GENERAL NOTES

A DESIGN DATA PRO IDED IN ELECTRONIC FORMAT IS FOR INFORMATION P RPOSES ONL AND
S O LD E SED AT O R O N RISK, AND IS PRO IDED IT O T REPRESENTATIONS AND
WARRANTIES. ANY CONFLICT BETWEEN THE INFORMATION REFLECTED ON THE LATEST REVISION
OF T E SEALED PLAN S EETS AND T AT PRO IDED IA ELECTRONIC FORMAT S ALL E RESOL ED
IN FA OR OF T E SEALED PLAN S EETS
TILITIES T ERE MA E ADDITIONAL E ISTING TILITIES NOT S O N ON T ESE PLANS E ISTING
TILITIES ARE S O N IN AN APPRO IMATE MANNER ONL AND T E ENGINEER ASS MES NO
RESPONSI ILIT FOR LOCATIONS S O N FIELD ERIF T E LOCATION OF ALL E ISTING TILITIES
IT IN T E LIMITS OF CONSTR CTION NOTIF T E O NER AND ENGINEER IF DISCREPANCIES ARE
FO ND T AT ILL AFFECT T E CONSTR CTION PRO ECT PROTECT ALL E ISTING TILITIES
C TEMPORAR PRO ISIONS SE ENCE T E ORK AND PRO IDE TEMPORAR MEAS RES AS
NEEDED TO MAINTAIN ACCESS TO T E SITE T RO G ALL ENTRANCES AT ALL TIMES D RING
CONSTR CTION TEMPORAR PRO ISIONS MA INCL DE, T ARE NOT LIMITED TO ARRICADES,
FLAS ING LIG TS, FLAGMAN, TEMPORAR PA EMENT, AND DIRECTIONAL SIGNAGE
D E IPMENT STORAGE DO NOT PARK E IPMENT OR STORE MATERIALS IN STATE, CO NT , OR
CIT RIG T OF A
E NOTIF T E ENGINEER IN RITING OF AN DISCREPANCIES ET EEN T E E ISTING CONDITIONS IN
T E FIELD AND T E S R E S O N ON T E PLANS EFORE PROCEEDING IT AN NE
CONSTR CTION
F O TAIN ALL RE IRED CONSTR CTION RELATED PERMITS, INCL DING DEMOLITION PERMIT,
EFORE STARTING ORK RETAIN COPIES OF ALL PERMITS AT T E PRO ECT SITE AT ALL TIMES
G APPRO AL OF T ESE PLANS DOES NOT CONSTIT TE APPRO AL OF AN LAND DIST R ING
ACTI ITIES IT IN ETLAND AREAS CONTACT T E APPROPRIATE REG LATOR AGENC FOR
APPRO AL OF AN ETLAND AREA DIST R ANCE
SIGNS LOCATION, N M ER, AND SI E ARE NOT APPRO ED NDER T E GENERAL DE ELOPMENT
PERMIT A SEPARATE PERMIT IS RE IRED FOR ONSITE SIGNAGE
I NO CERTIFICATE OF OCC PANC ILL E ISS ED NTIL ALL SITE IMPRO EMENTS A E EEN
COMPLETED ON T E SITE
COMPL IT ALL APPLICA LE STATE, FEDERAL, AND LOCAL ILDING AND TILIT INSTALLATION
CODES ALL MATERIALS AND CONSTR CTION MET ODS S ALL E IN ACCORDANCE IT T ESE
PLANS AND SPECIFICATIONS NLESS DEPARTMENT OF TRANSPORTATION STANDARDS OR LOCAL
M NICIPAL STANDARDS ARE MORE STRINGENT
K DO NOT DE IATE FROM T ESE PLANS AND SPECIFICATIONS IT O T PRIOR RITTEN APPRO AL
FROM T E ENGINEER OF RECORD
L ORK IT IN D O T RIG T OF A
1 ALL PA EMENT MARKINGS IT IN D O T RIG T OF A S ALL E T ERMOPLASTIC AND IN
ACCORDANCE IT D O T SPECIFICATIONS
RE ESTA LIS ALL RIG T OF A AREA, IC IS DAMAGED OR DIST R ED, TO ORIGINAL
CONDITION OR ETTER
ALL ORK IN D O T RIG T OF A S ALL COMPL IT D O T SPECIFICATIONS
M ARRANGE IG INTENSIT LIG TING TO CONCEAL T E SO RCE OF LIG T FROM P LIC IE AND
PRE ENT INTERFERENCE IT TRAFFIC
N ENS RE CORRECT ORI ONTAL AND ERTICAL ALIGNMENT OF ALL TIES ET EEN PROPOSED AND
E ISTING PA EMENTS, C R AND G TTER, SIDE ALKS, ALLS, AND TILITIES EFORE EGINNING
ORK NOTIF ENGINEER IF DISCREPANCIES E IST

TRAFFIC CONTROL

A IF DRA INGS DO NOT INDICATE SITE SPECIFIC TRAFFIC CONTROL MEAS RES, CONTRACTOR S ALL
E RESPONSI LE FOR PRO IDING A TEMPORAR TRAFFIC CONTROL PLAN IN ACCORDANCE IT
T E MAN AL ON NIFORM TRAFFIC CONTROL DE ICES M TCD , LATEST EDITION
ALL TEMPORAR TRAFFIC CONTROL SIGNAGE AND MARKINGS S ALL E INSTALLED PRIOR TO
CONSTR CTION AND MAINTAINED D RING CONSTR CTION IN ACCORDANCE IT T E M TCD,
LATEST EDITION
C CONTACT PROPERT O NERS TO E AFFECTED CONSTR CTION AND COORDINATE TEMPORAR
DRI E A CLOS RES AND SE ENCING MAINTAIN ACCESS FOR ALL PROPERT O NERS D RING
CONSTR CTION
D CONTROL D ST AS NECESSAR TO PRE ENT INTERFERENCE IT TRAFFIC
E INSPECT TRAFFIC CONTROL DE ICES ON A DAIL ASIS TO ENS RE PLACEMENT OF ARRICADES
AND F NCTION OF LIG TS IS MAINTAINED T RO G O T CONSTR CTION
F COORDINATE ALL LANE CLOS RES IT T E LOCAL RISDICTION A ING A T ORIT

