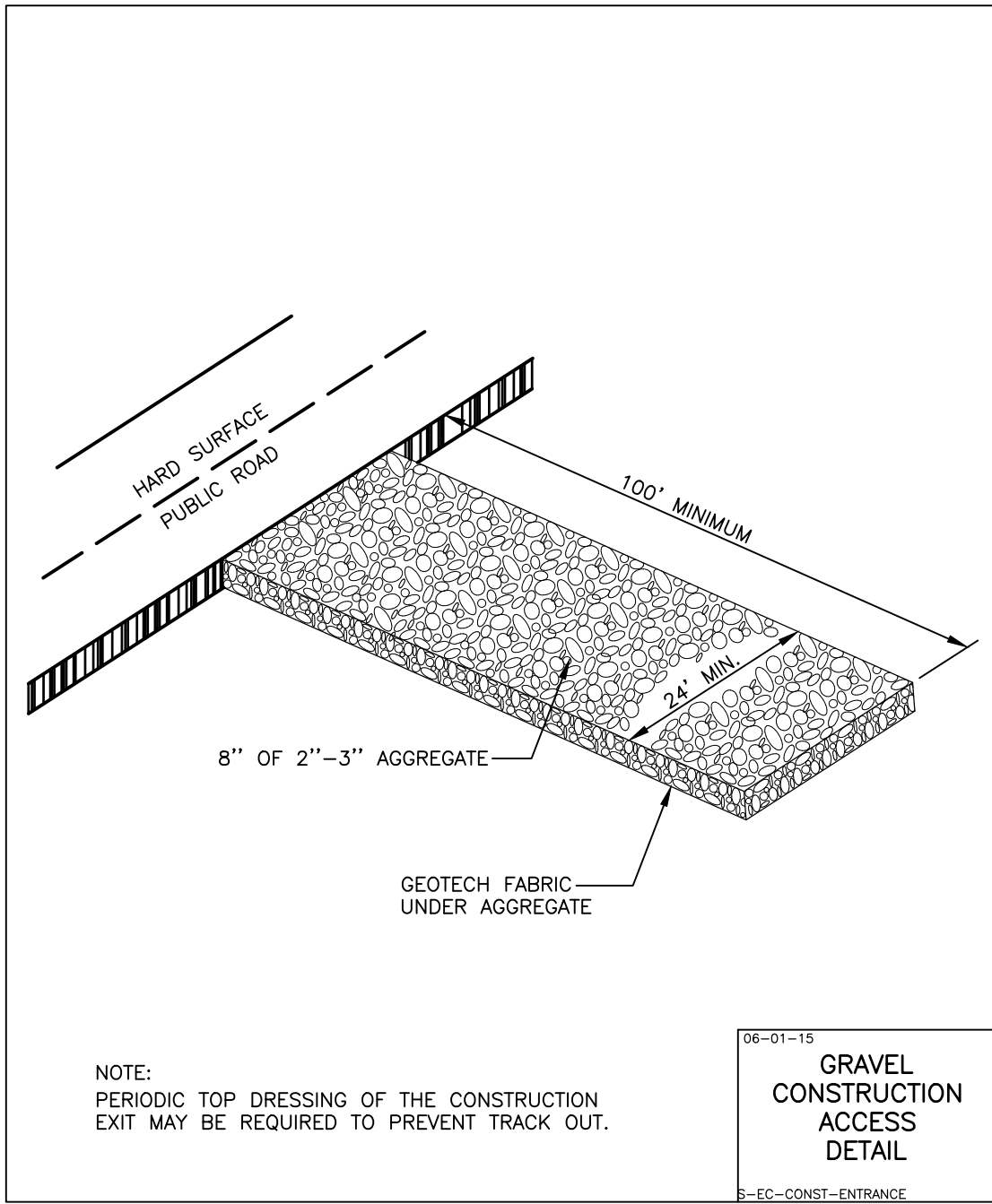
ABLE MASONRY BUILDING ADDITION
VILLAGE OF ROMEOVILLE, ILLINOIS
SOIL EROSION AND SEDIMENT CONTROL PLAN

