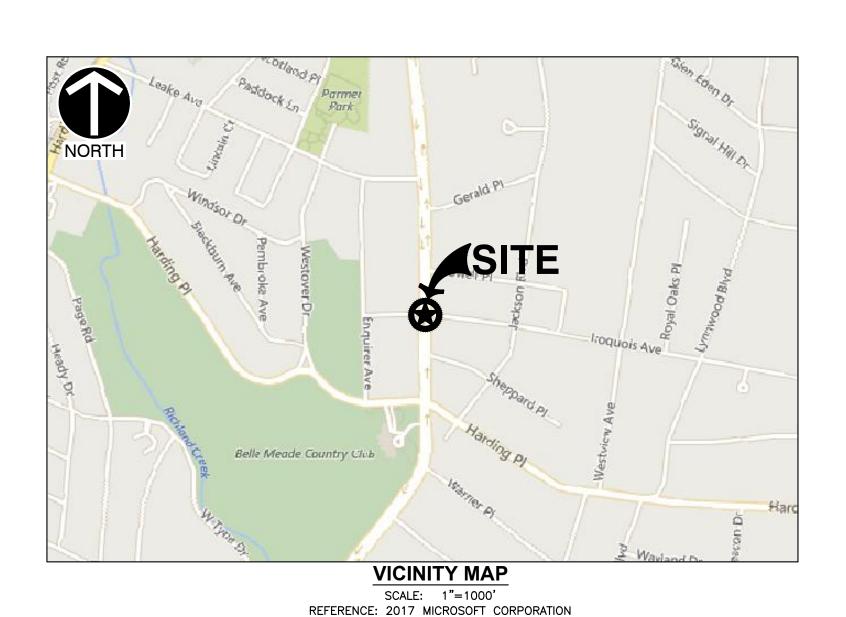
CITY OF BELLE MEADE STORMWATER INFRASTRUCTURE IMPROVEMENTS

BELLEMEADE BOULEVARD AND IROQUOIS AVENUE INTERSECTION

JANUARY 2018



UTILITY COMPANIES

WATER SERVICE
METRO WATER SERVICES
1700 3RD AVE. N.
NASHVILLE, TN 37208
PHONE: 615-862-4600

GAS SERVICE
NASHVILLE GAS
665 MAINSTREAM DRIVE
NASHVILLE, TENNESSEE 37228
PHONE: 615-734-0665

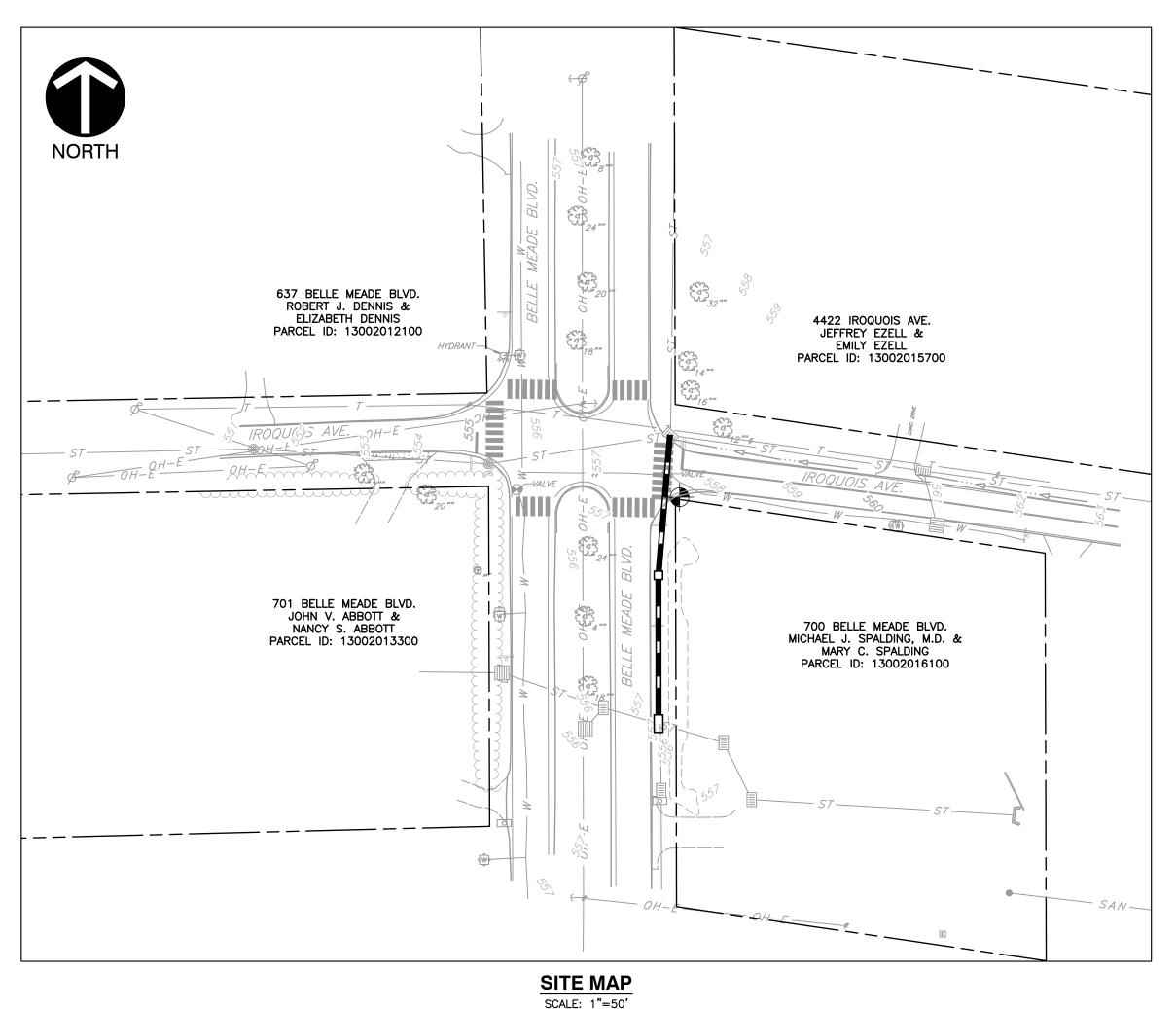
ELECTRIC SERVICE

NASHVILLE ELECTRIC SERVICE (NES)
1214 CHURCH STREET

NASHVILLE, TN 37246

PHONE: 615-297-6900

SANITARY SEWER SERVICE
BELLE MEADE PUBLIC WORKS
4705 HARDING ROAD
NASHVILLE, TENNESSEE
PHONE: 615–297–6041



SCALE: 1"=

CIVIL ENGINEER & LAND SURVEYOR

CIVIL & ENVIRONMENTAL CONSULTANTS. INC.
