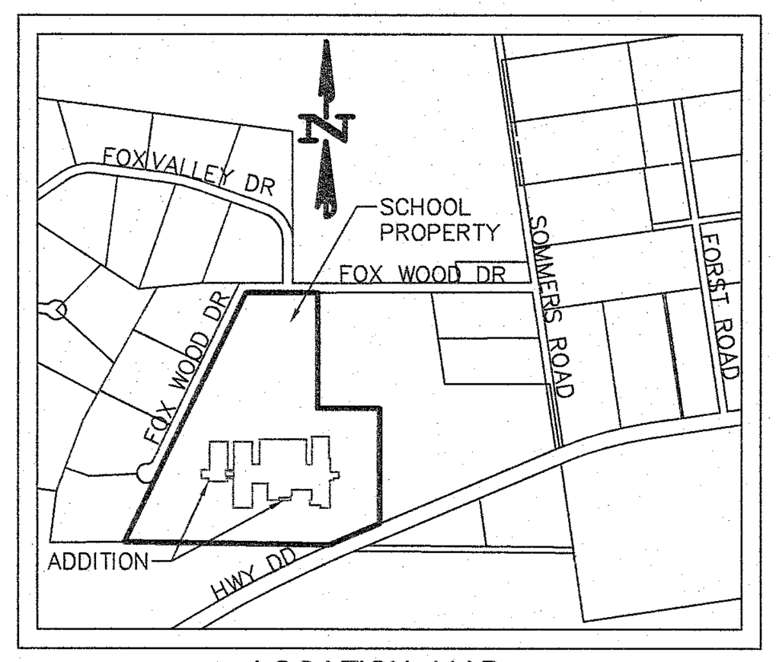
A SET OF AS-BUILT PLANS FOR
FRONTIER MIDDLE SCHOOL ADDITION
A TRACT OF LAND BEING PART OF FRACTIONAL SECTION 15, TOWNSHIP 46 NORTH, RANGE 2 EAST OF THE FIFTH PRINCIPAL MERIDIAN ST. CHARLES COUNTY, MISSOURI



LOCATION MAP
NOT TO SCALE

LEGEND

- UTILITY POLE
- ◉ IRON PIPE
- Ⓢ SANITARY MANHOLE
- —STM— STORM SEWER
- —OHW— OVERHEAD ELECTRIC
- — T — BURIED TELEPHONE
- — G — GAS LINE
- — W — WATER LINE
- —X——X— FENCE
- — W — WATER LINE
- WATER VALVE
- — G — GAS LINE
- RCP REINFORCED CONCRETE PIPE
- FIRE HYDRANT

Drawing Index

Planning and Zoning conditions:

On January 2, 2020, the Planning and Zoning Commission approved the Site Plan for 9233 Highway DD (Frontier Middle School)(19-011472)

The approval Is conditional upon the following Staff recommendations being met:

1. A photometric lighting plan shall be required.
2. Additional landscaping details shall be provided, induding the tree preservation calculations.
3. The trail along Highway DD shall be extended to the property line, and an offsite grading easement shall be provided for a future connection if needed.

Please Note:

- The Site Plan Approval shall expire, and be of no effect, one (1) year after the date of issuance thereof, unless within such time Construction Plans or Building Permits for any proposed work authorized under the said site plan approval has been issued.
- Prior to approval of a Building Permit, a Construction Site Plan must be reviewed and approved by City Staff. The application is available on the City's website via www.ofallon.mo.us (City Departments, Public Works, Engineering) through the O'Fallon Permitting, Licensing, and Enforcement (OPLE) system.
- The appropriate Fire District will need to review and approve the development.
- Any signage to be placed on the subject property requires a separate Sign Permit.
- Any business occupying the site requires approval of a Business License.
- All Conditions of Approval shall be noted on the Construction Site Plans.

VEGETATION ESTABLISHMENT
For Urban Development Sites
APPENDIX A

SEEDING RATES:

PERMANENT:
Tall Fescue – 150 lbs./ac.
Smooth Brome – 100 lbs./ac.
Combined – Fescue @ 75 lbs./ac. AND Brome @ 50 lbs./ac.

TEMPORARY:
Wheat or Rye – 150 lbs./ac. (3.5 lbs. per 1,000 s.f.)
Oats – 120 lbs./ac. (2.75 lbs. per 1,000 s.f)

SEEDING PERIODS:
Fescue or Brome – March 1 to June 1, August 1 to October 1
Wheat or Rye – March 15 to November 1
Oats – March 15 to September 15

MULCH RATES:
100 lbs. per 1000 sq. ft. (4,356 lbs. per ac.)

FERTILIZER RATES:
Nitrogen 30 lbs./ac.
Phosphate 30 lbs./ac.
Potassium 30 lbs./ac.
Lime 600 lbs./ac. ENM*

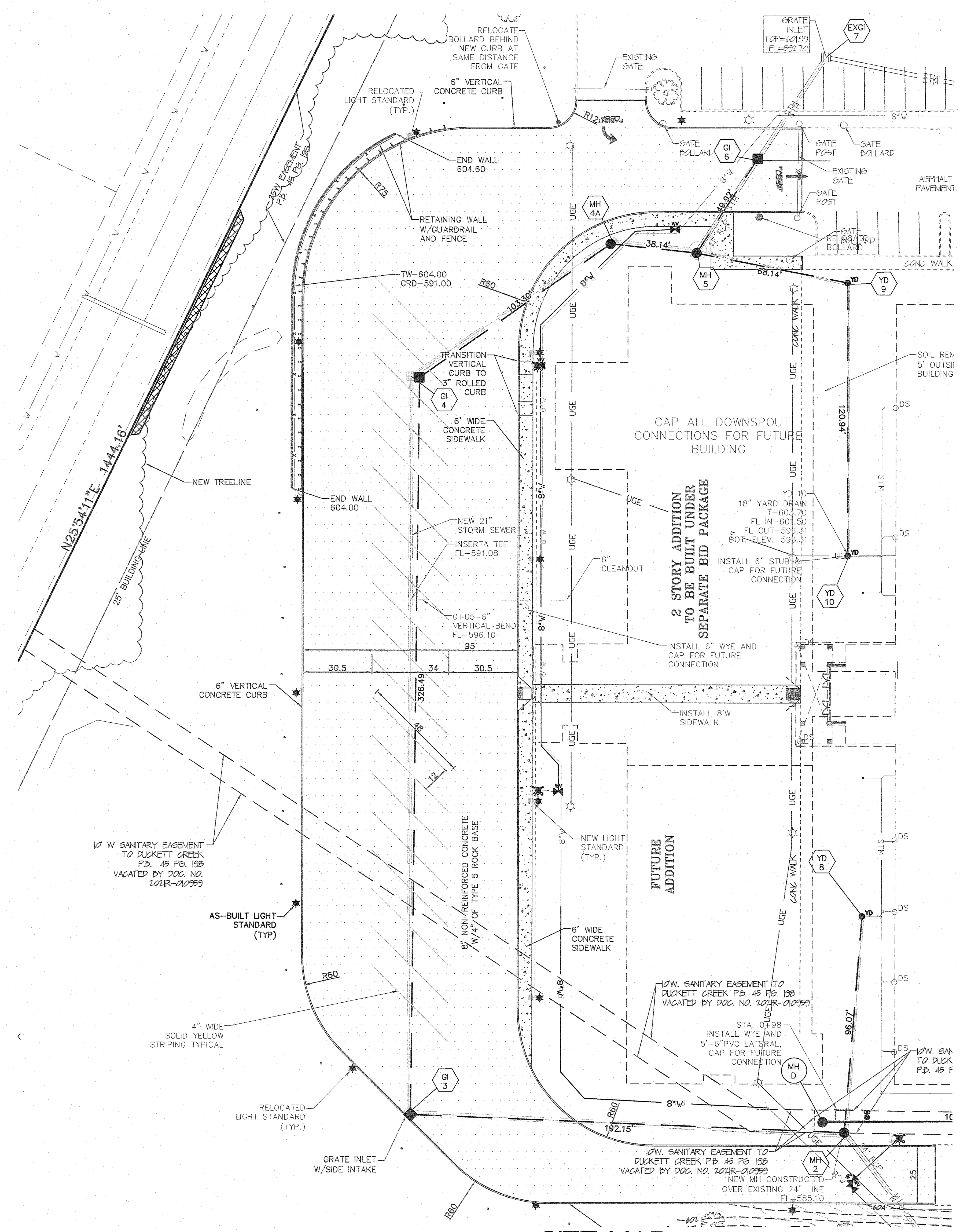
* ENM = effective neutralizing material as per State evaluation of quarried rock.

* City of O'Fallon Construction work hours per City Ordinance 3429 as shown in section 500.420 of the Municipal Code of the City of O'Fallon are as follows:

October 1 through May 31
7:00 A.M. To 7:00 P.M. Monday Through Sunday
June 1 Through September 30
6:00 A.M. To 8:00 P.M. Monday Through Friday
7:00 A.M. to 8:00 P.M. Saturday and Sunday

* The area of this phase of development is 5.8 Ac.
The area of land disturbance is 5.8 Ac.
Building setback information. Front 25'
Side 6'
Rear 25'

* The estimated sanitary flow in gallons per day is 4,170



RELOCATE BOLLARD BEHIND NEW CURB AT SAME DISTANCE FROM GATE
6" VERTICAL CONCRETE CURB
RELOCATED LIGHT STANDARD (TYP.)
EXISTING GATE
GRATE INLET TOP=601.99 FL=592.70
EXGI 7
END WALL 604.60
GATE BOLLARD
GI 6
GATE POST
GATE BOLLARD
EXISTING GATE
ASPHALT PAVEMENT
RETAINING WALL W/GUARDRAIL AND FENCE
MH 4A
38.14'
MH 5
68.14'
YD 9
CONC WALK
TW-604.00 GRD-591.00
R60
103.30'
49.92'
R75
TRANSITION VERTICAL CURB TO 3" ROLLED CURB
GI 4
6' WIDE CONCRETE SIDEWALK
CAP ALL DOWNSPOUT CONNECTIONS FOR FUTURE BUILDING
SOIL REM 5' OUTSI BUILDING
120.94'
N25°54'11"E 1444.16'
25' BUILDING LINE
NEW TREELINE
END WALL 604.00
NEW 21" STORM SEWER
INSERTA TEE FL-591.08
6" CLEANOUT
2 STORY ADDITION TO BE BUILT UNDER SEPARATE BID PACKAGE
YD 10
18" YARD DRAIN T-603.70 FL IN-601.50 FL OUT-596.31 BOT. ELEV.-593.31
INSTALL 6" STUB & CAP FOR FUTURE CONNECTION
0+05-6" VERTICAL BEND FL-596.10
95
30.5
34
30.5
326.49'
INSTALL 6" WYE AND CAP FOR FUTURE CONNECTION
INSTALL 8'W SIDEWALK
6" VERTICAL CONCRETE CURB
48
12
10' W SANITARY EASEMENT TO DUCKETT CREEK P.B. 45 PG. 198 VACATED BY DOC. NO. 2021R-010959
AS-BUILT LIGHT STANDARD (TYP)
8' NON-REINFORCED CONCRETE W/4" OF TYPE 5 ROCK BASE
NEW LIGHT STANDARD (TYP.)
FUTURE ADDITION
YD 8
6' WIDE CONCRETE SIDEWALK
10'W. SANITARY EASEMENT TO DUCKETT CREEK P.B. 45 PG. 198 VACATED BY DOC. NO. 2021R-010959
STA. 0+98 INSTALL WYE AND 5'-6"PVC LATERAL, CAP FOR FUTURE CONNECTION
96.07'
MH D
4" WIDE SOLID YELLOW STRIPING TYPICAL
RELOCATED LIGHT STANDARD (TYP.)
GI 3
192.15'
R60
GRATE INLET W/SIDE INTAKE
10'W. SANITARY EASEMENT TO DUCKETT CREEK P.B. 45 PG. 198 VACATED BY DOC. NO. 2021R-010959
MH 2
NEW MH CONSTRUCTED OVER EXISTING 24" LINE FL=585.10
25

SITE MAP

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

CITY OF O'FALLON
COMMUNITY DEVELOPMENT DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY:__ Jeannie Greenlee __ DATE__02/16/2021____
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

City approval of any construction site plans does not mean that any building can be constructed on the lots without meeting the building setbacks as required by the zoning codes.
All installations and construction shall conform to the approved engineering drawings. However, if the developer chooses to make minor modifications in design and/or specifications during construction, they shall make such changes at their own risk, without any assurance that the City Engineer will approve the completed installation or construction. It shall be the responsibility of the developer to notify the City Engineer of any changes from the approved drawings. The developer may be required to correct the installed improvement so as to conform to the approved engineering drawings. The developer may request a letter from the Construction Inspection Division regarding any field changes approved by the City Inspector.
Lighting values will be reviewed on site prior to the final occupancy inspection.

AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

THE FOLLOWING UTILITIES HAVE BEEN LOCATED AND MEASURED AND THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS:

- STORM SEWERS, STORM SEWER LENGTHS, STORM SEWER PIPE SIZES, STORM SEWER FLOWLINES, DEPTHS OF STORM SEWER STRUCTURES AND TOPOGRAPHY OF MODIFIED DETENTION BASIN.
- SANITARY SEWERS, SANITARY SEWER LENGTHS, SANITARY SEWER PIPE SIZES, SANITARY SEWER FLOWLINES AND DEPTHS OF SANITARY SEWER STRUCTURES.
- FIRE HYDRANTS
- WATER VALVES
- LIGHT STANDARDS

ALL PUBLIC UTILITIES SHOWN HEREON AS BEING AS-BUILT ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS.

BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173

STATE OF MISSOURI
MARK E. COLLINS
2-09-21
NUMBER PLS-2006000173
PROFESSIONAL LAND SURVEYOR

[illegible]

GRADING QUANTITY

20,981 cu.yds. cut
19,322 cu.yds. fill
(INCLUDES 8% SHRINKAGE AND BUILDING OVERDIG)

THE ABOVE YARDAGE IS AN APPROXIMATION ONLY, NOT FOR BIDDING PURPOSES. CONTRACTORS SHALL VERIFY QUANTITIES PRIOR TO CONSTRUCTION.

IT IS THE INTENTION OF THE ENGINEERING FOR THE EARTHWORK TO BALANCE ON-SITE. THE ENGINEER SHALL BE NOTIFIED IF ANY DIFFICULTIES ARISE IN ACHIEVING THE BALANCE. CONTRACTOR SHALL REDUCE CUT IN FIELD AREA AS NEEDED FOR BALANCED SITE.

GRADING PACKAGE – MINIMUM CONTRACT REQUIREMENTS

1. The Contractor shall complete grading and utility work in accordance with notes and details as shown on plans
2. At the completion of the project and prior to acceptance by the owner, the Contractor shall have a grade check survey completed. The survey shall be signed by a licensed surveyor to verify final ground elevations. All grades shall be in accordance with tolerances as indicated on plans. Grade check survey shall be supplied to owner in Auto CAD format as well as hard copy drawings.
3. At the completion of the project and prior to acceptance by the owner, the Contractor shall have a storm sewer as-built survey completed. The survey shall be signed by a licensed surveyor to verify the storm sewers have been installed in accordance with the plans. As-built drawings shall include flowlines of all sewer lines, top elevations of all structures and location of lines stubbed for future connection to building. Survey shall be supplied to owner in Auto CAD format as well as hard copy drawings.
4. The Contractor shall clean out all silt from the sediment basins and grades shall be in accordance with plans prior to acceptance by the owner. Basin elevations shall be included in the grade check performed by the Contractor and provided to the owner.
5. The Contractor shall maintain all erosion control measures during the length of the contract. Prior to completion of the project the Contractor shall restore all erosion control measures and shall turn them over to the owner in working condition. The owner's representative shall inspect the erosion control measures with the Contractor prior to acceptance.
6. The Contractor shall provide copies of any SWPPP logs and plans that were generated during the duration of the grading contract.

Development Notes:

1. THIS PROPERTY IS A PART OF THE PROPERTY REFERENCED AS PARCEL I.D. NUMBER 4-0046-S015-00-0004.5000000 OF THE ST. CHARLES COUNTY ASSESSOR'S OFFICE.
2. AREA OF TRACT: 25.359 ACRES TOTAL
3. EXISTING ZONING: R-1 SINGLE FAMILY RESIDENCE, CITY OF O'FALLON
4. SITE ADDRESS: 9233 HIGHWAY DD, O'FALLON, MO 63368
5. PROPOSED USE: MIDDLE SCHOOL ADDITION
   OWNER: WENTZVILLE R-IV SCHOOL DISTRICT, 280 INTERSTATE DRIVE, WENTZVILLE, MO 63385
6. SITE UTILITIES:

SANITARY	– DUCKETT CREEK SANITARY DISTRICT	636-441-1244
GAS	– SPIRE	314-522-2297
ELECTRIC	– CUIVRE RIVER	636-695-4741
TELEPHONE	– CENTURYLINK	636-332-7261
CABLE	– SPECTRUM	888-438-2427
WATER	– PUBLIC WATER DISTRICT#2	636-561-3737

7. BUILDING SETBACKS:
   FRONT YARD = 25 FEET
   SIDE YARD = 6 FEET
   REAR YARD = 25 FEET
8. PARKING REQUIREMENTS:

   MIDDLE SCHOOLS
   TWO (2) SPACES PER CLASSROOM OR ONE (1) SPACE PER FIVE (5) SEATS OR EIGHT (8) FEET OF BENCH LENGTH IN AUDITORIUM, WHICHEVER IS GREATER, PLUS ONE (1) SPACE PER TWO (2) FACULTY AND STAFF

   EXISTING CONDITIONS:
   2 SPACES PER CLASSROOM – 59 CLASSROOMS X 2 = 118 SPACES
   1 SPACE PER 2 FACULTY/STAFF – 100 MEMBERS = 50 SPACES
   GYM/AUDITORIUM – 1 SPACE PER 5 SEATS (474 SEATS) = 95 SPACES REQUIRED

   EXISTING PARKING REQUIRED = 168 REQUIRED (118 SPACES FROM CLASSROOMS (GREATER THAN GYM TOTAL) PLUS 50 SPACES FOR STAFF MEMBERS MINIMUM)
   EXISTING ONSITE TOTAL PARKING = 280 SPACES INCLUDING 17 ADA SPACES.

   PROPOSED:
   2 SPACES PER CLASSROOM – 16 CLASSROOMS X 2 = 32 SPACES
   1 SPACE PER 2 FACULTY/STAFF – 17 MEMBERS = 8.5 ~ 9 SPACES
   PROPOSED PARKING REQUIRED = 41

   TOTAL SITE PARKING REQUIRED = 209 SPACES
   TOTAL EXISTING PARKING PROVIDED = 280 SPACES INCLUDING 17 ADA SPACES
   NO ADDITIONAL PARKING REQUIRED ON THIS SITE
9. LANDSCAPING REQUIREMENTS:
   18 EXISTING TREES TO BE AFFECTED BY NEW CONSTRUCTION AND WILL BE REPLACED.
   PRIOR PHASES 1 THRU 3 OF THE BUILDING CONSTRUCTION PROVIDED LANDSCAPING ALONG HIGHWAY DD AND ALL SURROUNDING PROPERTIES AS REQUIRED.
10. TREE PRESERVATION CALCULATIONS:
    TOTAL EXISTING TREES ONSITE – 1.35 ACRES
    1.35 – 20% TO BE PRESERVED = 1.08 ACRES PRESERVED, 0.27 ACRES ALLOWED TO BE REMOVED
    TOTAL TREES BEING REMOVED – 0.37 ACRES, 0.10 ACRES TO BE REPLACED
    0.10 ACRES X 15 TREES PER ACRE = 2 TREES TO BE PROVIDED
11. BUFFER YARD REQUIREMENTS:
    25 FT. LANDSCAPED BUFFER STRIP WITH ONE TREE PER FIFTY FEET OF STREET FRONTAGE. NO ADDITIONAL PLANTINGS ARE REQUIRED OTHER THAN NOTED ABOVE THAT WILL BE PLACED AROUND THE NEW BUS PARKING LOT WHERE SHOWN. FOXWOOD DRIVE ALREADY HAS TREE MASSES ALONG THE ROADSIDE AS BUFFERYARD TO THE SCHOOL SITE.
12. SITE COVERAGE CALCULATIONS:

EXISTING :	
TOTAL SITE:	25.359 ACRES = 1,104,638 SQ.FT.
EXIST BUILDINGS	142,442 SQ.FT. (12.89%)
EXIST GREENSPACE	725,128 SQ.FT. (65.64%)
EXIST PAVEMENT	237,068 SQ.FT. (21.47%)
PROPOSED:	
BUILDINGS	20,379 SQ.FT.
PAVEMENT	8,229 SQ.FT.
TOTAL:	
BUILDINGS	162,821 SQ.FT. (14.74%)
LANDSCAPING	696,520 SQ.FT. (63.05%)
PAVEMENT	245,297 SQ.FT. (22.21%)

13. BASIS OF BEARING:
    SURVEY ADOPTED FROM THE RECORD PLAT OF "WELDON SPRINGS GARDENS" AS RECORDED IN PLAT BOOK 4 PAGE 179 OF THE ST. CHARLES COUNTY RECORDS.
14. FLOOD NOTE:
    TO DETERMINE THE LOCATION OF FLOOD DESIGNATIONS AND BOUNDARIES, WE DETERMINED THE HORIZONTAL LOCATION OF THIS TRACT OF LAND BY SCALING THE FOLLOWING FLOOD INSURANCE RATE MAP (FIRM): ST. CHARLES COUNTY, MISSOURI AND INCORPORATED AREAS, MAP NUMBER 29183C0410G, WITH AN EFFECTIVE DATE OF JANUARY 20, 2016.

    COMMUNITY: CITY OF O'FALLON
    NUMBER: 290316
    PANEL: 0410
    SUFFIX: G

    BY EXPRESS REFERENCE TO THIS MAP AND ITS LEGEND, THIS TRACT OF LAND IS INDICATED TO BE WITHIN ZONE X – AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

    THE EVALUATION PROVIDED IN THIS NOTE IS RESTRICTED TO SIMPLY INDICATING THE APPARENT HORIZONTAL LOCATION OF THE PROPERTY WITH RESPECT TO THE FEATURES DISPLAYED ON THE MAP. NO FIELD STUDY OF THE DRAINAGE CHARACTERISTICS TO WHICH THIS PROPERTY MAY BE SUBJECT TO HAS BEEN CONDUCTED AND NO REPRESENTATION CONCERNING THE INSURABILITY OF THIS PROPERTY OR THE POTENTIAL SUSCEPTIBILITY OF THIS PROPERTY TO FLOODING HAS BEEN MADE. BAX ENGINEERING MAKES NO REPRESENTATION CONCERNING THE ACCURACY OF THE ABOVE REFERENCED FIRM MAP WHICH INCLUDES A NOTE THAT "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM. IT DOES NOT NECESSARILY IDENTIFY ALL AREA SUBJECT TO FLOODING, PARTICULARLY FROM LOCAL DRAINAGE SOURCES OF SMALL SIZE.