PROJ. MGR.:	KJC	
PROJ. ASSOC.:	MDE	
DRAWN BY:	MH	
DATE:	08-05-20	
SCALE:	1"=20'	
SHEET		
6	OF	11
AMD.ROIL01		

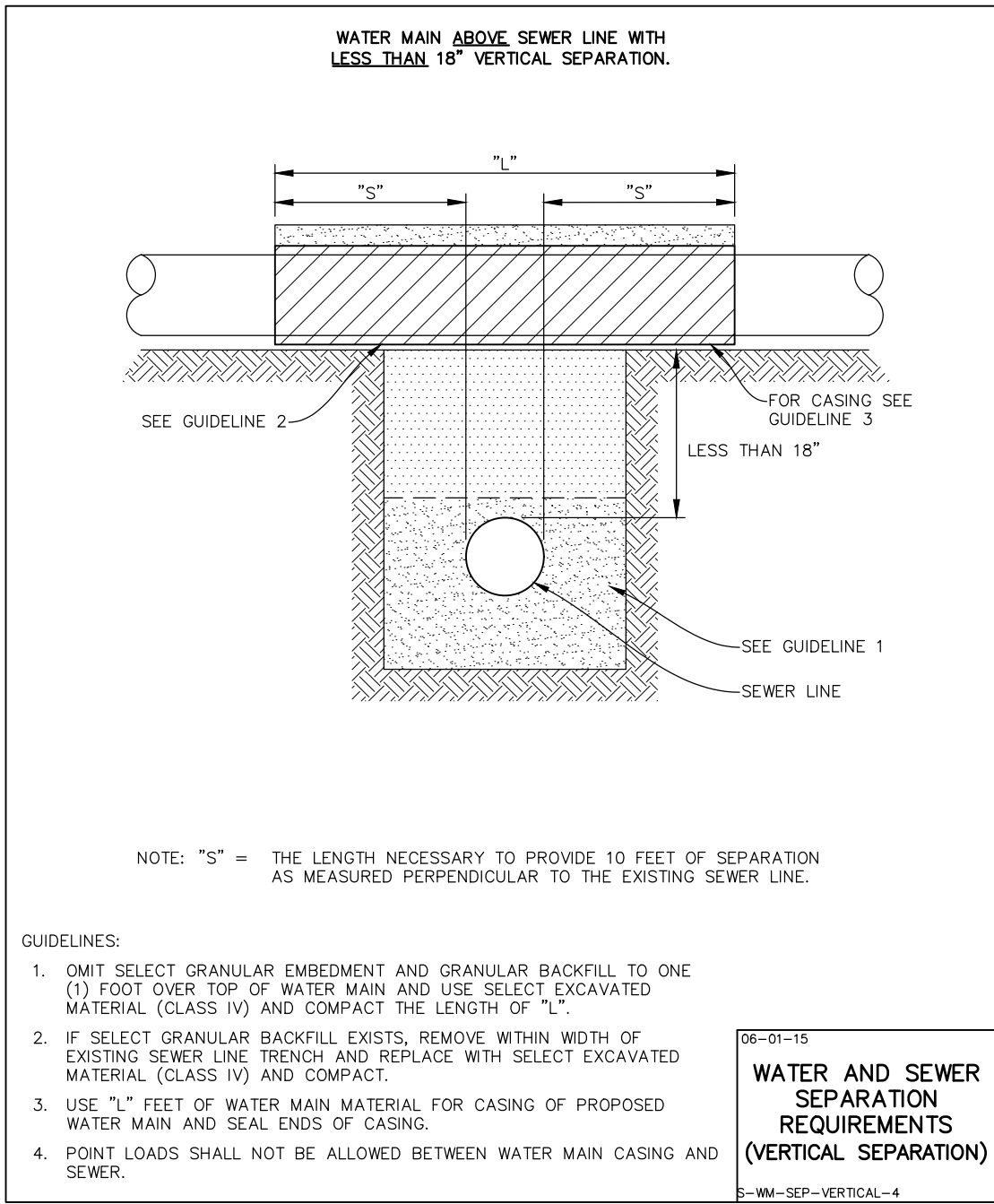
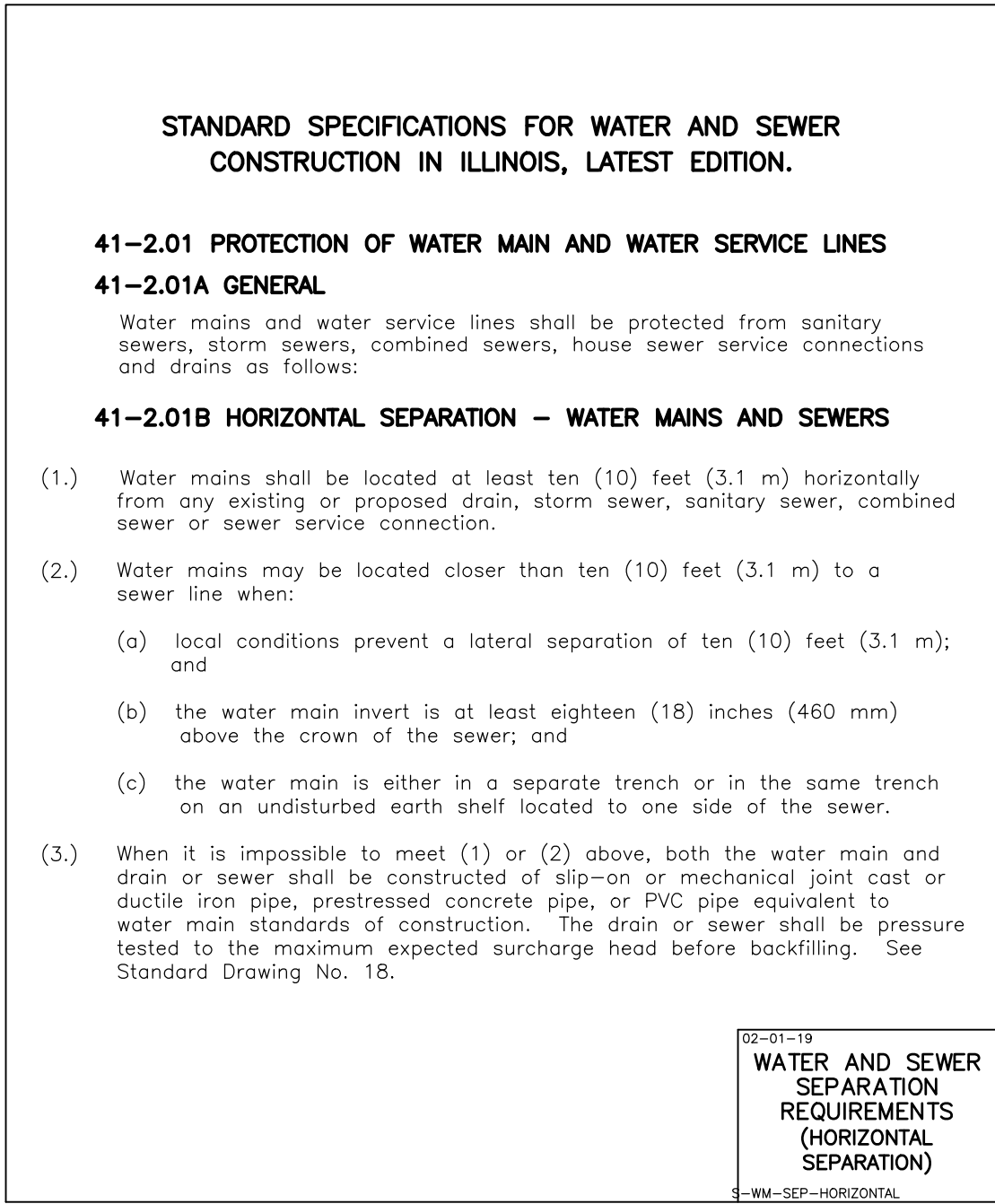
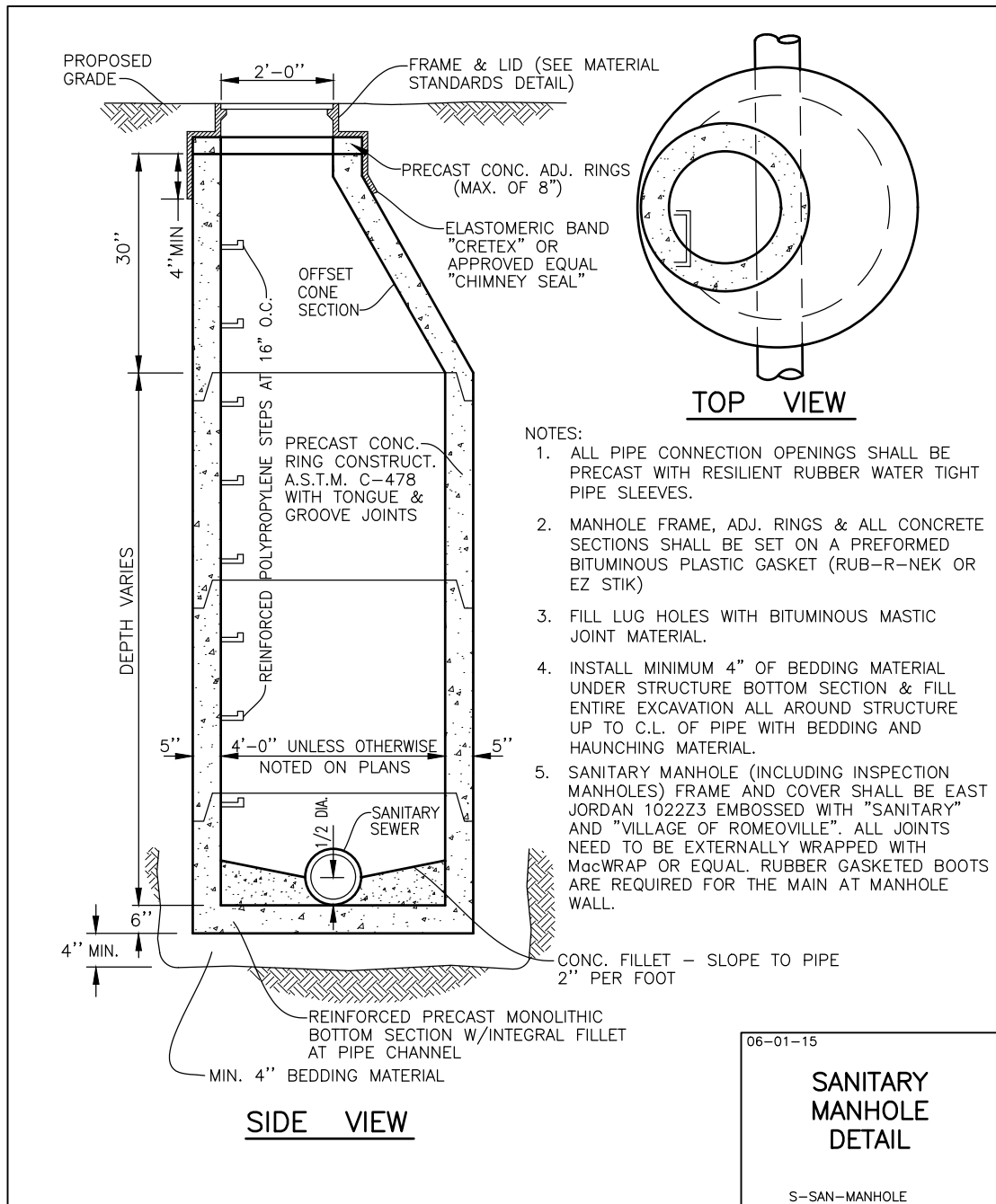
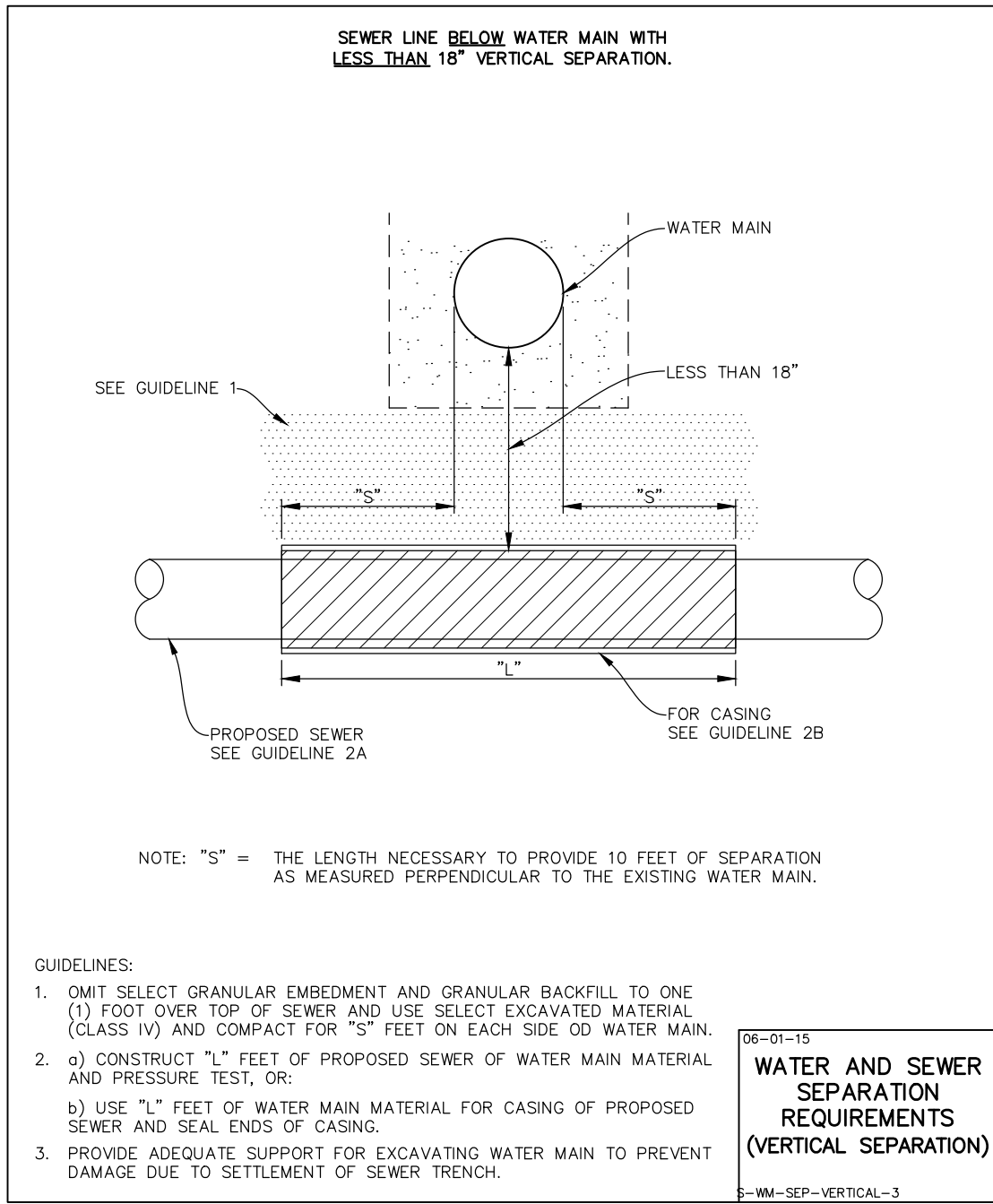
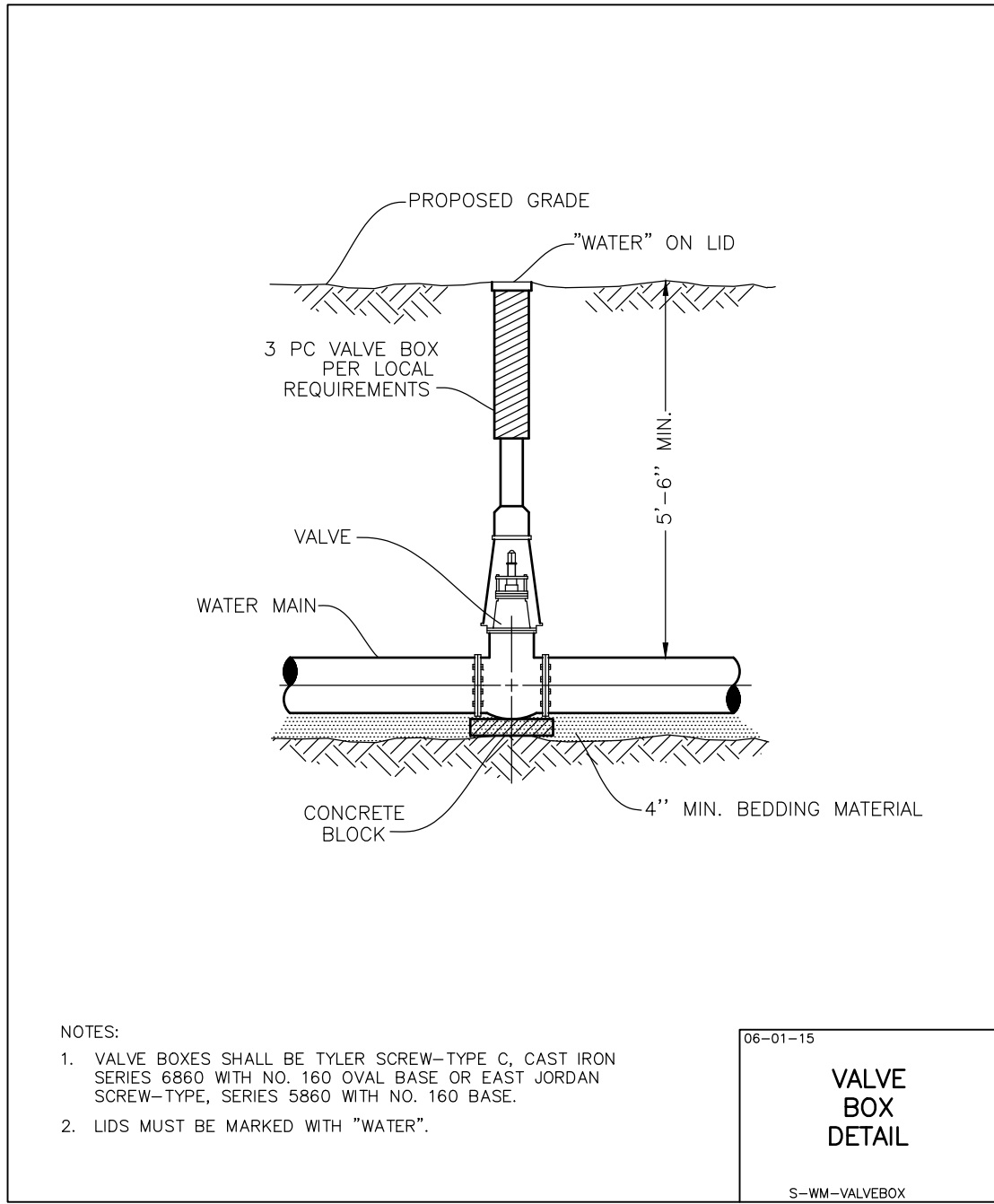
PERMIT SET - NOT FOR CONSTRUCTION

March 31, 2021 - 10:40 Dwg Name: P:\Amdrol01\dwg\Eng\Final Drawings\Plan Set\6 SOIL EROSION AND SEDIMENT CONTROL PLAN.dwg Updated By: MEagle