STR CT RE SITE DEMOLITION

A ERIF T AT TILITIES A E EEN DISCONNECTED AND CAPPED EFORE STARTING DEMOLITION
OPERATIONS
ERIF T AT A ARDO S MATERIALS A E EEN REMEDIATED EFORE PROCEEDING IT
ILDING DEMOLITION OPERATIONS
C EN IRONMENTAL GEOTEC NICAL RE IE ALL PRO ECT EN IRONMENTAL AND GEOTEC NICAL
REPORTS AN ECOME FAMILIAR IT ALL ISS ES EFORE DEMOLITION
D E ISTING TILITIES LOCATE, IDENTIF , DISCONNECT, AND SEAL OR CAP OFF INDICATED TILITIES
SER ING ILDINGS AND STR CT RES TO E DEMOLIS ED
1 ARRANGE TO S T OFF INDICATED TILITIES IT TILIT COMPANIES
IF REMO AL, RELOCATION, OR A ANDONMENT OF TILIT SER ICES ILL AFFECT AD ACENT
OCC PIED ILDINGS, T EN PRO IDE TEMPORAR TILITIES T AT PASS ILDINGS AND
STR CT RES TO E DEMOLIS ED AND T AT MAINTAIN CONTIN IT OF SER ICE TO OT ER
ILDINGS AND STR CT RES
DO NOT COMMENCE DEMOLITION OPERATIONS NTIL TEMPORAR EROSION AND SEDIMENT
CONTROL AND PLANT PROTECTION MEAS RES ARE IN PLACE
O TAIN T E DEMOLITION PERMIT FROM T E LOCAL A T ORIT PRIOR TO STARTING
DEMOLITION ACTI ITIES
E ISTING FACILITIES PROTECT AD ACENT ALK A S, LOADING DOCKS, ILDING ENTRIES,
AND OT ER ILDING FACILITIES D RING DEMOLITION OPERATIONS MAINTAIN E ITS FROM
E ISTING ILDINGS PROMPTL REPAIR AN FACILITIES DAMAGED CONSTR CTION
OPERATIONS TO O NER S SATISFACTION AT NO ADDITIONAL COST TO T E O NER
E ISTING TILITIES MAINTAIN TILIT SER ICES TO REMAIN AND PROTECT FROM DAMAGE
D RING DEMOLITION OPERATIONS
TEMPORAR PROTECTION ERECT TEMPORAR PROTECTION, S C AS ALKS, FENCES,
RAILINGS, CANOPIES, AND CO ERED PASSAGE A S, ERE RE IRED A T ORITIES
A ING RISDICTION AND AS INDICATED
REMO E TEMPORAR ARRIERS AND PROTECTIONS ERE A ARDS NO LONGER E IST
ERE OPEN E CA ATIONS OR OT ER A ARDO S CONDITIONS REMAIN, LEA E TEMPORAR
ARRIERS AND PROTECTIONS IN PLACE
REMO E DEMOLITION ASTE MATERIALS FROM PRO ECT SITE AND LEGALL DISPOSE OF T EM
IN AN EPA APPRO ED LANDFILL ACCEPTA LE TO A T ORITIES A ING RISDICTION
10 DO NOT RN DEMOLIS ED MATERIALS NLESS SPECIAL RITTEN PERMISSION IS O TAINED
FROM O NER AND ENGINEER
11 CLEAN AD ACENT STR CT RES AND IMPRO EMENTS OF D ST, DIRT, AND DE RIS CA SED
ILDING DEMOLITION OPERATIONS RET RN AD ACENT AREAS TO CONDITION E ISTING
EFORE ILDING DEMOLITION OPERATIONS EGAN

