

ZEIGLER AUTO GROUP

10920 W. 159th STREET
ORLAND PARK, IL

BMW PARKING LOT EXPANSION PLANS

OWNER / DEVELOPER
AJZ-ORLAND PARK, LLC

Contract: Daniel J. Scheid
4201 Stadium Drive
Kalamazoo, MI 49008

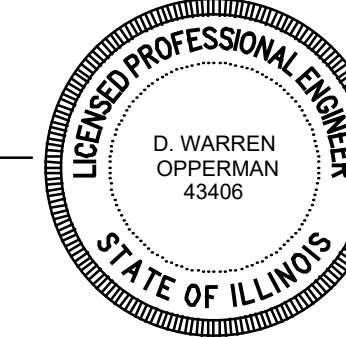
PHONE: 269.488.2271
ds@zeigler.com
www.zeigler.com

LEGEND	
⊙	EXISTING SANITARY MANHOLE
●	PROPOSED SANITARY MANHOLE
—SAN—	EXISTING SANITARY SEWER
-)-)	PROPOSED SANITARY SEWER
⊗	EXISTING VALVE IN VAULT
⊕	PROPOSED VALVE IN VAULT
⊗	EXISTING VALVE
⊕	PROPOSED VALVE
△	EXISTING REDUCER
▲	PROPOSED REDUCER
⊕	EXISTING HYDRANT
⊕	PROPOSED HYDRANT
—W—	EXISTING WATERMAIN
—PW—	PROPOSED WATERMAIN
⊕	EXISTING STORM MANHOLE
⊕	PROPOSED STORM MANHOLE
⊕	EXISTING CATCH BASIN
⊕	PROPOSED CATCH BASIN
⊕	EXISTING INLET
⊕	PROPOSED CIRCULAR INLET
■	PROPOSED INLET
—ST—	EXISTING STORM SEWER
-)-)	PROPOSED STORM SEWER
-)-)	EXISTING CULVERT
-)-)	PROPOSED CULVERT
☆	EXISTING LIGHT
★	PROPOSED LIGHT
—	EXISTING CONTOUR LINE
—	PROPOSED CONTOUR LINE
≡	EXISTING CURB
≡	PROPOSED CURB
≡	EXISTING CURB TO BE REMOVED
≡	PROPOSED HUNG CURB
⊕	EXISTING POWER POLE
⊕	EXISTING TRANSFORMER
⊕	EXISTING ELECTRIC MANHOLE
—E—	EXISTING ELECTRIC CABLE
⊕	EXISTING TELEPHONE PEDESTAL
⊕	EXISTING TELEPHONE MANHOLE
—T—	EXISTING TELEPHONE CABLE
⊕	EXISTING TRAFFIC SIGNAL
⊕	EXISTING HAND HOLE
⊕	EXISTING GAS VALVE
—G—	EXISTING GAS MAIN
—C—	EXISTING CABLE T.V.
⊕	EXISTING BORING LOCATION
—	EXISTING SIGN
—x—x—	EXISTING FENCE LINE
⊕	EXISTING DECIDUOUS TREE
⊕	EXISTING EVERGREEN
⊕	EXISTING BUSH/HEDGE
⊕	EXISTING WETLAND

DRAINAGE CERTIFICATION

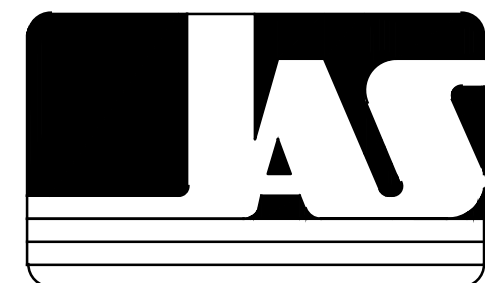
I, D. Warren Opperman, hereby certify that adequate storm water storage and drainage capacity has been provided for this development, such that surface water from the development will not be diverted onto and cause damage to adjacent property for storms up to and including the one hundred (100) year event, and that the design plans are in compliance with all applicable state, county, and Village ordinances.

D. Warren Opperman
ILLINOIS PROFESSIONAL ENGINEER NO. 062-043406



DUTY TO INDEMNIFY

The Contractor shall defend, indemnify, keep and save harmless the Village, Owner, and Engineer, and their respective board members, representatives, agents, and employees, in both individual and official capacities, against all suits, claims, damages, losses and expenses, including attorney's fees, caused by, growing out of, or incidental to, the performance of the work under the Contract by the Contractor or its subcontractors to the full extent as allowed by the laws of the State of Illinois and not beyond any extent which would render these provisions void or unenforceable. This obligation includes but is not limited to: The Illinois laws regarding structural work (Ill. Rev. Stat. Ch.48, par.60 et seq.). And regarding the protection of adjacent landowners (Ill. Rev. Stat. Ch.17 1/2 par.51 et seq.). In the event of any such injury (including death) or loss or damage, or claims therefore, the Contractor shall give prompt notice to the owner.



Joseph A. Schudt & Associates

9455 ENTERPRISE DRIVE MOKENA, IL 60448
PHONE: 708-720-1000 www.jaseng.com FAX: 708-720-1065

CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

ILLINOIS PROFESSIONAL DESIGN FIRM NO. 184-001172

PREPARED AT OR UNDER THE DIRECTION OF:

D. Warren Opperman
ILLINOIS PROFESSIONAL ENGINEER NO. 062-043406



SIGNED: 12-06-21

LIC. EXP: 11-30-23

CONTACT JULIE AT 811 OR 800-892-0123
WITH THE FOLLOWING INFORMATION



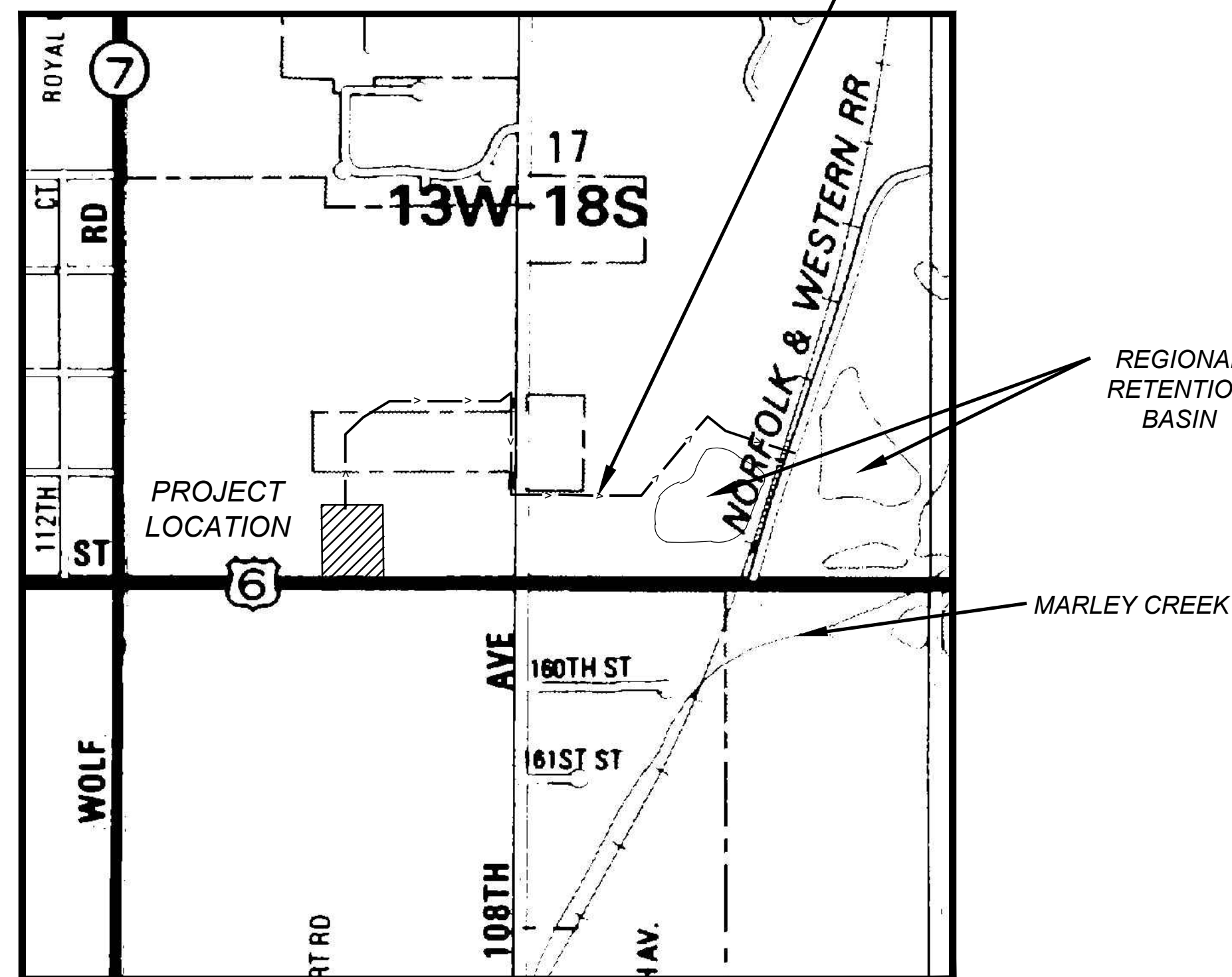
COUNTY-NAME COOK

CITY / TOWNSHIP ORLAND

SEC & 1/4 SEC No. W1/2 SW1/4 SEC 17-36-12

Know what's below. 48 HOURS (2 working days) BEFORE YOU DIG
Call before you dig.

NOTE: STORM SEWER ROUTING VILLAGE OF ORLAND PARK OWNS AND OPERATES (OR HAS NECESSARY EASEMENTS) ALL STORM SEWERS, DETENTION BASINS, AND DITCHES SHOWN.



VICINITY MAP

(NOT TO SCALE)

INDICATES SITE LOCATION

INDEX	
Sheet Number	Sheet Title
1	COVER SHEET
2	EXISTING SURVEY & TOPOGRAPHY
3	EXISTING TREE SURVEY
4	SITE GEOMETRIC PLAN
5	SITE GRADING PLAN
6	SITE UTILITY PLAN
7	STORM WATER POLLUTION PROTECTION PLAN
8	SITE EROSION CONTROL PLAN
9	CONSTRUCTION SPECIFICATIONS
10	DETAIL SHEET
11	DRAINAGE EXHIBIT
12	MWRD GENERAL NOTES

LEGAL DESCRIPTION:

THE WEST 400 FEET OF THE SOUTH 544.5 FEET OF THE SOUTH 60 ACRES OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 17, TOWNSHIP 36 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, COOK COUNTY, ILLINOIS.

EXCEPTING THEREFROM DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 17; THENCE SOUTH 88 DEGREES 46 MINUTES 04 SECONDS WEST, ON THE SOUTH LINE OF SAID SOUTHWEST QUARTER, 917.11 FEET TO THE EAST LINE OF THE GRANTOR'S PARCEL FOR THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 88 DEGREES 48 MINUTES 04 SECONDS WEST, ON SAID SOUTH LINE, 400.01 FEET TO THE WEST LINE OF THE GRANTOR'S PARCEL; THENCE NORTH 01 DEGREE 41 MINUTES 48 SECONDS WEST, ON SAID WEST LINE, 61.83 FEET; THENCE NORTH 88 DEGREES 14 MINUTES 45 SECONDS EAST, 400.00 FEET TO THE EAST LINE OF THE GRANTOR'S PARCEL; THENCE SOUTH 01 DEGREE 41 MINUTES 48 SECONDS EAST, ON SAID EAST LINE, 61.64 FEET TO THE POINT OF BEGINNING.

P.I.N. 27-17-301-013-0000

PROPERTY ADDRESS: 10920 W. 159th STREET, ORLAND PARK, IL

PROPERTY AREA: 4.433 ACRES

TOTAL CONTIGUOUS OWNERSHIP: 13.007 ACRES

PROPOSED PROJECT AREA: 2.481 ACRES

BENCHMARK:

SQUARE CUT IN TOP OF FLAG POLE BASE OPPOSITE AND SOUTH OF THE MAIN BMW BUILDING ENTRANCE ON SOUTH SIDE OF BUILDING.

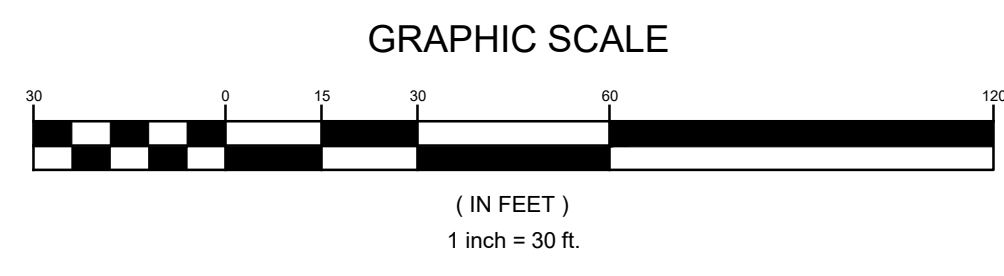
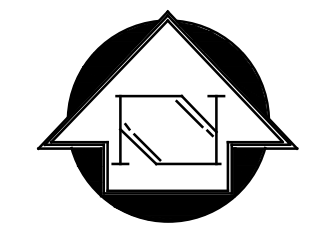
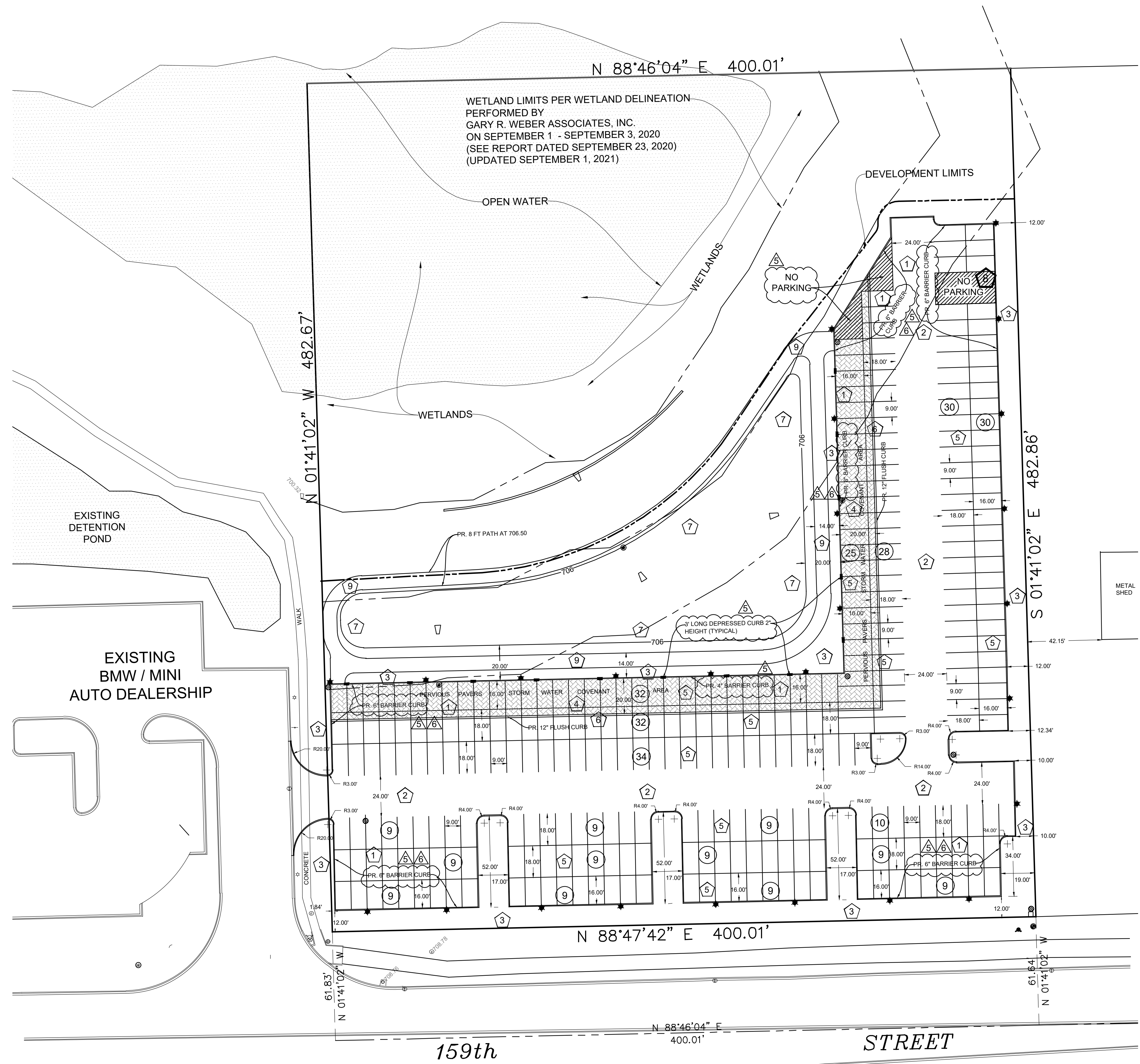
ELEVATION: 711.96 (NAVD 88)

No.	Date	By	Description
△	12/06/21	TMF	PER VILLAGE REVIEW 2
△	11/11/21	TMF	VILLAGE OF ORLAND PARK COMMENTS
△	10/01/21	TMF	VILLAGE OF ORLAND PARK COMMENTS
△	08/18/21	TMF	PER ENGINEER
△	07/07/21	TMF	VILLAGE OF ORLAND PARK COMMENTS
△	05/12/21	TMF	VILLAGE OF ORLAND PARK COMMENTS

REVISIONS			
Date:	Drawn:	Project No.	
10-27-20	TMF	15-060	
Design: DWO	Approved: DWO		