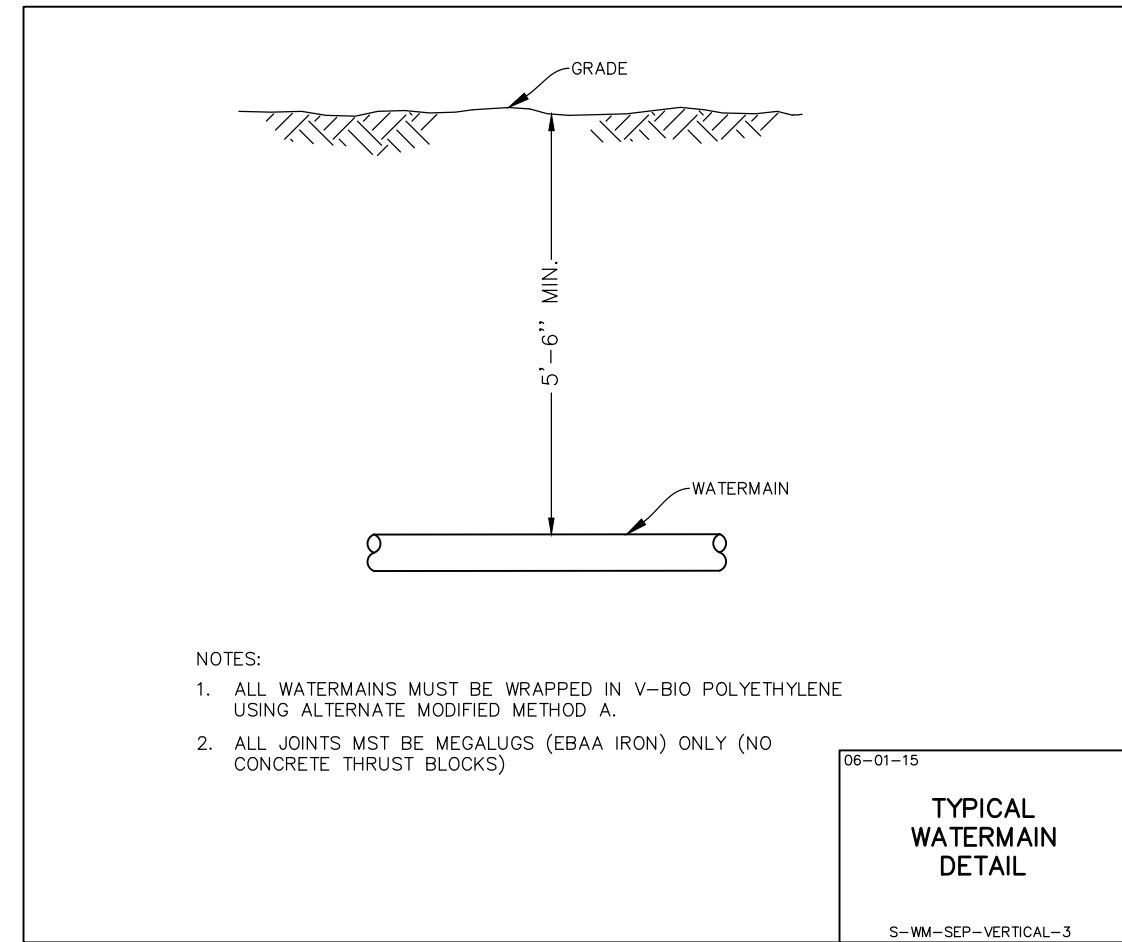
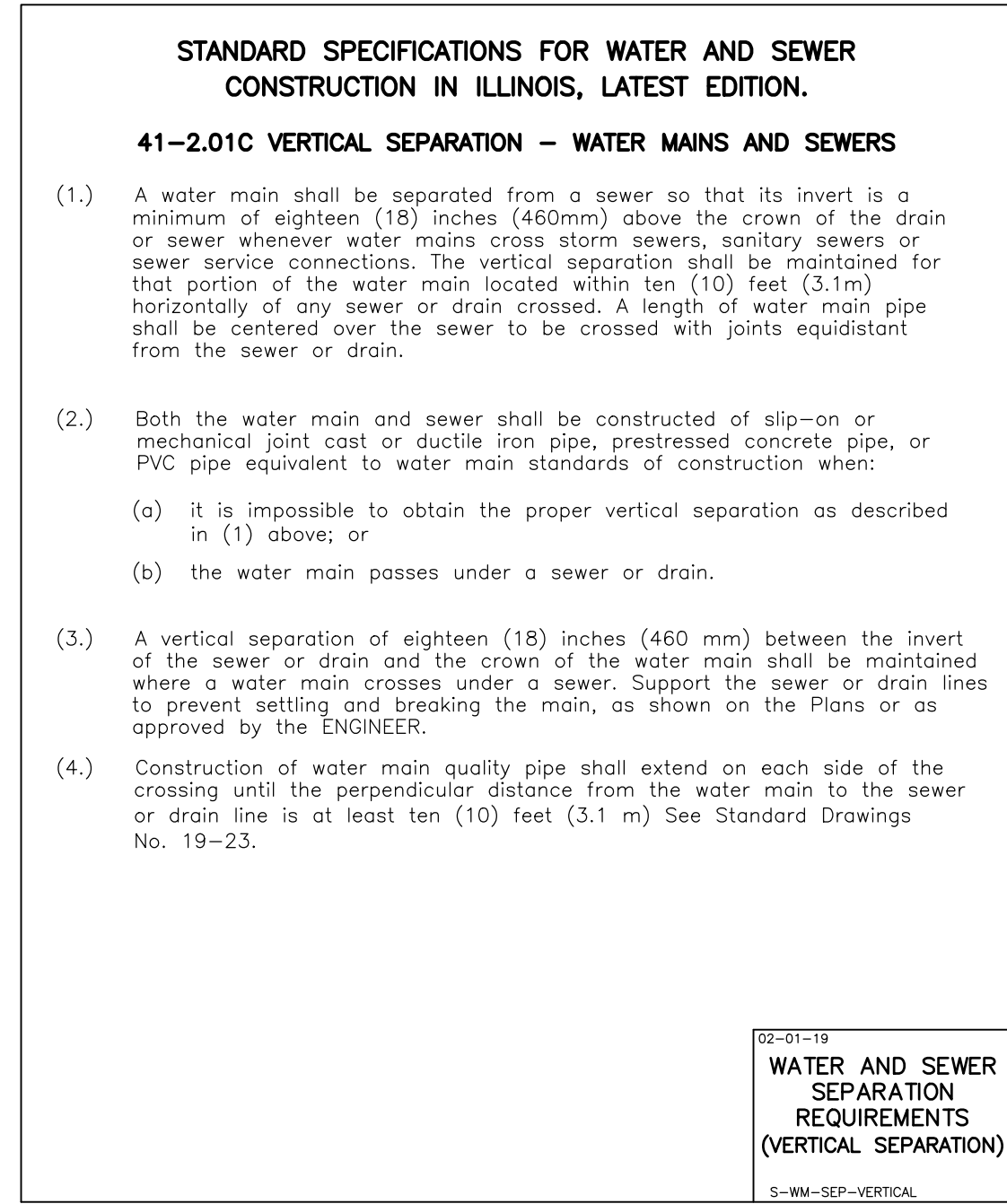
- VILLAGE OF ROMEOVILLE EROSION CONTROL NOTES:
- ALL ACCESS TO AND FROM THE CONSTRUCTION SITE IS TO BE RESTRICTED TO THE CONSTRUCTION ENTRANCE.
 - ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE EFFECTIVE PERFORMANCE OF THEIR INTENDED FUNCTION.
 - MAJOR AMENDMENTS OF THE SITE DEVELOPMENT OR EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE SUBMITTED TO THE DEPARTMENT OF COMMUNITY SERVICES & DEVELOPMENT TO BE APPROVED IN THE SAME MANNER AS THE ORIGINAL PLANS.
 - ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY SHOVELING OR STREET CLEANING (NOT FLUSHING) BEFORE THE END OF EACH WORKDAY AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL.
 - ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED OF WITHIN 30 DAYS AFTER THE FINAL SITE STABILIZATION IS ACHIEVED WITH PERMANENT SOIL STABILIZATION MEASURES.
 - DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 7 CALENDAR DAYS FOLLOWING THE END OF ACTIVE DISTURBANCE OR REDISTURBANCE.
 - IF DEWATERING DEVICES AR USED, DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. ALL PUMPED DISCHARGES SHALL BE ROUTED THROUGH APPROPRIATELY DESIGNED SEDIMENT TRAPS OR BASINS.



SHOULD A CONFLICT ARISE BETWEEN MANHARD DETAILS AND THE VILLAGE DETAILS, THE VILLAGE DETAILS SHALL TAKE PRECEDENCE.



DUCTILE IRON JOINT RESTRAINT TABLE						
JOINT RESTRAINT TABLE - Unless additional pipe restraint is shown on the plans, the restrained length measured from the fitting joint to the end of the last restrained joint pipe for pipe fittings shall be equal or exceed those tabulated below:						
RESTRAINED LENGTH - FEET						
() = Restrained lengths increased by 75% when using polyethylene wrapped pipe.						
Pipe Size (inches)	Tee	90 Elbow	45 Elbow	22.5 Elbow	11.25 Elbow	Dead End
4	9 (16)	10 (18)	5 (9)	2 (3)	1 (2)	15 (26)
6	17 (29)	14 (25)	6 (11)	3 (5)	2 (3)	21 (37)
8	24 (42)	18 (32)	8 (14)	4 (7)	2 (3)	27 (47)
10	30 (52)	22 (39)	10 (18)	5 (9)	3 (5)	33 (58)
12	36 (63)	26 (46)	11 (19)	6 (11)	3 (5)	38 (67)
14	42 (74)	29 (51)	12 (21)	6 (11)	3 (5)	44 (77)
16	48 (84)	33 (58)	14 (25)	7 (12)	4 (7)	49 (86)
18	53 (93)	37 (65)	16 (28)	8 (14)	4 (7)	54 (95)
20	58 (102)	40 (70)	17 (29)	8 (14)	4 (7)	60 (105)
24	104 (182)	71 (124)	30 (52)	15 (26)	8 (14)	105 (184)
30	125 (219)	86 (151)	36 (63)	18 (32)	9 (16)	126 (200)
36	146 (256)	99 (173)	42 (74)	21 (37)	10 (18)	147 (257)



VERTICAL FITTINGS		45° UPPER	45° LOWER
6"	13'	11'	
8"	16'	14'	
12"	23'	19'	