    THIS FLOOD ZONE DETERMINATION AND THE FLOOD ZONE LIMITS SHOWN HEREON, IF ANY, WERE MADE USING FEMA INFORMATION WHICH WAS AVAILABLE ON THE DATE THIS SURVEY WAS SIGNED AND SEALED.
14. REFERENCE BENCHMARK RM19 – ELEVATION 536.06 NGVD29 (USGS) DATUM
    CHISELED SQUARE ON WINGWALL AT THE NORTHWEST CORNER OF COUNTY HIGHWAY DD BRIDGE OVER THE DARDENNE CREEK
15. SITE BENCHMARK: ELEVATION 583.97
    OLD CROSS ON CURB 42'± NORTH OF AND 235± EAST OF THE NORTHWEST PROPERTY CORNER OF SUBJECT PROPERTY. AT THE NORTHEAST CORNER OF THE INTERSECTION OF FOX WOOD DRIVE AND FOX VALLEY DRIVE.
16. MISSOURI STATE HIGHWAY DD ESTABLISHED USING PLANS OBTAINED FROM MISSOURI DEPARTMENT OF TRANSPORTATION PROJECT NO. AI-FAS-155-(A).
17. ALL NEW LIGHTING SHALL BE DOWNCAST LIGHTS CONSISTENT WITH CITY OF O'FALLON STANDARDS AND SPECIFICATIONS.
18. PER STATE STATUTES A SCHOOL DISTRICT IS ONLY OBLIGATED TO MEET LIFE SAFETY REGULATIONS, NOT LOCAL AESTHETIC ZONING REQUIREMENTS.
19. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.
20. ALL NEW UTILITIES ARE TO BE LOCATED UNDERGROUND.
21. ANY OFFSITE GRADING OR UTILITY CONSTRUCTION WILL REQUIRE AN EASEMENT BEFORE CONSTRUCTION.
22. ALL SITE CONSTRUCTION SHALL COMPLY WITH CITY OF O'FALLON STANDARDS. ALL CONSTRUCTION WITHIN STATE RIGHT OF WAY SHALL COMPLY WITH MODOT STANDARDS.
23. ALL NEW SIGNAGE FOR THIS FACILITY SHALL REQUIRE SEPARATE PERMIT APPROVAL.
24. NEW EASEMENTS WILL BE PROVIDED TO ALLOW FOR FUTURE EXTENSIONS OF THE MULTI-PURPOSE TRAIL BY ADJACENT LAND OWNERS.
25. PRIOR TO CONSTRUCTION PLAN APPROVAL, A PHOTOMETRIC LIGHTING PLAN IN ACCORDANCE WITH THE CITY'S LIGHTING STANDARDS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL FOR ALL PROPOSED EXTERIOR LIGHTING.
26. PROPOSED RETAINING WALL WILL REQUIRE SEPARATE PERMIT. CONTRACTOR WHO IS AWARDED THE PROJECT SHALL SUMBIT WALL PLANS AND CALCULATIONS PER CITY CODES SIGNED AND SEALED BY MISSOURI REGISTERED PROFESSIONAL ENGINEER.
27. WATER DISTRICT WILL REQUIRE THAT ALL THE RELOCATED FACILITIES BE TESTED PER THE DISTRICT REQUIREMENTS BEFORE THEY ARE PUT BACK INTO SERVICE.
28. THE WATER DISTRICT REQUIRES ONE WEEK NOTICE BEFORE START OF CONSTRUCTION AND 48 HOURS NOTICE BEFORE THE TESTING IS PERFORMED.
29. THE INSPECTOR FOR THIS PROJECT WILL BE TERRY KOLAN AND HE CAN BE REACHED AT 314-575-2397.

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP! CALL BEFORE YOU DIG!

CALL BEFORE YOU DIG!
1-800-DIG-RITE

Bax Engineering Company, Inc.
Missouri State Certificate of Authority Engineering #000655
Missouri State Certificate of Authority Surveying #000144

WENTZVILLE, MISSOURI
GEOTECHNICAL
PSI, INC.

ADDITIONS AND RENOVATIONS AT
FRONTIER MIDDLE SCHOOL AS-BUILT PLANS

CONSULTING ENGINEERS: STRUCTURAL
ASDG, LLC
McCLURE ENGINEERING MECH/ELEC/PLUMB
BAX ENGINEERING CIVIL/SURVEY

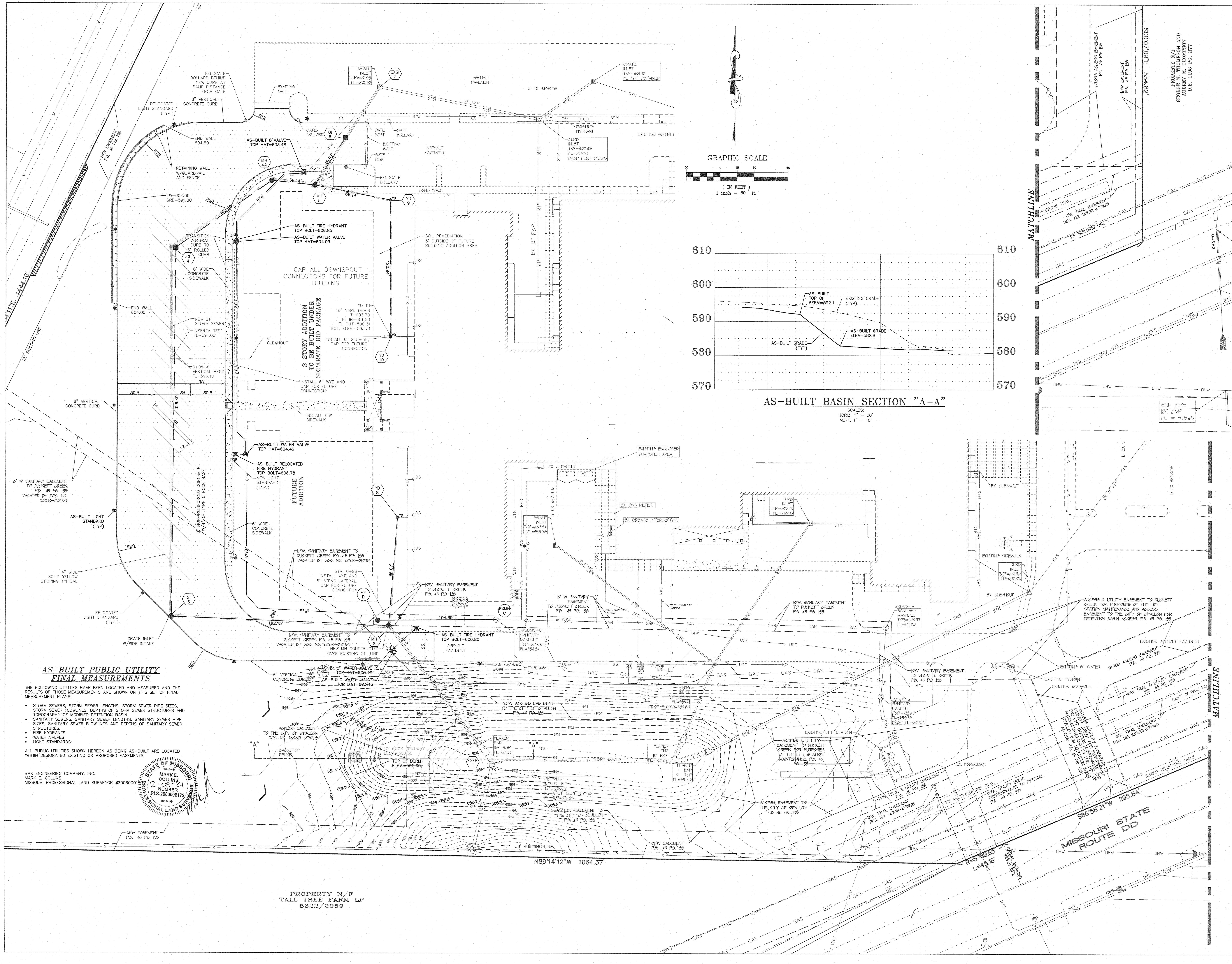
WENTZVILLE R-IV SCHOOL DISTRICT

HOENER ASSOCIATES, INC. - ARCHITECTS
6707 PLAINVIEW AVENUE
ST. LOUIS, MISSOURI 63109
Ph. (314) 781-9855 - Fax (314) 781-0163

proj. no.	19-06C
date issued	01/31/20
date revised	02/08/21 CITY COMMENT REVISIONS
drawn by	GAW
checked by	JNW
sheet no.	C-1

COVER

BAX PROJECT NO. 12495HA



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- STORM SEWERS, STORM SEWER LENGTHS, STORM SEWER PIPE SIZES, STORM SEWER FLOWLINES, DEPTHS OF STORM SEWER STRUCTURES AND TOPOGRAPHY OF MODIFIED DETENTION BASIN.
- SANITARY SEWERS, SANITARY SEWER LENGTHS, SANITARY SEWER PIPE SIZES, SANITARY SEWER FLOWLINES AND DEPTHS OF SANITARY SEWER STRUCTURES.
- FIRE HYDRANTS
- WATER VALVES
- LIGHT STANDARDS

ALL PUBLIC UTILITIES SHOWN HEREON AS BEING AS-BUILT ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS.

BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173

STATE OF MISSOURI — MARK E. COLLINS — NUMBER PLS-2006000173 — PROFESSIONAL LAND SURVEYOR — 2-09-21

Bax Engineering Company, Inc.
Missouri State Certificate of Authority Engineering #000655
Missouri State Certificate of Authority Surveying #000144

ADDITIONS AND RENOVATIONS AT
FRONTIER MIDDLE SCHOOL AS-BUILT PLANS

WENTZVILLE, MISSOURI

WENTZVILLE R-IV SCHOOL DISTRICT

CONSULTING ENGINEERS:
ASDG, LLC — STRUCTURAL
McCLURE ENGINEERING — MECH/ELEC/PLUMB
BAX ENGINEERING — CIVIL/SURVEY
PSI, INC. — GEOTECHNICAL

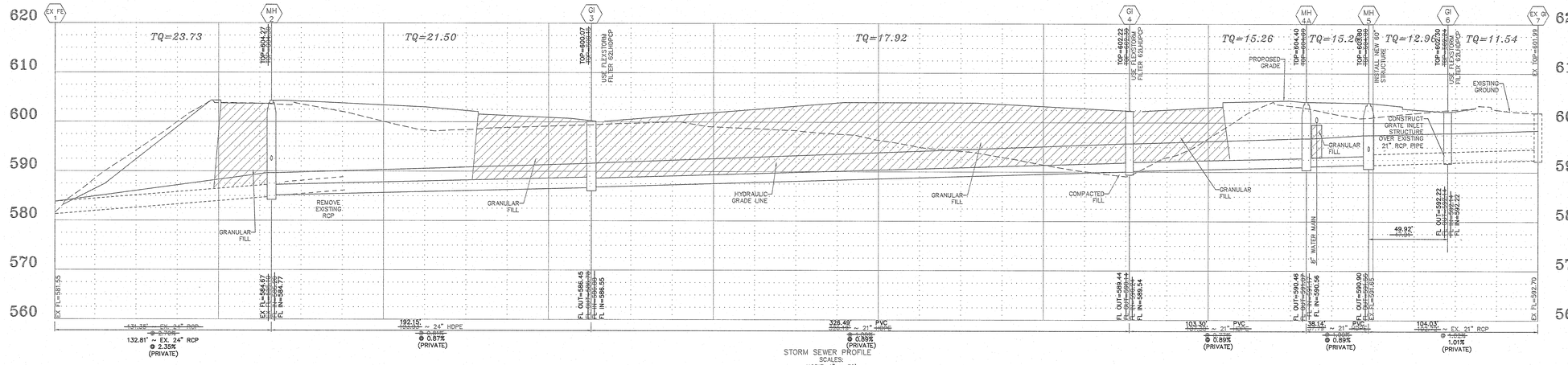
HOENER ASSOCIATES, INC. - ARCHITECTS
6707 PLAINVIEW AVENUE
ST. LOUIS, MISSOURI 63109
Ph. (314) 781-9855 — Fax (314) 781-0163

ALL DIMENSIONS MUST BE VERIFIED AT BUILDING BEFORE WORK IS EXECUTED. THIS DRAWING IS THE PROPERTY OF THE ARCHITECTS AND SHALL NOT BE COPIED OR DUPLICATED WITHOUT THEIR CONSENT.

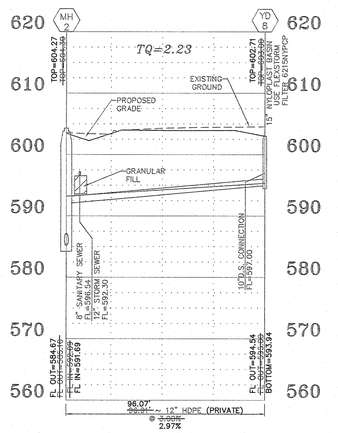
proj. no. 19-06C
date issued 01/31/20
date revised 02/08/21 CITY COMMENT REVISIONS
drawn by GAW
checked by JNW
sheet no. C4.0

SITE PLAN

BAX PROJECT NO. 12495HA



STORM SEWER PROFILE
SCALES:
HORIZ. 1" = 30'
VERT. 1" = 10'



STORM SEWER PROFILE
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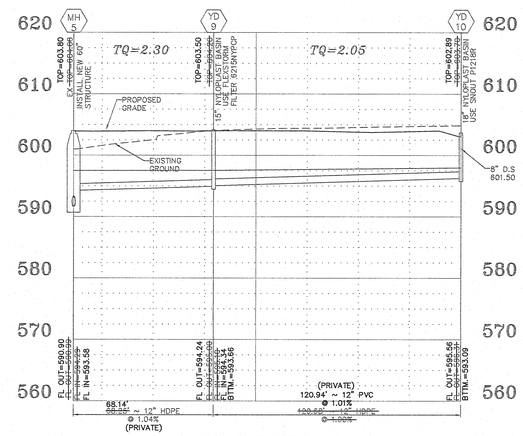

STORM SEWER PROFILE
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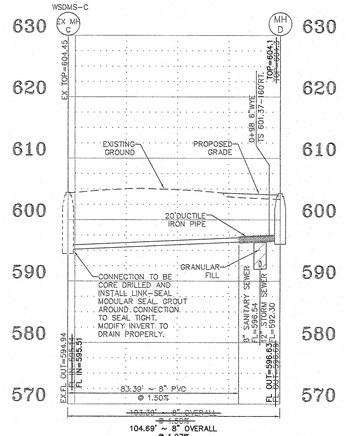
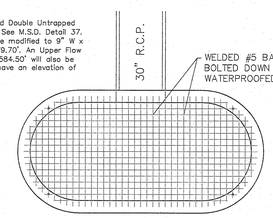


SANITARY SEWER PROFILE
SCALES:
HORIZ. 1" = 30'
VERT. 1" = 10'

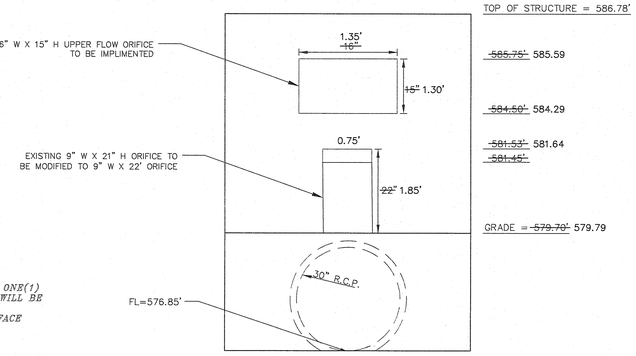
DUCKETT CREEK SANITARY DISTRICT NOTES:

1. EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
2. CONSTRUCTION OF SANITARY MAINS TO BE DEDICATED TO DCSD REQUIRE DCSD INSPECTION. CONTACT THE DCSD INSPECTION DEPARTMENT AT 636-441-1244 TO SCHEDULE INSPECTION. 48 HOUR ADVANCE NOTICE IS REQUIRED.

The Existing Overflow Structure is a Standard Double Untrapped Street Inlet Precast Concrete (without top). See M.S.D. Detail# 37. Existing 9" W x 21" H Low Flow Orifice to be modified to 9" W x 22" H Low Flow Orifice with a flowline of 579.70'. An Upper Flow Orifice of 16" W x 15" H with a flowline of 584.50' will also be implemented. The top of the structure will have an elevation of 586.78'. (See Detention Calculations)



TOP VIEW
N.T.S.



EXISTING DRY DETENTION BASIN OVERFLOW STRUCTURE
N.T.S.

NOTE:

1. FOR SEWERS WITH A DESIGN GRADE OF LESS THAN ONE(1) PERCENT, FIELD VERIFICATION OF THE SEWER GRADE WILL BE REQUIRED FOR EACH INSTALLED REACH PRIOR TO ANY SURFACE RESTORATION OR INSTALLATION OF ANY SURFACE IMPROVEMENTS.

2. ALL STORM SEWERS TO BE PRIVATE.

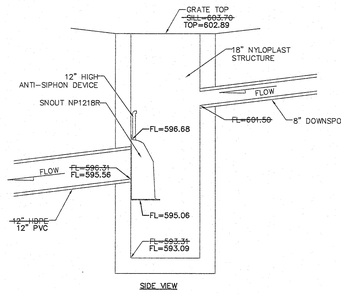
AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

THE FOLLOWING UTILITIES HAVE BEEN LOCATED AND MEASURED AND THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS:

- STORM SEWERS, STORM SEWER LENGTHS, STORM SEWER PIPE SIZES, STORM SEWER FLOWLINES, DEPTHS OF STORM SEWER STRUCTURES AND TOPOGRAPHY OF MODIFIED DETENTION BASIN.
- SANITARY SEWERS, SANITARY SEWER LENGTHS, SANITARY SEWER PIPE SIZES, SANITARY SEWER FLOWLINES AND DEPTHS OF SANITARY SEWER STRUCTURES.
- FIRE HYDRANTS
- WATER VALVES
- LIGHT STANDARDS

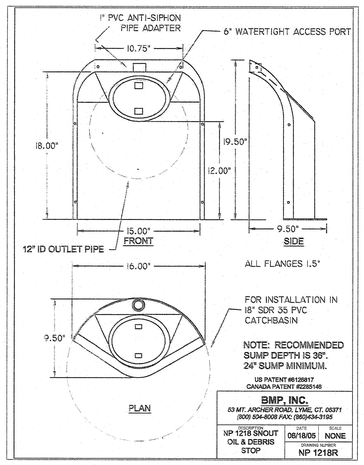
ALL PUBLIC UTILITIES SHOWN HEREON AS BEING AS-BUILT ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS.

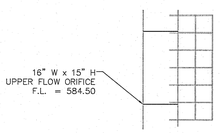
BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173

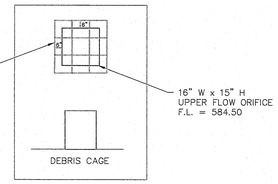


SNOUT DETAIL YD 10
NOT TO SCALE

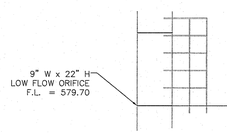
Snout Maintenance Recommendations:
1) Monthly monitoring for the first year of a new installation after the site has been stabilized is a recommended practice.
2) Measurements should be taken after each rain event of 0.5 inches or more, or monthly, as determined by local weather conditions.
3) Checking sediment depth and noting the surface pollutants in the structure will be helpful in planning maintenance.
4) The pollutants collected in SNOUT equipped structures will consist of floatable debris and oils on the surface of the captured water, and grit and sediment on the bottom of the structure.
5) It is best to schedule maintenance based on the solids collected in the sump.
6) Optimally, the structure should be cleaned when the sump is half full (e.g. when 2 feet of material collects in a 4 foot sump, clean it out).
7) Structures should also be cleaned if a spill or other incident causes a larger than normal accumulation of pollutants in a structure.
8) Maintenance is best done with a vacuum truck.
9) If Bio-Skirts are being used in the structure to enhance hydrocarbon capture, they should be checked on a monthly basis for the first year, and serviced or replaced when more than 2/3 of the boom is submerged, indicating a nearly saturated state. Assuming a typical pollutant-loading environment exists, Bio-Skirts should be serviced annually or replaced as necessary.
10) In the case of an oil spill, the structure should be checked and serviced and Bio-Skirts (if present) replaced or serviced immediately.
11) All collected wastes must be handled and disposed of according to local environmental requirements.
12) To maintain the SNOUT hoods, an annual inspection of the anti-siphon vent and access hatch are recommended. A simple flushing of the vent, or a gentle rodding with a flexible wire are all that's typically needed to maintain the anti-siphon properties. Opening and closing the access hatch once a year ensures a lifetime of trouble-free service.

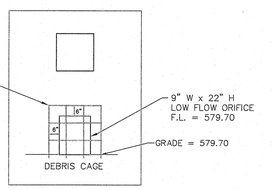






UPPER ORIFICE DEBRIS CAGE
N.T.S.





LOWER ORIFICE DEBRIS CAGE
N.T.S.

STORM AND SANITARY SEWER PROFILES & OUTFALL STRUCTURE DETAIL

BAX PROJECT NO. 12495HA

Bax Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

WENTZVILLE R-IV SCHOOL DISTRICT
WENTZVILLE, MISSOURI

ADDITIONS AND RENOVATIONS AT
FRONTIER MIDDLE SCHOOL
AS-BUILT PLANS

GEOTECHNICAL
PSI, INC.