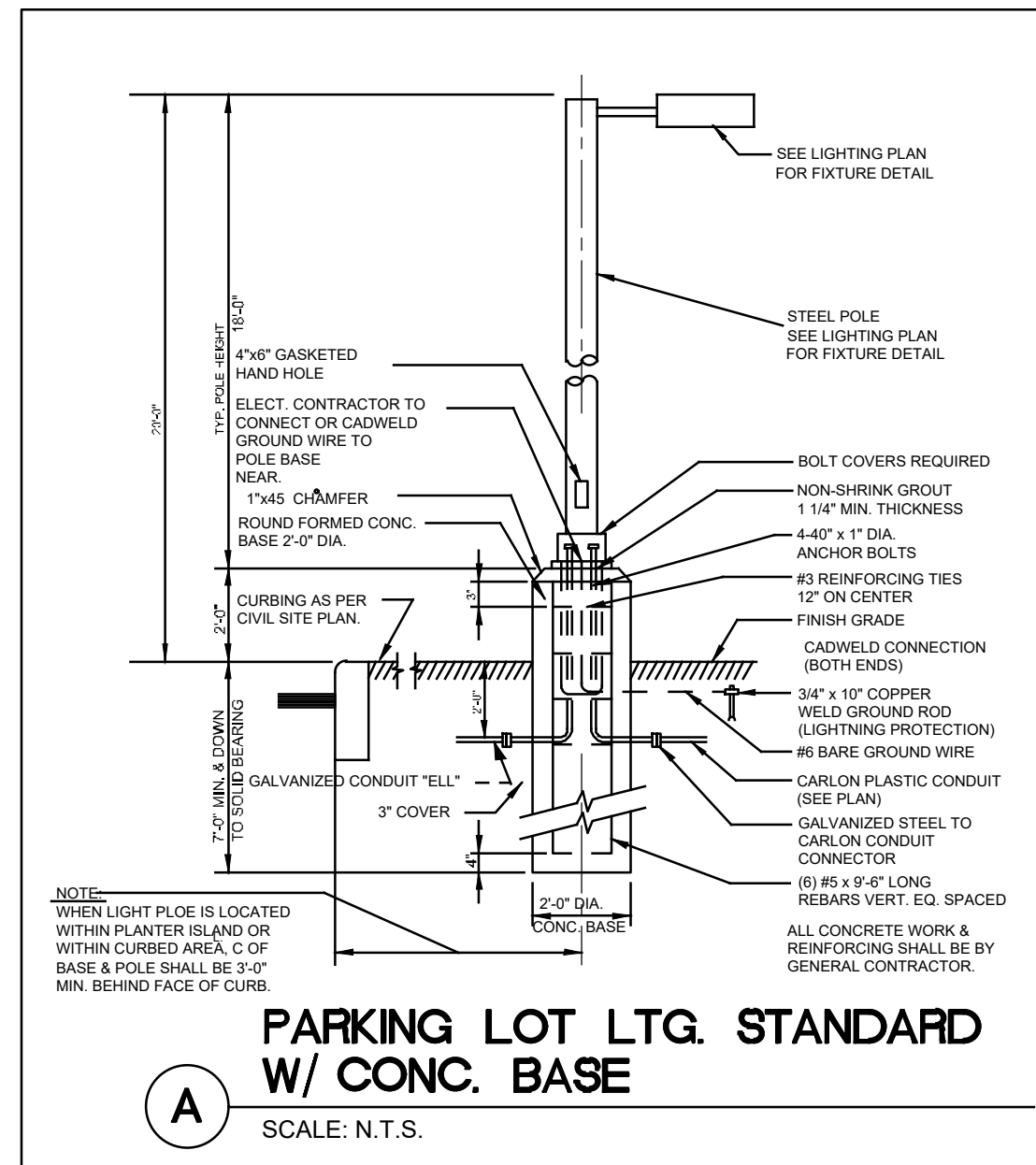
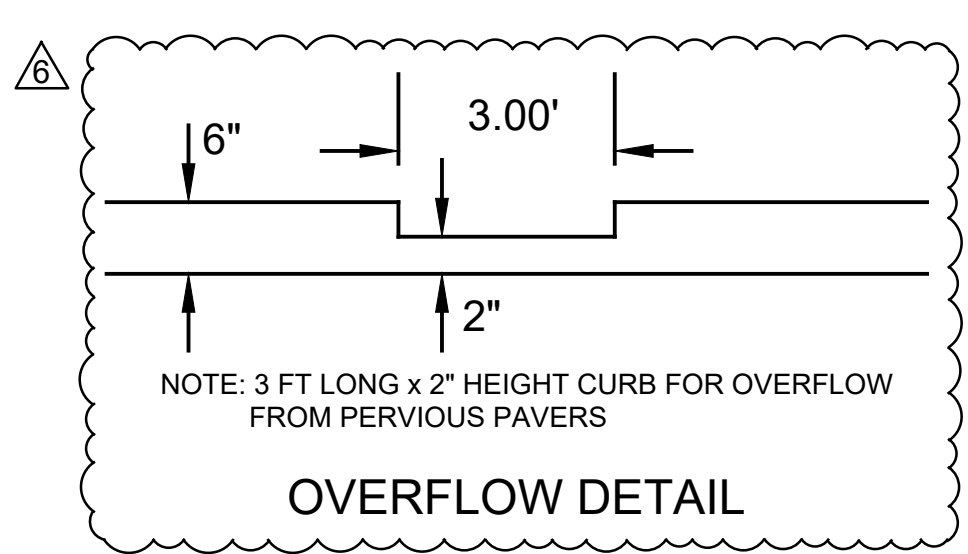
SHEET 1 OF 12

M:\2015\15-060 ZEIGLER EXT. PARKING EXPANSION\Construction Drawings\15-060 - ZEIGLER BMW PARKING EXPANSION DESIGN.TPO-2021.dwg, GEOM. PLOT: 13/02/2021 8:29 AM BY: TITANIA, COPYRIGHT 2020 - JOSEPH A. SCHUDT & ASSOCIATES



LEGEND:

- 1 PROPOSED 6" CONCRETE BARRIER CURB
- 2 PROPOSED BITUMINOUS ASPHALT PAVEMENT (10" AGG. BASE/ 2 1/4" BITUMINOUS BINDER / 1 1/2" BITUMINOUS SURFACE)
- 3 PROPOSED NEW LANDSCAPE AREA
- 4 PROPOSED PERVIOUS STORM WATER COVENANT AREA.
- 5 VEHICLE STORAGE PARKING (9'x18')
- 6 PROPOSED 12" WIDE x 15" DEEP FLUSH BORDER CURB
- 7 PROPOSED DETENTION BASIN
- 8 NO PARKING AREA FOR VEHICLE TURN AROUND
- 9 PROPOSED 8' WIDE MAINTENANCE PATH



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 (184-001172)

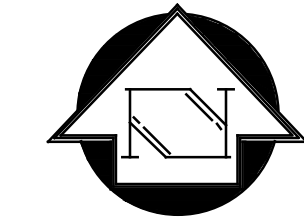
CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

REVISIONS: 15-12-21, 10-1-21, 7-07-21, 1-11-21, 8-18-21, 12-06-21

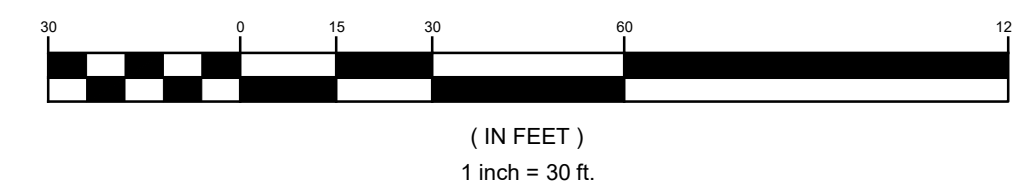
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ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL
SITE GEOMETRIC PLAN

Date: 10-27-20
 Scale: 1" = 30'
 File Name: 15-060 BMW PARKING EXPANSION SITE GEOMETRIC PLAN.dwg
 Drawn: TMF
 Checked: DWO
 Sheet:
4 OF 12
 Project No.:
15-060



GRAPHIC SCALE



WETLAND LIMITS PER WETLAND DELINEATION PERFORMED BY GARY R. WEBER ASSOCIATES, INC. ON SEPTEMBER 1 - SEPTEMBER 3, 2020 (SEE REPORT DATED SEPTEMBER 23, 2020) (UPDATED SEPTEMBER 1, 2021)

DEVELOPMENT LIMITS

OPEN WATER

WETLANDS

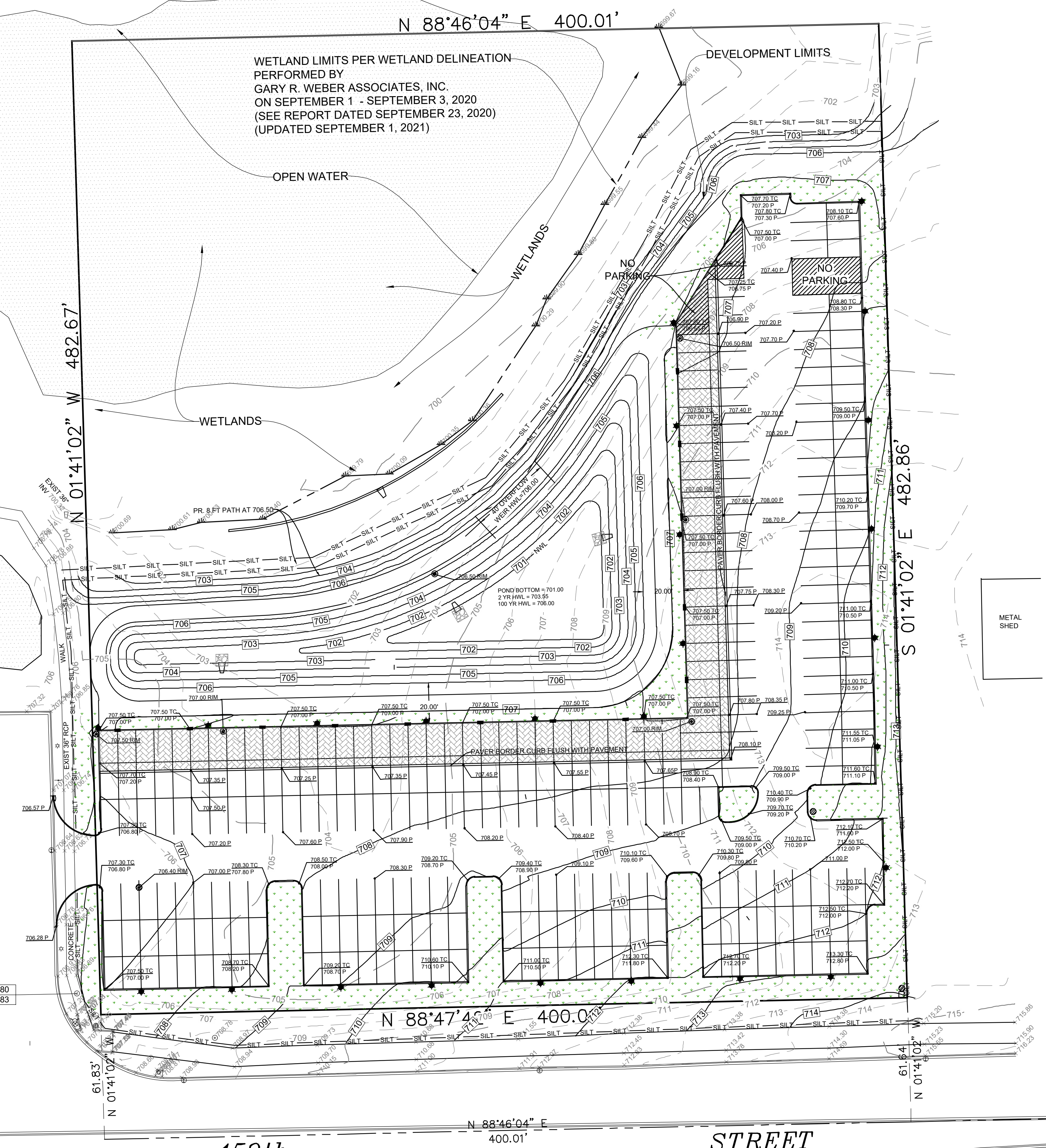
NO PARKING

NO PARKING

EXISTING DETENTION POND

EXISTING BMW / MINI AUTO DEALERSHIP

METAL SHED

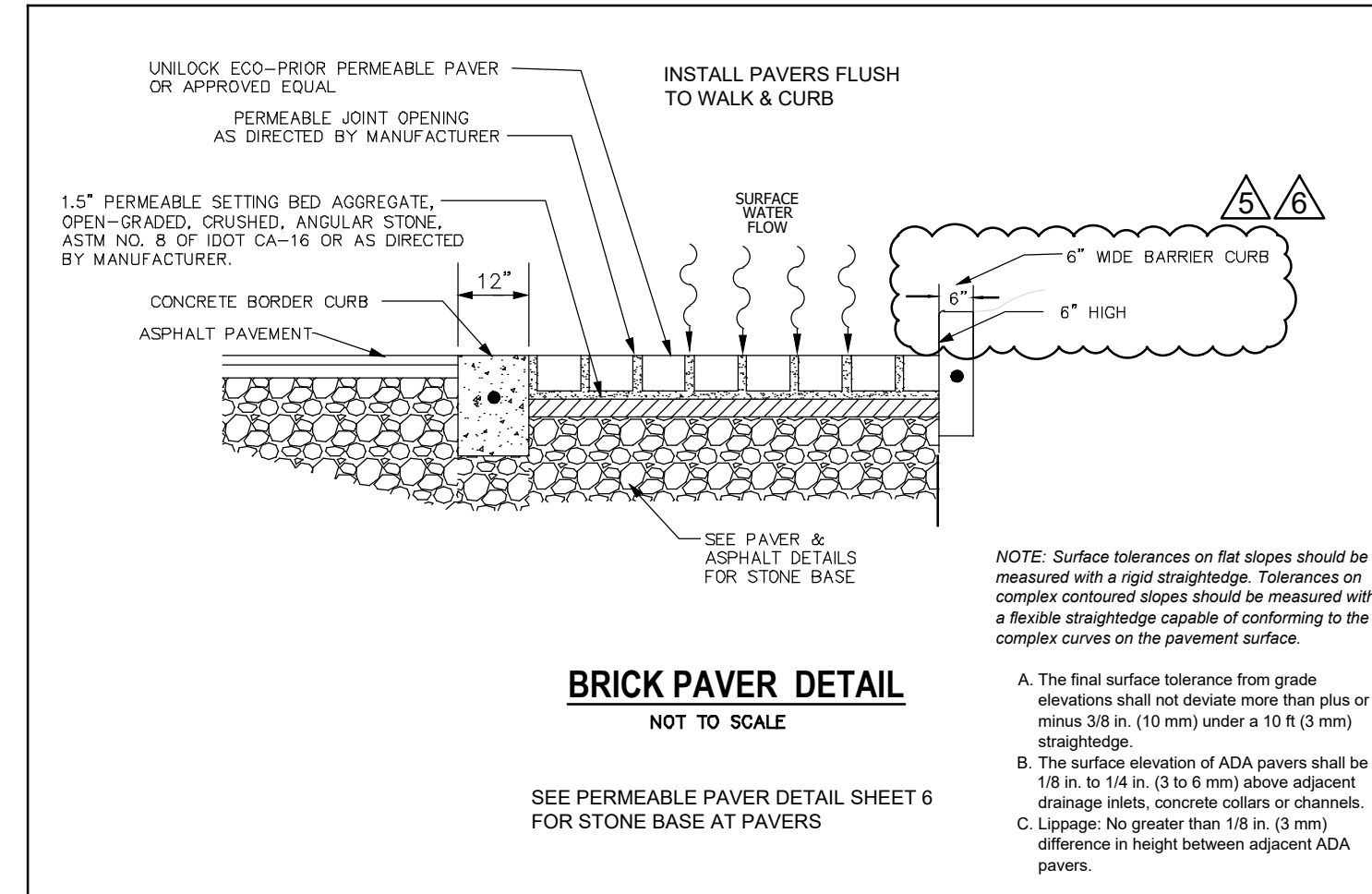
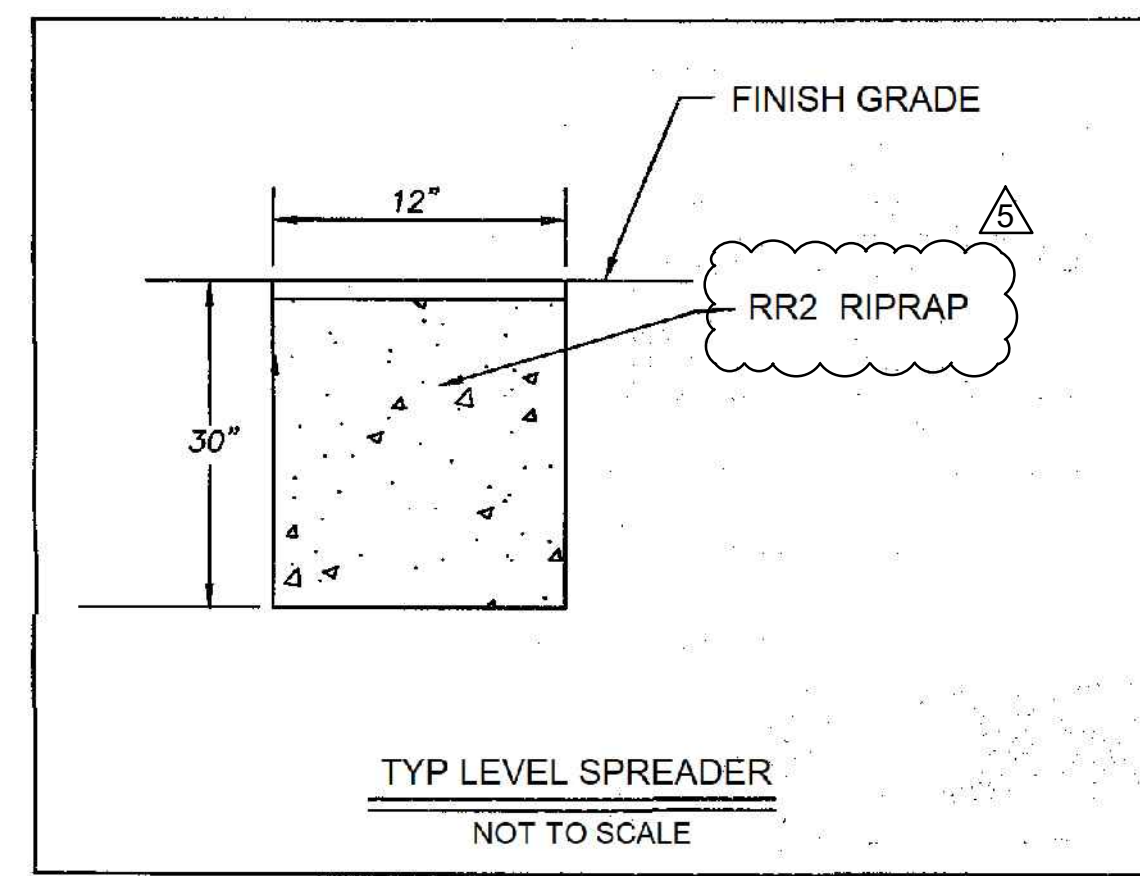