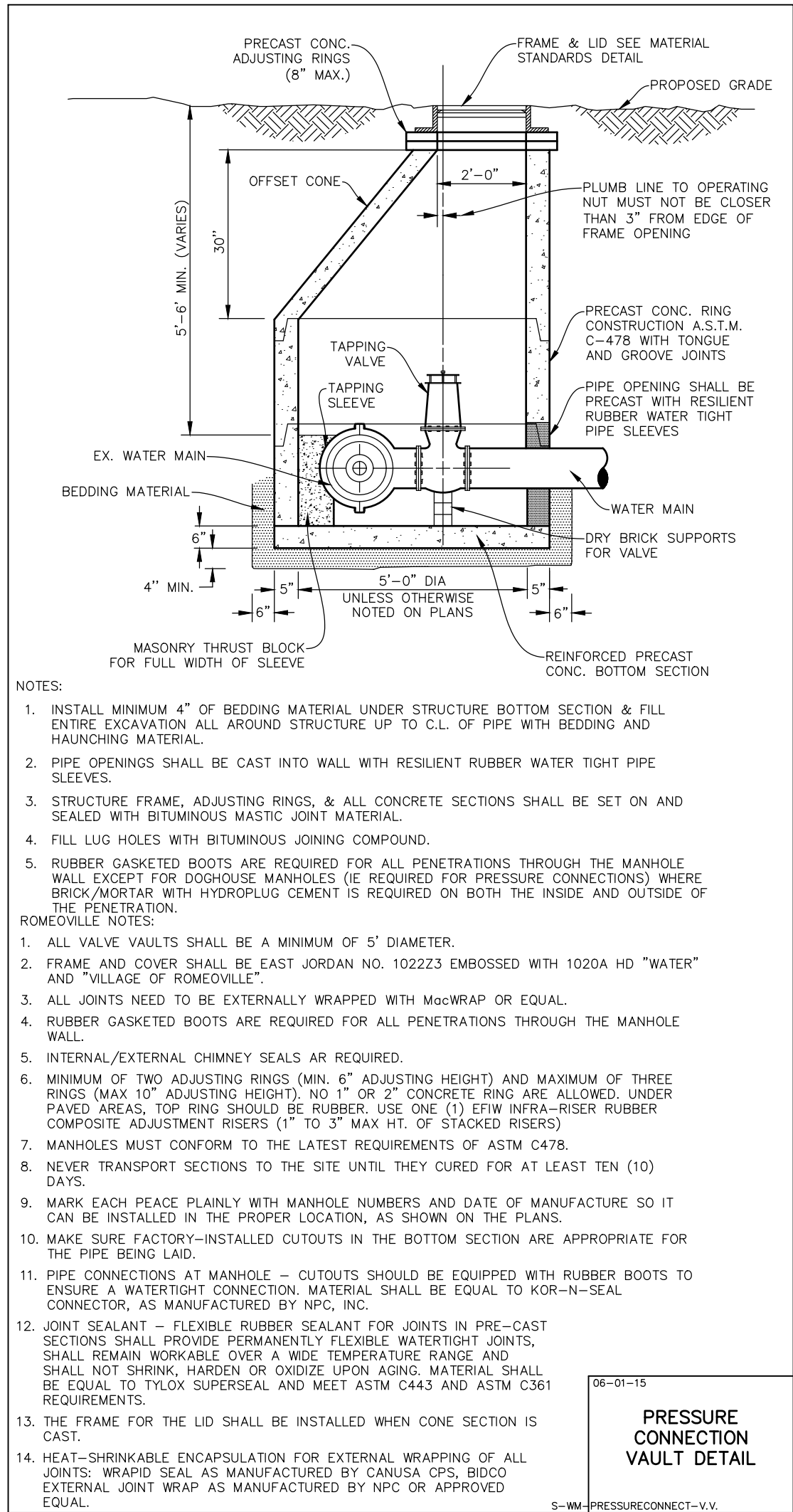
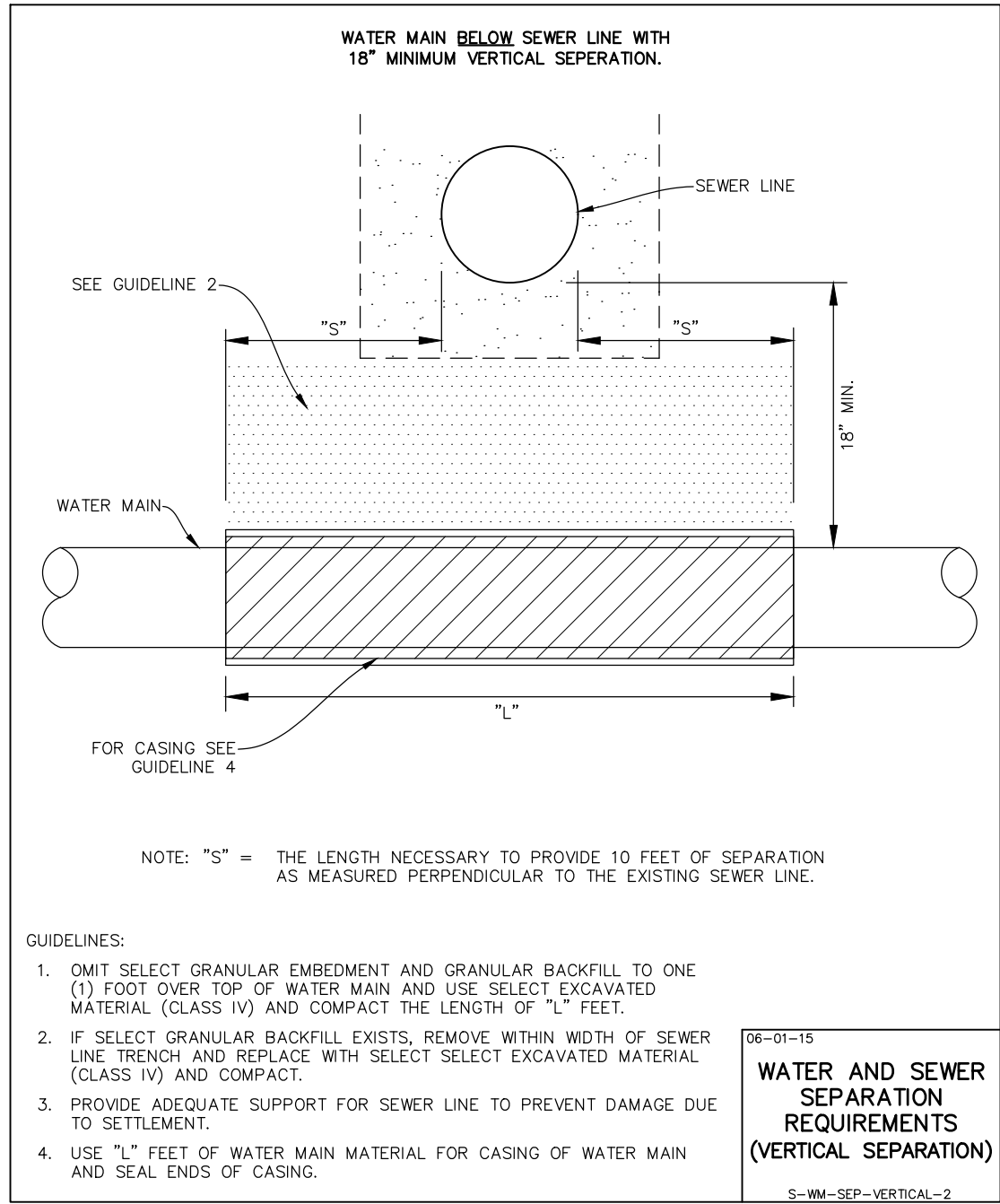
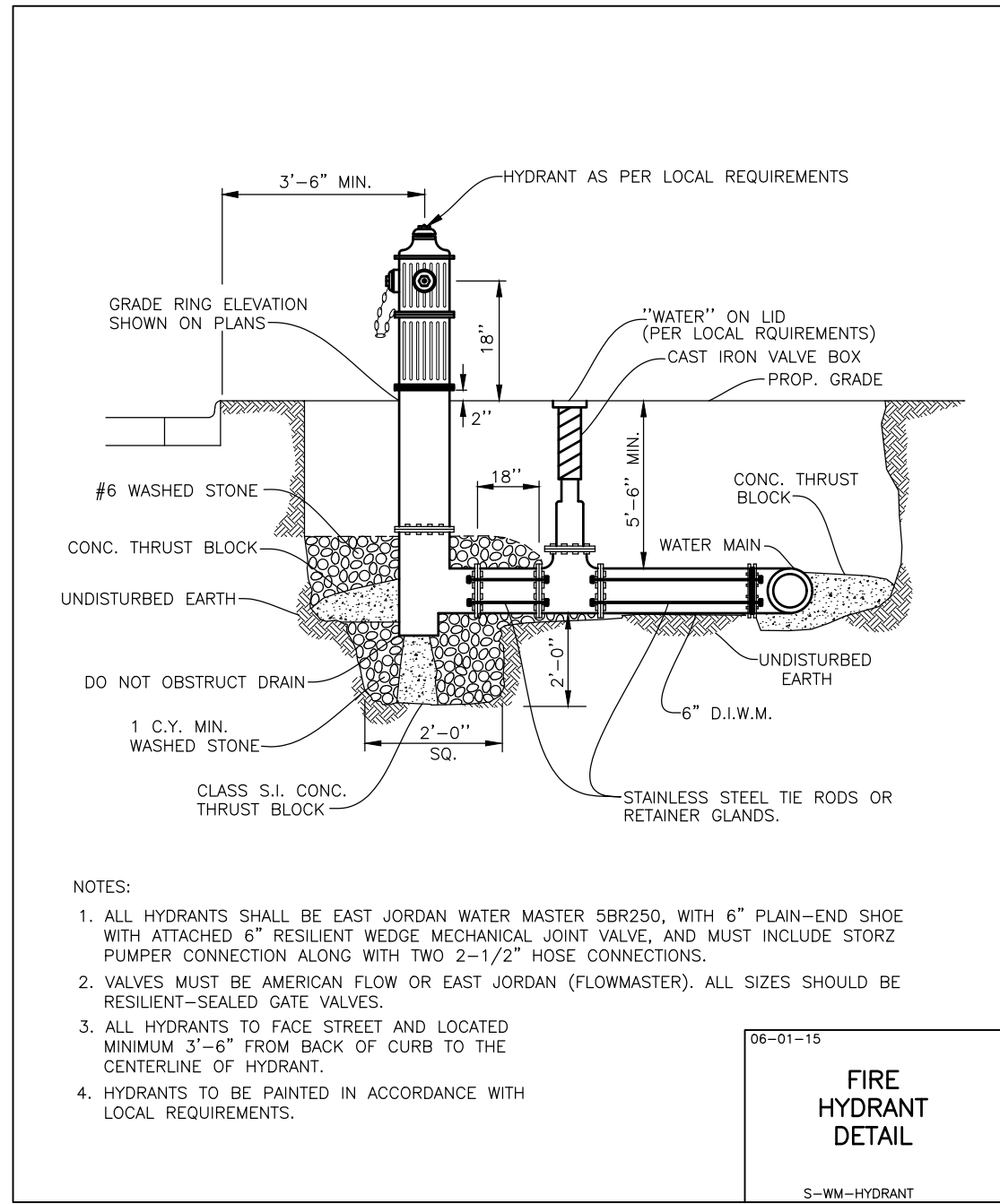
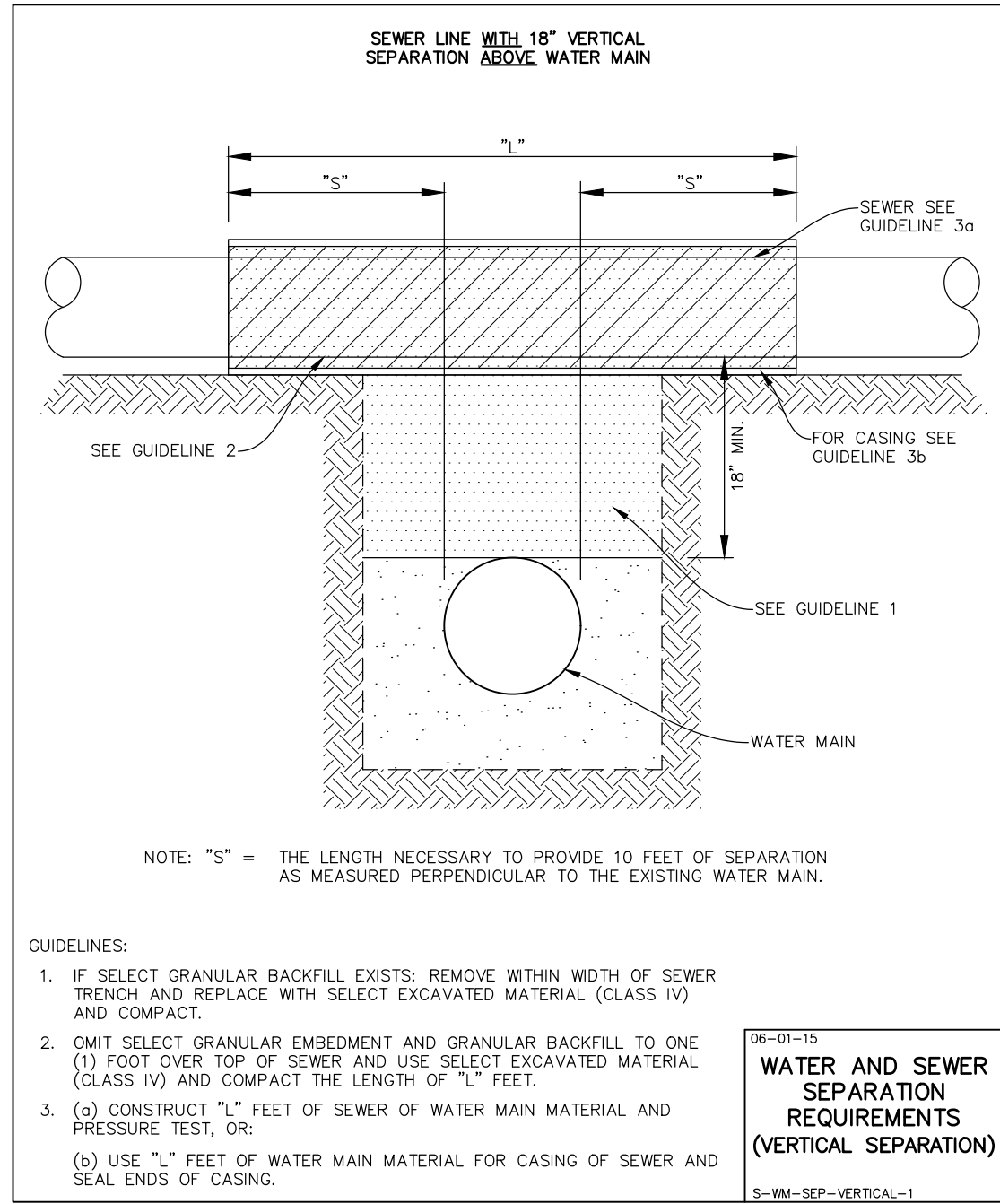
HORIZONTAL FITTINGS		22.5°	45°	90°
6"	13'	11'	11'	
8"	16'	14'	14'	
12"	23'	19'	19'	

REDUCER		12"x6"	41"	12"x8"	30"	8"x8"	17"
12"x6"	11'	8"	8"	8"	8"	8"	8"
12"x8"	11'	8"	8"	8"	8"	8"	8"
8"x8"	11'	8"	8"	8"	8"	8"	8"

TEES		LATERAL BRANCH	RESTRAINED JOINTS ON BRANCH
6"	8"	8"	1'
8"	8"	8"	2'
12"	8"	8"	1'
12"	12"	12"	21'

* NOTE: EVERY JOINT ON ANY FITTING SHALL BE RESTRAINED
ALL IMPROVEMENTS SHALL BE IN ACCORDANCE WITH VILLAGE STANDARD SPECIFICATIONS FOR IMPROVEMENTS.