SITE CLEARING

1 PRO ECT CONDITIONS
A TRAFFIC MINIMI E INTERFERENCE IT AD OINING ROADS, STREETS, ALKS, AND OT ER
AD ACENT OCC PIED OR SED FACILITIES D RING SITE CLEARING OPERATIONS
EN IRONMENTAL GEOTEC NICAL RE IE ALL PRO ECT EN IRONMENTAL AND GEOTEC NICAL
REPORTS AND ECOME FAMILIAR IT ALL ISS ES EFORE SITE CLEARING
C TILIT LOCATOR SER ICE NOTIF TILIT LOCATOR SER ICE FOR AREA ERE PRO ECT IS
LOCATED EFORE SITE CLEARING
D DO NOT COMMENCE SITE CLEARING OPERATIONS NTIL TEMPORAR EROSION AND
SEDIMENTATION-CONTROL AND PLANT-PROTECTION MEASURES ARE IN PLACE.
TEMPORAR EROSION AND SEDIMENTATION CONTROL
A PRO IDE TEMPORAR EROSION AND SEDIMENTATION CONTROL MEAS RES TO PRE ENT SOIL
EROSION AND DISC ARGE OF SOIL EARING ATER R NOFF OR AIR ORNE D ST TO AD ACENT
PROPERTIES AND ALK A S, ACCORDING TO EROSION AND SEDIMENTATION CONTROL
DRA INGS AND RE IREMENTS OF A T ORITIES A ING RISDICTION
ERIF T AT FLO S OF ATER REDIRECTED FROM CONSTR CTION AREAS OR GENERATED
CONSTR CTION ACTI IT DO NOT ENTER OR CROSS PROTECTION ONES
C INSPECT, MAINTAIN, AND REPAIR EROSION AND SEDIMENTATION CONTROL MEAS RES D RING
CONSTR CTION NTIL PERMANENT EGETATION AS EEN ESTA LIS ED
D REMO E EROSION AND SEDIMENTATION CONTROLS EN SITE IS STA ILI ED AND RESTORE AND
STA ILI E AREAS DIST R ED D RING REMO AL
TREE AND PLANT PROTECTION
A REPAIR OR REPLACE TREES, S R S, AND OT ER EGETATION INDICATED TO REMAIN OR E
RELOCATED T AT ARE DAMAGED CONSTR CTION OPERATIONS, IN A MANNER APPRO ED
ENGINEER
E ISTING TILITIES
A LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP UTILITIES INDICATED TO BE REMOVED OR
A ANDONED IN PLACE ARRANGE IT TILIT COMPANIES TO S T OFF INDICATED TILITIES
INTERR PTING E ISTING TILITIES DO NOT INTERR PT TILITIES SER ING FACILITIES OCC PIED
O NER OR OT ERS NLESS PERMITTED NDER T E FOLLO ING CONDITIONS AND T EN ONL
AFTER ARRANGING TO PRO IDE TEMPORAR TILIT SER ICES ACCORDING TO RE IREMENTS
INDICATED
1 NOTIF TILIT O NER NOT LESS T AN T O DA S IN AD ANCE OF PROPOSED TILIT
INTERR PTIONS
DO NOT PROCEED IT TILIT INTERR PTIONS IT O T TILIT O NER S RITTEN
PERMISSION
C POT OLE E ISTING ATER LINES, NDERGRO ND ELECTRICAL LINES, GAS LINES, NDERGRO ND
TELEP ONE LINES, FI ER OPTIC, AND AN OT ER E ISTING TILIT LINES IT IN T E PRO ECT
LIMITS D RING SITE CLEARING AND DEMOLITION ACTI ITIES S R E T E E ISTING TILIT
ELE ATIONS AND PRO IDE T E S R E ED FIELD LOCATIONS AND DEPT S TO T E ENGINEER FOR
RE IE T ESE E ISTING TILITIES MA RE IRE RELOCATION
CLEARING AND GR ING
A REMO E O STR CTIONS, CONCRETE, ASP ALT, TREES, S R S, AND OT ER EGETATION TO
PERMIT INSTALLATION OF NE CONSTR CTION
1 DO NOT REMO E TREES, S R S, AND OT ER EGETATION INDICATED TO REMAIN OR TO E
RELOCATED
GRIND DO N ST MPS AND REMO E ROOTS, O STR CTIONS, AND DE RIS TO A DEPT OF 1
INC ES ELO E POSED S GRADE
SE ONL AND MET ODS FOR GR ING IT IN PROTECTION ONES
T E S GRADE TO REMAIN S ALL E COMPACTED TO STANDARD PROCTOR MA IM M DR
DENSIT FOLLO ING CLEARING AND GR ING ACTI ITIES
TOPSOIL STRIPPING
A REMO E SOD AND GRASS EFORE STRIPPING TOPSOIL
STRIP TOPSOIL IN A MANNER TO PRE ENT INTERMINGLING IT NDERL ING S SOIL OR OT ER
ASTE MATERIALS
C STOCKPILE TOPSOIL A A FROM EDGE OF E CA ATIONS IT O T INTERMI ING IT S SOIL
GRADE AND S APE STOCKPILES TO DRAIN S RFACE ATER CO ER TO PRE ENT IND LO N
D ST AND EROSION ATER
D DISPOSE OF S RPL S TOPSOIL S RPL S TOPSOIL IS T AT IC E CEEDS ANTIT INDICATED
TO E STOCKPILED OR RE SED