LEGEND:

- = PROPOSED GRADE
- = NEW PERVIOUS BRICK PAVERS
- = ASPHALT AREA LIMITS
- = NEW LANDSCAPE AREA
-

CONSTRUCTION NOTES:

1. SEE SHEET 3 FOR ALL CURB AND WALK DEMO AREAS. PROVIDE 1% MIN. SLOPE ON ALL NEW PAVEMENT. MEET & MATCH EXISTING SAWCUTS & OR REMOVAL LIMITS
2. FILTER FABRIC OR SEDIMENT TRAPS ARE TO BE PLACED OVER ALL INLETS PRIOR TO CONSTRUCTION TO PROTECT FROM DERRIS IN WORK AREAS AS NEEDED.
3. STRIPING SHALL BE PER PLAN SHEET 4 WITH ALL ADA PARKING COMPLIANT WITH CURRENT APPLICABLE CODE.
4. ALL EXISTING SANITARY SEWER, VALVE VAULT, AND STORM MANHOLE LIDS SHALL BE PROTECTED FROM OR CLEANED OF ASPHALT UPON COMPLETION OF THE PAVING OPERATION.
5. WHEN INSPECTIONS ARE REQUIRED, THEY SHALL BE SCHEDULED WITH THE MUNICIPAL ENGINEERING DIVISION 24 HOURS IN ADVANCE OF CONCRETE POUR.
6. CURB IS TO BE CONTINUOUSLY REINFORCED AND CURING COMPOUND APPLIED TO ALL CONCRETE WORK
7. ALL PAVING JOINT PATTERNS SHALL FOLLOW THE DIRECTION OF TRAFFIC AND OR PARKING AISLES.
8. PROVIDE TOPSOIL & SEED MAT AT ALL DISTURBED AREAS W/ MIN 6\"/>
9. BRICK PAVERS SHALL HAVE TOP SURFACES AND EDGES THAT ARE PLANAR AND WHEN PRESENT, CHAMFERS OR ROUNDED EDGES SHOULD NOT BE WIDER THAN 1/4\"/>



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CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

REVISIONS: 5-12-21 10-1-21
 7-07-21 1-11-21
 8-18-21 2-06-21

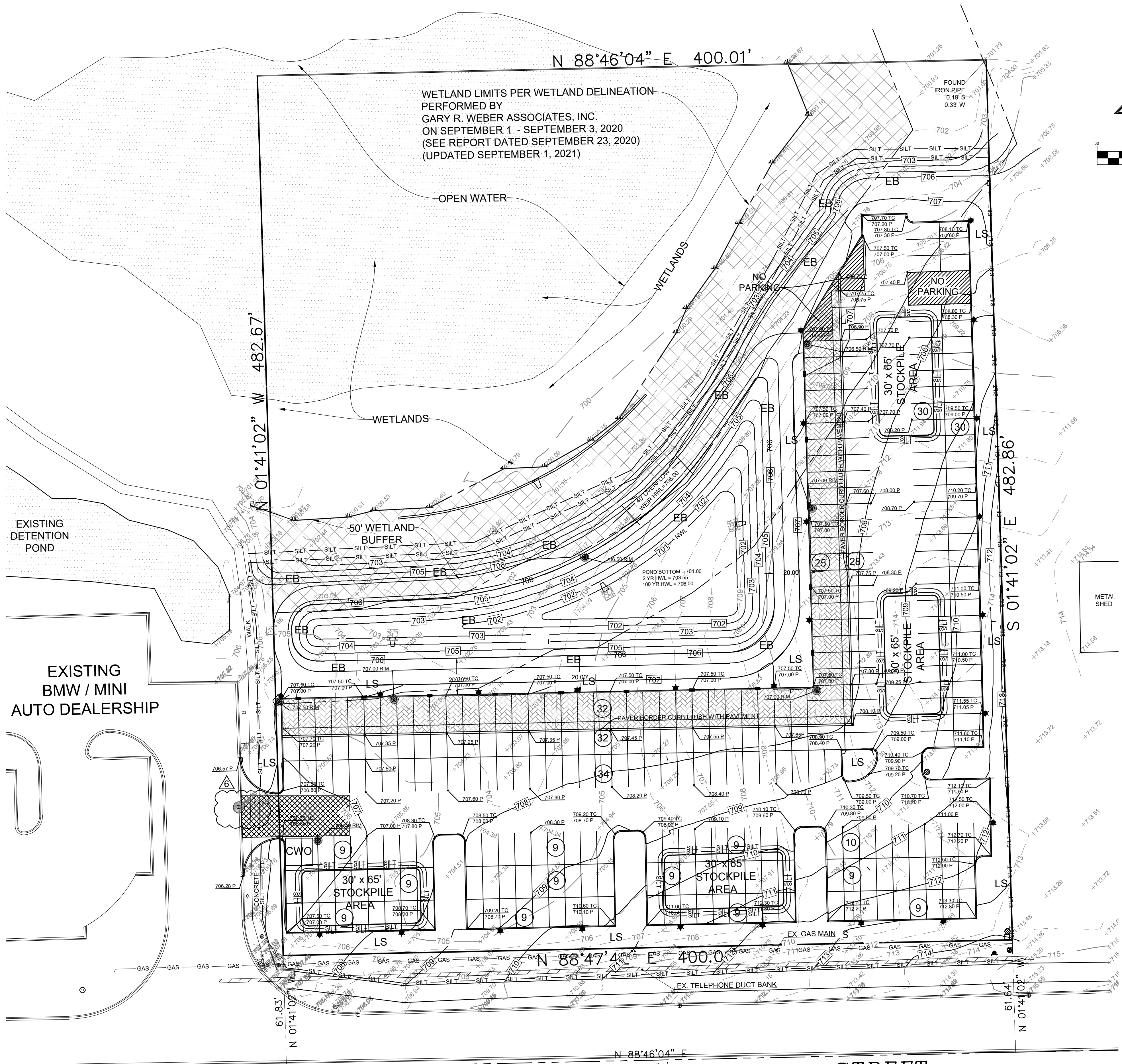
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**ZEIGLER AUTO GROUP
 BMW PARKING LOT EXPANSION
 ORLAND PARK, IL
 SITE GRADING PLAN**

Date: 10-27-20
 Scale: 1" = 30'
 File Name:
 Drawn: TMF
 Checked: DWO
 Sheet: 5 OF 12
 Project No.: 15-060

M:\2015\15-060 ZEIGLER BMW PARKING LOT EXPANSION\CONSTRUCTION DRAWING\15-060 - ZEIGLER BMW PARKING LOT EXPANSION - DESIGN\TOP - 5 GRADING.dwg, 10/27/20 8:29 AM, By: TFrome, COPYRIGHT 2021 - JOSEPH A. SCHUDT & ASSOCIATES

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WETLAND LIMITS PER WETLAND DELINEATION PERFORMED BY GARY R. WEBER ASSOCIATES, INC. ON SEPTEMBER 1 - SEPTEMBER 3, 2020 (SEE REPORT DATED SEPTEMBER 23, 2020) (UPDATED SEPTEMBER 1, 2021)

GRADING NOTES:

- 1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACE PRIOR TO START OF CONSTRUCTION.
2. EARTHWORK CONTRACTOR SHALL MAINTAIN PROPER SITE DRAINAGE DURING CONSTRUCTION.
3. EARTHWORK CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL.
4. EARTHWORK CONTRACTOR IS RESPONSIBLE FOR REGULAR DUST CONTROL / SWEEPING OF PUBLIC AND PRIVATE ROADS AND STREETS. ADDITIONAL CLEANING MAY BE REQUESTED AT THE OWNER OR VILLAGE DISCRETION.
5. OTHER EROSION CONTROL MEASURES SHALL BE IMPLEMENTED SHOULD AN INSPECTION OF THE SITE INDICATE A DEFICIENCY. THE EROSION CONTROL MEASURES SHOWN ON THIS PLAN ARE CONSIDERED THE MINIMUM ELEMENTS REQUIRED. ADDITIONAL EROSION CONTROL MAY BE REQUIRED PER THE OWNER OR VILLAGE. ADDITIONAL EROSION CONTROL ITEMS WILL BE THE CONTRACTOR'S LIABILITY AND RESPONSIBILITY.
6. AREAS REACHING SUBSTANTIAL COMPLETION OF GRADING AND TOPSOIL PLACEMENT OPERATIONS SHALL BE PERMANENTLY SEEDED OR OTHERWISE LANDSCAPED WITHIN 14 DAYS FROM THE SUSPENSION OR COMPLETION OF GRADING AND TOPSOIL OPERATIONS.
7. SECONDARY CONTAINMENT SHALL BE REQUIRED FOR ANY BULK FUEL STORAGE THAT REMAINS ON-SITE FOR A PERIOD LONGER THAN 7 CALENDAR DAYS.
8. CONTAINMENT MEASURES SHALL BE REQUIRED FOR GENERATORS, PUMPS, MIXERS AND OTHER NON-ELECTRICAL POWERED EQUIPMENT THAT ARE TO BE STATIONED FOR LONGER THAN 24 HOURS.
9. CONTRACTOR WILL BE RESPONSIBLE AND LIABLE FOR CORRECTIVE ACTION AND TELEVISION AND / OR INSPECTING SHOULD SEDIMENT, CONCRETE, OR OTHER CONSTRUCTION MATERIALS DRAIN INTO VILLAGE OR IDOT INFRASTRUCTURE.