REQUIRED PIPE LENGTH FOR RESTRAINED JOINTS



SHOULD A CONFLICT ARISE BETWEEN MANHARD DETAILS AND THE VILLAGE DETAILS, THE VILLAGE DETAILS SHALL TAKE PRECEDENCE

MANHARD CONSULTING, LTD.
STANDARD SPECIFICATIONS

GENERAL CONDITIONS

CONTRACTOR acknowledges and agrees that the use and reliance of these Plans and Specifications is sufficient consideration for CONTRACTOR'S covenants stated herein.

DEFINITION OF TERMS

- a. "CLIENT" shall mean ABLE MASONRY DEVELOPMENT CO., which is the person or entity with whom Manhard Consulting, Ltd. has contracted with to prepare Civil Engineering PLANS and SPECIFICATIONS.
- b. "ENGINEER" shall mean Manhard Consulting, Ltd., a Civil Engineering consultant on the subject project.
- c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering PLANS and SPECIFICATIONS prepared by the ENGINEER, which may be a part of the contract documents for the subject project.
- d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS.
- e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government from whom an approval, permit and/or review is required for any aspect of the subject project.

INTENT OF THE PLANS AND SPECIFICATIONS

The intent of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work but are not intended to be infinitely determined so as to include minor items obviously required as part of the work. The PLANS and SPECIFICATIONS require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omissions of specific references to any minor component part. It is not intended, however, that materials or work not covered by or properly inferred from any heading, branch, class or trade of the SPECIFICATIONS shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

INTERPRETATION OF PLANS AND SPECIFICATIONS

- a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties concerned.
- b. The ENGINEER will provide the CLIENT with such information as may be required to show revised or additional details of construction.
- c. Should any discrepancies or conflicts on the PLANS or SPECIFICATIONS be discovered either prior to or after award of the contract, the ENGINEER'S attention shall be called to the same before the work is begun thereon and the proper corrections made. Neither the CLIENT nor the CONTRACTOR may take advantage of any error or omissions in the PLANS and SPECIFICATIONS. The ENGINEER will provide information when errors or omissions are discovered.

GOVERNING BODIES

All work herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, directives, ordinances and the like shall be considered to be a part of these SPECIFICATIONS. If a discrepancy is noticed between the PLANS and SPECIFICATIONS and requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

LOCATION OF UNDERGROUND FACILITIES AND UTILITIES

When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. At the locations wherein detailed positions of these facilities and utilities become necessary from new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the horizontal location, elevation, size and material (if appropriate) of the facilities and utilities. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to construction if any discrepancies in existing utility information or conflicts with existing utilities exist. The ENGINEER assumes no responsibility whatever with respect to the sufficiency or accuracy of the information shown on the PLANS and SPECIFICATIONS relative to the location of underground facilities and utilities, nor the manner in which they are removed or adjusted.

It shall be the CONTRACTOR'S responsibility prior to construction, to notify all Utility Companies of the intent to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Company the working schedules for removing or adjusting these facilities.

UNSATURATED SOILS

The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvement according to the line and grades shown on the PLANS.

PROTECTION OF TREES

All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES

The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

TRAFFIC CONTROL

The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the work may interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under these or other circumstances wherein in his opinion it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT'S construction representative, all existing access points shall be maintained at all times by the CONTRACTOR. The need for traffic control shall be anticipated by the CLIENT.

WORK AREA

The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project or work area specified by the CLIENT. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property and areas outside designated work areas.

UTILITY POLES

It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

RESTORATION

It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project, or when so directed by the CLIENT so that these areas will be restored as nearly as possible to their original condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain ditches, water mains, etc.

CLEANING UP

The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and to the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified.

ROAD CLEANING

The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and/or debris is carried onto the roadways from vehicles entering onto the highway from either the CONTRACTOR'S trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris.

SAFETY AND PROTECTION

The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss, and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR'S duties and responsibilities for safety and for protection of the work shall continue until such time as all work is completed and the CLIENT has notified CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR'S or the general public's safety in, on, or near the construction site.

HOLD HARMLESS

To the fullest extent permitted by law, any CONTRACTOR, material supplier or other entity by use of these plans and specifications hereby waives any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all manner of claims, causes, causes of action, damages, losses and expenses, including but not limited to, attorneys' fees arising out of, resulting from or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as these words are used in the Agreement shall mean and include, but not be limited to (1) injury or damage occurring by reason of the failure of or use or misuse of any host, riggings, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by any party, including any contractor, (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity, (3) costs for time expended by the indemnified party and its employees, at its usual rates plus costs or travel, long distance telephone and reproduction of documents and (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents or employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by CONTRACTOR or any Subcontractor or any other party.

INSURANCE

Any party using or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any work) general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damages arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds under such insurance policy provided that any party using or relying on these plans having obligations to maintain specific insurance by reason of any agreement with CLIENT or any CONTRACTOR or ENGINEER shall provide evidence and certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER'S other applicable coverage is considered secondary. Such insurance shall not limit any liability of any party providing work or services or providing materials.

THIRD PARTY BENEFICIARY

Manhard Consulting, Ltd., the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement.

Note: These Specifications are for Northern Illinois.

DETAILED SPECIFICATIONS

I. DEMOLITION

The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the Utility Company's forces and any fees which are to be paid to the utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges.

Should removal and/or relocation activities damage features indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the contract documents. Except for materials designed to be relocated on this plan, all other construction materials shall be new.

Prior to demolition occurring, all erosion control devices are to be installed.

All existing utility lines and conduits located under proposed buildings shall be removed and properly backfilled. All utility lines and conduits located under drives, on-site roads, parking lots or sidewalks shall be filled with a flowable backfill and end plugged. All existing structures shall be removed. All existing utility lines located under landscape areas shall be left in place and plugged at all structures.

The CONTRACTOR is responsible for demolition, removal and disposal (in a location approved by all JURISDICTIONAL GOVERNING ENTITIES) of all structures, pads, walls, fumes, foundations, road, parking lots, drives, drainage structures, utilities, etc., such that the improvements shown on these plans can be constructed. All demolition work shall be in accordance with all applicable federal, state and local regulations. All facilities to be removed shall be undercut to suitable material and brought to grade with suitable compacted fill material per the specifications.

The CONTRACTOR is responsible for obtaining all permits required for demolition and disposal.

Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company. CONTRACTOR must protect the public at all times with fencing, barriers, enclosures, and other appropriate best management practices.

Continuous access shall be maintained for surrounding properties at all times during demolition.

All fee areas within the project area shall remain in service, clean of debris, and accessible for use by emergency vehicles.

The CONTRACTOR shall coordinate water main work with the Fire Department and the JURISDICTIONAL GOVERNING ENTITY to plan the proposed improvements and to ensure adequate fire protection is available to the facility and site throughout this specific work and through all phases of construction. CONTRACTOR shall be responsible for any required water main shut offs with the JURISDICTIONAL GOVERNING ENTITY during construction. Any costs associated with water main shut offs will be the responsibility of the CONTRACTOR and no extra compensation will be provided.

CONTRACTOR shall maintain all existing parking areas, sidewalks, drives, etc. clear and free from any construction activity and/or material to ensure easy and safe pedestrian and vehicular traffic to and from the site. CONTRACTOR shall coordinate phase all construction activity within proximity of the building and utility interruptions with the facility manager to minimize disturbance and inconvenience to facility operations.

CONTRACTOR may limit saw-cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is incurred on any of the surrounding pavement, etc. the CONTRACTOR shall be responsible for ITS removal and repair.

Any existing wells encountered shall be exposed and sealed 3' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of the Illinois Water Well Code published by the Department of Public Health, and all applicable local rules and regulations. CONTRACTOR is responsible for obtaining all permits required by JURISDICTIONAL GOVERNMENTAL ENTITIES for abandoning existing wells.

Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with JURISDICTIONAL GOVERNING ENTITY regulations, and the tank and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR.

voids left by any item removed under any proposed building, pavement, walk, etc. or within 24" thereof shall be filled and compacted with suitable materials by the CONTRACTOR.

The CONTRACTOR shall be responsible for the disconnection of utility services to the existing buildings prior to demolition of the buildings.

Any material containing asbestos found within existing structures shall be removed from the site and disposed of off-site by the CONTRACTOR in accordance with County, State and Federal regulations.

CONTRACTOR shall develop and implement a daily program of dust control and shall submit and obtain JURISDICTIONAL GOVERNING ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNING ENTITY as requested.

The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNING ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation.

The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing conditions and proceed with caution around any anticipated features.

The CONTRACTOR is responsible for removing the existing irrigation system in the areas of proposed improvements. The contractor shall cap the existing irrigation system to remain such that the remaining system shall continue to function properly.

The parking lot shall be completed in sections such that it does not interrupt the facility operations. The CONTRACTOR shall coordinate with the construction manager for work to be performed.

II. EARTHWORK

STANDARDS

This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition except as modified below.

SOIL BORING DATA

Copies of results of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The ENGINEER makes no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof.

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make its own borings, explorations and observations to determine soil and groundwater conditions.

EARTHWORK CALCULATIONS AND CROSS SECTIONS

The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only and are provided without any guarantee by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigations as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction to tolerances and construction methods that are beyond the control of the ENGINEER.

CLEARING, GRUBBING AND TREE REMOVAL

The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

TOPSOIL STRIPPING

Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

TOPSOIL RESPIREAD

Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of six inches (6") of topsoil shall be respread over all unpaved areas which have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from topsoil.

SEEDING

Upon completion of topsoil respread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with IDOT standards or as designated on landscape drawings and specifications provided by the CLIENT.

SODDING

Upon completion of topsoil respread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT.

EXCAVATION AND EMBANKMENT

Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be placed in suitable condition (moisture and compaction) and compacted in the embankment areas. The CONTRACTOR shall include all dewatering, temporary ditching and culverts necessary to complete the excavation and embankment.

Specifically included in the scope of Excavation and Embankments is grading and shaping of all cut or fill areas including swales and ditches; handling of sewer spoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report or are approved by the CLIENT, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil fabric or any underdraining that may be required).

Type Material	Percent Compaction	Pavement & Floor Slabs		Grass Areas
		Standard	Flot	
Sandy Soils	Modified Proctor	85%	90%	90%
Clayey Soils	Standard Proctor	85%	90%	90%

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be needed.

A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site.

For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

- Any soil whose optimum moisture content exceeds 25%.
- Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less.
- Any soil whose silt content exceeds 60% by weight.
- Any soil whose maximum density is less than 100 pounds per cubic foot.
- Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt seams and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under storm sewer inlets and outlets. It is the intent of these PLANS and SPECIFICATIONS that the CONTRACTOR shall prepare the lake bottom, side slopes, and compaction thereof such that the lakes will maintain the proposed normal water level and that leakage does not exceed 1/2 inch per week.

Ditches and swales are to be excavated to the lines and grades indicated on the PLANS. All suitable materials excavated from the ditches shall be used in construction of the embankments.

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If in the opinion of the CLIENT or the JURISDICTIONAL GOVERNING ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints wrapped with fabric, the CONTRACTOR shall install the same.

During excavation and embankment, grades may be adjusted to achieve an overall site workable balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance.

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation / lake / detention basins during construction. The CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this prior to beginning mass excavation.

EROSION CONTROL

Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.

UNDERCUTTING DURING EARTHWORK

If the subgrade cannot be dried adequately by drying as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

MISCELLANEOUS CONTRACT ITEMS

The following items may be required at the CLIENT's option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY:

(1) GEOTEXTILE FABRIC

Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY where proper compaction of embankments over existing soft soils is not possible. Geotextile fabric shall meet the material specifications of and shall be installed in accordance with the above standards.

(2) EROSION CONTROL BLANKET

Erosion control blanket or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY for the stabilization of disturbed areas. Erosion control blanket shall meet the material specifications of and shall be installed in accordance with the above standards, the Illinois Urban Manual and/or the details shown on the PLANS.

III. UNDERGROUND IMPROVEMENTS

A. GENERAL

STANDARDS

All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Illinois and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

SELECTED GRANULAR BACKFILL

Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

MANHOLES, CATCH BASINS, INLETS & VALVE VAULTS

All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTM designation C478. All joints between sections and frames (except sanitary manholes, see Section IIIB Manholes, below) shall be sealed with mastic type bituminous jointing compound. CONTRACTOR shall remove all excess mastic on inside of structure and under joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or deeper in which case a reinforced concrete flat top section shall be used. All Manholes and Valve Vaults shall have concentric cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totaling not more than 8" in height. All manholes and catch basin steps shall be copolymer polypropylene with continuous 3/4" steel reinforcement as manufactured by MA Industries, or approved equal.

AUGER/BORING AND CASING

Casing pipe shall be welded steel pipe, installed where shown on the PLANS. The carrier pipe shall be securely blocked and banded and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the ends shall be sealed with hydraulic cement.

HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS

Horizontal and vertical separation of water and sewer mains shall be in accordance with Standard Specifications for Water and Sewer Construction in Illinois Section 41-2.01A and 41-2.01B and Standard Drawing 18, 19, 20, 21, 22, 23 and 24.

STRUCTURE ADJUSTMENTS

Structures shall be adjusted to the finished grade as shown on PLANS.

*B. SANITARY SEWERS AND APPURTENANCES

SANITARY SEWER PIPE

Sanitary sewer pipe including building services, shall conform to the following:

- Polyvinyl Chloride (PVC) Sewer Pipe shall conform to ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 48-inch) minimum SDR 26 with flexible elastomeric seal gasket gasketed joints conforming to ASTM D3212 and F477.
- Ductile Iron Sewer Pipe shall conform with ANSI/AWWA C151/A21.51 Class 50, cement lined with push on type joints conforming to ANSI/AWWA C111/A21.11.

Sanitary sewers shall include bedding and backfill.

MANHOLES

Manholes shall be constructed in conformance with Section IIIA Manholes, etc. above. The concrete base and bottom section shall be constructed of precast reinforced concrete monolithically cast sections including benches, pipe connection and invert flow lines. Manhole frame and lids shall be Neenah R-1772 or approved equal, with lids imprinted "SANITARY", with recessed pick holes. Manhole joints between adjustment rings and frames and between manhole sections shall be set on preformed plastic gasket consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler to provide a water tight seal. All pipe connection openings shall be precast with resilient rubber watertight pipe sleeves. A 10" elastomeric band (chamberlain seal) shall be installed extending from the manhole top to the manhole frame as shown on detail. Manholes shall include steps, frame & grate, bedding, and trench backfill.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

TESTING

Sanitary sewers shall be air tested and tested for deflection in accordance with the requirements of Section 31-1.12 TESTING AND INSPECTION FOR ACCEPTANCE OF SANITARY SEWERS" of the Standard Specifications for Water and Sewer Construction in Illinois or the JURISDICTIONAL GOVERNING ENTITY, whichever is more restrictive. In addition, a televised inspection of the completed sanitary sewers shall be conducted and a copy of the videotape and report furnished to the JURISDICTIONAL GOVERNING ENTITY.

All sanitary manholes are to be tested for water tightness in accordance with ASTM C969 "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines", or ASTM C1244 "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test".

SERVICES

A wye branch or "tee" and sanitary service line, properly plugged and sealed shall be constructed as shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 30" above grade and painted red. The manhole and the trench shall be constructed and the CONTRACTOR shall keep accurate records of all Wye or Tee locations as shown on the PLANS.

*RISERS - INTENTIONALLY OMITTED

DROP MANHOLE CONNECTIONS

Drop manhole connections to existing manholes shall be constructed according to the PLANS and the detail.

*SANITARY SEWER FORCE MAIN - INTENTIONALLY OMITTED

TELEVISION INSPECTION

Upon completion of construction a television inspection of the sanitary sewer system shall be performed on all portions of the sewer if required by the JURISDICTIONAL GOVERNING ENTITY. Videotapes and written report of all television inspections shall be provided to the CLIENT. The form of report and type and format of the videotape shall be approved by the JURISDICTIONAL GOVERNING ENTITY.

All sewers and appurtenances shall be cleaned prior to inspection and testing required by this section.

All defects and corrective work required as the result of television inspection shall be performed by the CONTRACTOR without delay. All dips, cracks, leaks, improperly sealed joints and departures from approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe. Upon completion thereof, the sewer shall be retested and such further inspection made as may appear warranted by the CLIENT.

MISCELLANEOUS

All floor drains shall be connected to the sanitary sewer.

C. WATER MAINS AND APPURTENANCES

WATER MAIN PIPE (3" & LARGER)

Water main pipe shall conform to the following:

- Ductile Iron pipe shall be per ANSI/AWWA C151/A21.51, Thickness Class 52, minimum 150 psi working pressure, cement lined in accordance with ANSI/AWWA C104/A21.4, with "push on" type joints (2)
- Polyvinyl Chloride Pipe (PVC) conforming to the latest revision of ANSI/AWWA C900 (4-inch thru 12-inch) or ANSI/AWWA C905 (14-inch thru 48-inch) with a pressure rating of 250 psi in accordance with ASTM D2241. Joints shall be pressure rated in accordance with ASTM D3139 with elastomeric seals in accordance with ASTM F477.

Installation shall be in accordance with ANSI/AWWA C600 (Ductile Iron) or ANSI/AWWA C605 (PVC). All water main shall have mechanical joint cast



PART 1 - GENERAL

A. Provide trees, shrubs, perennials and groundcovers as shown and specified. This work includes:

1. Spreading of topsoil or soil preparation
2. Trees, shrubs, perennials and groundcovers
3. Planting mixes
4. Mulch and planting accessories
5. Fertilizer and herbicide
6. Maintenance
7. Warranty of plant material

B. The Contractor shall verify all existing conditions and dimensions in the field prior to bidding and report any discrepancies to the Owner or his/her representative.

- A. Comply with site work requirements
- B. Plant names indicated must comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties which are not listed should conform with those generally accepted by the nursery trade. Stock should be legibly tagged.
- C. All plant materials shall conform to the "American Standards for Nursery Stock" (ASNS), latest edition, published by the American Association of Nurserymen, Washington, D.C.
- D. All plant material shall be grown and supplied within a 50 mile radius of the project for a minimum of two full growing seasons.
- E. Adhere to sizing requirements as listed in the plant list and/or bid form for the project. A plant shall be measured in its natural standing position.
- F. Stock that is furnished shall be at least the minimum size shown. With permission of the landscape architect, substitution from the specified plant list will be accepted only when satisfactory evidence in writing is submitted to the landscape architect, showing that the plant specified is not available. Requests for approval of substitute plant material shall include common and botanical names and size of substitute material. Only those substitutions of at least equivalent size and character to that of the specified material will be approved. Stock which is larger than that which is specified is acceptable with permission of the landscape architect, providing there is no additional cost and that the larger plant material will not be cut down in order to conform to the size indicated.
- G. All shrubs shall be dense in form. Shrub liners do not meet these specifications. Shrubs specified by height shall have a spread that is equal to the height measurement. Shrubs which are specified by spread shall exhibit the natural growth habit of the plant by having a greater spread than height.
- H. All plant materials are subject to inspection and approval. The landscape architect and Owner reserve the right to select and tag all plant material at the nursery prior to planting. The landscape architect and Owner reserve the right to inspect plant material for size and condition of root systems, the presence of insects and diseases, injuries and latent defects (due to Contractor negligence or otherwise), and to reject unacceptable plant material at any time during progress of the project.

- A. Fertilizer shall be delivered in original, unopened and undamaged packaging. Containers shall display weight, analysis and manufacturer's name. Store fertilizer in a manner that will prevent wetting and deterioration.
- B. Take all precautions customary concerning proper trade practice in preparing plants for transport. Plants shall be dug, packed and transported with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival, the certificate shall be filed with the landscape architect. All plants must be protected from drying out. If plant material cannot be planted immediately upon delivery, said material should be properly protected in a manner that is acceptable to the landscape architect. Heeled-in plants must be watered daily. No plant shall be bound with rope or wire in a manner that could strip bark or break or shear branches.
- C. Plant material transported on open vehicles should be covered with a protective covering to prevent wind burn.
- D. Dry, loose topsoil shall be provided for planting bed mixes. Muddy or frozen topsoil is unacceptable as working with medium in this condition will destroy its structure, making root development more difficult.

- A. Notify landscape architect at least seven (7) working days prior to installation of plant material.
- B. It shall be the Contractor's responsibility to locate and protect all existing above and below ground utilities. Utilities can be located and marked (in Illinois) by calling J.U.I.E. at (800)892-0123.
- C. The Contractor shall provide, at his/her own expense, protection against trespassing and damage to seeded areas, planted areas, and other construction areas until the preliminary acceptance. The Contractor shall provide barricades, temporary fencing, signs, and written warning or policing as may be required to protect such areas. The Contractor shall not be responsible for any damage caused by the Owner after such warning has been issued.
- D. The Contractor shall be responsible for the protection of crowns, trunks and roots of existing trees, shrubs, lawns, paved areas and other landscaped areas that are to remain intact. Existing trees, which may be subject to construction damage, shall be boxed, fenced or otherwise protected before any work is started. The Owner desires to preserve those trees within and adjacent to the limits of construction except those specifically indicated to be removed on the Drawings. The contractor shall erect protective tree fencing and tree armor at locations indicated on the drawings and around all trees on any tree to be preserved. Protective fencing shall be erected between the limits of construction and any tree preservation areas shown on the Drawings.
- E. A complete list of plants including a schedule of sizes, quantities and other requirements is shown on the Drawings and on the bid form. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.

A. All plantings shall be maintained by the Contractor for a period of 90 days after preliminary acceptance by the Owner or his/her representative. Maintenance shall include, but is not limited to: mowing and edging turf, pulling weeds, watering turf and plant material and annual flower maintenance.

A. All plant material (excluding annual color), shall be warranted for one (1) year after the end of the 90 day maintenance period. The end of the maintenance period is marked by the final acceptance of the Contractor's work by the Owner or his/her representative. Plant materials will be warranted against defects including death and unsatisfactory growth, except for defects resulting from abuse or damage by others, or unusual phenomena or incidents which are beyond the control of the Contractor. The warranty covers a maximum of one replacement per item.

A. Plants: Provide typical of their species or variety, with normal, densely developed branches and vigorous, fibrous root systems. Only sound, healthy, vigorous plants which are free from unsound injuries, disfiguring knots, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation shall be provided. All plants shall have a fully developed form without voids and open patches.

1. Balled and burlapped plants shall have a firm natural ball of earth of sufficient diameter and depth to encompass a root system necessary for a full recovery of the plant. Root ball sizes shall comply with the latest edition of the "American Standards for Nursery Stock" (ANSI). Root balls that are cracked or mushroomed are unacceptable.
2. Container grown stock should be grown for an amount of time that is of sufficient length for the root system to have developed enough to hold its soil together, firm and whole. Plants will not be loose in their containers, nor shall they be pot-bound and all container grown stock will comply with the sizes stated on the plant list.
3. No evidence of wounds or pruning cuts shall be allowed unless approved by the Landscape Architect.
4. Evergreen trees shall be branched to the ground. The height of evergreen trees are determined by measuring from the ground to the first lateral branch closest to the top. Height and/or width of other trees are measured by the mass of the plant not the very tip of the branches.
5. Shrubs and small plants shall meet the requirements for spread and/or height indicated in the plant list. The height measurement shall be taken from ground level to the average height of the top of the plant, not the longest branch. Single stem or thin plants will not be accepted. Side branches shall be flushed with growth and have good form to the ground. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root or branch injuries.

Topsoil:

1. Topsoil shall be fertile, natural topsoil of a loamy character, without admixture of subsoil material. Topsoil shall be reasonably free from clay, lumps, coarse sand, stones, plants, roots, sticks and other foreign materials with a pH between 6.5 to 7.0.

B. Topsoil for seed areas shall be a minimum of 6".

C. Soil amendments shall be as follows:

1. For trees and shrubs the plant pit will be backfilled with pulverized black dirt.
2. For perennials and ornamental grasses the soil mixture will be as follows: CM-63 General Purpose Peat Based Mix as supplied by Midwest Trading. Top beds with 8" of CM-63 and till into existing beds to a depth of 8". Soil mixtures are available from Midwest Trading. Midwest Trading, St. Charles, IL 60174 (630) 365-1990

D. Fertilizer:

1. For trees and shrubs use: 14-4-6 briquettes 17 g or equivalent available from Arthur Clesen, Inc. Follow manufacturer's recommendation for application. Arthur Clesen, Inc. 543 Diens Drive, Wheeling, IL 60090 (847)537-2177
2. For turf areas use 6-24-16 Clesen Fairway with micronutrients with minor elements 3.0 % S, .02% B, .05% Cu, 1.0% Fe, .0008% Mo, .10% Mn available from Arthur Clesen or approved equal.

E. Herbicide:

1. Round-Up or approved equal

F. Mulch:

1. Bark mulch shall be finely shredded hardwood bark which has been screened and is free of any green foliage, twigs, rocks, sawdust, wood shavings, growth or germination inhibiting ingredients, or other foreign materials. Bark mulch is available from Midwest Trading.
2. Mushroom compost as available from Midwest Trading.