SITE ATER DISTRI TION

1 GENERAL
A REG LATOR RE IREMENTS
1 COMPL IT RE IREMENTS OF TILIT COMPAN S PPL ING ATER INCL DE TAPPING OF
ATER MAINS AND ACKFLO PRE ENTION
COMPL IT STANDARDS OF A T ORITIES A ING RISDICTION FOR
POTA LE ATER SER ICE PIPING, INCL DING MATERIALS, INSTALLATION, TESTING, AND
DISINFECTION
PIPING MATERIALS S ALL EAR LA EL, STAMP, OR OT ER MARKINGS OF SPECIFIED TESTING
AGENC
C INTERR PTION OF E ISTING ATER DISTRI TION SER ICE NOTIF O NER AT LEAST DA S
PRIOR TO INTERR PTION OF E ISTING ATER SER ICES
D COORDINATE IT TILIT COMPAN FOR RE IRED INSPECTIONS AND FOR CONNECTION OF
ATER MAIN AND SER ICES EFORE STARTING CONSTR CTION
COPPER T E AND FITTINGS
A SOFT COPPER T E ASTM B 88, TYPE K , WATER TUBE, ANNEALED TEMPER.
COPPER, PRESS RE SEAL FITTINGS
1 NPS 2 AND SMALLER RO G T COPPER FITTING IT EPDM O RING SEAL IN EAC END
NPS 2-1/2 TO NPS 4 RON E FITTING IT STAINLESS STEEL GRIP RING AND EPDM O RING
SEAL IN EAC END
C BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER-JOINT END. FURNISH CLASS 300
FLANGES IF RE IRED TO MATC PIPING
D COPPER UNIONS: MSS SP-123, CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY WITH
ALL AND SOCKET, METAL TO METAL SEATING S RFACES, AND SOLDER OINT OR T READED ENDS
D CTILE IRON PIPE AND FITTINGS
A MECHANICAL-JOINT, DUCTILE-IRON PIPE: AWWA C151, WITH MECHANICAL-JOINT BELL AND PLAIN
SPIGOT END NLESS GROO ED OR FLANGED ENDS ARE INDICATED
1 MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD
PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.
GLANDS, GASKETS, AND BOLTS: AWWA C111, DUCTILE- OR GRAY-IRON GLANDS, RUBBER
GASKETS, AND STEEL OLTS
PUSH-ON-JOINT, DUCTILE-IRON PIPE: AWWA C151, WITH PUSH-ON-JOINT BELL AND PLAIN SPIGOT
END NLESS GROO ED OR FLANGED ENDS ARE INDICATED
C FLANGES: ASME 16.1, CLASS 125, CAST IRON.
P C PIPE AND FITTINGS
A PVC, SCHEDULE 40 PIPE: ASTM D 1785. PVC, SCHEDULE 40 SOCKET FITTINGS: ASTM D 2466.
PVC, AWWA PIPE: AWWA C900, CLASS 200, WITH BELL END WITH GASKET, AND WITH SPIGOT END.
C MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD
PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.
GATE AL ES
A A A, CAST IRON GATE AL ES NONRISING STEM, RESILIENT SEATED GATE AL ES GRA OR
D CTILE IRON OD AND ONNET IT RON E OR GRA OR D CTILE IRON GATE, RESILIENT
SEATS, RON E STEM, AND STEM N T
1 STANDARD: AWWA C509.
MINIM M PRESS RE RATING 0 PSIG
END CONNECTIONS MEC ANICAL OINT
INTERIOR COATING: COMPLYING WITH AWWA C550.
GATE AL E ACCESSORIES AND SPECIALTIES
A TAPPING SLEE E ASSEM LIES SLEE E AND AL E COMPATI LE IT DRILLING MAC INE
1 STANDARD: MSS SP-60.
TAPPING SLEE E CAST OR D CTILE IRON OR STAINLESS STEEL, T O PIECE OLTED SLEE E
IT FLANGED O TLET FOR NE RANC CONNECTION INCL DE SLEE E MATC ING SI E
AND T PE OF PIPE MATERIAL EING TAPPED AND IT RECESSED FLANGE FOR RANC AL E
AL E A A, CAST IRON, NONRISING STEM, RESILIENT SEATED GATE AL E IT ONE
RAISED FACE FLANGE MATING TAPPING SLEE E FLANGE
VALVE BOXES: COMPLY WITH AWWA M44 FOR CAST-IRON VALVE BOXES. INCLUDE TOP SECTION,
AD STA LE E TENSION OF LENGT RE IRED FOR DEPT OF RIAL OF AL E, PL G IT
LETTERING " ATER," AND OTTOM SECTION IT ASE T AT FITS O ER AL E AND IT A
ARREL APPRO IMATEL INC ES IN DIAMETER
ACKFLO PRE ENTERS
A DO LE C ECK, DETECTOR ASSEM L ACKFLO PRE ENTERS
1 STANDARDS: ASSE 1048 AND UL LISTED OR FMG APPROVED.
OPERATION CONTIN O S PRESS RE APPLICATIONS