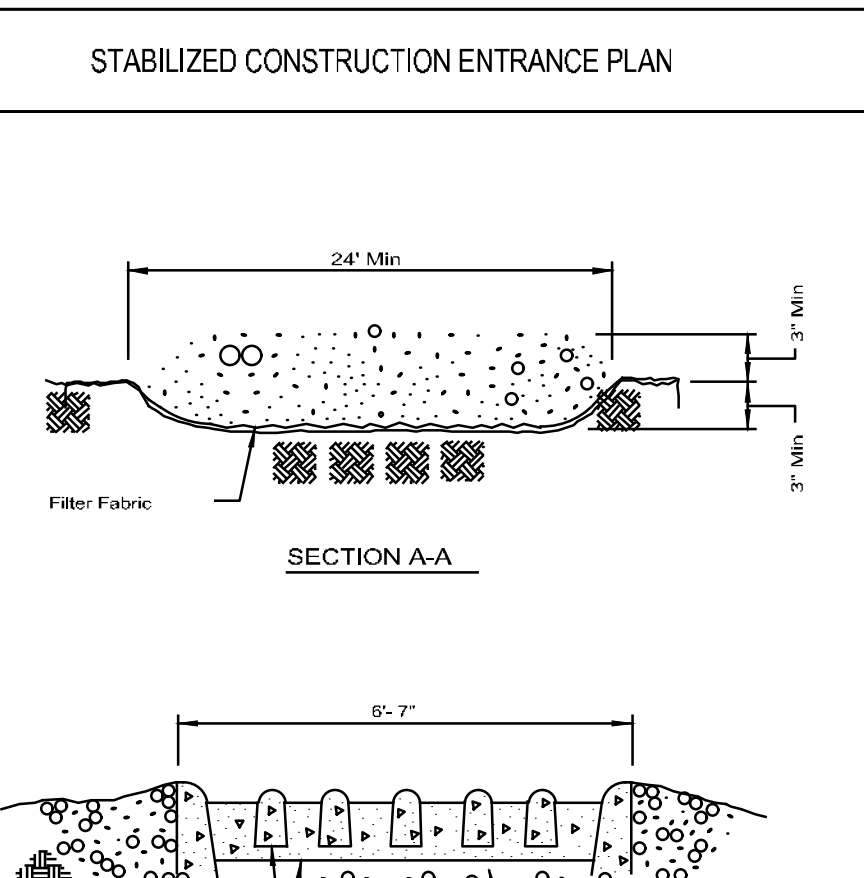
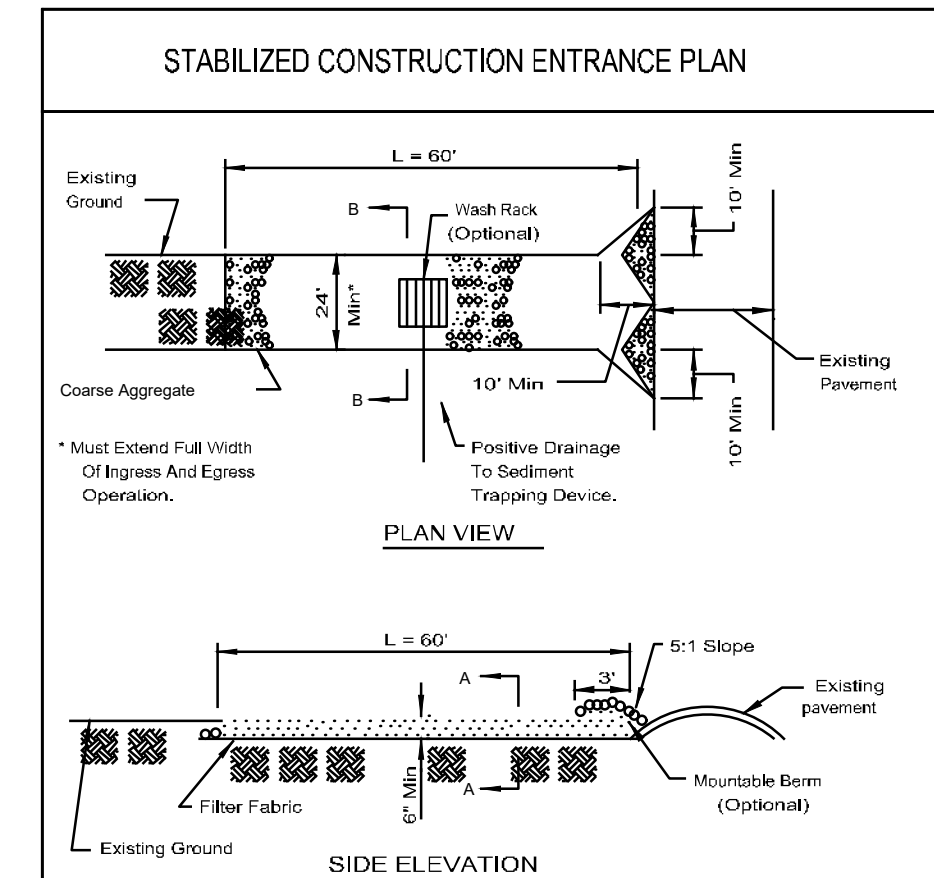
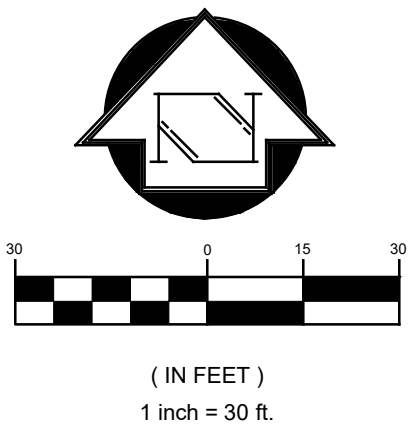
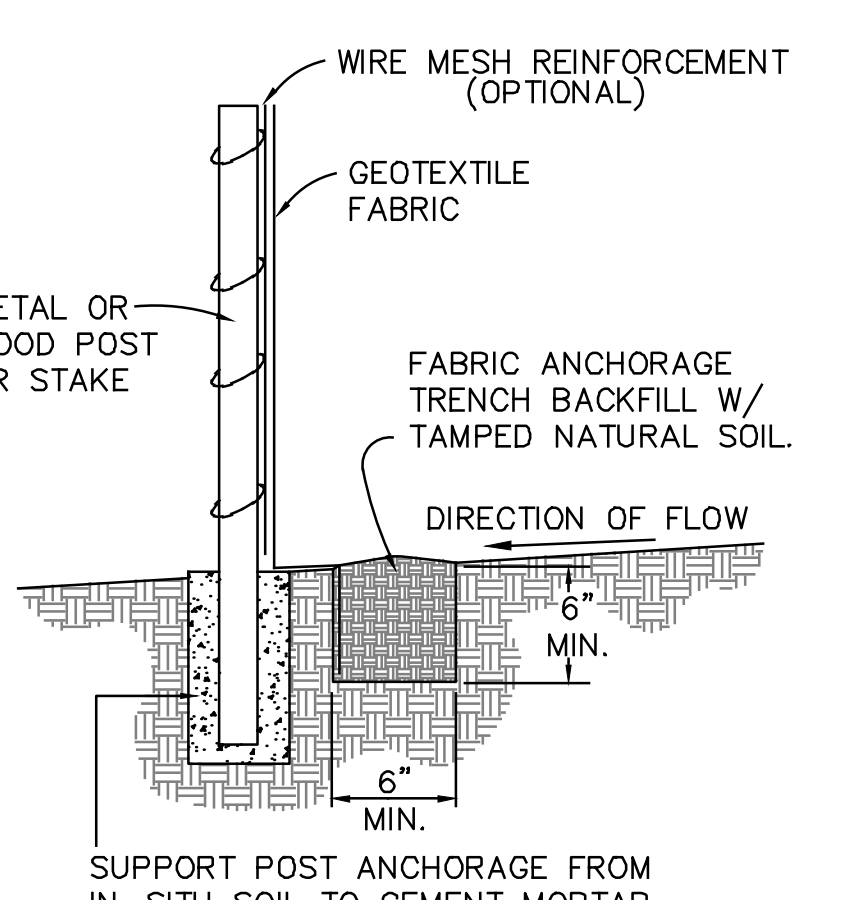
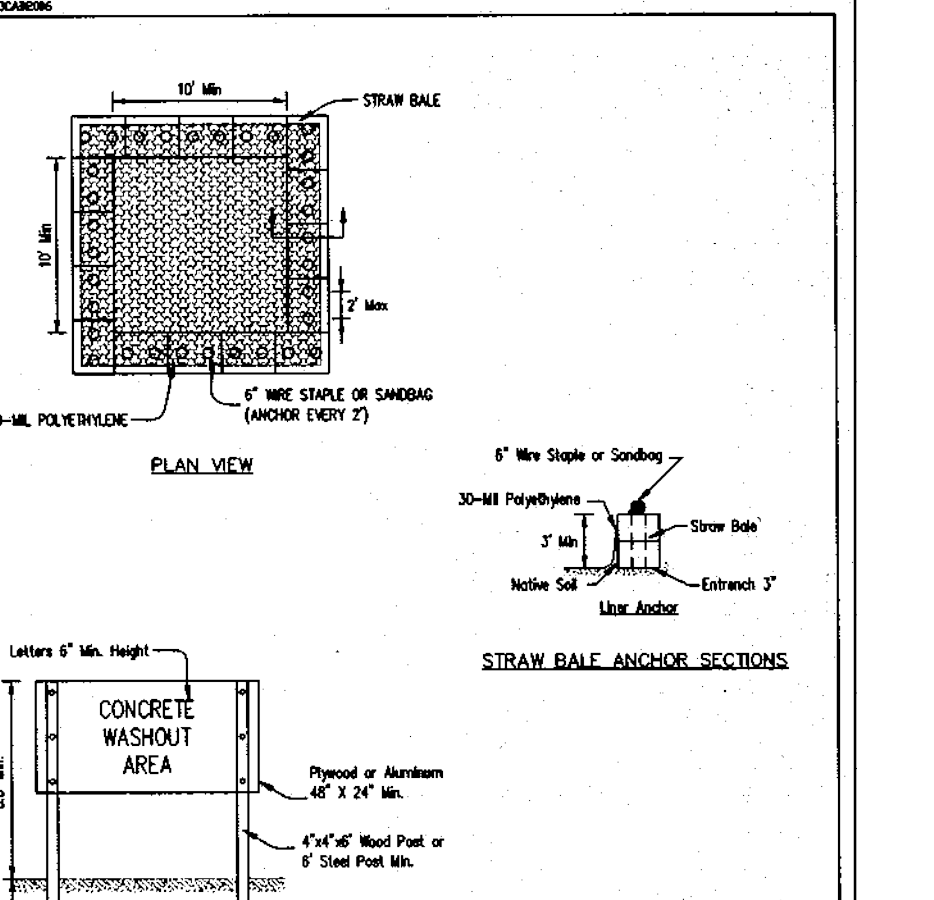
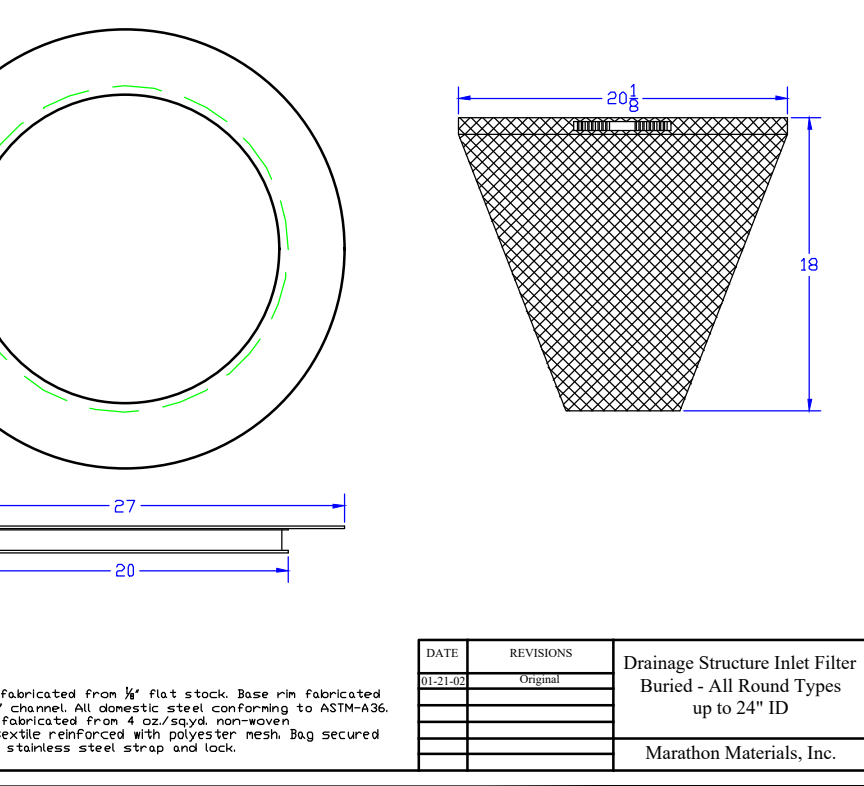
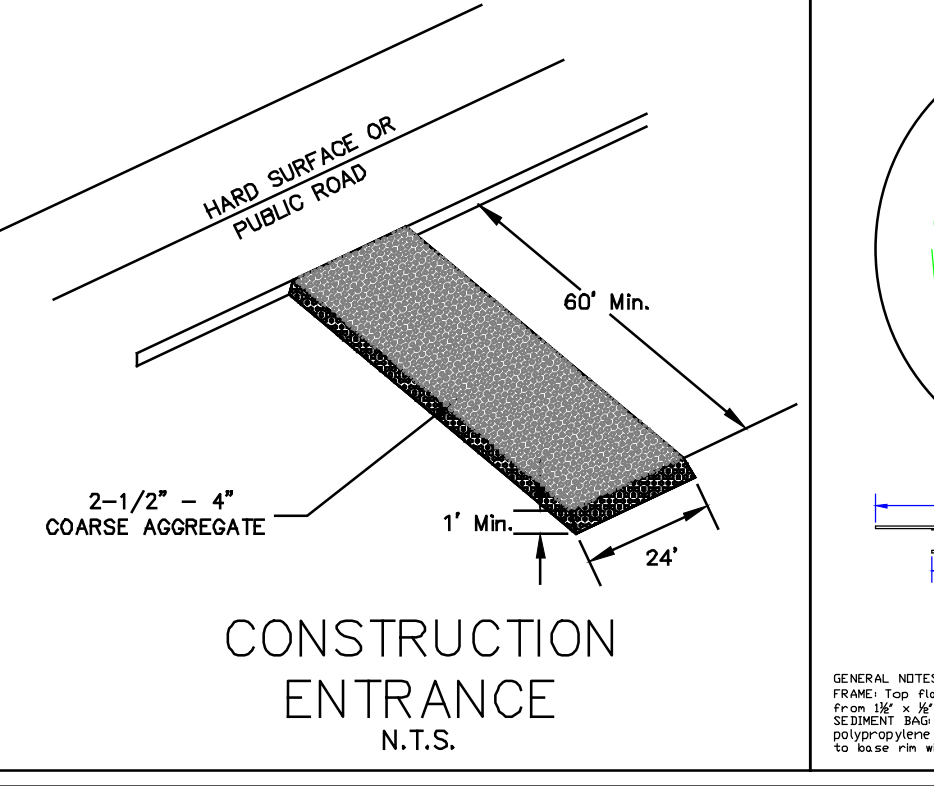


Table with columns for NRCS (NATIONAL RESOURCE CONSULTANTS) and IL-630. Includes fields for Project, Design, Check, and Approve, along with dates and signatures.



NOTE: DEPENDING UPON CONFIGURATION, ATTACH FABRIC TO WIRE MESH W/HOG RINGS, STEEL POSTS W/TIE WIRES, WOOD POSTS W/NAILS.
SILT FENCE DETAIL N.T.S.