STRUCTURAL
MECH/ELEC/PLUMB
CIVIL/SURVEY

CONSULTING ENGINEERS:
ASDG, LLC
McCLURE ENGINEERING
BAX ENGINEERING

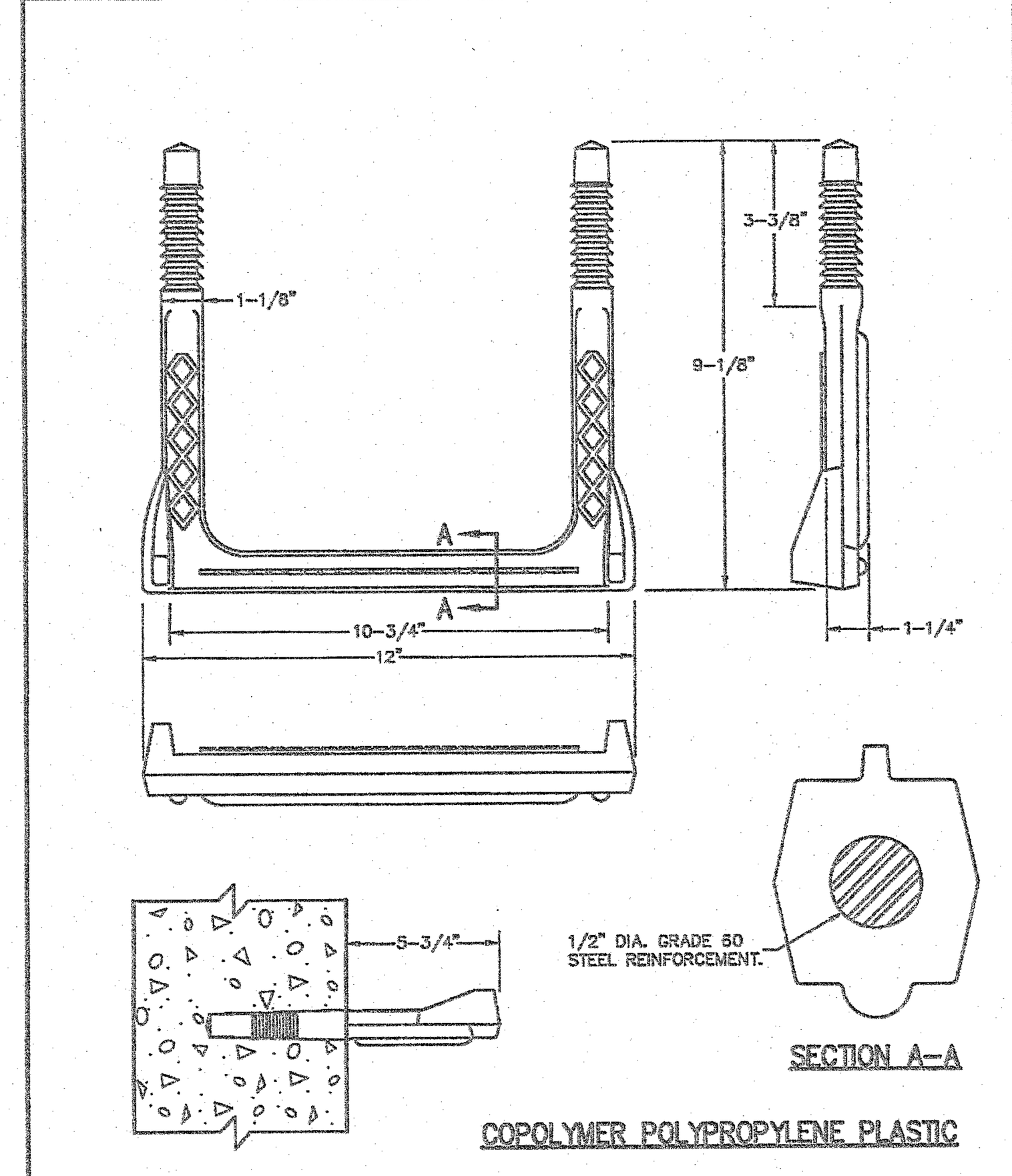
HOENER ASSOCIATES, INC. - ARCHITECTS
670 PLAINVIEW AVENUE
ST. LOUIS, MISSOURI 63109
Ph. (314) 781-9555 - Fax (314) 781-0163

proj. no. 19-06C

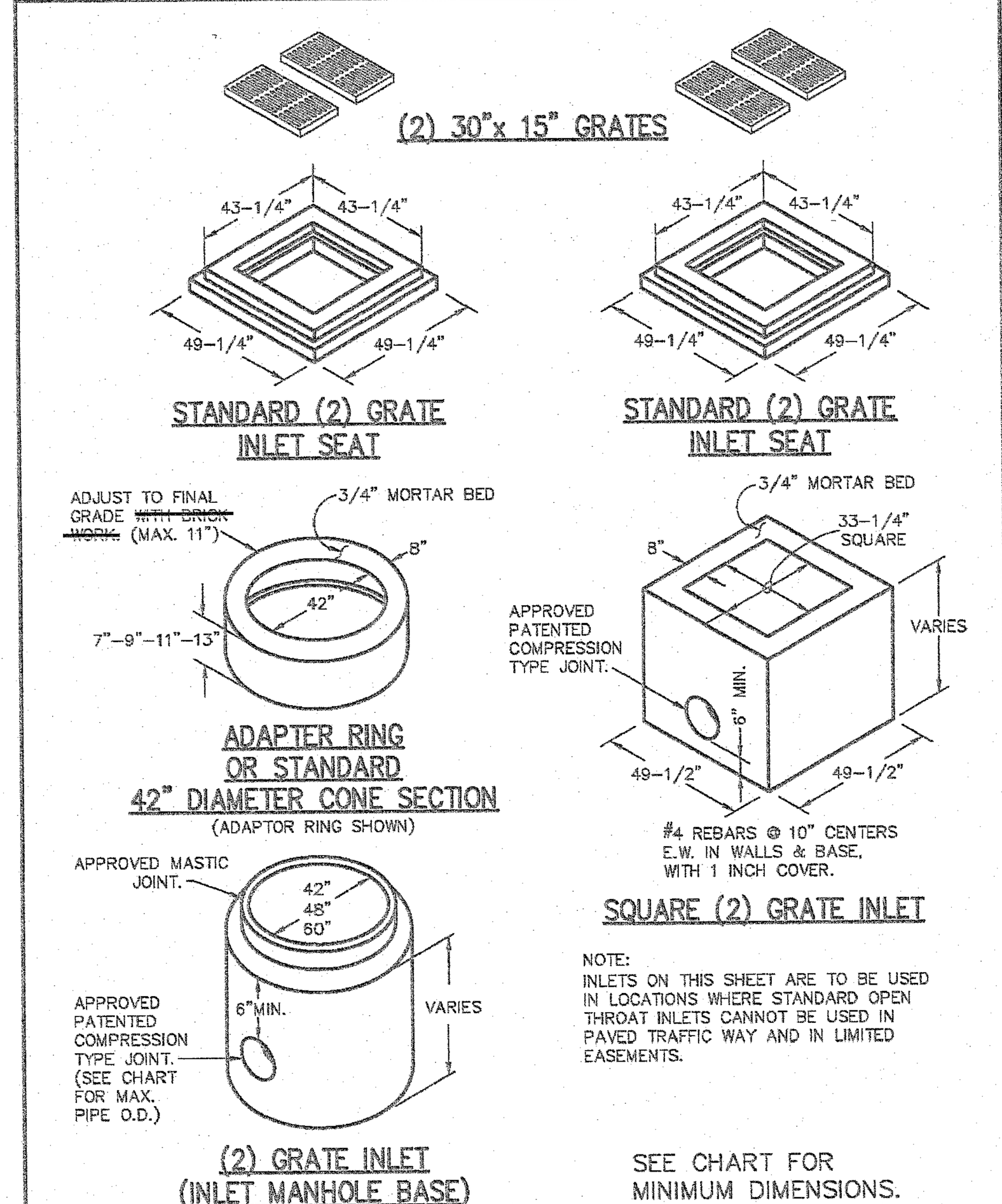
date issued
01/31/20

date revised
02/08/21
CITY COMMENT REVISIONS

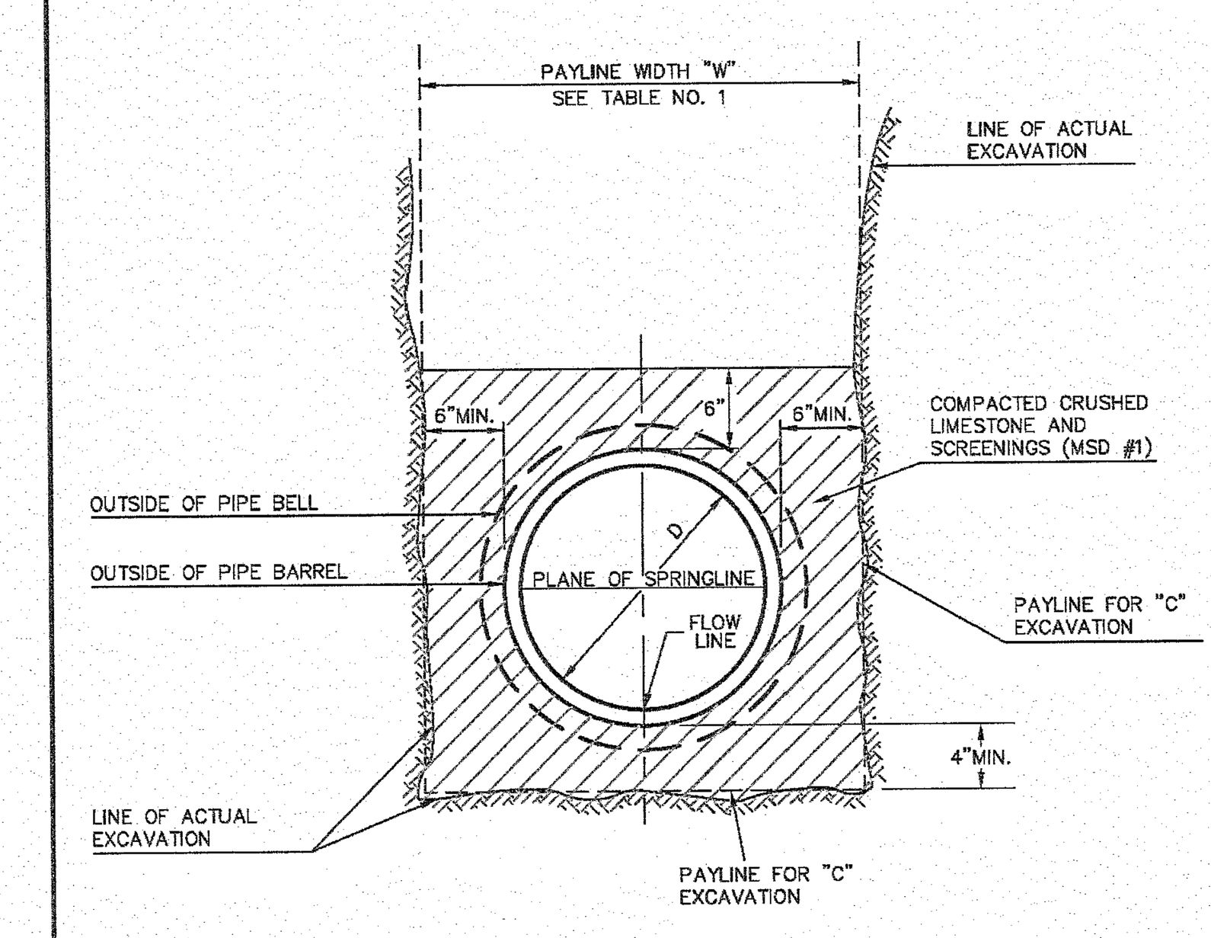
drawn by GAW
checked by JNW
sheet no.
C9.0