PRESS RE LOSS PSIG MA IM M, T RO G MIDDLE 1 OF FLO RANGE
BODY: CAST IRON WITH INTERIOR LINING COMPLYING WITH AWWA C550 OR THAT IS FDA
APPRO ED
END CONNECTIONS FLANGED
CONFIG RATION DESIGNED FOR ORI ONTAL, STRAIG T T RO G FLO
ATER METER O ES
A DESCRIPTION CAST IRON OD AND CO ER FOR DISC T PE ATER METER, IT LETTERING
" ATER METER" IN CO ER AND IT SLOTTED, OPEN OTTOM ASE SECTION OF LENGT TO FIT
O ER SER ICE PIPING
CONCRETE A LTS
A DESCRIPTION PRECAST, REINFORCED CONCRETE A LT, DESIGNED FOR A LOAD DESIGNATION
ACCORDING TO ASTM C 857 AND MADE ACCORDING TO ASTM C 858.
1 LADDER: ASTM A 36/A 36M, STEEL OR POLYETHYLENE-ENCASED STEEL STEPS.
MANHOLE: ASTM A 48/A 48M CLASS NO. 35A MINIMUM TENSILE STRENGTH, GRAY-IRON TRAFFIC
FRAME AND CO ER
DIMENSION INC MINIM M DIAMETER, NLESS OT ER ISE INDICATED
DRAIN: ASME A112.6.3, CAST-IRON FLOOR DRAIN WITH OUTLET OF SIZE INDICATED. INCLUDE
OD ANC OR FLANGE, LIG T D T CAST IRON GRATE, OTTOM O TLET, AND INTEGRAL OR
FIELD INSTALLED RON E ALL OR CLAPPER T PE ACK ATER AL E
10 FIRE DRANTS
A DR ARREL FIRE DRANTS FREESTANDING, IT ONE NPS 4-1/2 AND T O NPS 2-1/2 O TLETS,
1 INC MAIN AL E, DRAIN AL E, AND NPS 6 MEC ANICAL OINT INLET INCL DE INTERIOR
COATING ACCORDING TO AWWA C550. HYDRANTS SHALL HAVE CAST-IRON BODY,
COMPRESSION T PE AL E OPENING AGAINST PRESS RE AND CLOSING IT PRESS RE
1 STANDARD: AWWA C502.
PRESS RE RATING 0 PSIG
11 FIRE DEPARTMENT CONNECTIONS
A FIRE DEPARTMENT CONNECTIONS FREESTANDING, IT CAST RON E OD , T READ INLETS
ACCORDING TO NFPA 1963 AND MATCHING LOCAL FIRE DEPARTMENT HOSE THREADS, AND
T READED OTTOM O TLET INCL DE L GGED CAPS, GASKETS, AND C AINS L GGED S I EL
CONNECTION AND DROP CLAPPER FOR EAC OSE CONNECTION INLET 1 INC IG RASS
SLEE E AND RO ND ESC TC EON PLATE
1 AL E APPLICATIONS
A DRA INGS INDICATE AL E T PES TO E SED ERE SPECIFIC AL E T PES ARE NOT
INDICATED, T E FOLLO ING RE IREMENTS APPL
1 NDERGRO ND AL ES, NPS 3 AND LARGER A A, CAST IRON, NONRISING STEM,
RESILIENT SEATED GATE AL ES IT AL E O
SE T E FOLLO ING FOR AL ES IN A LTS AND A O EGRO ND
GATE AL ES, NPS 2 AND SMALLER RON E, NONRISING STEM
GATE AL ES, NPS 3 AND LARGER A A, CAST IRON, OS RISING STEM, RESILIENT
SEATED
CHECK VALVES: AWWA C508, SWING TYPE.
1 FIELD ALIT CONTROL
A PIPING TESTS COND CT PIPING TESTS EFORE OINTS ARE CO ERED AND AFTER CONCRETE
T R ST LOCKS A E ARDENED S FFICIENTL FILL PIPELINE O RS EFORE TESTING AND
APPL TEST PRESS RE TO STA ILI E S STEM SE ONL POTA LE ATER
DROSTATIC TESTS TEST AT NOT LESS T AN ONE AND ONE ALF TIMES ORKING PRESS RE
FOR T O O RS INCREASE PRESS RE IN 0 PSIG INCREMENTS AND INSPECT EAC OINT
ET EEN INCREMENTS OLD AT TEST PRESS RE FOR 1 O R DECREASE TO 0 PSIG SLO L
INCREASE AGAIN TO TEST PRESS RE AND OLD FOR 1 MORE O R MA IM M ALLO A LE
LEAKAGE IS ARTS PER O R PER 100 OINTS REMAKE LEAKING OINTS IT NE MATERIALS
AND REPEAT TEST NTIL LEAKAGE IS IT IN ALLO ED LIMITS
C DISINFECTION CLEAN AND DISINFECT POTA LE ATER MAINS AS DIRECTED T E LOCAL
A T ORIT , OR, IF MET OD IS NOT PRESCRI ED T E LOCAL A T ORIT , SE PROCED RE
DESCRI ED IN A A C 1
D PREPARE REPORTS OF TESTING ACTI ITIES AND S MIT TO T E ENGINEER FOR APPRO AL
1 IDENTIFICATION
A INSTALL CONTINUOUS UNDERGROUND DETECTABLE WARNING TAPE DURING BACKFILLING OF
TRENC FOR NDERGRO ND ATER DISTRI TION PIPING LOCATE ELO FINIS ED GRADE,
DIRECTL O ER PIPING