G. Water:

1. Water service will be available on the site, with the cost of water being paid by the Owner. Transporting of the water from the source to the work areas shall be the responsibility of the Landscape Contractor. All necessary hose, piping, tank truck, etc. shall be supplied by the Landscape Contractor.

H. Guying:

1. Stakes: 5/8" x 40" steel eye anchor with 4" helix
2. Cable:
 - a. Trees under 5": flexible 1/8" galvanized aircraft cable, 7x7 strand or approved equal
 - b. Trees 5" and over: flexible 3/16" galvanized aircraft cable, 7x7 strand or approved equal.
3. Turnbuckles: 5/16", eye and eye, with 4" takeup.
4. Hose: new two-ply reinforced rubber hose, minimum 1/2" I.D.

I. Tree wrap: Burlap tree wrap 4" wide.

J. Twine: Soft nursery jute.

A. Examine proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.

3-02 PREPARATION:

A. All planting techniques and methods shall be consistent with the latest edition of 'Horticulture Standards of Nurserymen, Inc.' and as detailed on these Drawings.

B. Planting shall be performed by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.

C. All underground utilities must be located and marked clearly.

D. Apply Round-Up or approved equivalent to kill any existing vegetation in all areas to be planted. Confirm length of waiting period between chemical application and plant installation with manufacturer. Do not begin planting operations until prescribed post-application waiting period has elapsed. Take extreme care to avoid chemical drift to adjoining properties of landscape plantings.

- Prior to all planting, rototill all areas to be landscaped to prepare for plant installation to a minimum depth of 12". Eliminate uneven areas and low spots. Maintain lines, levels, profiles and contour. Changes in grade are to be gradual. Blend slopes into level areas. Remove all debris, weeds and undesirable plants and their roots from areas to be planted. Remove all concrete slag larger than 2" in diameter.
- F. Topsoil shall be spread over the site at a minimum depth of 6". For those areas which are indicated as prairie or natural areas on the Drawings, a topsoil depth of 18" is recommended where possible.
- G. It shall be the responsibility of the landscape contractor to prepare all seeded areas by disking and raking prior to planting seed. Soil shall be loosened and scarified to a minimum depth of 6". Fine grading of all seeded areas is required. Maximum size of stone or topsoil lump is 1".
- H. Locate all plant material as indicated or as approved in the field by the Landscape Architect. If obstructions are encountered which are not shown on the drawings, then do not proceed with planting operations until alternate plant locations have been selected.
- I. Planting holes shall be constructed as shown on the planting details. Holes shall be hand dug or machine dug. Great care will be taken to not excavate the hole deeper than the root ball and the diameter shall be a minimum of two times the root ball width. Remove any materials encountered in excavation that may be injurious to plant growth, including stones larger than 2" in diameter or other debris. Soil to be used as backfill should be pulverized.
- J. Provide pre-mixed planting mixture for use around root systems and root balls of the plants. The mixtures are outlined in section 6 of part 2-02.
- K. Prior to planting, provide additional topsoil to all planting beds to bring the finish grade of the bed to 2" above lawn grade and to finish grade of adjacent hard surface grades.
- L. Add 2" thickness of mushroom compost to all annual, perennial and groundcover beds. Finish grade bed and install plants.
3. Sod shall be laid within 24 hours from the time of stripping. Do not plant dormant sod or if the ground is frozen.
4. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent sod.
5. Place top elevation of sod 1/2 inch below adjoining edging or paving.
6. Water sod thoroughly with a fine spray immediately after planting.
7. After sod and soil have dried, roll seeded areas to ensure a good bond between the sod and soil and to remove minor depressions and irregularities.
8. Sodded slopes 3:1 or greater shall be staked to prevent erosion and washout.
9. Warranty sodding for a period of one (1) year from the end of the 90 day maintenance period. If sod fails or lacks vigor and full growth as determined by the Landscape Architect, the Contractor will repeat site preparation operations and re-sod affected areas at the Contractor's expense.
10. Note: Sod shall be a premium Kentucky Bluegrass blend, and is required in all areas indicated on the plans as well as areas which have been affected by construction. Sod can be placed as long as water is available and the ground surface can be properly prepared. Sod shall not be laid on frozen or snow-covered ground. Sod shall be strongly rolled, not less than two (2) years old and free of weeds and undesirable native grasses. Sod should be machine cut to pad thickness of 3/4" (plus or minus 1/4"), excluding top growth and thatch. Provide only sod capable of vigorous growth and development when planted (viable, not dormant). Provide sod of uniform pad sizes with maximum 5% deviation in either length or width. Broken pads or pads with uneven ends will not be acceptable. Sod pads incapable of supporting their own weight when suspended vertically with a firm grasp on the upper 10% of pad will not be accepted.

- A. Set plant material in the planting hole to proper grade and alignment. Set plants upright and plumb. Set plant material 2" above the adjacent finish grade. Remove burlap from top 1/3 of root ball. Remove treated burlap (green). Cut and remove or cut and fold down upper half of wire basket, dependent upon tree size. Backfill hole by firmly tamping soil to avoid any air pockets or voids.
- B. Set balled and burlapped plants in the planting hole and compact 8" of soil around the base of the ball. Backfill remaining space with planting mixture. Water plants immediately after planting to eliminate all voids and thoroughly soak the plant root ball.
- C. Space groundcover plants according to dimensions given on the plans. Adjust spacing as necessary to evenly fill planting bed with indicated number of plants. Plant to within 18" of the trunks of trees and shrubs or at the edge of the plant ball, whichever is closest. Plant to within 12" of edge of bed.
- D. Mulching:
 1. Install 4" depth of mulch around all tree and shrub beds as indicated on drawings or planting details. Mulch shrub planting areas as continuous beds. Do not place mulch directly against tree trunk; form mulch to create an inverted cone around trunk.
 2. Mulch perennial, groundcover and annual planting beds with 2" mushroom compost. Water mulched areas thoroughly after placing mulch.

- Tree wrapping is not required, unless the Contractor feels it is necessary due to characteristics of a particular species or past experience with the species. The landscape architect will be notified as to which trees are to be wrapped and shall inspect the trunk(s) before wrapping. Tree wrap will not be used to cover damage or defects. When wrapping is done, trunks will be wrapped spirally with approved tree wrapping tape that is not less than 4" wide, and securely tied with suitable cord at the top, bottom and 2" intervals along the trunk. Wrap from ground to the height of the first branch.
- F. **Staking and guying of trees is optional.** If the Contractor chooses to stake all or part of the trees, he/she shall use the method specified in the planting details. One (1) stake is to be used on trees of 1" caliper and under, or 4" height and under. Two (2) stakes are to be used on trees of 1" to 2 3/4" caliper. Guy trees of 3" caliper or larger at three (3) per tree. The root ball will not be pierced with a stake. Stakes are to be driven at least eighteen (18) inches into subsoil below the planting hole. Stakes and wire attachments shall be removed after three months for spring planted material and by the following May for fall planted stock by the Contractor. Staking and guying should be done immediately after lawn seeding or sodding operations.
- G. **Seeding of specified lawn areas on plans will be treated as follows:**
1. Topsoil shall be spread over all areas to be seeded to a minimum depth of 6" when compacted (to be performed by others).
 2. Seed mixture and application rate - use Premium seed mix as supplied by Arthur Clesen, Inc. Apply at a rate of 5 lbs./1000 s.f.
 3. Apply fertilizers and conditioners at the rate specified per soil test findings. In lieu of soil test results, apply two (2) tons of ground agricultural limestone and 1000 lbs. 10-10-10 or equivalent analysis fertilizer per acre. At least 40% of the fertilizer nitrogen shall be of an organic origin.
 4. Soil preparation areas where vehicular traffic has compacted the soil shall be loosened/scarified to a minimum depth of 6" before fertilizing and seeding. Fine grading of all seeded areas is required. Maximum size of stone or topsoil lump is 1".
 5. Watering seeded areas shall be done to ensure proper germination. Once seeds have germinated, watering may be decreased but the seedlings must never be allowed to dry out completely. Frequent watering should be continued approximately four (4) weeks after germination or until grass has become sufficiently established to warrant watering on an 'as needed' basis.
 6. Turf is being established on a variety of slope conditions. It shall be the Contractor's responsibility to determine and implement whatever procedures he/she deems necessary to establish the turf as part of his/her work. Seeded areas will be accepted when all areas show a uniform stand of the specified grass in healthy condition and at least 90 days have elapsed since the completion of this work. The Contractor shall submit with his/her bid a description of the methods and procedures he/she intends to use.

3. Sod shall be laid within 24 hours from the time of stripping. Do not plant dormant sod or if the ground is frozen.
4. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent sod.
5. Place top elevation of sod 1/2 inch below adjoining edging or paving.
6. Water sod thoroughly with a fine spray immediately after planting.
7. After sod and soil have dried, roll seeded areas to ensure a good bond between the sod and soil and to remove minor depressions and irregularities.
8. Sodded slopes 3:1 or greater shall be staked to prevent erosion and washout.
9. Warranty sodding for a period of one (1) year from the end of the 90 day maintenance period. If sod fails or lacks vigor and full growth as determined by the Landscape Architect, the Contractor will repeat site preparation operations and re-sod affected areas at the Contractor's expense.
10. Note: Sod shall be a premium Kentucky Bluegrass blend, and is required in all areas indicated on the plans as well as areas which have been affected by construction. Sod can be placed as long as water is available and the ground surface can be properly prepared. Sod shall not be laid on frozen or snow-covered ground. Sod shall be strongly rooted, not less than two (2) years old and free of weeds and undesirable native grasses. Sod should be machine cut to pad thickness of 3/4" (plus or minus 1/4"), excluding top growth and thatch. Provide only sod capable of vigorous growth and development when planted (viable, not dormant). Provide sod of uniform pad sizes with maximum 5% deviation in either length or width. Broken pads or pads with uneven ends will not be acceptable. Sod pads incapable of supporting their own weight when suspended vertically with a firm grasp on the upper 10% of pad will not be accepted.


1. Seeding of specified areas shall occur when the soil temperature is above 55° F. No seed shall be sown during periods of high winds, or when the ground is not in proper condition for seeding (see section 3-02 (G)). Seeding operations for the specified mixes shall occur in the spring time frame of April 15 through June 30 and in the summer time frame of August 15 through December 1. The mixes containing bluegrass and fescue seed must have six weeks to harden off for winter survival.
2. Sod shall be installed when the ground is not frozen or snow covered and temperatures are less than 80° F. It shall not be placed during a period of extended drought.
3. Herbaceous ornamental plants shall be planted between May 1 and June 15 or between August 15 and December 1.
4. Spring planting of woody ornamental plants shall be performed from the time the soil can be easily worked until June 1, except that evergreen planting shall end on May 15. Oak, hawthorn and red maple species will only be planted during this spring planting period. Fall planting will begin August 15 and will continue until the ground cannot be worked satisfactorily, except that evergreen planting shall be performed between August 15 and December 1.

A. All plantings shall be maintained by the Contractor for a period of 90 days after preliminary acceptance by the Owner or his/her representative. Maintenance shall include but is not limited to: mowing and edging turf, pulling weeds, watering turf areas and plant material plus annual flower maintenance. The Contractor will reset settled plants to proper grade and position. Dead material will be removed. Stakes and guy wires will be tightened and repaired as required.

A. All plant material (excluding annual color), shall be warranted for one (1) year after the end of the 90 day maintenance period. The end of the maintenance period is marked by the final acceptance of the Contractor's work by the Owner or his/her representative.

A. The Contractor shall protect the property of the Owner and the work of other contractors. The Contractor shall also be directly responsible for all damage caused by the activities and for the daily removal of all trash and debris from his/her work area to the satisfaction of the landscape architect .