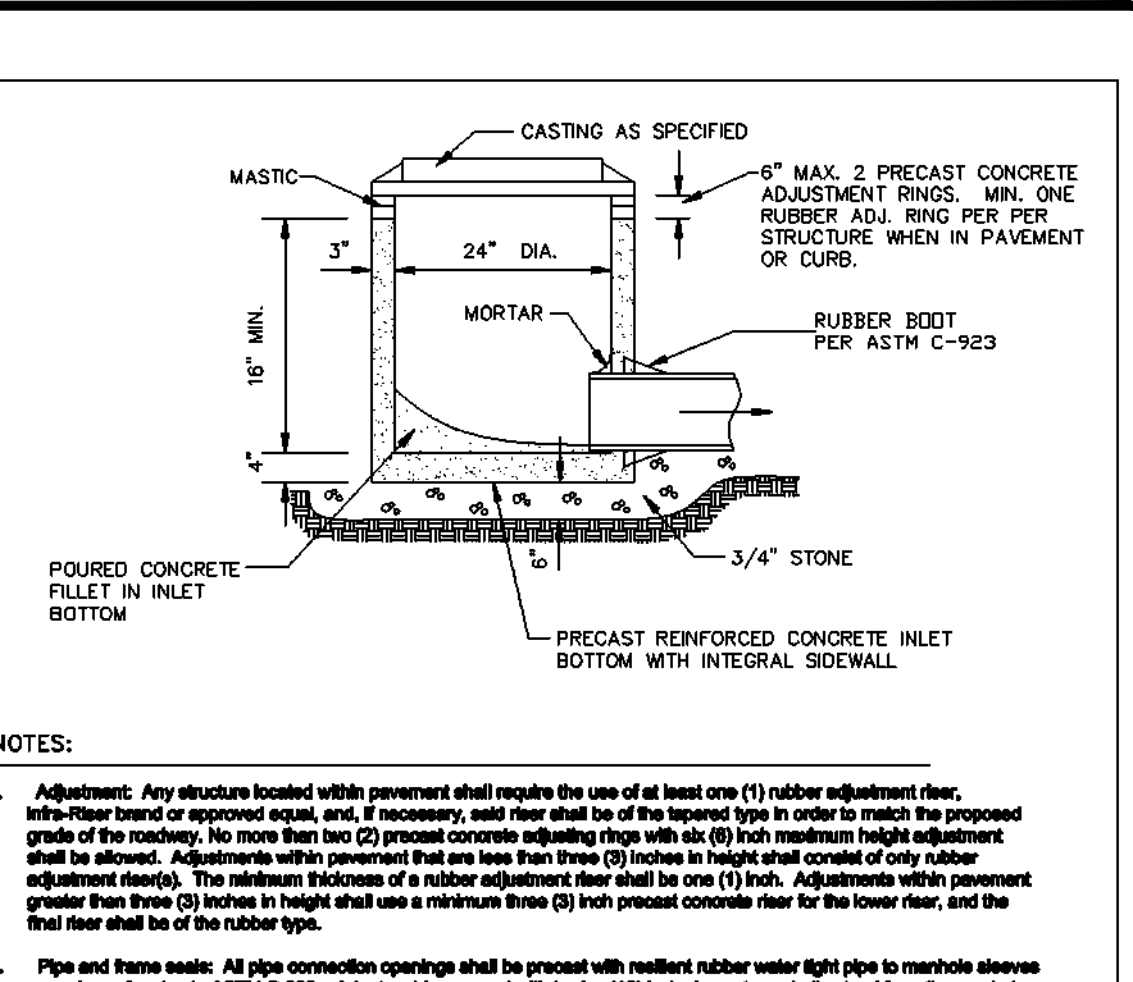
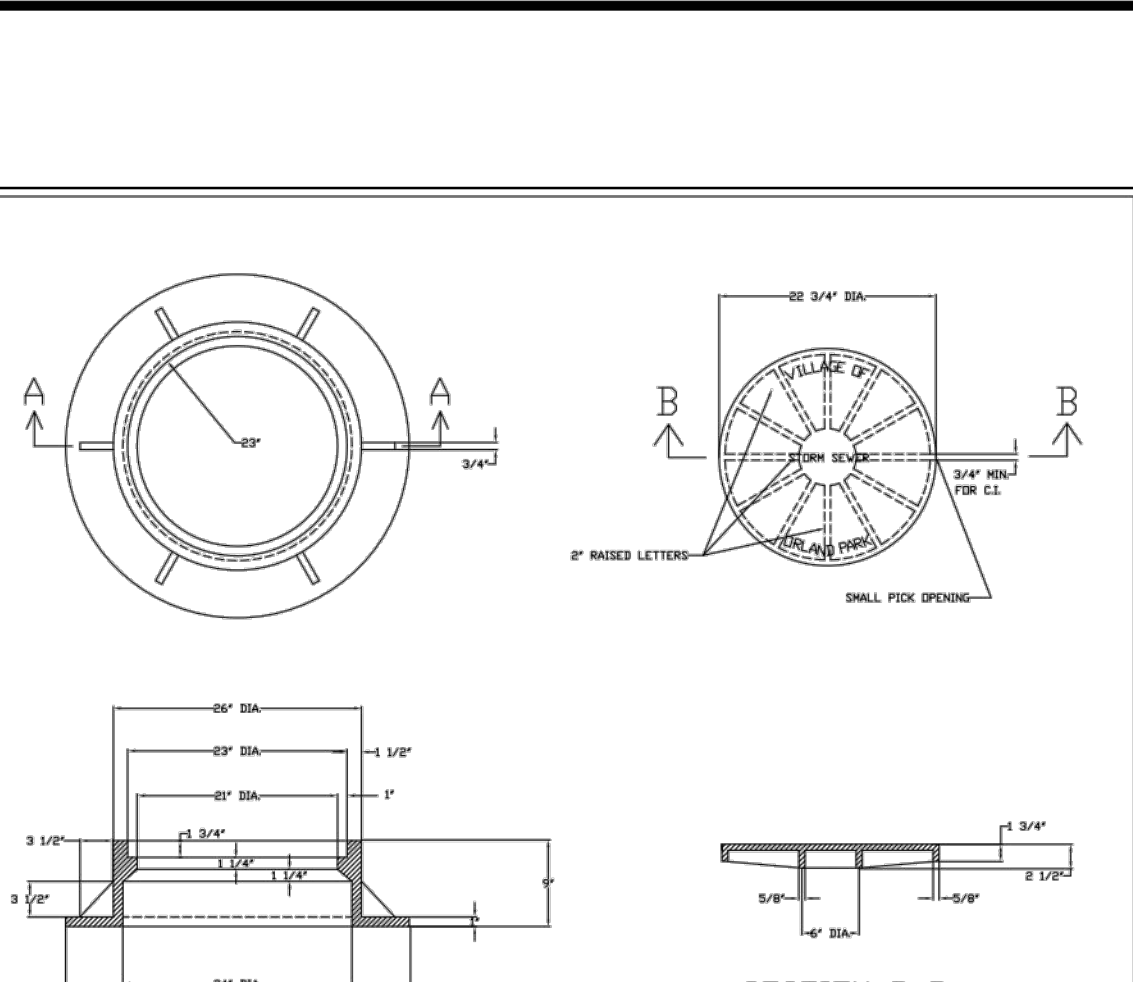
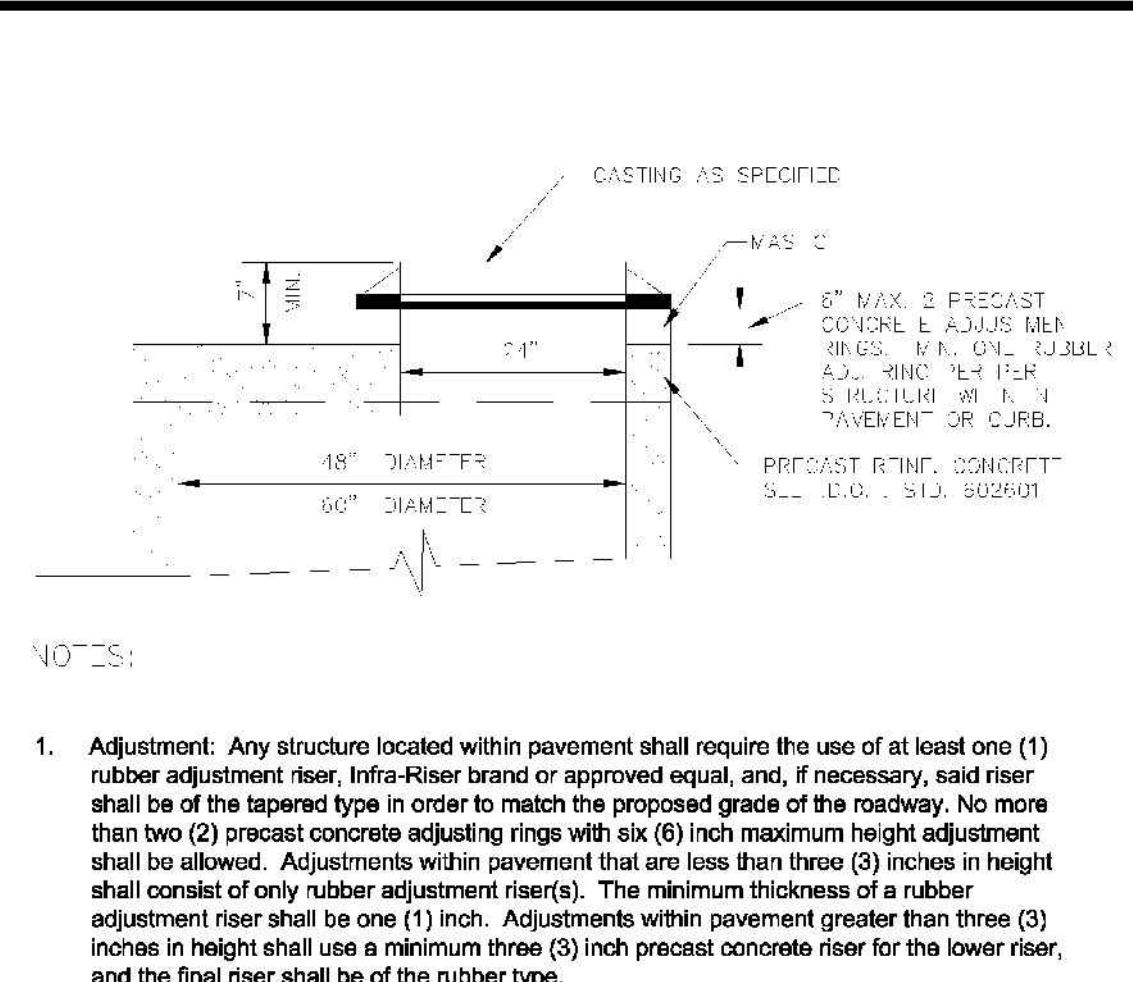
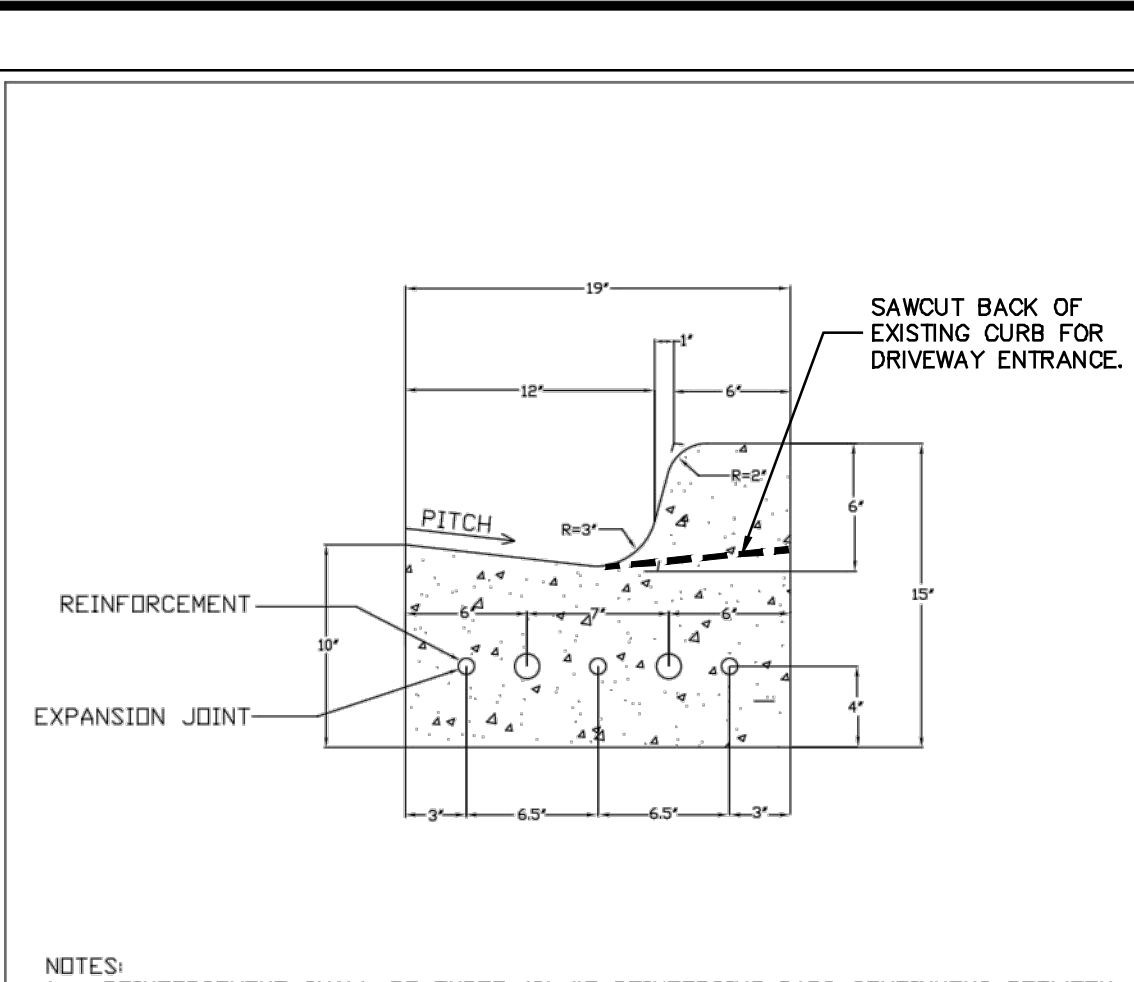
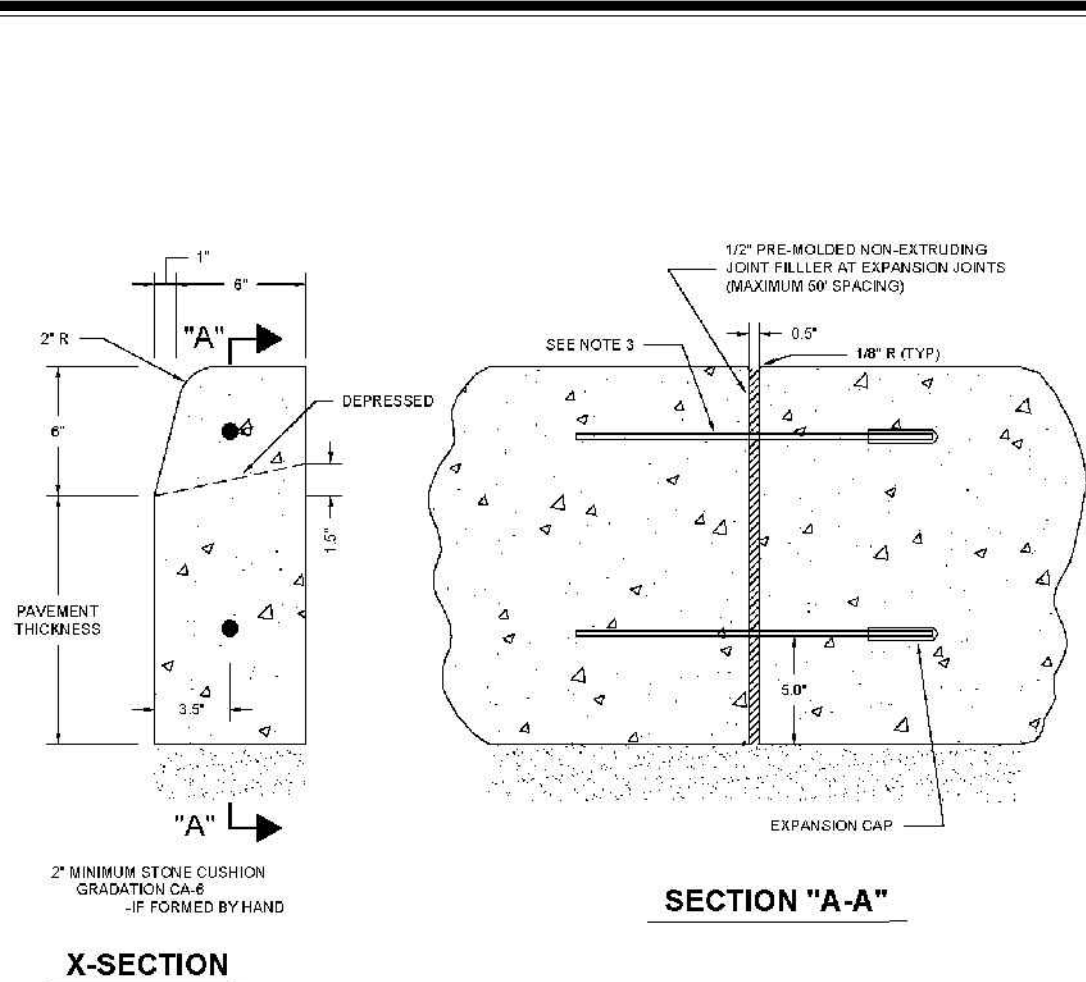
- NOTE:
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[Symbol] DRAINAGE STRUCTURE INLET FILTER
[Symbol] SILT FENCE LOCATION
[Symbol] CWO CONCRETE WASHOUT
[Symbol] LS LANDSCAPE AREA
[Symbol] EB EROSION BLANKET

Joseph A. Schudt & Associates
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PHONE: 708-720-1000 www.jaseng.com FAX: 708-720-1065
(184-001172)

REVISIONS:
5-12-21 A 10-1-21
8-18-21 B 11-11-21
2-03-21 C 12-03-21

ZEIGLER AUTO GROUP
BMW PARKING LOT EXPANSION
ORLAND PARK, IL
SITE EROSION CONTROL PLAN

Date: 10-27-20
Scale: 1" = 30'
File Name: 15-060_ZEIGLER BMW PARKING EXPANSION.dwg
Drawn: TMF
Checked: DWO
Sheet: 8 OF 12
Project No.: 15-060



VERTICAL CURB (TYPE B)

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	VERTICAL CURB (TYPE B)		LINEAL FOOT
2	REINFORCEMENT		LINEAL FOOT
3	EXPANSION JOINT FILLER		LINEAL FOOT
4	EXPANSION JOINT CAR		LINEAL FOOT

Engineering Department STR-05

B - 6.12 CURB AND GUTTER

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	B-6.12 CURB AND GUTTER		LINEAL FOOT
2	REINFORCEMENT		LINEAL FOOT
3	EXPANSION JOINT FILLER		LINEAL FOOT
4	EXPANSION JOINT CAR		LINEAL FOOT

Engineering Department STR-04

FLAT SLAB TOP

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	FLAT SLAB TOP		SQ. YD.
2	REINFORCEMENT		SQ. YD.
3	EXPANSION JOINT FILLER		SQ. YD.
4	EXPANSION JOINT CAR		SQ. YD.