SITE SANITAR SE ERS

1 PRO ECT CONDITIONS
A INTERR PTION OF E ISTING SANITAR SE ERAGE SER ICE COORDINATE AS RE IRED IT T E
LOCAL SANITAR SE ER A T ORIT EFORE STARTING CONSTR CTION
TILIT LOCATOR SER ICE NOTIF TILIT LOCATOR SER ICE FOR AREA ERE PRO ECT IS
LOCATED EFORE EGINNING SANITAR SE ER INSTALLATION OPERATIONS FIELD ERIF ALL
E ISTING TILITIES S O N ON T E DRA INGS POT OLING T E LINES S R E E ISTING
TILITIES AND PRO IDE ORI ONTAL AND ERTICAL LOCATION INFORMATION TO T E ENGINEER TO
DETERMINE OF AN TILITIES ILL CONFLICT IT T E PROPOSED DESIGN
D CTILE IRON, GRA IT SE ER PIPE AND FITTINGS
A PIPE: ASTM A 746, FOR PUSH-ON JOINTS.
COMPACT FITTINGS: AWWA C153, DUCTILE IRON, FOR PUSH-ON JOINTS.
C GASKETS: AWWA C111, RUBBER.
P C PIPE AND FITTINGS
A P C GRA IT SE ER PIPING ASTM F 679, T 1 ALL T ICKNESS, P C GRA IT SE ER PIPE IT
BELL-AND-SPIGOT ENDS AND WITH INTEGRAL ASTM F 477, ELASTOMERIC SEALS FOR GASKETED
OINTS
CLEANO TS
A CAST IRON CLEANO TS
1 DESCRIPTION: ASME A112.36.2M, ROUND, GRAY-IRON HOUSING WITH CLAMPING DEVICE AND
RO ND, SEC RED, SCORIATED, GRA IRON CO ER INCL DE GRA IRON FERR LE IT INSIDE
CALK OR SPIGOT CONNECTION AND CO NTERS NK, TAPERED T READ, RASS CLOS RE PL G
TOP LOADING CLASSIFICATION TRAFFIC RATED, EA D T , IN ALL PA ED AREAS AND AREAS
S ECT TO E IC LAR TRAFFIC
SEWER PIPE FITTING AND RISER TO CLEANOUT: ASTM A 74, SERVICE CLASS, CAST-IRON SOIL
PIPE AND FITTINGS
P C CLEANO TS P C OD IT P C T READED PL G INCL DE P C SE ER PIPE FITTING AND
RISER TO CLEANO T OF SAME MATERIAL AS SE ER PIPING SE IN LIG T D T APPLICATIONS
ERE T ERE IS PEDESTRIAN TRAFFIC ONL OR IN LANDSCAPED AREAS
MAN OLES
A STANDARD PRECAST CONCRETE MAN OLES
1 DESCRIPTION ASTM C 478 , PRECAST, REINFORCED CONCRETE, OF DEPT INDICATED, IT
PRO ISION FOR SEALANT OINTS
DIAMETER INC ES MINIM M NLESS OT ER ISE INDICATED
ALLAST INCREASE T ICKNESS OF PRECAST CONCRETE SECTIONS OR ADD CONCRETE TO
ASE SECTION, AS RE IRED TO PRE ENT FLOTATION
ASE SECTION INC MINIM M T ICKNESS FOR FLOOR SLA AND INC MINIM M T ICKNESS
FOR ALLS AND ASE RISER SECTION IT SEPARATE ASE SLA OR ASE SECTION IT
INTEGRAL FLOOR
RISER SECTIONS INC MINIM M T ICKNESS, OF LENGT TO PRO IDE DEPT INDICATED
TOP SECTION ECCENTRIC CONE T PE NLESS CONCENTRIC CONE OR FLAT SLA TOP T PE IS
INDICATED IT TOP OF CONE OF SI E T AT MATC ES GRADE RINGS
OINT SEALANT ASTM C 990 , IT MEN OR T L R ER
RESILIENT PIPE CONNECTORS ASTM C 923 , CAST OR FITTED INTO MAN OLE ALLS, FOR EAC
PIPE CONNECTION
STEPS INDI ID AL FRP STEPS OR FRP LADDER IDE ENO G TO ALLO ORKER TO PLACE
OT FEET ON ONE STEP AND DESIGNED TO PRE ENT LATERAL SLIPPAGE OFF STEP CAST OR
ANC OR STEPS INTO SIDE ALLS AT 1 TO 1 INC INTER ALS OMIT STEPS IF TOTAL DEPT
FROM FLOOR OF MAN OLE TO FINIS ED GRADE IS LESS T AN INC ES
10 AD STING RINGS INTERLOCKING DPE RINGS, IT LE EL OR SLOPED EDGE IN T ICKNESS
AND DIAMETER MATC ING MAN OLE FRAME AND CO ER, AND IT E IGHT AS RE IRED TO
AD ST MAN OLE FRAME AND CO ER TO INDICATED ELE ATION AND SLOPE, INCL DE
SEALANT RECOMMENDED RING MAN FACT RER
11 GRADE RINGS REINFORCED CONCRETE RINGS, TO INC TOTAL T ICKNESS, IT
DIAMETER MATC ING MAN OLE FRAME AND CO ER, AND IT E IGHT AS RE IRED TO
AD ST MAN OLE FRAME AND CO ER TO INDICATED ELE ATION AND SLOPE
MAN OLE FRAMES AND CO ERS
1 DESCRIPTION FERRO S INC ID TO INC RISER, IT INC MINIM M IDT
FLANGE AND INC DIAMETER CO ER INCL DE INDENTED TOP DESIGN IT LETTERING
CAST INTO CO ER, SING ORDING E I ALENT TO "SANITAR SE ER "
MATERIAL: ASTM A 536, GRADE 60-40-18 DUCTILE IRON UNLESS OTHERWISE INDICATED.
IDENTIFICATION
A ARRANGE FOR INSTALLATION OF GREEN ARNING TAPES DIRECTL O ER PIPING AND AT O TSIDE
EDGES OF NDERGRO ND MAN OLES
1 SE WARNING TAPE OR DETECTABLE WARNING TAPE OVER FERROUS PIPING.
SE DETECTA LE ARNING TAPE O ER NONFERRO S PIPING AND O ER EDGES OF
NDERGRO ND MAN OLES
FIELD ALIT CONTROL
INSPECT INTERIOR OF PIPING TO DETERMINE ET ER LINE DISPLACEMENT OR OT ER DAMAGE
AS OCC RRED INSPECT AFTER APPRO IMATEL INC ES OF ACKFILL IS IN PLACE, AND AGAIN
AT COMPLETION OF PRO ECT
1 DEFECTS RE IRING CORRECTION INCL DE T E FOLLO ING
ALIGNMENT LESS T AN F LL DIAMETER OF INSIDE OF PIPE IS ISI LE ET EEN
STR CT RES
DEFLECTION FLE I LE PIPING IT DEFLECTION T AT PRE ENTS PASSAGE OF ALL OR
C LINDER OF SI E NOT LESS T AN PERCENT OF PIPING DIAMETER
DAMAGE CR S ED, ROKEN, CRACKED, OR OT ER ISE DAMAGED PIPING
d INFILTRATION ATER LEAKAGE INTO PIPING
E FILTRATION ATER LEAKAGE FROM OR ARO ND PIPING
REPLACE DEFECTI E PIPING SING NE MATERIALS, AND REPEAT INSPECTIONS NTIL
DEFECTS ARE IT IN ALLO ANCES SPECIFIED
REINSPECT AND REPEAT PROCED RE NTIL RES LTS ARE SATISFACTOR
TEST NE PIPING S STEMS, AND PARTS OF E ISTING S STEMS T AT A E EEN ALTERED,
E TENDED, OR REPAIRED, FOR LEAKS AND DEFECTS
1 DO NOT ENCLOSE, CO ER, OR P T INTO SER ICE EFORE INSPECTION AND APPRO AL
TEST COMPLETED PIPING S STEMS ACCORDING TO RE IREMENTS OF A T ORITIES A ING
RISDICTION
SC ED LE TESTS AND INSPECTIONS A T ORITIES A ING RISDICTION IT AT LEAST
O RS AD ANCE NOTICE
S MIT A SEPARATE REPORT FOR EAC TEST TO T E ENGINEER FOR APPRO AL
AIR TESTS TEST SANITAR SE ERAGE ACCORDING TO RE IREMENTS OF A T ORITIES
A ING RISDICTION, NI , AND T E FOLLO ING
TEST PLASTIC GRAVITY SEWER PIPING ACCORDING TO ASTM F 1417.
MAN OLES PERFORM DRA LIC TEST ACCORDING TO ASTM C 969
C LEAKS AND LOSS IN TEST PRESS RE CONSTIT TE DEFECTS T AT M ST E REPAIRED
D REPLACE LEAKING PIPING SING NE MATERIALS, AND REPEAT TESTING NTIL LEAKAGE IS IT IN
ALLO ANCES SPECIFIED