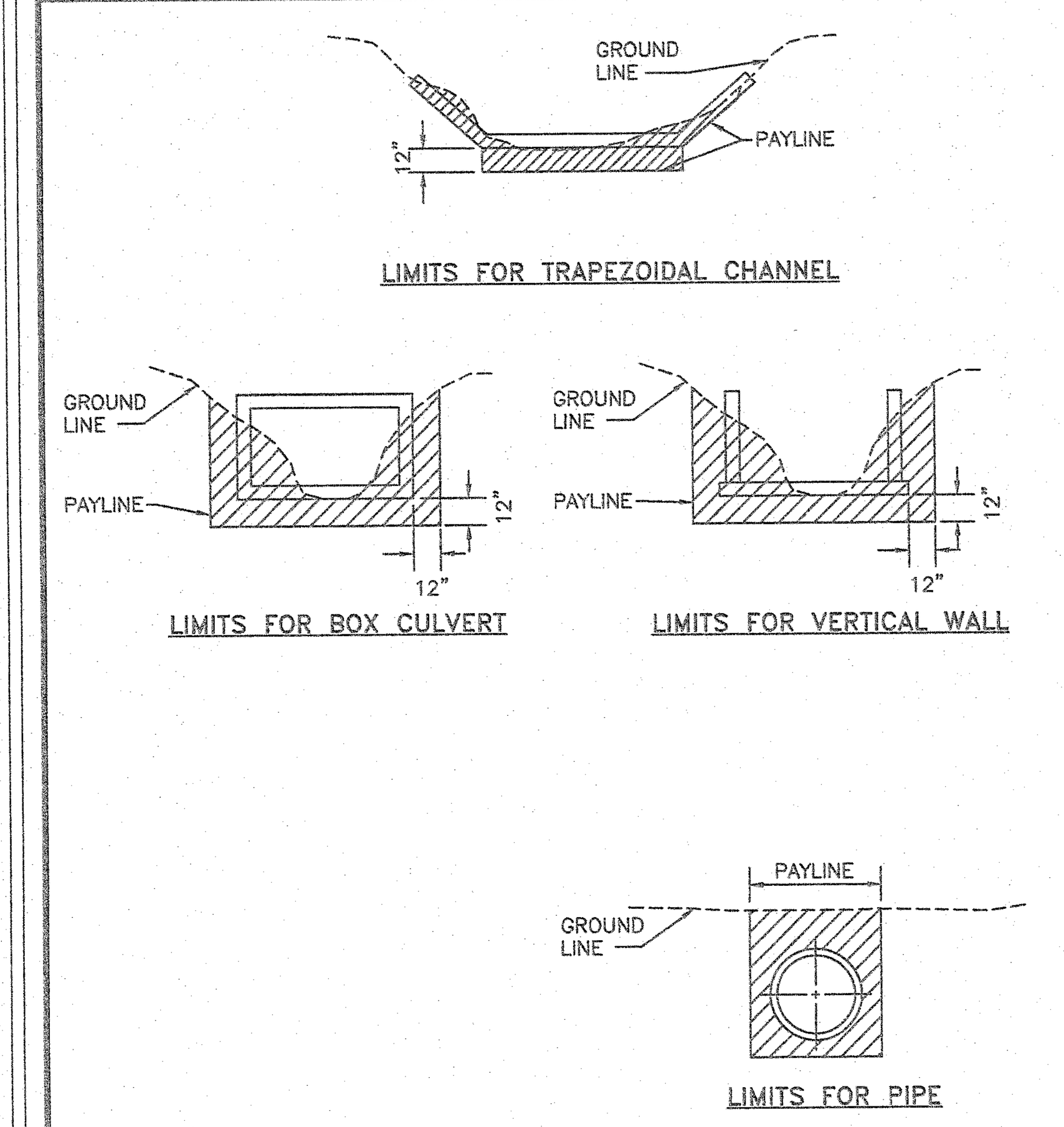
MANHOLE STEP FOR PRECAST & CAST-IN-PLACE MANHOLE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. D.A.B. Ch. J.C.K.	2009	SHEET 58



2 GRATE INLETS PRECAST CONCRETE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. JLG/SAM Ch. J.C.K.	2009	SHEET 35

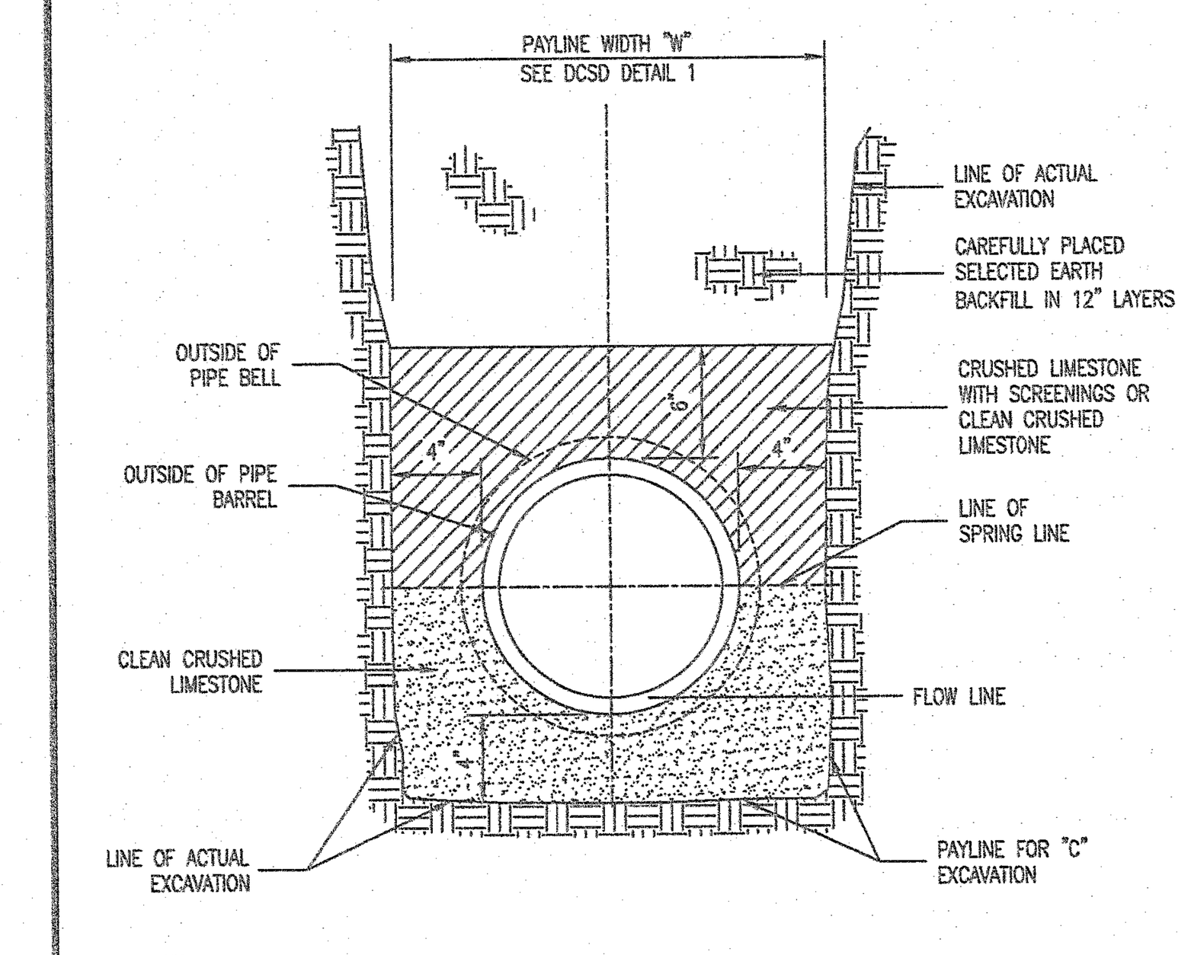


PIPE BEDDING CLASS "C" (FOR ALL 6" to 18" PIPE EXCEPT REINFORCED CONCRETE PIPE)	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. W.S.H. Ch. J.C.K.	2009	SHEET 4



NOTE:
PAYLINE FOR ANY OTHER TYPE CHANNEL EXCAVATION SHALL BE THE EXACT SHAPE OF THE SUBGRADE.

Duckett Creek Duckett Creek Sanitary District	Duckett Creek Sanitary District			
	PAYLINE LIMITS FOR EXCAVATION	Dwn By: BSM / Ckd By: MBOB	App By: KLA / Date: DEC. 2015	Detail No. 2

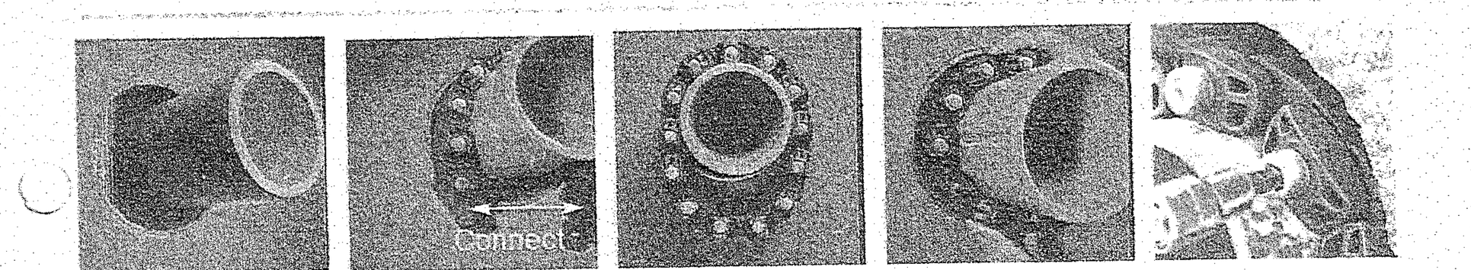


NOTES:
ALL PVC SANITARY SEWER PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034 STANDARD SPECIFICATION FOR POLYVINYL CHLORIDE SEWER PIPE, SDR-35 OR EQUAL, WITH "CLEAN" 1/2 INCH TO 1 INCH GRANULAR STONE BEDDING UNIFORMLY GRADED. THIS BEDDING SHALL EXTEND FROM 4 INCHES BELOW THE PIPE TO SPRINGLINE OF PIPE. IMMEDIATE BACKFILL OVER PIPE SHALL CONSIST OF SAME SIZE "CLEAN" OR "MINUS" STONE FROM SPRINGLINE OF PIPE TO 6 INCHES ABOVE THE TOP OF PIPE. FINAL BACKFILL MATERIAL SHALL BE OF SUITABLE MATERIAL REMOVED FROM EXCAVATION EXCEPT AS OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE ROCKS OR STONES, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED WITHIN 2 FEET FROM TOP OF PIPE.