Engineering Department STR-06

STORM SEWER FRAME & COVER

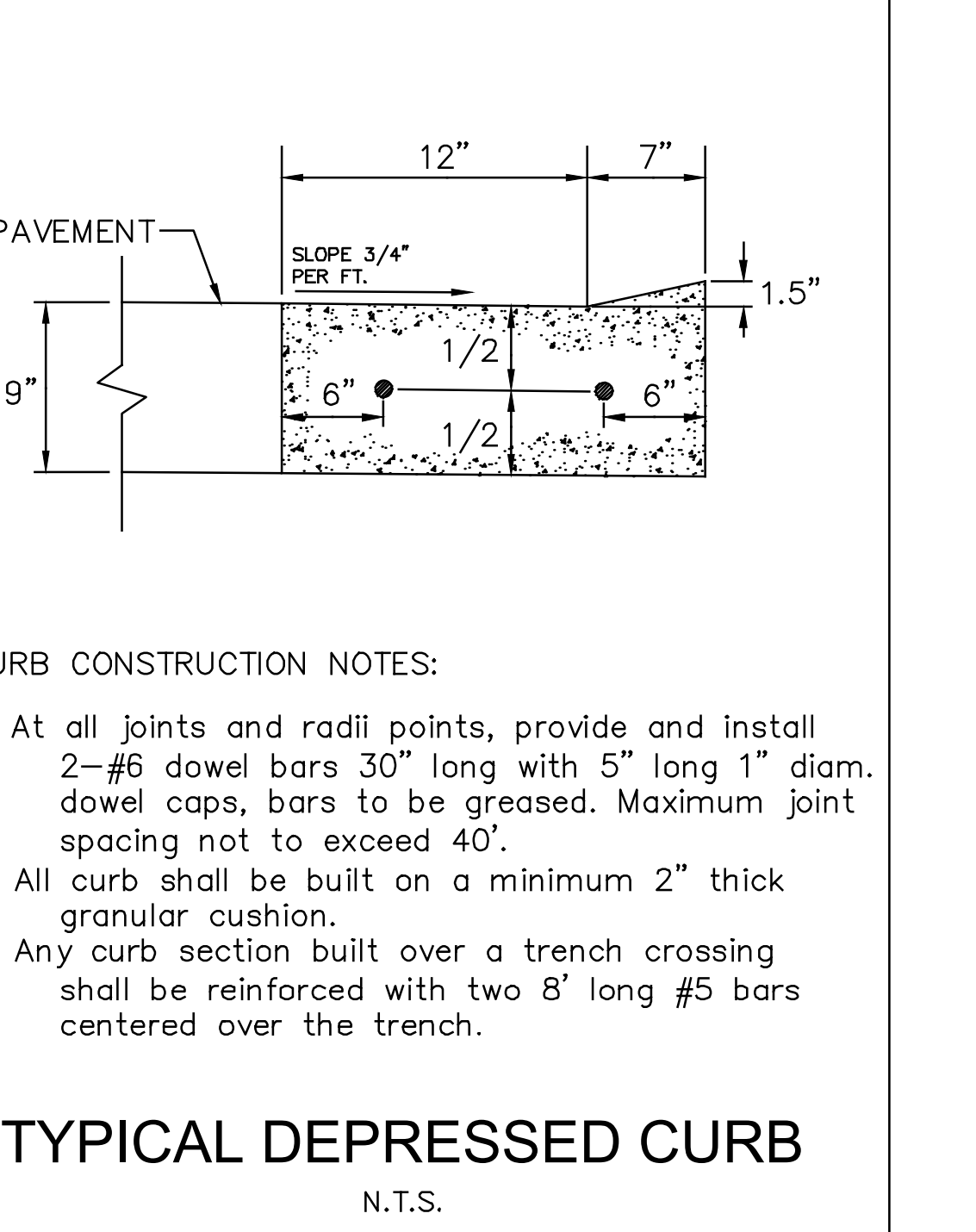
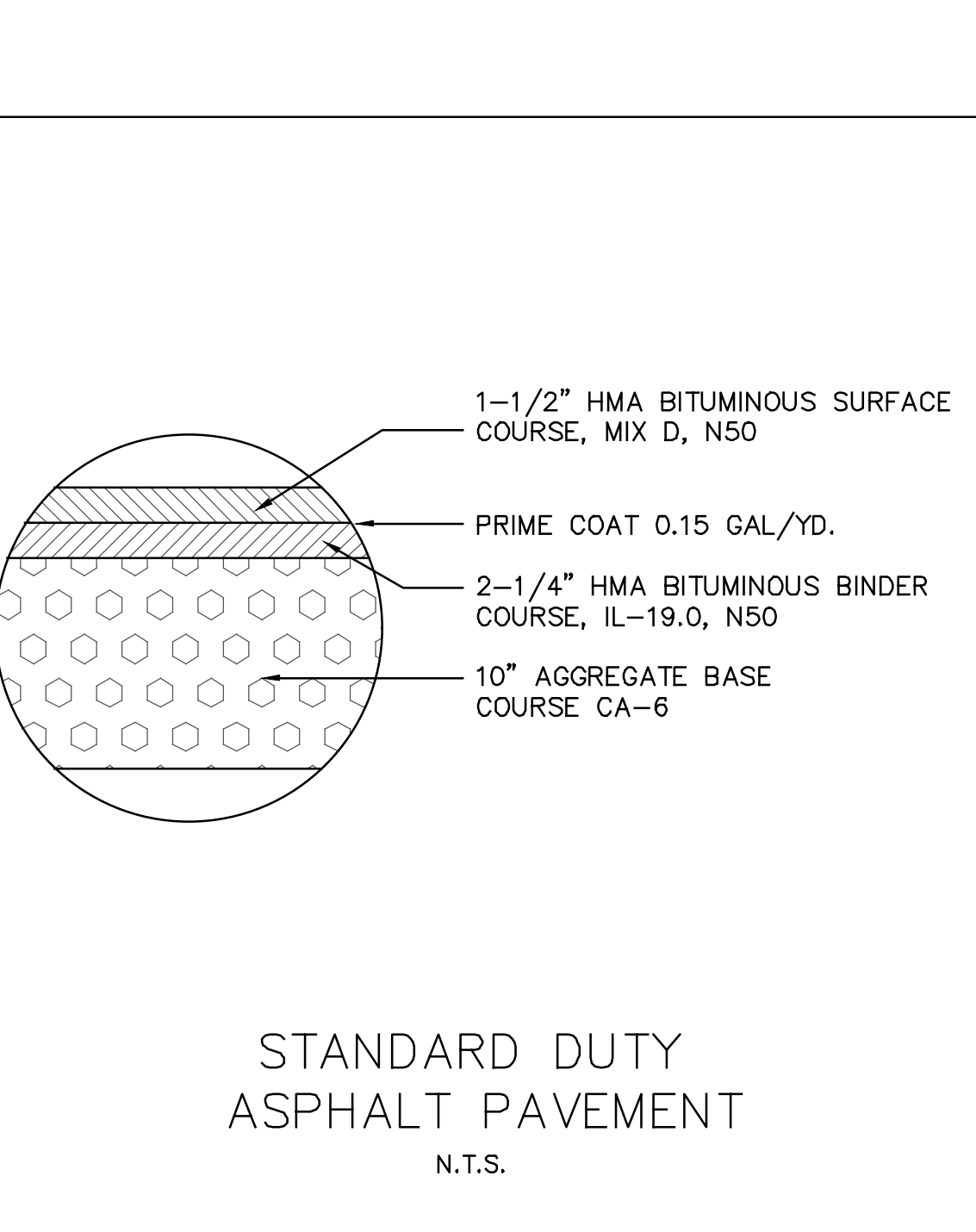
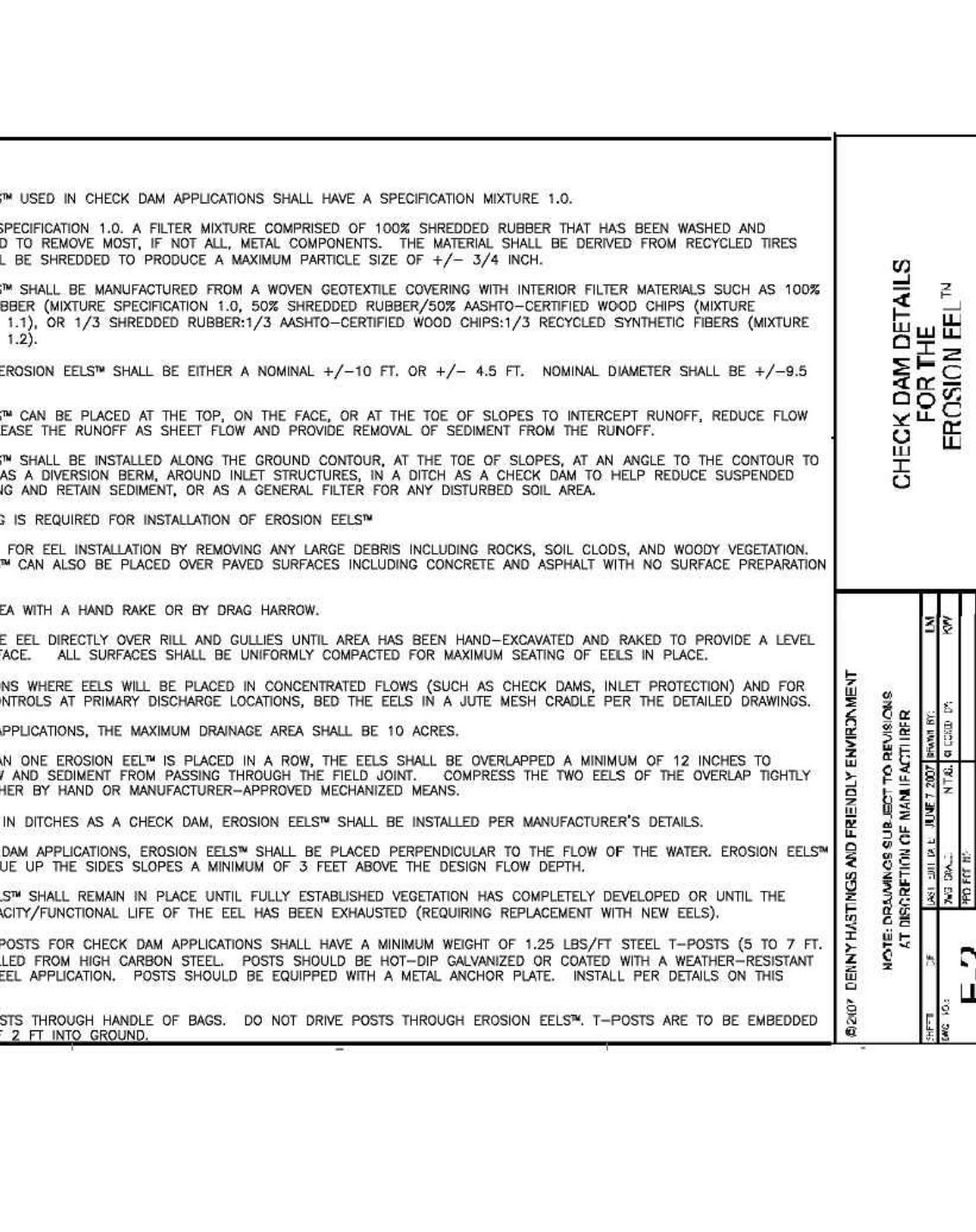
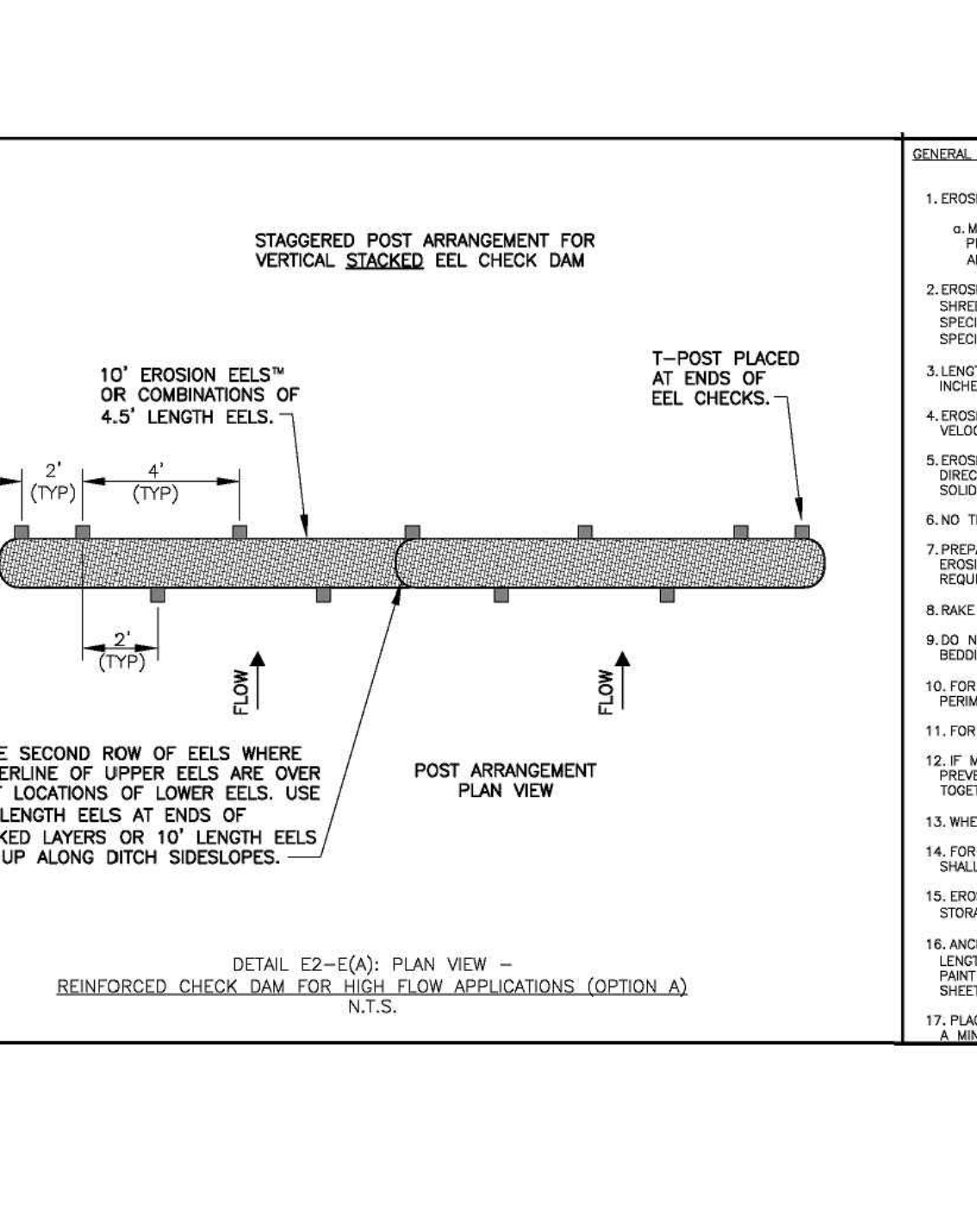
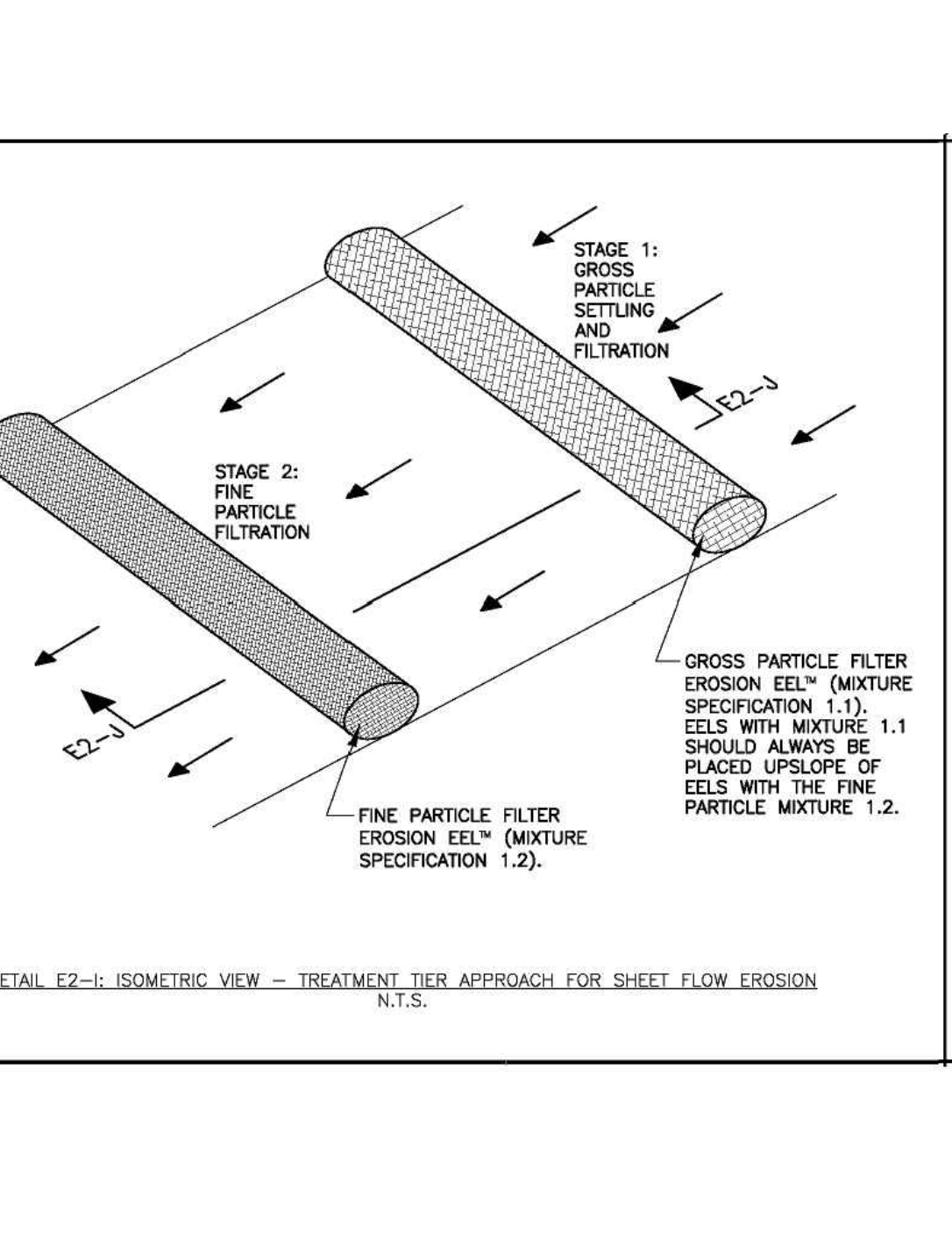
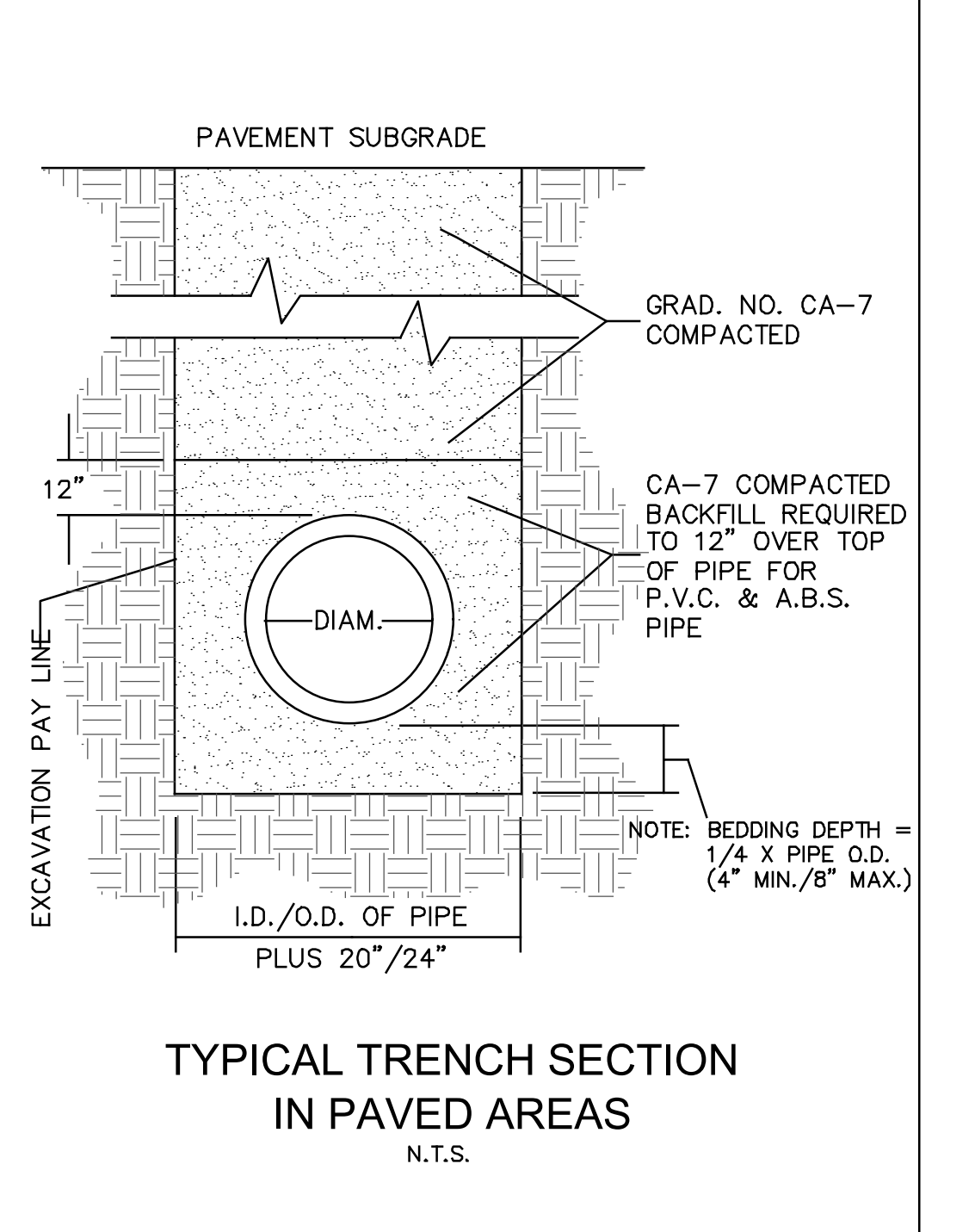
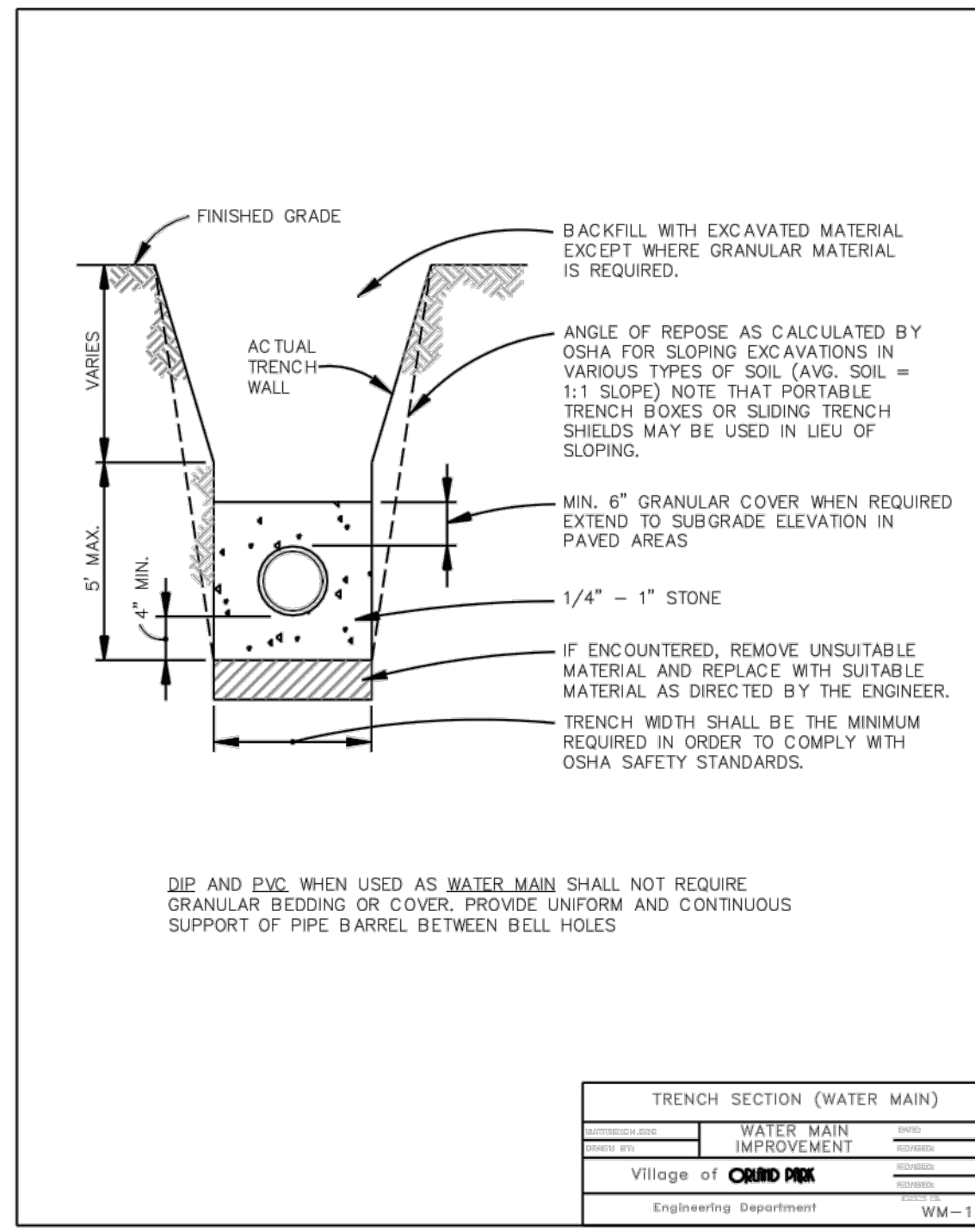
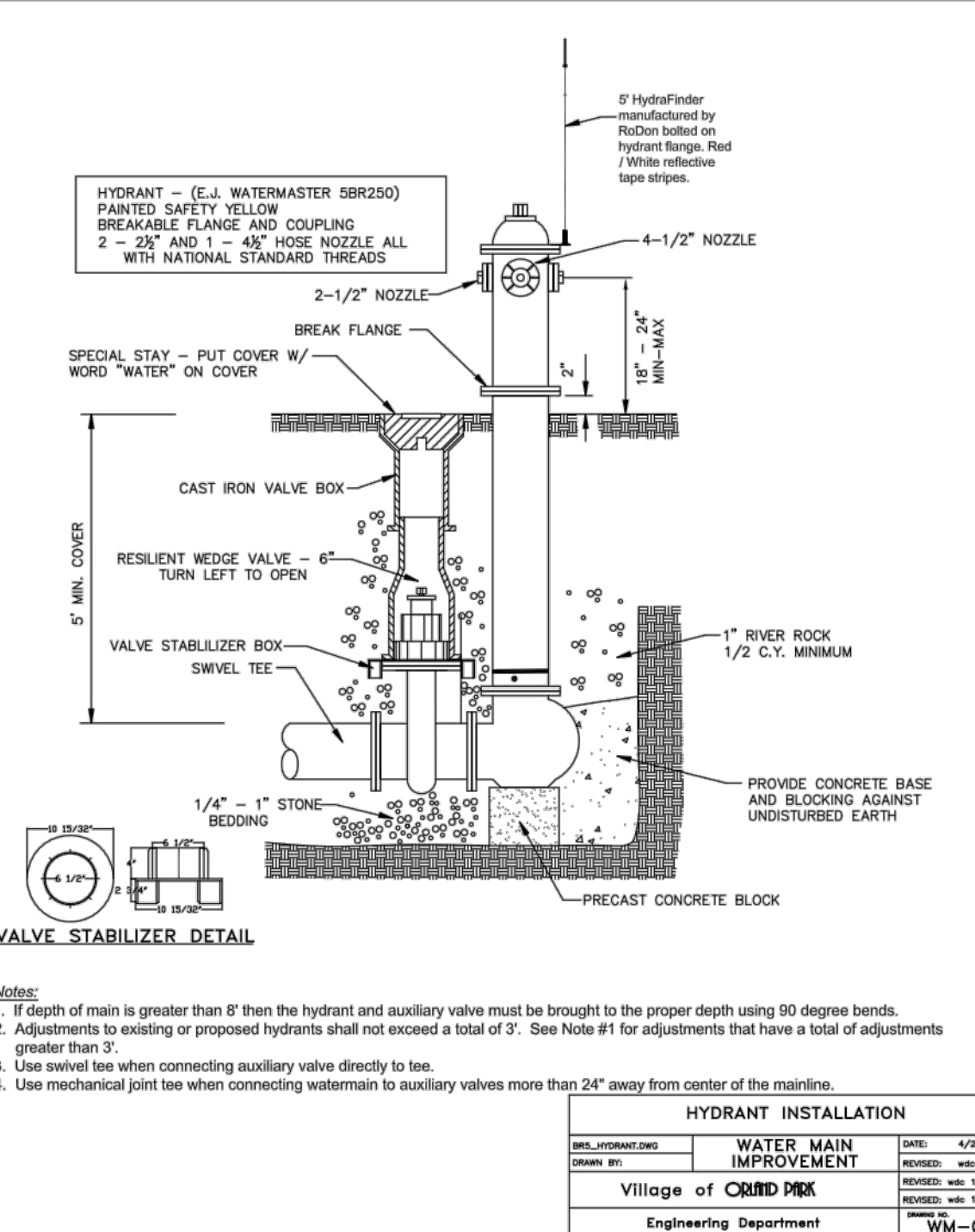
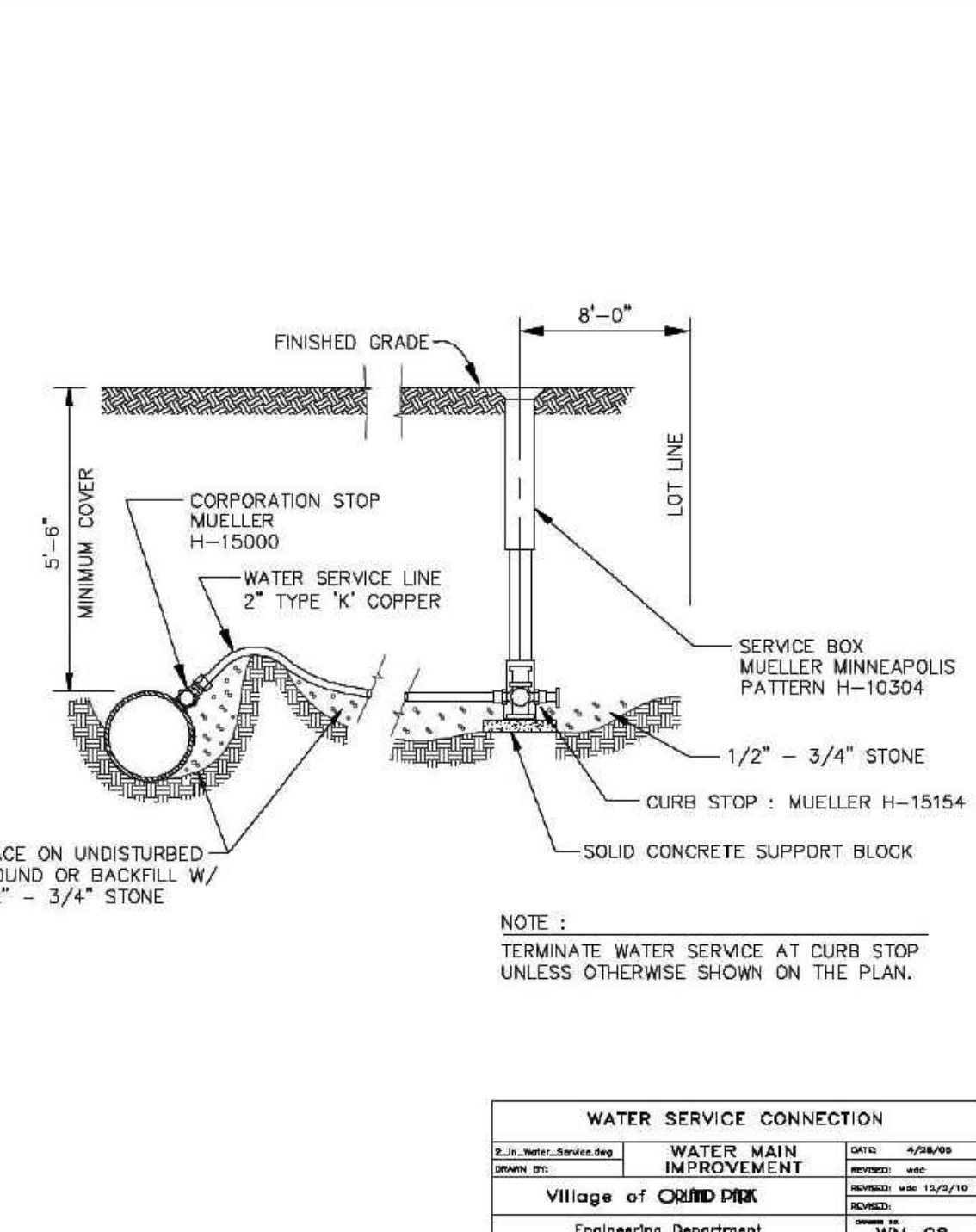
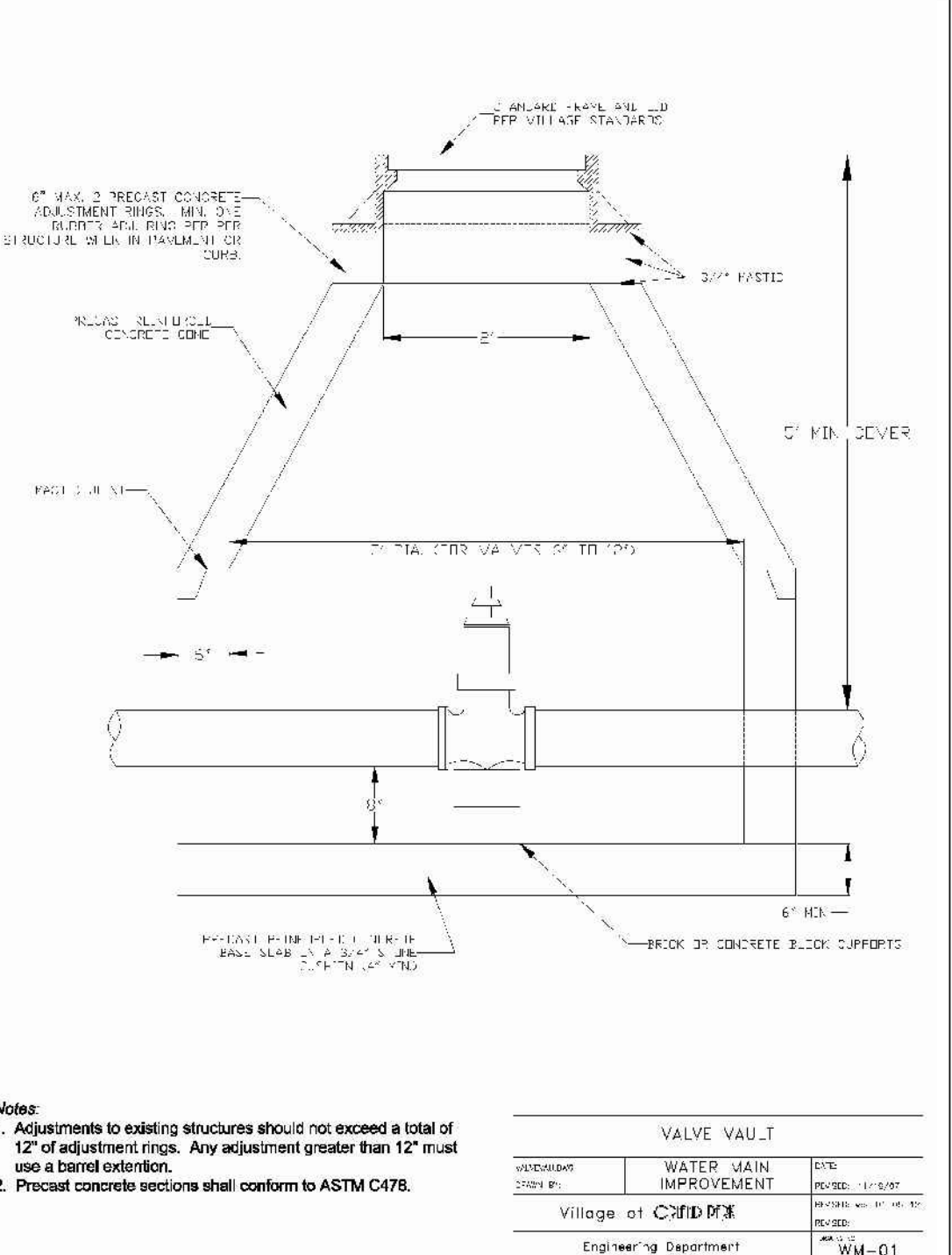
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1	STORM SEWER FRAME & COVER		SQ. YD.
2	REINFORCEMENT		SQ. YD.
3	EXPANSION JOINT FILLER		SQ. YD.
4	EXPANSION JOINT CAR		SQ. YD.