SITE STORM TILIT DRAINAGE PIPING

1 PIPE AND FITTINGS GENERAL
A ALL STORM ATER PIPE, INLETS, EAD ALLS, AND RELATED APP RTENANCES S ALL MEET LOCAL
D O T STANDARDS
ALL STORM ATER PIPE S ALL E INSTALLED IN ACCORDANCE IT PIPE MAN FACT RERS
INSTR CTIONS
STEEL PIPE AND FITTINGS
A CORRUGATED-STEEL PIPE AND FITTINGS: ASTM A 760/A 760M, TYPE I WITH FITTINGS OF SIMILAR
FORM AND CONSTR CTION AS PIPE
1 STANDARD OINT ANDS CORR GATED STEEL
COATING AL MIN M OR IT MINO S
PE PIPE AND FITTINGS
A CORR GATED PE DRAINAGE PIPE AND FITTINGS NPS 3 TO NPS 10 : AASHTO M 252M; NPS 12 TO
NPS 48 : AASHTO M 294M TYPE S, WITH SMOOTH WATERWAY FOR COUPLING JOINTS.
SILTTIGHT COUPLINGS: PE SLEEVE WITH ASTM D 1056, TYPE 2, CLASS A, GRADE 2 GASKET
MATERIAL T AT MATES IT T E AND FITTINGS
P C CORR GATED PIPE AND FITTINGS
A CORR GATED P C DRAINAGE PIPE AND FITTINGS NPS TO NPS SMOOT INTERIOR, ASTM F ,
PSI STIFFNESS EN TESTED IN ACCORDANCE IT ASTM D 1 P C COMPO ND AVING A
MINIM M CELL CLASSIFICATION OF 1 AS DEFINED IN ASTM D1 FITTINGS SMOOT INTERIOR,
ASTM F , SECTION OR F , SECTION OINTS S ALL E MADE IT
INTEGRALL FORMED ELL AND SPIGOT GASKETED CONNECTIONS MAN FACT RERS S ALL
PRO IDE DOC MENTATION S O ING NO LEAKAGE EN GASKETED PIPE OINTS ARE TESTED IN
ACCORDANCE IT ASTM D 1 ELASTOMERIC SEALS GASKETS S ALL MEET ASTM
CONCRETE PIPE AND FITTINGS
A REINFORCED CONCRETE SE ER PIPE AND FITTINGS ASTM C ELL AND SPIGOT OR
TONG E AND GROO E ENDS AND GASKETED OINTS IT ASTM C 443 R GASKETS OR
SEALANT OINTS IT ASTM C 990 , BITUMEN OR BUTYL-RUBBER SEALANT. CLASS III, WALL B.
CAST-IRON AREA DRAINS: ASME A112.6.3 GRAY-IRON ROUND BODY WITH ANCHOR FLANGE AND
RO ND GRATE INCL DE OTTOM O TLET IT INSIDE CALK OR SPIGOT CONNECTION, OF SI ES
INDICATED
MAN OLES
A STANDARD PRECAST CONCRETE MAN OLES
1 DESCRIPTION ASTM C 478 , PRECAST, REINFORCED CONCRETE, OF DEPT INDICATED, IT
PRO ISION FOR SEALANT OINTS
DIAMETER INC ES MINIM M NLESS OT ER ISE INDICATED
ALLAST INCREASE T ICKNESS OF PRECAST CONCRETE SECTIONS OR ADD CONCRETE TO
ASE SECTION AS RE IRED TO PRE ENT FLOTATION
ASE SECTION INC MINIM M T ICKNESS FOR FLOOR SLA AND INC MINIM M T ICKNESS
FOR ALLS AND ASE RISER SECTION, AND SEPARATE ASE SLA OR ASE SECTION IT
INTEGRAL FLOOR
RISER SECTIONS INC MINIM M T ICKNESS, AND LENGT S TO PRO IDE DEPT INDICATED
TOP SECTION ECCENTRIC CONE T PE NLESS CONCENTRIC CONE OR FLAT SLA TOP T PE IS
INDICATED, AND TOP OF CONE OF SI E T AT MATC ES GRADE RINGS
OINT SEALANT ASTM C 990 , IT MEN OR T L R ER
STEPS INDI ID AL FRP STEPS OR FRP LADDER, IDE ENO G TO ALLO ORKER TO PLACE
OT FEET ON ONE STEP AND DESIGNED TO PRE ENT LATERAL SLIPPAGE OFF STEP CAST OR
ANC OR STEPS INTO SIDE ALLS AT 1 TO 1 INC INTER ALS OMIT STEPS IF TOTAL DEPT
FROM FLOOR OF MAN OLE TO FINIS ED GRADE IS LESS T AN INC ES
MAN OLE FRAMES AND CO ERS
1 DESCRIPTION FERRO S INC ID TO INC RISER IT INC MINIM M IDT
FLANGE AND INC DIAMETER CO ER INCL DE INDENTED TOP DESIGN IT LETTERING
CAST INTO CO ER, SING ORDING E I ALENT TO "STORM SE ER "
MATERIAL ASTM A 536, GRADE 60-40-18 DUCTILE IRON UNLESS OTHERWISE INDICATED.
INLET NCTION O ES
A STANDARD PRECAST CONCRETE
1 DESCRIPTION: ASTM C 478 , PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH
PRO ISION FOR SEALANT OINTS