Duckett Creek Duckett Creek Sanitary District	Duckett Creek Sanitary District			
	PIPE BEDDING CLASS "C" (FOR ALL EXCEPT REINFORCED CONCRETE PIPE)	Dwn By: BSM / Ckd By: MDOB	App By: KA / Date: JULY 2016	Detail No. 3

Installation Techniques - Link-Seal® Modular Seals

Online Installation Video
Visit www.linkseal.com



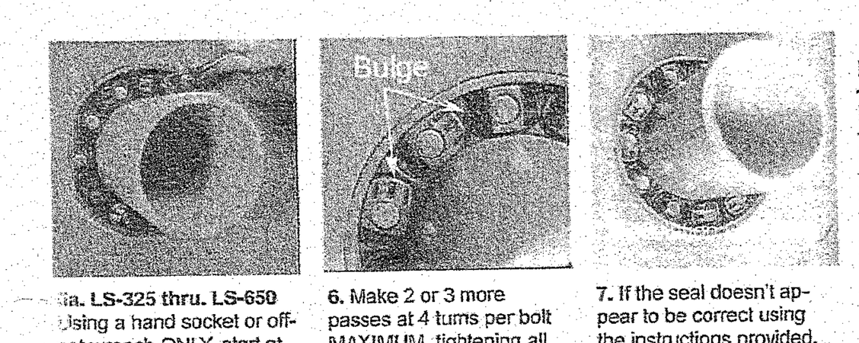
1. Center the pipe, cable or conduit in wall opening or casing. Make sure the pipe will be adequately supported on both ends. Link-Seal® modular seals are not intended to support the weight of the pipe.

2. Loosen rear pressure plate with nut just enough so links move freely. Connect both ends of belt around the pipe.

3. Check to be sure all bolt heads are facing the installer. Extra slack or sag is normal. Do not remove links if extra slack exists. Note: On smaller diameter pipe, links may need to be stretched.

4. Slide belt assembly into annular space. For larger size belts, start inserting Link-Seal modular seal assembly at the 6 O'Clock position and work both sides up toward the 12 O'Clock position in the annular space.

5. LS-200 thru. LS-315 Using a hand socket allen head or off-set wrench ONLY, start at 12 O' Clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)



5a. LS-325 thru. LS-650 Using a hand socket or offset wrench ONLY, start at 12 O' Clock. Do not tighten any bolt more than 4 turns at a time. Continue in a clockwise manner until links have been uniformly compressed. (Approx. 2 or 3 rotations)

6. Make 2 or 3 more passes at 4 turns per bolt MAXIMUM, tightening all bolts clockwise until all sealing elements **"bulge"** around all pressure plates. On type 316 stainless steel bolts, hand tighten ONLY without power tool.

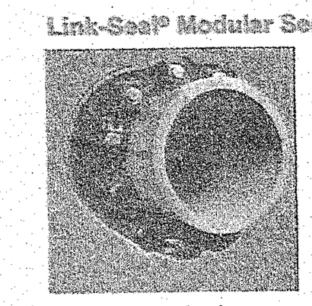
7. If the seal doesn't appear to be correct using the instructions provided, **Call PSI at 800-423-2410.**

Link-Seal® Model	Tool Size/ Type Req.
LS-200, LS-275	4mm, Allen
LS-300, LS-315	6mm, Allen
LS-325, LS-340, LS-360	13mm, Hex
LS-400, LS-410, LS-425, LS-475	17mm, Hex
LS-500, LS-525, LS-575	19mm, Hex
LS-600	30mm, Hex
LS-650	19mm, Hex

Installation Notes: The Link-Seal® modular seal bolt heads are usually recessed below the wall opening or the edge of casing pipe and therefore a socket or offset wrench must be used. **Hand Tools:** Review provided chart above. (Tools not provided.) Tools can be purchased from hardware store, auto parts store, or home improvement store.

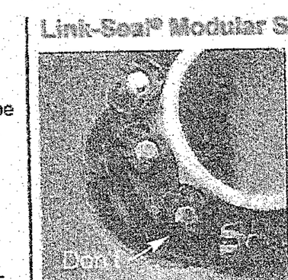
Always Wear Safety Equipment When Using Link-Seal® Modular Seals!

Link-Seal® Modular Seal - Do's

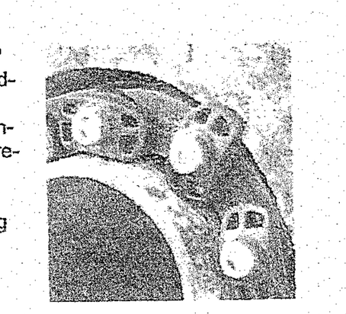


1. Make sure pipe is centered.
2. Install the belt with the pressure plates evenly spaced.
3. Install the exact number of links indicated in sizing charts.
4. Check to make sure pipe is supported properly during backfill operations. Note: Link-Seal modular seals are not intended to support the weight of the pipe.
5. Make sure seal assembly and pipe surfaces are free from dirt.
6. For tight fits, use non-polluting liquid detergent to assist installation.

Link-Seal® Modular Seal - Don'ts



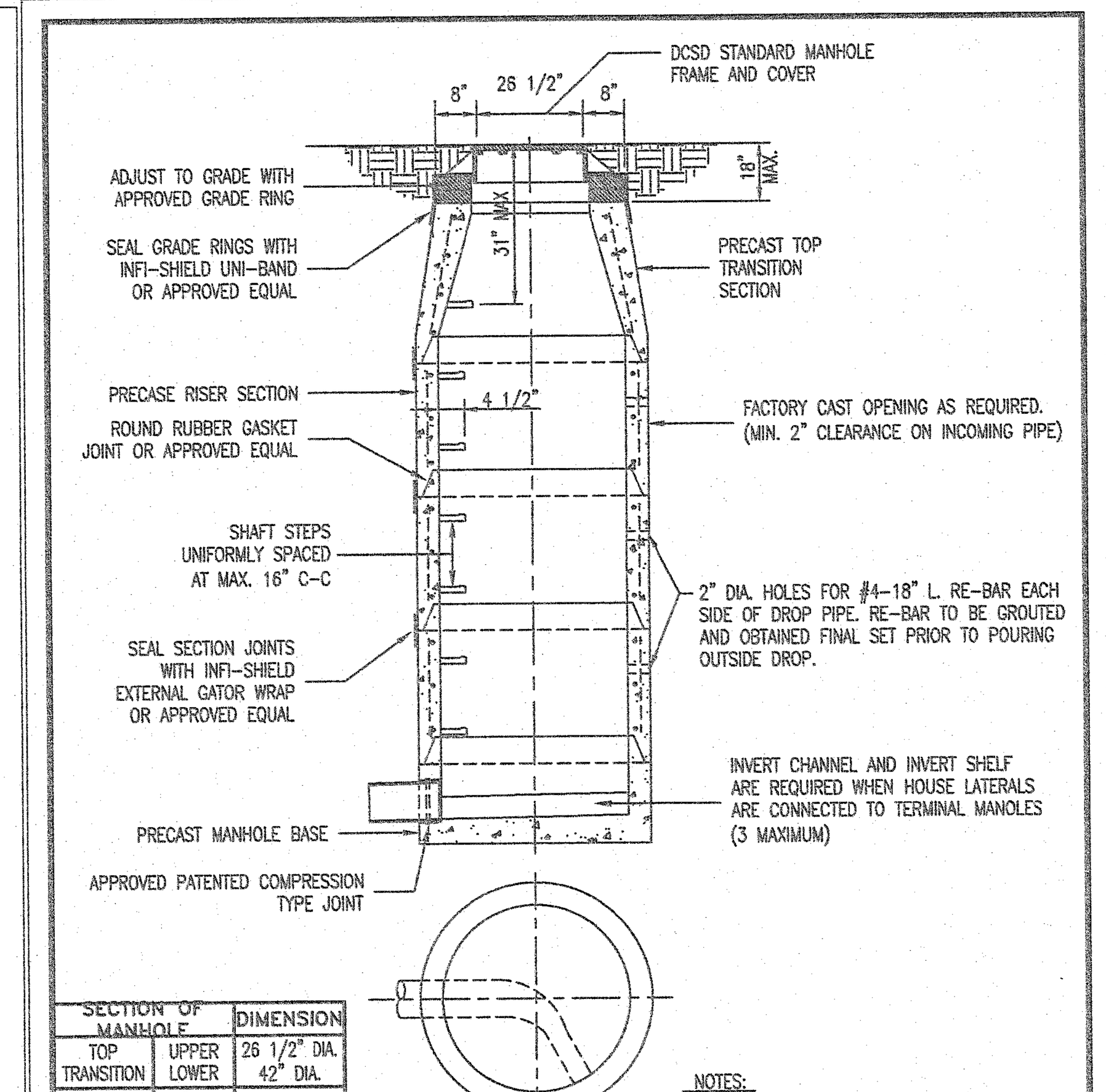
1. Don't install the belt with the pressure plates aimed in irregular directions. (Staggered)
2. Don't install Link-Seal® modular seals where weld-beads or other irregular surfaces exist without consideration of the sealing requirements.
3. Don't torque each bolt completely before moving on to the next.
4. Don't use high speed power tools (450 rpm or more)
5. Do not use power tools on Link-Seal modular seal 316 stainless steel bolts.
6. Don't use grease installing Link-Seal modular seals.



If the seal doesn't appear to be correct using the techniques provided, **Call PSI at 713-747-6948 or 800-423-2410.**

ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
INSIDE DIAMETER OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASEMENT	INSIDE DIMENSIONS OF PIPE (INCHES)	"W" PAYLINE WIDTH OF TRENCH (INCHES)	"W" PAYLINE WIDTH OF TRENCH (FEET)	PAY-VOLUMES CU. FT. PER FT. CONCRETE ENCASEMENT
4	30	2.50	3.28				
6	30	2.50	3.59				
8	30	2.50	3.87				
10	30	2.50	4.09				
12	30	2.50	4.25				
15	36	3.00	5.55				
18	36	3.00	5.77	14 x 23	41	3.42	5.94
21	39	3.25	6.61				
24	42	3.50	7.39	19 x 30	49	4.08	7.68
27	45	3.75	8.18	22 x 34	53	4.42	8.61
30	49	4.08	9.30	24 x 38	58	4.83	9.70
33	53	4.42	10.53	27 x 42	62	5.17	10.71
36	56	4.67	11.43	29 x 45	66	5.50	11.72
39	DISCONTINUED			32 x 49	71	5.92	13.14
42	63	5.25	13.38	34 x 53	75	6.25	14.05
48	70	5.83	15.67	38 x 60	83	6.92	16.18
54	77	6.42	18.15	43 x 68	92	7.67	18.81
60	84	7.00	20.73	48 x 76	101	8.42	21.59
66	91	7.58	23.45	53 x 83	109	9.08	24.35
72	98	8.17	26.37	58 x 91	118	9.83	27.45
78	105	8.75	29.39	63 x 98	126	10.50	30.50
84	112	9.33	32.57	68 x 106	135	11.25	33.91
90	119	9.92	35.90	72 x 113	143	11.92	36.99
96	126	10.50	39.37	77 x 121	152	12.67	40.69
102	133	11.08	42.99	82 x 128	160	13.33	44.45
108	140	11.67	46.75	87 x 136	168	14.00	47.79
114	147	12.25	50.66	92 x 143	176	14.67	51.70
120	154	12.83	54.72	97 x 151	185	15.42	56.01
126	161	13.42	58.92				
132	168	14.00	63.27	106 x 166	202	16.83	64.48
144	182	15.17	72.40	116 x 180	218	18.17	73.59

TABLE 1 PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. B.E.B. Ch. J.C.K.	2009	SHEET 1



SECTION OF MANHOLE		DIMENSION
TOP TRANSITION	UPPER	26 1/2" DIA.
	LOWER	42" DIA.
BOTTOM SECTION	8" DIA. PIPE	42" DIA.
BOTTOM SECTION	10" THRU 36" DIA. PIPE	48" DIA.
BOTTOM SECTION	42" DIA. PIPE	60" DIA.