Engineering Department STR-14

INLET TYPE A

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	INLET TYPE A		SQ. YD.
2	REINFORCEMENT		SQ. YD.
3	EXPANSION JOINT FILLER		SQ. YD.
4	EXPANSION JOINT CAR		SQ. YD.

Engineering Department STR-05



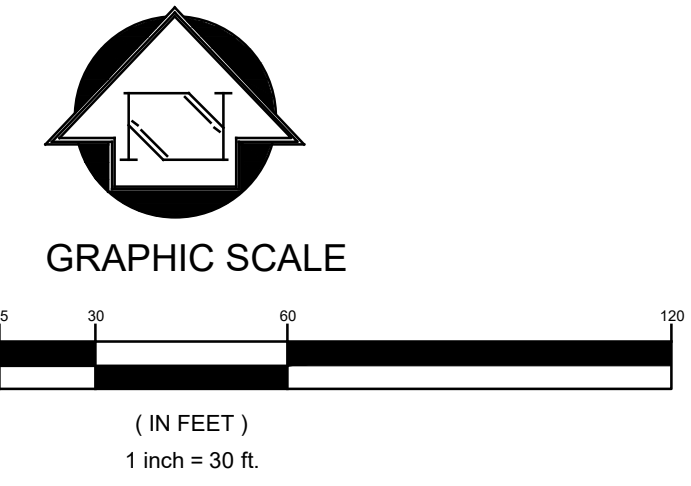
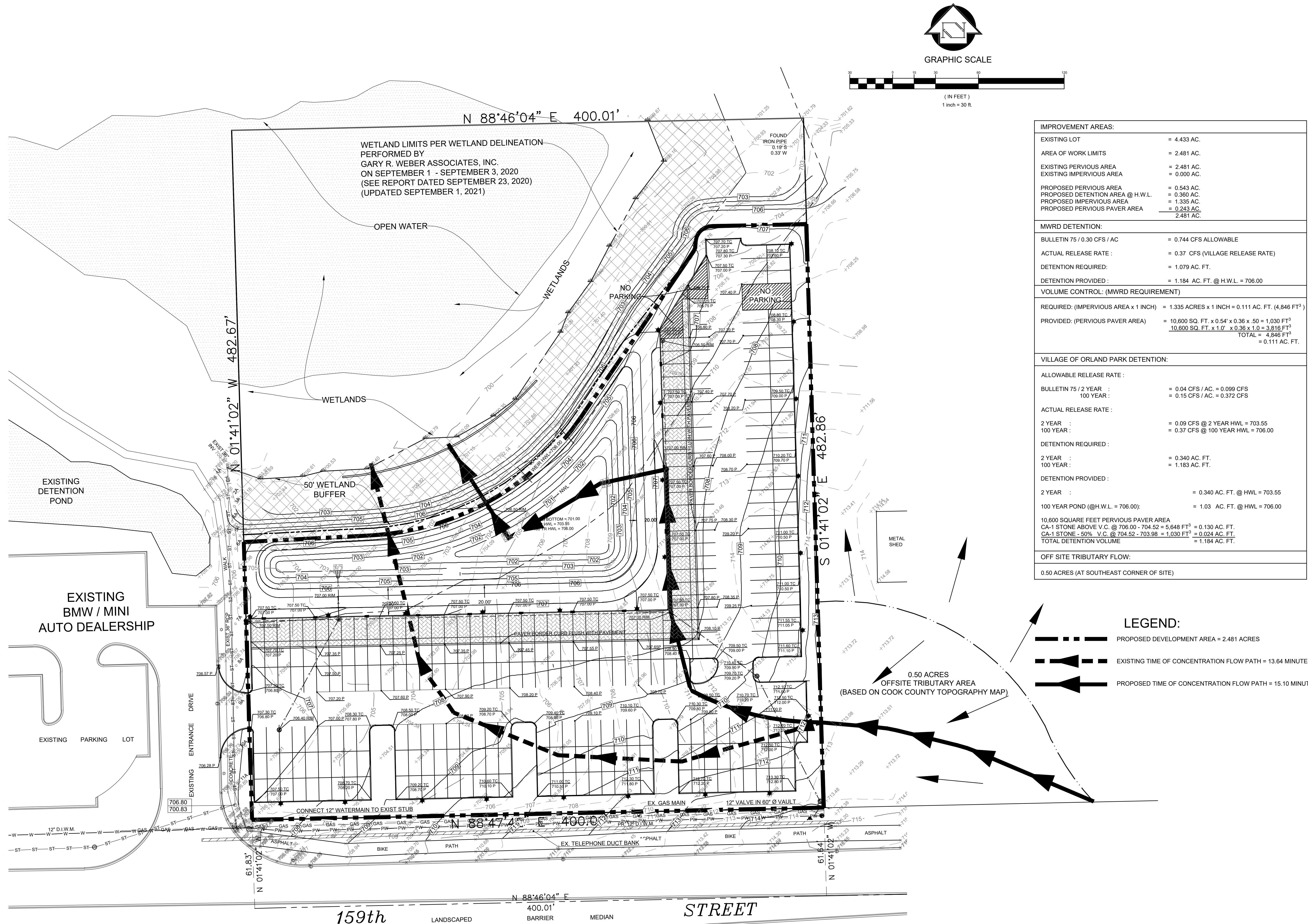
Joseph A. Schudt & Associates
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 (184-001172)