ASE SECTION INC MINIM M T ICKNESS FOR FLOOR SLA AND INC MINIM M T ICKNESS
FOR ALLS AND ASE RISER SECTION, AND SEPARATE ASE SLA OR ASE SECTION IT
INTEGRAL FLOOR
RISER SECTIONS INC MINIM M T ICKNESS, INC DIAMETER, AND LENGT S TO PRO IDE
DEPT INDICATED
TOP SECTION ECCENTRIC CONE T PE NLESS CONCENTRIC CONE OR FLAT SLA TOP T PE IS
INDICATED TOP OF CONE OF SI E T AT MATC ES GRADE RINGS
JOINT SEALANT: ASTM C 990 , BITUMEN OR BUTYL RUBBER.
STEPS INDI ID AL FRP STEPS OR FRP LADDER, IDE ENO G TO ALLO ORKER TO PLACE
OT FEET ON ONE STEP AND DESIGNED TO PRE ENT LATERAL SLIPPAGE OFF STEP CAST OR
ANC OR STEPS INTO SIDE ALLS AT 1 TO 1 INC INTER ALS OMIT STEPS IF TOTAL DEPT
FROM FLOOR OF CATC ASIN TO FINIS ED GRADE IS LESS T AN INC ES
PIPE CONNECTORS: ASTM C 923 , RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING
TO ASE SECTION
STORM ATER DETENTION STR CT RES
A CAST IN PLACE CONCRETE, STORM ATER DETENTION STR CT RES CONSTR CTED OF
REINFORCED-CONCRETE BOTTOM, WALLS, AND TOP; DESIGNED ACCORDING TO ASTM C 890 FOR
A-16 (AASHTO HS20-44), HEAVY-TRAFFIC, STRUCTURAL LOADING; OF DEPTH, SHAPE, DIMENSIONS,
AND APP RTENANCES INDICATED
1 ALLAST INCREASE T ICKNESS OF CONCRETE AS RE IRED TO PRE ENT FLOTATION
GRADE RINGS INCL DE T O OR T REE REINFORCED CONCRETE RINGS, OF TO INC
TOTAL T ICKNESS, T AT MATC INC DIAMETER FRAME AND CO ER
STEPS INDI ID AL FRP STEPS OR FRP LADDER, IDE ENO G TO ALLO ORKER TO PLACE
OT FEET ON ONE STEP AND DESIGNED TO PRE ENT LATERAL SLIPPAGE OFF STEP CAST OR
ANC OR STEPS INTO SIDE ALLS AT 1 TO 1 INC INTER ALS OMIT STEPS IF TOTAL DEPT
FROM FLOOR OF STR CT RE TO FINIS ED GRADE IS LESS T AN INC ES
FORM AND CAST IERS AND PIPE OPENINGS AS INDICATED ON DRA INGS
MANHOLE FRAMES AND COVERS: ASTM A 536, GRADE 60-40-18, DUCTILE-IRON CASTINGS DESIGNED
FOR EA D T SER ICE
PIPE O TLETS
A PRE CAST EAD ALLS PRE CAST REINFORCED CONCRETE, IT APRON AND TAPERED SIDES
SLOPE PA ED EAD ALLS CAST IN PLACE REINFORCED CONCRETE AS S O N ON DRA INGS
C RIPRAP ASINS ROKEN, IRREG LARL SI ED AND S APED, GRADED STONE ACCORDING TO
NSSGA S " ARRIED STONE FOR EROSION AND SEDIMENT CONTROL " MINIM M STONE SI E AND
DIMENSIONS AS S O N ON DRA INGS
10 PIPING INSTALLATION
A INSTALL LOCATOR IRE OR TAPE INC ES A O E ALL NON METALLIC PIPING
INSTALL EDDING AND ACKFILL IN ACCORDANCE IT PIPE MAN FACT RERS INSTR CTIONS
C EGIN INSTALLATION AT DO NSTREAM PIPING CONNECTION TO O TFALL POINT
D CONSTR CT ALL EAD ALLS FL S IT E ISTING AND PROPOSED EM ANKMENT SLOPES
11 CLEANING
A CLEAN INTERIOR OF PIPING OF DIRT AND S PERFL O S MATERIALS

IF CONFLICTS E IST ET EEN T ESE NOTES AND NOTES ON PLAN S EETS, DEFER TO NOTES ON PLAN S EETS

T ESE NOTES AND SPECIFICATIONS ONL APPL IN T E E ENT T ERE ARE NO RISDICTIONAL SPECIFICATIONS

ALL ATER AND SE ER INFRASTR CT RE S ALL MEET T E RE IREMENTS SET FORT IN T E CIT OF A RN ATER RESO RCE MANAGEMENT DESIGN AND CONSTR CTION MAN AL

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SECTION 12, TOWNSHIP 18 N, RANGE 25 E

SEAL:

REVISIONS	DATE
PERMIT SET	03/20/2019

PROJECT MANAGER:	SWT
DRAWING BY:	ZLR
JURISDICTION:	LEE COUNTY, AL
DATE:	12/21/2018
SCALE:	AS SHOWN

TITLE:
GENERAL CIVIL SPECS

SHEET NUMBER:
G-0.1

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER:
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