325 SEABOARD LANE, SUITE 170
FRANKLIN, TENNESSEE 37067
PH: 615-333-7797
CONTACT: STEVE CASEY, PE

SHEET LIST INDEX	
Sheet Number	Sheet Title
C000	COVER SHEET
C001	GENERAL NOTES
C100	EXISTING CONDITIONS
C200	PROPOSED LAYOUT & ESPC PLAN
C600	TRAFFIC CONTROL PLAN
C800	SITE DETAILS

BASIS OR BEARINGS

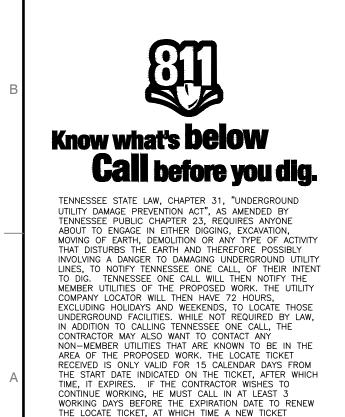
BASIS OF BEARINGS ARE BASED ON OBSERVATIONS, MEASUREMENTS, AND CALCULATIONS OF THE LOCATION OF THE BOUNDARY EVIDENCE, "VIRTUAL REFERENCE SYSTEM" — TENNESSEE STATE PLANE NAD83F.

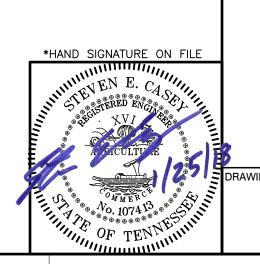
FLOOD NOTE

THE PROPERTY SHOWN HEREON IS NOT LOCATED IN A FLOOD HAZARD ZONE ACCORDING TO F.I.R.M. MAP PANEL 47037C0351H. EFFECTIVE APRIL 5, 2017.