**ZEIGLER AUTO GROUP
 BMW PARKING LOT EXPANSION
 ORLAND PARK, IL
 DETAIL SHEET**

REVISIONS: 7-07-21, 10-01-21, 11-11-21
 CONTRACT NO. 15-060
 ALL RIGHTS RESERVED
 JOSEPH A. SCHUDT & ASSOCIATES
 ENGINEERING AND ARCHITECTURE
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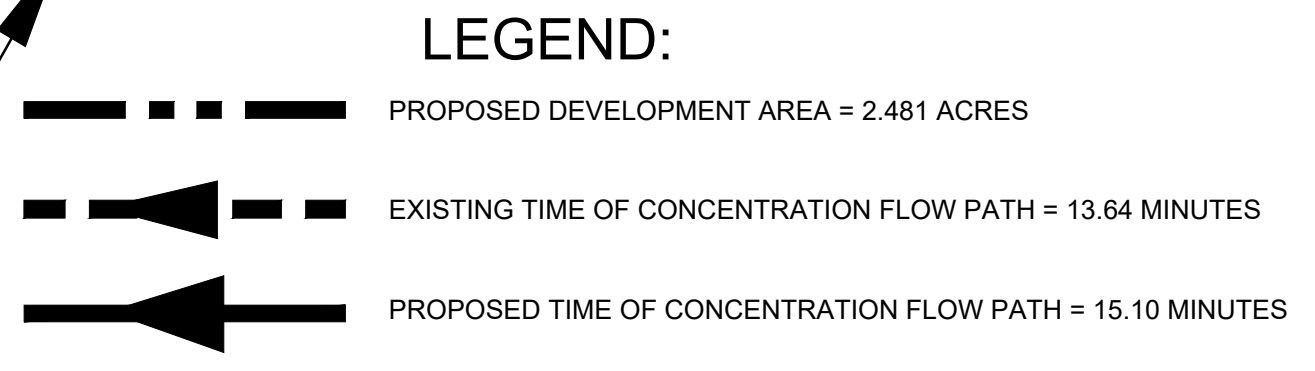
Date: 10-27-20
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 File Name: 15-060-Detail-Sheet-10-27-20.dwg
 Drawn: TMF
 Checked: DWO
 Sheet:
 10 OF 12
 Project No.:
 15-060

M:\2015\15-060 ZEIGLER BMW PARKING EXPANSION DESIGN\TOPO\20-21_11\DRAWING\Revised_130201_8.20 AM By: TFW/MS Copyright 2020 - JOSEPH A. SCHUDT & ASSOCIATES



WETLAND LIMITS PER WETLAND DELINEATION PERFORMED BY GARY R. WEBER ASSOCIATES, INC. ON SEPTEMBER 1 - SEPTEMBER 3, 2020 (SEE REPORT DATED SEPTEMBER 23, 2020) (UPDATED SEPTEMBER 1, 2021)

IMPROVEMENT AREAS:	
EXISTING LOT	= 4.433 AC.
AREA OF WORK LIMITS	= 2.481 AC.
EXISTING PERVIOUS AREA	= 2.481 AC.
EXISTING IMPERVIOUS AREA	= 0.000 AC.
PROPOSED PERVIOUS AREA	= 0.543 AC.
PROPOSED DETENTION AREA @ H.W.L.	= 0.360 AC.
PROPOSED IMPERVIOUS AREA	= 1.335 AC.
PROPOSED PERVIOUS PAVER AREA	= 0.243 AC.
	2.481 AC.
MWRD DETENTION:	
BULLETIN 75 / 0.30 CFS / AC	= 0.744 CFS ALLOWABLE
ACTUAL RELEASE RATE :	= 0.37 CFS (VILLAGE RELEASE RATE)
DETENTION REQUIRED:	= 1.079 AC. FT.
DETENTION PROVIDED :	= 1.184 AC. FT. @ H.W.L. = 706.00
VOLUME CONTROL: (MWRD REQUIREMENT)	
REQUIRED: (IMPERVIOUS AREA x 1 INCH)	= 1.335 ACRES x 1 INCH = 0.111 AC. FT. (4,846 FT ³)
PROVIDED: (PERVIOUS PAVER AREA)	= 10,600 SQ. FT. x 0.54' x 0.36 x .50 = 1,030 FT ³
	10,600 SQ. FT. x 1.0' x 0.36 x 1.0 = 3,816 FT ³
	TOTAL = 4,846 FT ³
	= 0.111 AC. FT.
VILLAGE OF ORLAND PARK DETENTION:	
ALLOWABLE RELEASE RATE :	
BULLETIN 75 / 2 YEAR :	= 0.04 CFS / AC. = 0.099 CFS
100 YEAR :	= 0.15 CFS / AC. = 0.372 CFS
ACTUAL RELEASE RATE :	
2 YEAR :	= 0.09 CFS @ 2 YEAR HWL = 703.55
100 YEAR :	= 0.37 CFS @ 100 YEAR HWL = 706.00
DETENTION REQUIRED :	
2 YEAR :	= 0.340 AC. FT.
100 YEAR :	= 1.183 AC. FT.
DETENTION PROVIDED :	
2 YEAR :	= 0.340 AC. FT. @ HWL = 703.55
100 YEAR POND (@H.W.L. = 706.00):	= 1.03 AC. FT. @ HWL = 706.00
10,600 SQUARE FEET PERVIOUS PAVER AREA	
CA-1 STONE ABOVE V.C. @ 706.00 - 704.52 = 5,648 FT ³	= 0.130 AC. FT.
CA-1 STONE - 50% V.C. @ 704.52 - 703.98 = 1,030 FT ³	= 0.024 AC. FT.
TOTAL DETENTION VOLUME	= 1.184 AC. FT.
OFF SITE TRIBUTARY FLOW:	
0.50 ACRES (AT SOUTHEAST CORNER OF SITE)	



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CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

REVISIONS: 15-12-21 40-01-21
 17-07-21 11-11-21
 8-18-21

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**ZEIGLER AUTO GROUP
 BMW PARKING LOT EXPANSION
 ORLAND PARK, IL
 DRAINAGE EXHIBIT**

Date: 10-27-20
 Scale: 1" = 30'
 File Name: 15-060_ZEIGLER_BMW_PARKING_EXPANSION_DRAINAGE_EXHIBIT.dwg
 Drawn: TMF
 Checked: DWO
 Sheet:
11 OF 12
 Project No.:
15-060

M:\2015\15-060 ZEIGLER LET PARKING EXPANSION DESIGN\TOPD-2-26-21_12.MXD, Plotted: 1/30/2021 8:26 AM, By: Tjebbe, Copyright 2020, JOSEPH A. SCHUDT & ASSOCIATES

A. REFERENCED SPECIFICATIONS

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:
 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (DOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;
 STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION;
 VILLAGE OF ORLAND PARK MUNICIPAL CODE;
 THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO (MWRD) WATERSHED MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL;
 IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.

B. NOTIFICATIONS

- THE MWRD LOCAL SEWER SYSTEM SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ALL WORK (CALL 1-708-444-5500) AND
- THE VILLAGE OF ORLAND PARK ENGINEERING DEPARTMENT AND PUBLIC WORKS MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO START OF CONSTRUCTION ON EACH WORK PHASE.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.

C. GENERAL NOTES

- ALL ELEVATIONS SHOWN ON PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). CONVERSION FACTOR IS 0.00 FT.
- MWRD, THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.
- THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, MWRD, AND THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.
- THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY MWRD AND THE MUNICIPALITY UNLESS CHANGES ARE APPROVED BY MWRD, THE MUNICIPALITY, OR AUTHORIZED AGENT. THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS INDICATED ON THE PLANS.
- THE LOCATION OF VARIOUS UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.
- ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
- MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, MWRD, AND OWNER.
- THE UNDERGROUND CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL INSPECTION AGENCIES.
- ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.
- RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN LENGTH, LOCATION OR ALIGNMENT SHALL BE SHOWN IN RED. ALL WYES OR BENDS SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-BOXES, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.

D. SANITARY SEWER

- THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY POLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING THE EXISTING SANITARY SEWERS.
- A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION PRIOR TO COMMENCING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND/OR MWRD AFTER THE SEWERS HAVE BEEN TESTED AND ACCEPTED.
- DISCHARGING ANY UNPOLLUTED WATER INTO THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OF LINES FOR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL FROM THE MUNICIPALITY OR MWRD.
- ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (LATEST EDITION).
- ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.
- ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.
- ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO THE FOLLOWING:

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
VITRIFIED CLAY PIPE	ASTM C-700	ASTM C-425
REINFORCED CONCRETE SEWER PIPE	ASTM C-76	ASTM C-443
CAST IRON SOIL PIPE	ANSI A21.51	ANSI A21.11
DUCTILE IRON PIPE	ANSI A21.51	ANSI A21.11
POLYVINYL CHLORIDE (PVC) PIPE	ASTM D-3034	ASTM D-2855 OR ASTM D-3212
6-INCH TO 15-INCH DIAMETER SDR 26	ASTM F-678	ASTM D-3212
18-INCH TO 27-INCH DIAMETER F/DY=46		
HIGH DENSITY POLYETHYLENE (HDPE)	ASTM D-3350	ASTM D-3261
WATER MAIN QUALITY PVC	ASTM D-2241	ASTM D-2672 OR ASTM D-3139
4-INCH TO 36-INCH	AWWA C900	ASTM D-3212
4-INCH TO 12-INCH	AWWA C905	ASTM D-3212
14-INCH TO 48-INCH		

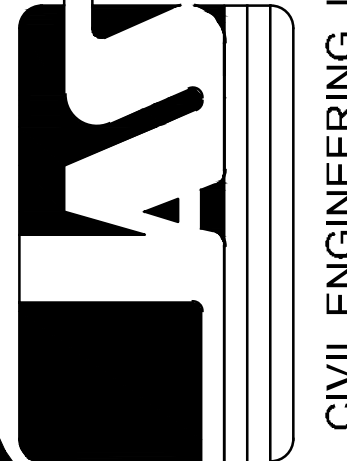
- ALL SANITARY SEWER CONSTRUCTION (AND STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS), REQUIRES STONE BEDDING WITH STONE 3/4" TO 1" IN SIZE, WITH MINIMUM BEDDING THICKNESS EQUAL TO 1/4" THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR (4) INCHES NOR MORE THAN EIGHT (8) INCHES. MATERIAL SHALL BE CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC.
- "BAND SEAL" OR SIMILAR NON-SHEAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OR DISSIMILAR MATERIALS.
- ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS, SANITARY LIDS SHALL BE CONSTRUCTED WITH A CONCEALED PICKHOLE AND A WATERTIGHT GASKET WITH THE WORD "SANITARY" CAST INTO THE LID.
- WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:
 - A CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUBWYE SADDLE OR HUB-TEE SADDLE.
 - REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION.
 - WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING "BAND SEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.
- WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATERMAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMANS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION, IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED ABOVE CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATERMAIN, THE SEWER SHALL BE CONSTRUCTED TO WATERMAIN STANDARDS.
- ALL EXISTING SEPTIC SYSTEMS SHALL BE ABANDONED. ABANDONED TANKS SHALL BE FILLED WITH GRANULAR MATERIAL OR REMOVED.
- ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE.
- ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE PRECAST "RUBBER BOOTS" THAT CONFORM TO ASTM C-923 FOR ALL PIPE CONNECTIONS. PRECAST SECTIONS SHALL CONSIST OF MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS.
- ALL ABANDONED SANITARY SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH AT LEAST 2 FEET LONG NON-SHRINK CONCRETE OR MORTAR PLUG.
- EXCEPT FOR FOUNDATION/FOOTING DRAINS PROVIDED TO PROTECT BUILDINGS, OR PERFORATED PIPES ASSOCIATED WITH VOLUME CONTROL FACILITIES, DRAIN TILES/FIELD TILES/UNDERDRAINS/PERFORATED PIPES ARE NOT ALLOWED TO BE CONNECTED TO OR TRIBUTARY TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS IN COMBINED SEWER AREAS. CONSTRUCTION OF NEW FACILITIES OF THIS TYPE IS PROHIBITED, AND ALL EXISTING DRAIN TILES AND PERFORATED PIPES ENCOUNTERED WITHIN THE PROJECT AREA SHALL BE PLUGGED OR REMOVED, AND SHALL NOT BE CONNECTED TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS.
- A BACKFLOW PREVENTER IS REQUIRED FOR ALL DETENTION BASINS TRIBUTARY TO COMBINED SEWERS. REQUIRED BACKFLOW PREVENTERS SHALL BE INSPECTED AND EXERCISED ANNUALLY BY THE PROPERTY OWNER TO ENSURE PROPER OPERATION, AND ANY NECESSARY MAINTENANCE SHALL BE PERFORMED TO ENSURE FUNCTIONALITY. IN THE EVENT OF A SEWER SURCHARGE INTO AN OPEN DETENTION BASIN TRIBUTARY TO COMBINED SEWERS, THE PERMITTEE SHALL ENSURE THAT CLEAN UP AND WASH OUT OF SEWAGE TAKES PLACE WITHIN 48 HOURS OF THE STORM EVENT.

E. EROSION AND SEDIMENT CONTROL

- THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL PRIOR TO HYDROLOGIC DISTURBANCE OF THE SITE.
- ALL DESIGN CRITERIA, SPECIFICATIONS, AND INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:
 - UPON COMPLETION OF INITIAL EROSION AND SEDIMENT CONTROL MEASURES, PRIOR TO ANY SOIL DISTURBANCE.
 - ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.
- SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. IF STRIPPING, CLEARING, GRADING, OR LANDSCAPING ARE TO BE DONE IN PHASES, THE CO-PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.
- A STABILIZED MAT OF CRUSHED STONE MEETING THE STANDARDS OF THE ILLINOIS URBAN MANUAL SHALL BE INSTALLED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE. SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
- CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL AND SHALL BE INSTALLED PRIOR TO ANY ON SITE CONSTRUCTION ACTIVITIES INVOLVING CONCRETE.
- TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAP OR BASIN. VOLUME CONTROL FACILITIES SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS.
- DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) DAYS.
- ALL FLOOD PROTECTION AREAS AND VOLUME CONTROL FACILITIES SHALL, AT A MINIMUM, BE PROTECTED WITH A DOUBLE-ROW OF SILT FENCE (OR EQUIVALENT).
- VOLUME CONTROL FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

- SOIL STOCKPILES SHALL, AT A MINIMUM, BE PROTECTED WITH PERIMETER SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED IN FLOOD PROTECTION AREAS OR THEIR BUFFERS.
- EARTHEN EMBANKMENT SIDE SLOPES SHALL BE STABILIZED WITH APPROPRIATE EROSION CONTROL BLANKET.
- STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY APPROPRIATE SEDIMENT CONTROL MEASURES.
- THE CONTRACTOR SHALL EITHER REMOVE OR REPLACE ANY EXISTING DRAIN TILES AND INCORPORATE THEM INTO THE DRAINAGE PLAN FOR THE DEVELOPMENT. DRAIN TILES CANNOT BE TRIBUTARY TO A SANITARY OR COMBINED SEWER.
- IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. DEWATERING SYSTEMS SHOULD BE INSPECTED DAILY DURING OPERATIONAL PERIODS. THE SITE INSPECTOR MUST BE PRESENT AT THE COMMENCEMENT OF DEWATERING ACTIVITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING AND EXCAVATION FOR THE INSTALLATION OF SANITARY SEWERS, STORM SEWERS, WATERMANS AS WELL AS THEIR SERVICES AND OTHER APPURTENANCES. ANY TRENCH DEWATERING, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO A SLUMP PIT, FILTER BAG OR EXISTING VEGETATED UPSLOPE AREA. SEDIMENT LOADED WATERS SHALL NOT BE DISCHARGE TO WATERWAYS, FLOOD PROTECTION AREAS OR THE COMBINED SEWER SYSTEM.
- ALL PERMANENT EROSION CONTROL PRACTICES SHALL BE INITIATED WITHIN SEVEN (7) DAYS FOLLOWING THE COMPLETION OF SOIL DISTURBING ACTIVITIES.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED ON A YEAR-ROUND BASIS DURING CONSTRUCTION AND ANY PERIODS OF CONSTRUCTION SHUTDOWN UNTIL PERMANENT STABILIZATION IS ACHIEVED.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER PERMANENT SITE STABILIZATION.
- THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, SITE INSPECTOR, OR MWRD.

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CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

REVISIONS:

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**ZEIGLER AUTO GROUP
 BMW PARKING LOT EXPANSION**

ORLAND PARK, IL

MWRD GENERAL NOTES

Date: 10-27-20
 Scale: 1" = 20'
 File Name: 15-060 BMW PARKING LOT EXPANSION 10-27-20
 Drawn: TMF
 Checked: DWO
 Sheet:
12 OF 12
 Project No.:
15-060