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Construction Managers | Environmental Scientists | Landscape Architects | Planners

TABLE MASONRY BUILDING ADDITION

VILLAGE OF ROMEVILLE, ILLINOIS

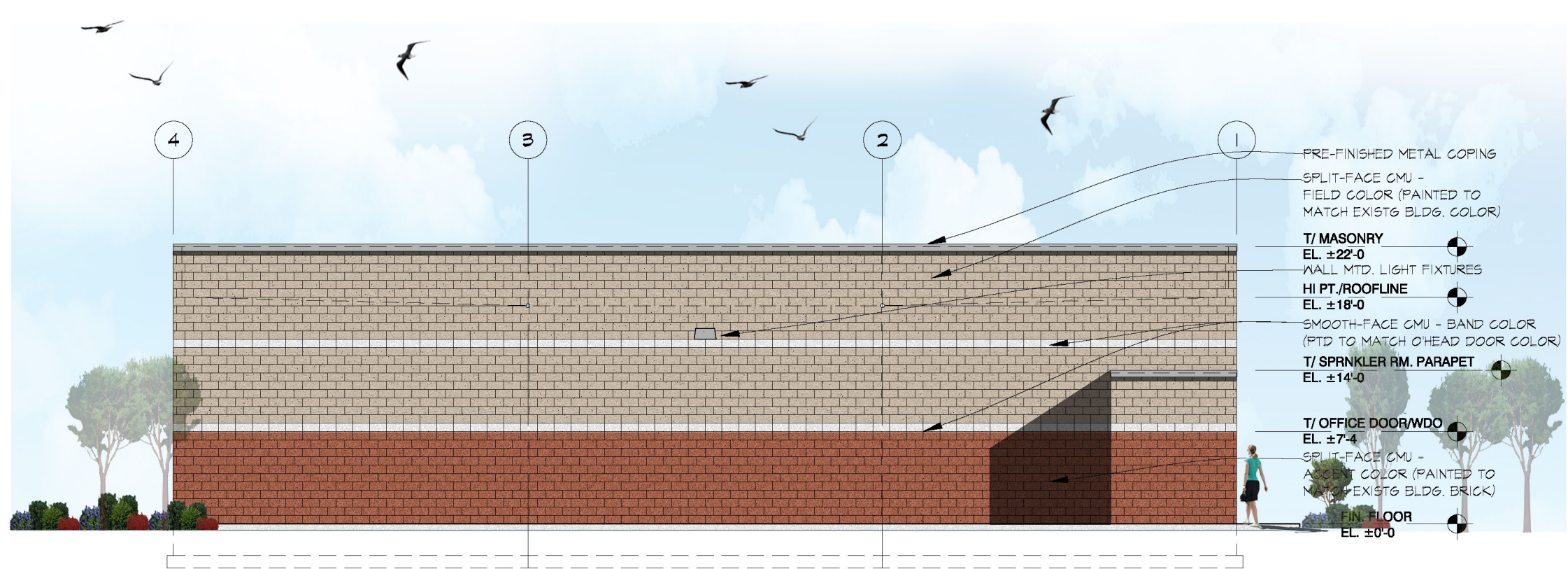
LANDSCAPE SPECIFICATIONS

PROJ. MGR.: KJC
 PROJ. ASSOC.: MDE
 DRAWN BY: JBD
 DATE: 9/9/2020
 SCALE: 1"=20'

SHEET

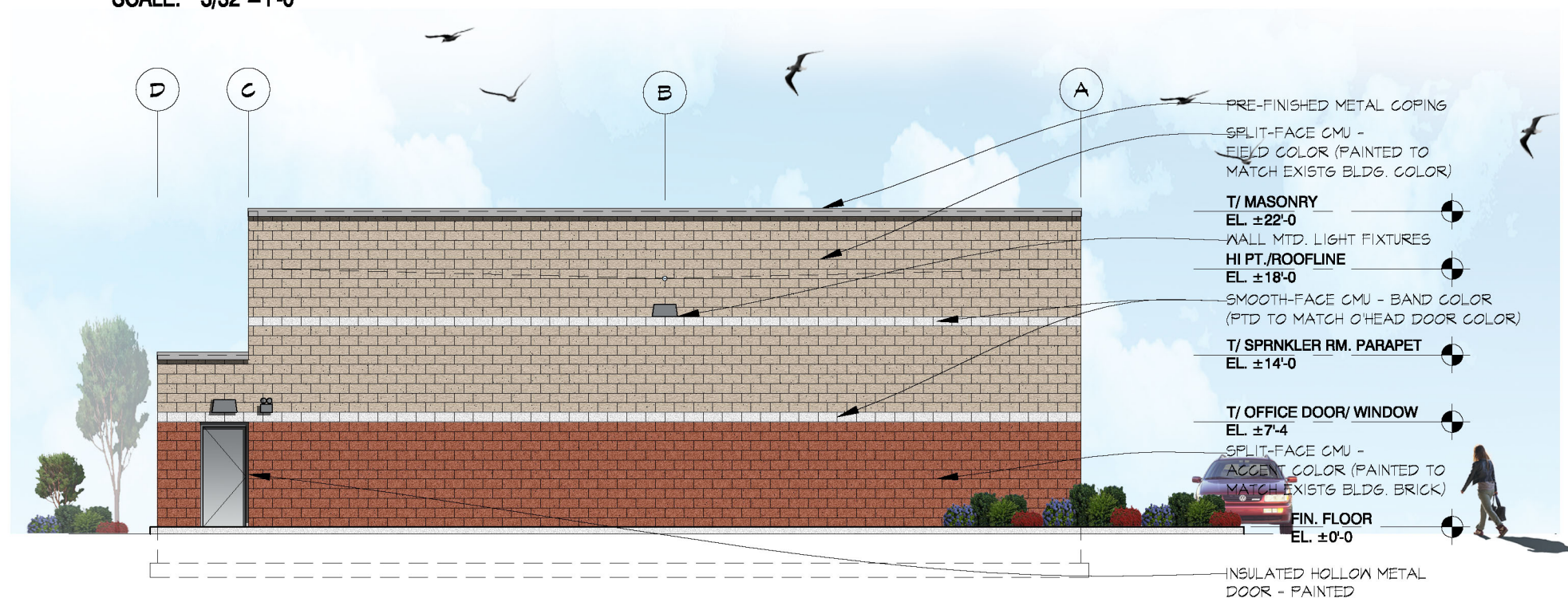
L3 OF L3

AMD.ROILO1



NORTH ELEVATION

SCALE: 3/32"=1'-0"



WEST ELEVATION

SCALE: 3/32"=1'-0"

KMA PROJECT No. 1345.0435_Elev2

7/24/2020

PROPOSED BUILDING ADDITION

645 PARKWOOD AVENUE
ROMEDEVILLE, ILLINOIS 60446

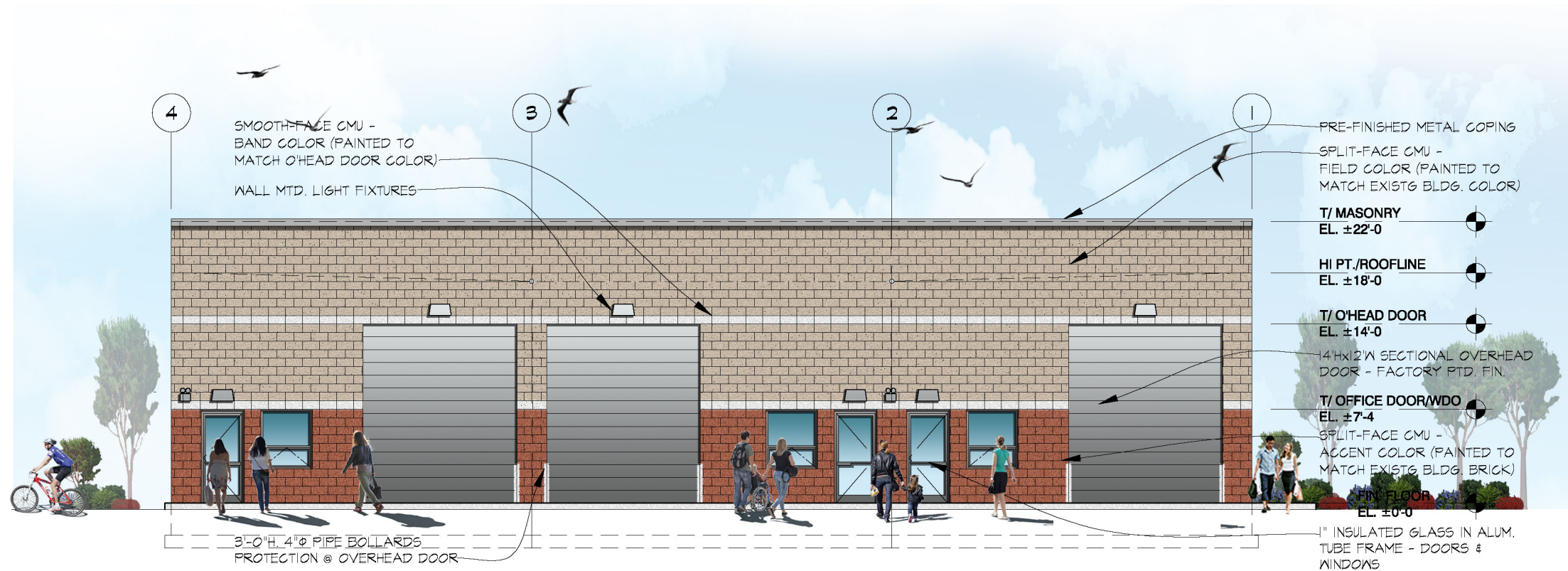
ABLE MASONRY DEVELOPMENT

645 PARKWOOD AVENUE
ROMEDEVILLE, ILLINOIS 60446

KMA & ASSOCIATES, INC. ARCHITECTS

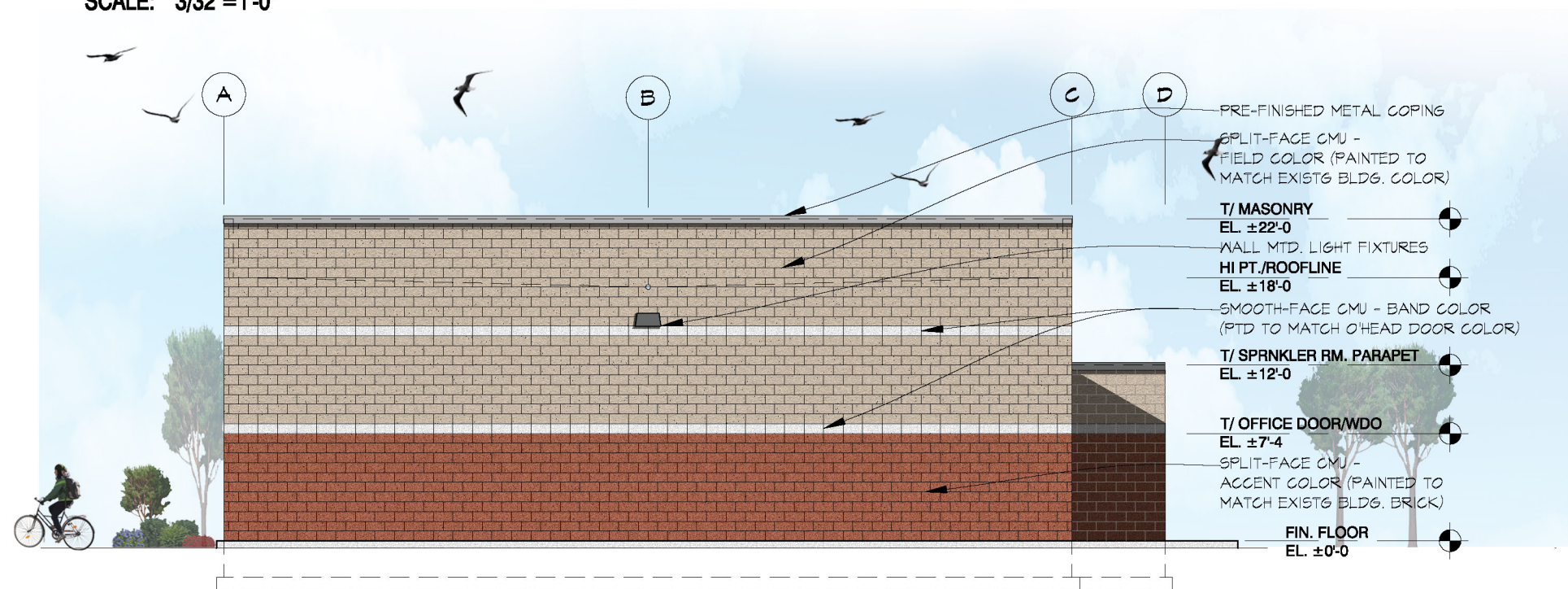
1121 LAKE COOK ROAD, SUITE F
DEERFIELD, ILLINOIS 60015





SOUTH ELEVATION

SCALE: 3/32"=1'-0"



EAST ELEVATION

SCALE: 3/32"=1'-0"

KMA PROJECT No. 1345.0435_Elev2

7/24/2020

PROPOSED BUILDING ADDITION

645 PARKWOOD AVENUE
ROMEDEVILLE, ILLINOIS 60446

ABLE MASONRY DEVELOPMENT

645 PARKWOOD AVENUE
ROMEDEVILLE, ILLINOIS 60446

KMA & ASSOCIATES, INC. ARCHITECTS

1121 LAKE COOK ROAD, SUITE F
DEERFIELD, ILLINOIS 60015



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