UTILITY NOTE

TENNESSEE ONE CALL AND OBSERVED EVIDENCE WAS USED TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES. THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. UTILITIES MAY EXIST THAT ARE NOT SHOWN.





NO DATE DESCRIPTION

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Lane · Suite 170 · Franklin, TN 37067
-333-7797 · 800-763-2326

ER INFRASTRUCTURE
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E BLVD. & IROQUOIS AVE.
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COVER SHEET

JANUARY 2018 DRAWN BY:

CALE: AS SHOWN CHECKED BY:

CT NO:

C000

THIS PROJECT INVOLVES THE ADDITION OF STORMWATER INFRASTRUCTURE TO RE-ROUTE STORMWATER THAT CURRENTLY FLOWS UNDER BELLE MEADE BOULEVARD AND SUBSEQUENTLY UNDER THE HOUSE LOCATED AT 701 BELLE MEADE BOULEVARD.

SURVEY GENERAL NOTES

- 1. EXISTING CONDITIONS, AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- 2. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- 3. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
- 4. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.
- 5. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE
- 6. SURVEY DATA BASED ON TOPOGRAPHICAL SURVEYS BY CEC, INC. COMPLETED 10/20/2017. SURVEYS ARE BASED ON TENNESSEE STATE PLANE GRID (NAD83).

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

- 1. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO CONTROL EROSION AND WATER POLLUTION THROUGH THE CONSTRUCTION PERIOD. ALL TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE BEFORE EARTH MOVING OPERATIONS BEGIN. CLEARING AND GRUBBING SHALL BE HELD TO A MINIMUM WIDTH NECESSARY TO ACCOMMODATE ROADWAY SLOPES. EMBANKMENTS AND EXCAVATED AREAS SHALL BE PROMPTLY STABILIZED TO MINIMIZE EROSION. EROSION CHECKS AND SEDIMENT TUBES SHALL BE USED ALONG THE TOE OF FILL SLOPES, IN DITCHES, AND IN OTHER AREAS WHERE EROSION IS A PROBLEM AND SILT-LADEN RUNOFF MAY ENTER A STREAM OR ADJACENT PROPERTY.
- 2. ANY STOCKPILED SOIL OR FILL MATERIAL SHALL BE LOCATED AND TREATED IN A MANNER TO PREVENT SEDIMENT ENTERING STREAMS. NO EXCAVATED MATERIAL SHALL BE DISCHARGED INTO DITCHES. THE CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED MATERIAL IN A LOCATION, APPROVED BY THE OWNER, ABOVE THE NORMAL HIGH WATER ELEVATION. IF DISPOSAL IS OFF SITE, GRADING GENERAL NOTE 6 WILL APPLY.
- 3. THE CONTRACTOR SHALL PROVIDE TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES (SUCH AS BERMS, SEDIMENT TUBES, AND SILT FENCES) AS DIRECTED BY THE OWNER. THESE TEMPORARY MEASURES SHALL BE COORDINATED WITH THE PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL FEATURES TO ASSURE ECONOMICAL, EFFECTIVE, AND CONTINUOUS EROSION PREVENTION AND SEDIMENT CONTROL THROUGHOUT THE PROJECT.
- 4. SITE EROSION PREVENTION AND SEDIMENT CONTROLS SHALL BE CHECKED TWICE WEEKLY AT LEAST 72 HOURS APART AND IF NECESSARY, REPAIRED. IN THE EVENT OF CONTINUOUS RAINFALL, EROSION CONTROLS SHALL BE CHECKED DAILY.
- 5. TEMPORARY STABILIZATION WITH MULCH SHALL BE PROVIDED TO ALL DISTURBED AREAS BEFORE ANTICIPATED RAIN EVENTS AND WITHIN 14 DAYS OF CEASING LAND DISTURBANCE ACTIVITIES.
- 6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY SEDIMENT CONTROL DEVICES WHEN THEY ARE NO LONGER REQUIRED FOR THE INTENDED PURPOSE, IN THE OPINION OF THE OWNER.
- 7. ALL DRAINAGE STRUCTURES IMPACTED BY CONSTRUCTION SHALL BE CLEANED FREE OF SEDIMENT PRIOR TO ACCEPTANCE BY THE CITY OF BELLE MEADE.
- 8. SOD IS TO BE APPLIED TO ALL DISTURBED AREAS FOR FINAL STABILIZATION.