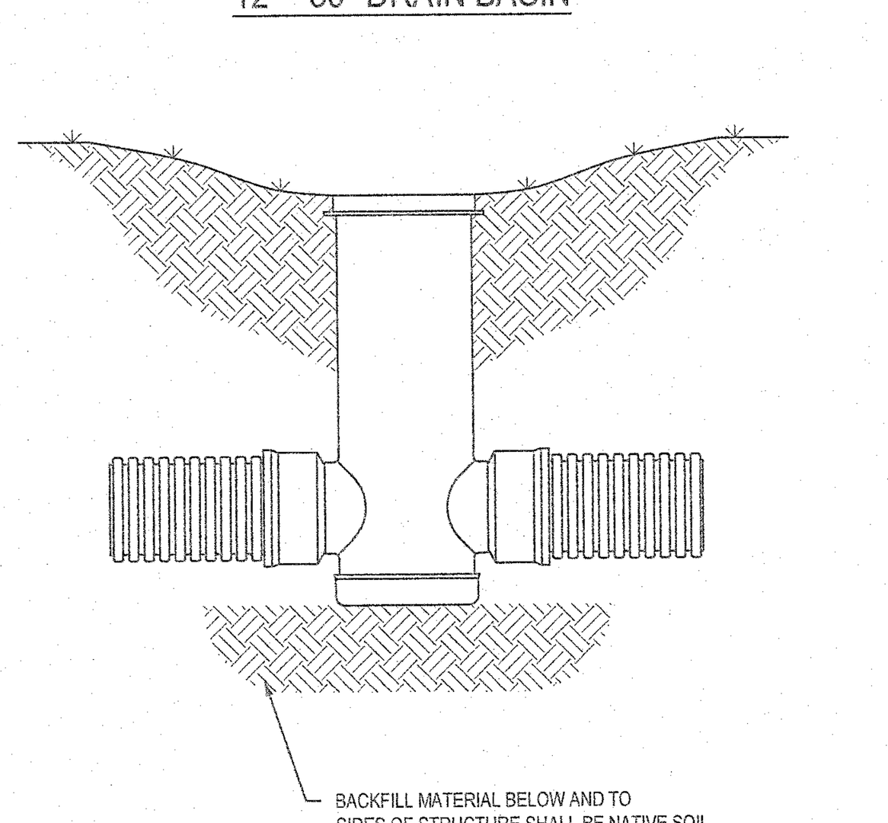
SEE A.S.T.M. C-478 FOR MINIMUM STEEL REQUIREMENTS.

NOTES:
1. ALL INVERTS SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLE.
2. BRICK SHALL NOT BE USED ON MANHOLES.

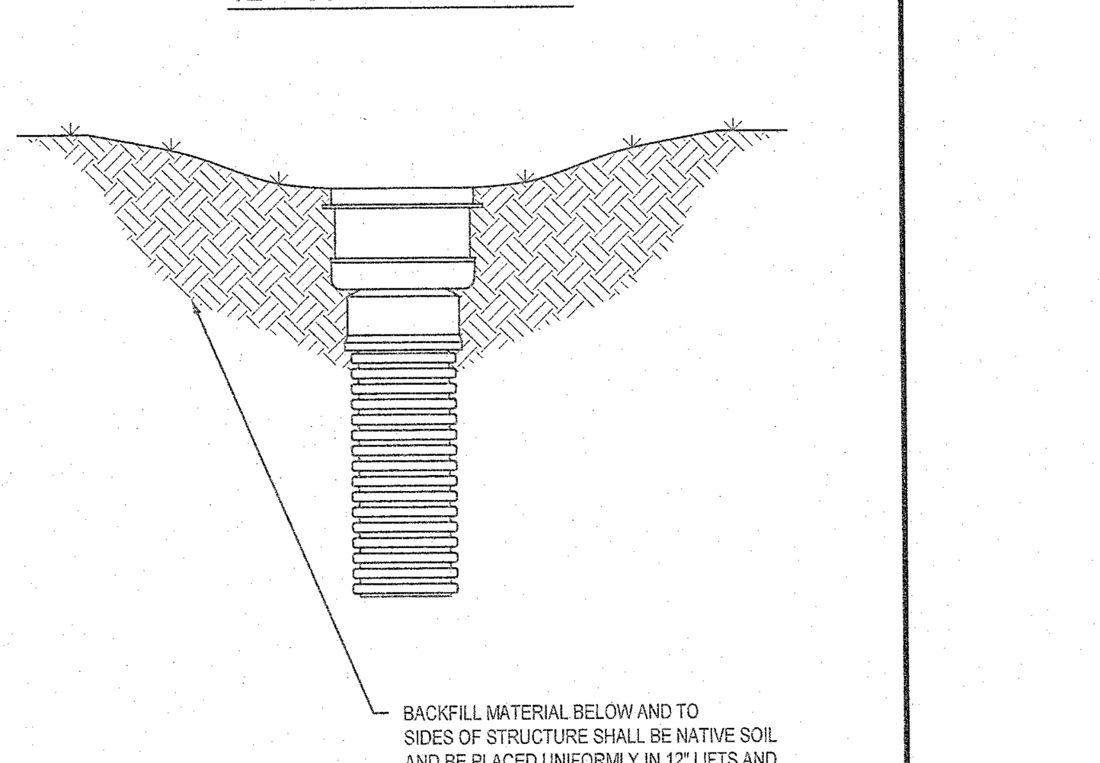
Duckett Creek Duckett Creek Sanitary District	Duckett Creek Sanitary District			
	TERMINAL MANHOLE FOR SEWERS 8" THROUGH 18"	Dwn By: BSM / Ckd By: MDOB	App By: KLA / Date: DEC. 2015	Detail No. 8

NON TRAFFIC INSTALLATION

12" - 30" DRAIN BASIN



12" - 30" INLINE DRAIN



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	DWG SIZE A	SCALE 1:25 SHEET 1 OF 1	DWG NO. 7001-110-111 REV B

DUCKETT CREEK SANITARY DISTRICT CONSTRUCTION NOTES

1. Underground utilities have been plotted from available information and therefore location shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans, shall be the responsibility of the contractor and shall be located prior to any grading or construction of improvements.
2. Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including house laterals.
3. All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match preconstruction conditions.
4. All fill including places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right-of-way shall be compacted to 90 percent of maximum density as determined by the "Modified AASHTO T-180 Compaction Test (ASTM D1557)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-yielding and non-pumping during proofrolling and compaction.
5. The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system. The contractor will be required to install a brick bulkhead on the downstream side of the first new manhole constructed when connecting into existing sewers.
6. All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
7. It is the responsibility of the contractor to adjust all sanitary sewer manholes (that are affected by the development) to finish grade.
8. Easements shall be provided for all sanitary sewers, storm sewers and all utilities on the record plat.
9. All sanitary sewer construction and materials shall conform to the current construction standards of the Duckett Creek Sanitary District.
10. The Duckett Creek Sanitary District shall be notified at least 48 hours prior to construction for coordination of inspection.
11. All sanitary sewer building connections shall be designed so that the minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection shall not be less than the diameter of the pipe plus the vertical distance of 2½ feet.
12. All sanitary sewer manholes shall be watertight in accordance with Missouri Dept. of Natural Resources specification 10 CSR 20-8.120(6)(F) 1.
13. All PVC sanitary sewer pipe shall conform to the requirements of ASTM D-3034 Standard Specification for PSM Polyvinyl Chloride Sewer Pipe, SDR-35 or equal, with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate backfill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top of pipe. Final backfill material shall be of suitable material removed from excavation except as other material is specified. Debris, frozen material, large rocks or stones, or other unstable materials shall not be used within 2 feet from top of pipe.
14. All sanitary and storm sewer trench backfills shall be water jetted. Granular backfill will be used under pavement areas.
15. All pipes shall have positive drainage through manholes. Flat invert structures not allowed.
16. Epoxy Coating shall be used on all sanitary sewer manholes that receive pressurized mains.
17. All creek crossings shall be lined with rip-rap as directed by District inspectors.
18. Brick shall not be used on sanitary sewer manholes.
19. Existing sanitary sewer service shall not be interrupted.
20. Maintain access to existing residential driveways and streets.
21. Pre-manufactured adapters shall be used at all PVC to DIP connections. Rubber boot / Mission-type couplings will not be allowed.
22. Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.
23. 'Type N' Lock-Type Cover and Locking Device (Lock-Lug) shall be used where lock-type covers are required.
24. All sanitary sewer system work shall be conducted under the inspection of a representative of the District. All work may not require inspection but the District's representative may designate specific areas that must be inspected before the work is backfilled. All testing must be witnessed by the District's Inspector and the Contractor shall furnish all testing equipment as approved by the District. Testing shall include:
    - A mandrel test of all gravity sewers using a mandrel with a diameter that has a diameter 95% of the inside pipe diameter. If the mandrel test fails on any section of pipe, that section of pipe shall be uncovered and replaced. No expansion devices will be allowed to be used to "force" the pipe that is deformed back into round. Any string lines used in mandrel testing shall be removed after testing is completed. Deflection testing cannot be conducted prior to 30 days after final backfill.
    - An air pressure test of all gravity sewers to a pressure of 5 PSI with no observed drop in pressure during a test period of 5 minutes.
    - A vacuum test of all manholes for a period of 1 minute and the vacuum shall be 10" of mercury and may not drop below 9" of mercury at the end of the 1 minute test.

Revised October 2016

AS-BUILT PUBLIC UTILITY FINAL MEASUREMENTS

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BAX ENGINEERING COMPANY, INC.
MARK E. COLLINS
MISSOURI PROFESSIONAL LAND SURVEYOR #2006000173

STATE OF MISSOURI
MARK E. COLLINS
2-9-21
NUMBER
PLS-2006000173
PROFESSIONAL LAND SURVEYOR

[illegible]

LAND SURVEYOR'S SEAL DOES NOT APPLY TO REFERENCE DETAILS ON THIS SHEET.

Bax Engineering Company, Inc.
Missouri State Certificate of Authority Engineering #000655
Missouri State Certificate of Authority Surveying #000144

ADDITIONS AND RENOVATIONS AT
FRONTIER MIDDLE SCHOOL AS-BUILT PLANS
WENTZVILLE R-IV SCHOOL DISTRICT
WENTZVILLE, MISSOURI

CONSULTING ENGINEERS:
ASDG, LLC — STRUCTURAL
McCLURE ENGINEERING — MECH/ELEC/PLUMB
BAX ENGINEERING — CIVIL/SURVEY
GEOTECHNICAL — PSI, INC.

HOENER ASSOCIATES, INC. - ARCHITECTS
6707 PLAINVIEW AVENUE
ST. LOUIS, MISSOURI 63109
Ph. (314) 781-9855 - Fax (314) 781-0163

[redacted]

ALL DIMENSIONS MUST BE VERIFIED AT BUILDING BEFORE WORK IS EXECUTED. THIS DRAWING IS THE PROPERTY OF THE ARCHITECTS AND SHALL NOT BE COPIED OR DUPLICATED WITHOUT THEIR CONSENT.

proj. no. 19-06C
date issued
01/31/20
date revised
02/08/21
CITY COMMENT REVISIONS
drawn by GAW
checked by JNW
sheet no.
C12.0

SEWER DETAILS

BAX PROJECT NO. 12495HA