LAYOUT GENERAL NOTES

- 1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
- 2. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, INCLUDING IRRIGATION LINES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. RELOCATE EXISTING UTILITIES AS INDICATED, OR AS NECESSARY FOR CONSTRUCTION.
- 3. THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS.
- 4. ALL PAVED ROADWAYS SHALL BE OVERLAYED WITH PAVING MATERIALS OF LIKE KIND AND DIMENSION FOLLOWING BACK FILL ACTIVITIES. ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE. PAVEMENT AND STRIPING SHALL BE PLACED IN ACCORDANCE WITH THE LATEST TDOT STANDARD SPECIFICATIONS AND DRAWINGS.
- 5. CONTRACTOR SHALL DEVELOP ONE SET OF AS-BUILT/RECORD DRAWINGS ON THE JOB SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
- 6. THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH THE LOCAL JURISDICTION. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE BUT ARE NOT LIMITED TO, INCREASED IMPERVIOUS PAVEMENT, ADDITION/DELETION OF PARKING SPACES, MOVEMENT OF CURB LINES, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, LANDSCAPING, ETC.
- 7. ALL SIGNS AND MAILBOXES RELOCATED FOR CONSTRUCTION SHALL BE RESET AS AN INTEGRAL PART OF THE WORK.
- 8. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE STANDARDS OF THE LATEST EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES WHILE CONSTRUCTION IS IN PROGRESS.

ESTIMATED QUANTITIES

SEE SECTION 00301 BID FORM IN SPECIFICATIONS DOCUMENTS DATED JANUARY 2018.

SPECIAL NOTES

- I. UNLESS OTHERWISE NOTED OR SPECIFIED BY THE CITY OF BELLE MEADE STANDARDS, THIS PROJECT IS TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015, WITH ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE CONTRACT DOCUMENTS.
- 2. UNLESS DIRECTED OTHERWISE BY THE OWNER, THE ENGINEER WILL NOT BE INVOLVED IN THE PROJECT DURING CONSTRUCTION. THE OWNER WILL OVERSEE THE CONSTRUCTION AND ITS ADHERENCE TO THE CONTRACT DOCUMENTS, AND REQUEST THE ENGINEER'S INVOLVEMENT WHEN DEEMED NECESSARY.

GRADING GENERAL NOTES

AND COMPACT AS SPECIFIED.

- 1. CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN PREPARED FOR THIS PROJECT.
- 2. EARTHWORK SHALL INCLUDE EXCAVATION, FILLING, UNDER CUT AND REPLACEMENT, IF REQUIRED, COMPACTION, AND TOPSOIL PLACEMENT.
- 3. CONTRACTOR TO REFILL UNDERCUT AREAS WITH SUITABLE MATERIAL
- 4. PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO A DEPTH OF 6" MINIMUM.
- 5. ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION PREVENTION AND CONTROL PLAN UNLESS NOTED OTHERWISE.
- 6. ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED. EXCESS SOIL MATERIALS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.

DRAINAGE GENERAL NOTES

- 1. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
- 3. ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
- 4. ANY WORK PERFORMED IN THE LOCAL OR STATE RIGHT OF WAYS SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL OR STATE REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY PERMITS FOR THE WORK, SCHEDULE NECESSARY INSPECTIONS, AND PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES AND DEVICES, ETC., FOR WORK PERFORMED IN THE RIGHT OF WAYS.

UTILITY GENERAL NOTES

- 1. THE CONTRACTOR IS PARTICULARLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN HEREON IS BASED ON TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS. THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION AS BEING EXACT OR COMPLETE. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE EXISTING UTILITIES CONFLICTING WITH IMPROVEMENTS SHOWN HEREON IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- 2. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE UTILITY OWNER AND COORDINATE CONNECTIONS TO AND DISCONNECTIONS FROM EXISTING UTILITIES TO MINIMIZE ADVERSE IMPACT ON EXISTING UTILITIES AND SERVICE TO OTHERS.
- 3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 4. MAINTAIN MINIMUM 10-FOOT HORIZONTAL AND 18-INCH MINIMUM VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATER SUPPLY LINE, UNLESS OTHERWISE INDICATED.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS, INSTALL UTILITIES PRIOR TO PAVEMENT CONSTRUCTION.
- 6. ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED. SPOILS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF SITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
- 7. ADJUST ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO CASTINGS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISHED GRADES, UNLESS OTHERWISE INDICATED.
- 8. CONTRACTOR SHALL COORDINATE WITH EACH UTILITY PROVIDER THE INSTALLATION OF UTILITY CONDUITS FOR TELEPHONE, ELECTRIC, GAS, IRRIGATION, AND ETC. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR FOR THE TRENCHING AND CONDUIT INSTALLATION. COST FOR INSTALLATION AND MATERIALS SHALL BE INCLUDED IN VARIOUS BID ITEMS.

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DRAWING NO.:

C001

GAL GALLON UG **UNDERGROUND** SS SANITARY SEWER

WATER MINIMUM BUILDING SETBACK LINE NOTE TO CONTRACTOR

ASSOCIATED WITH THIS PROJECT.

THE CONTRACTOR SHALL REFER TO ALL PLANS

INTENT THAT ANY SINGLE PLAN SHEET IN THIS

SET OF DOCUMENTS FULLY DEPICT ALL WORK

WITHIN THIS PLAN SET. IT IS NOT THE ENGINEER'S

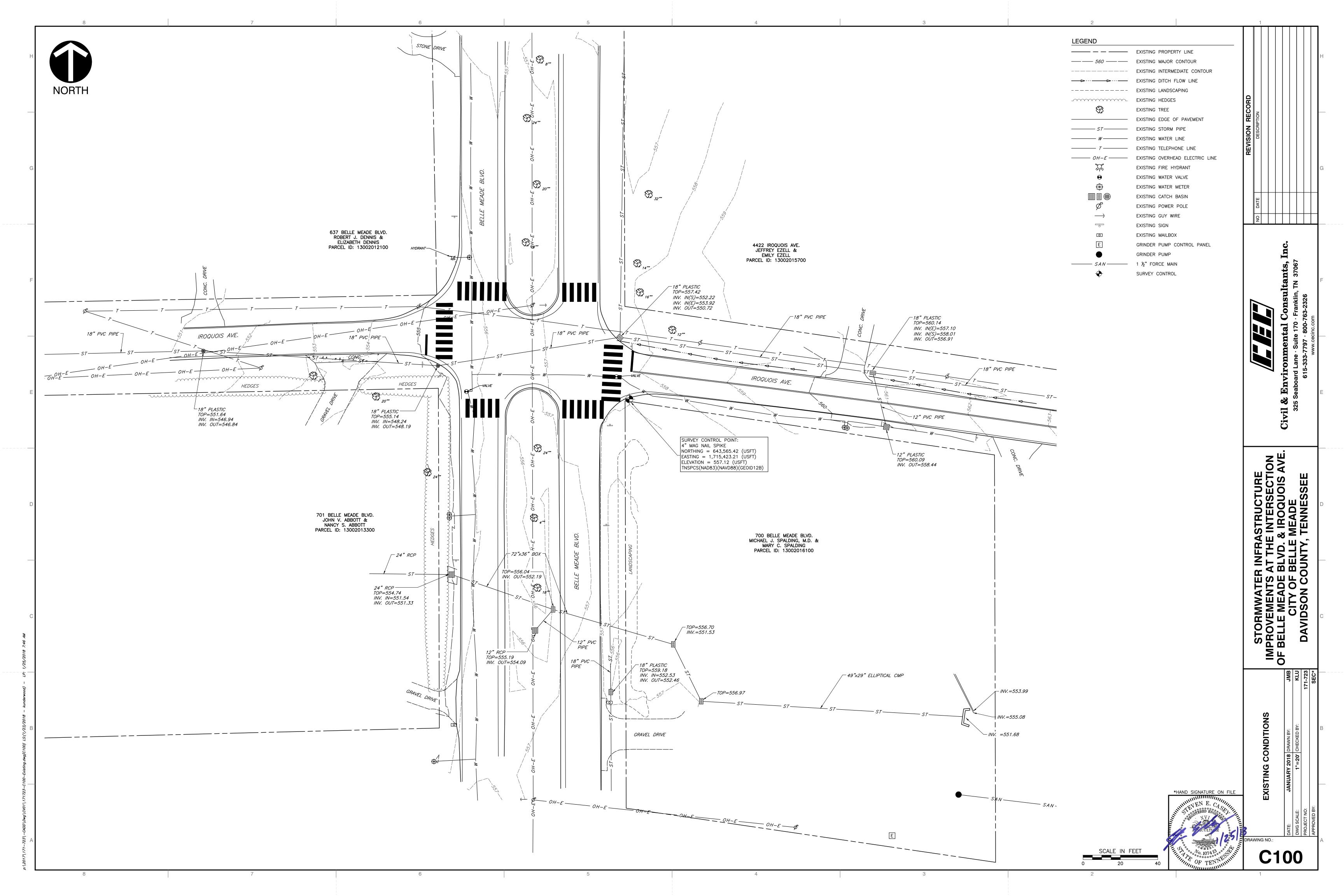
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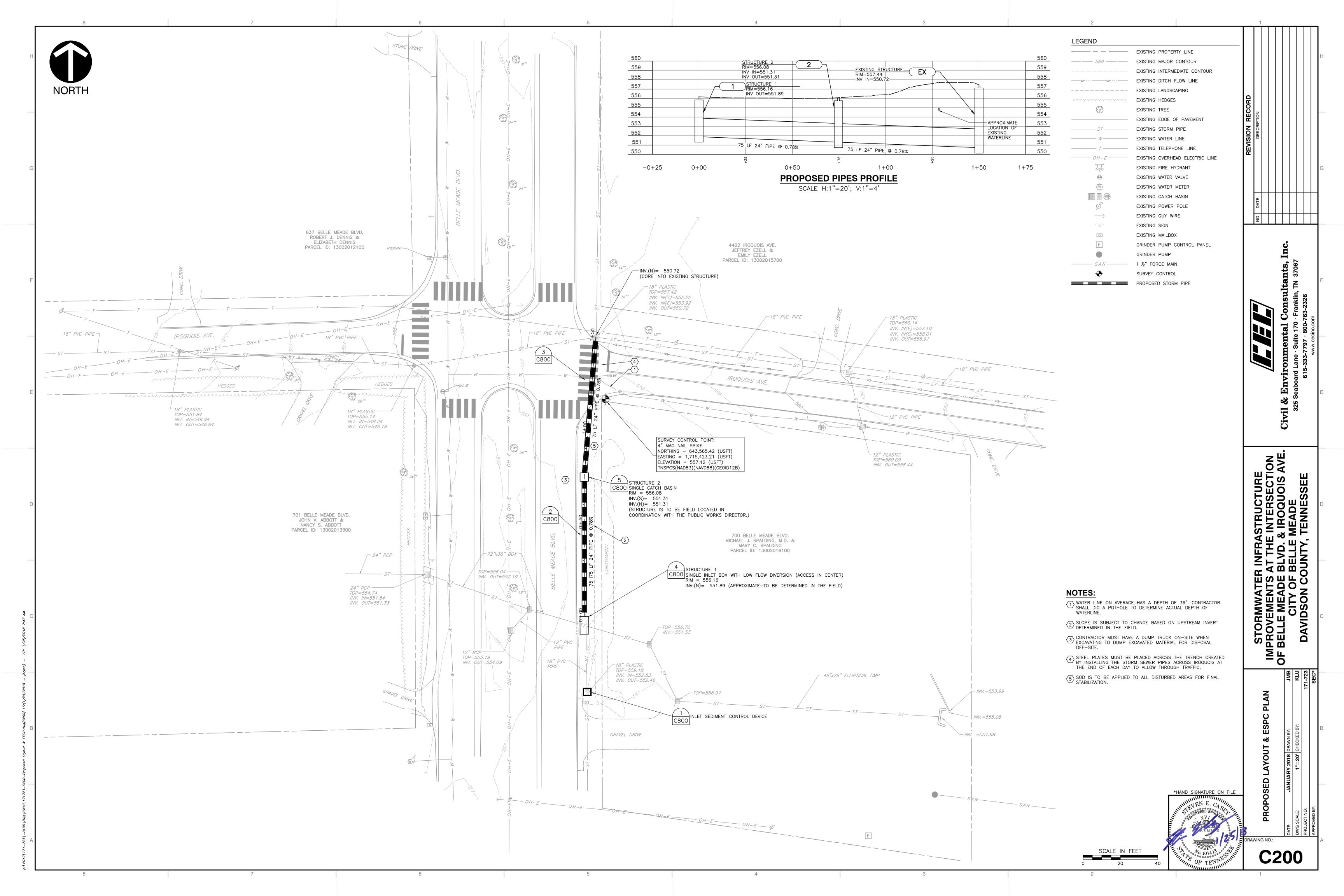
ABBREVIATIONS

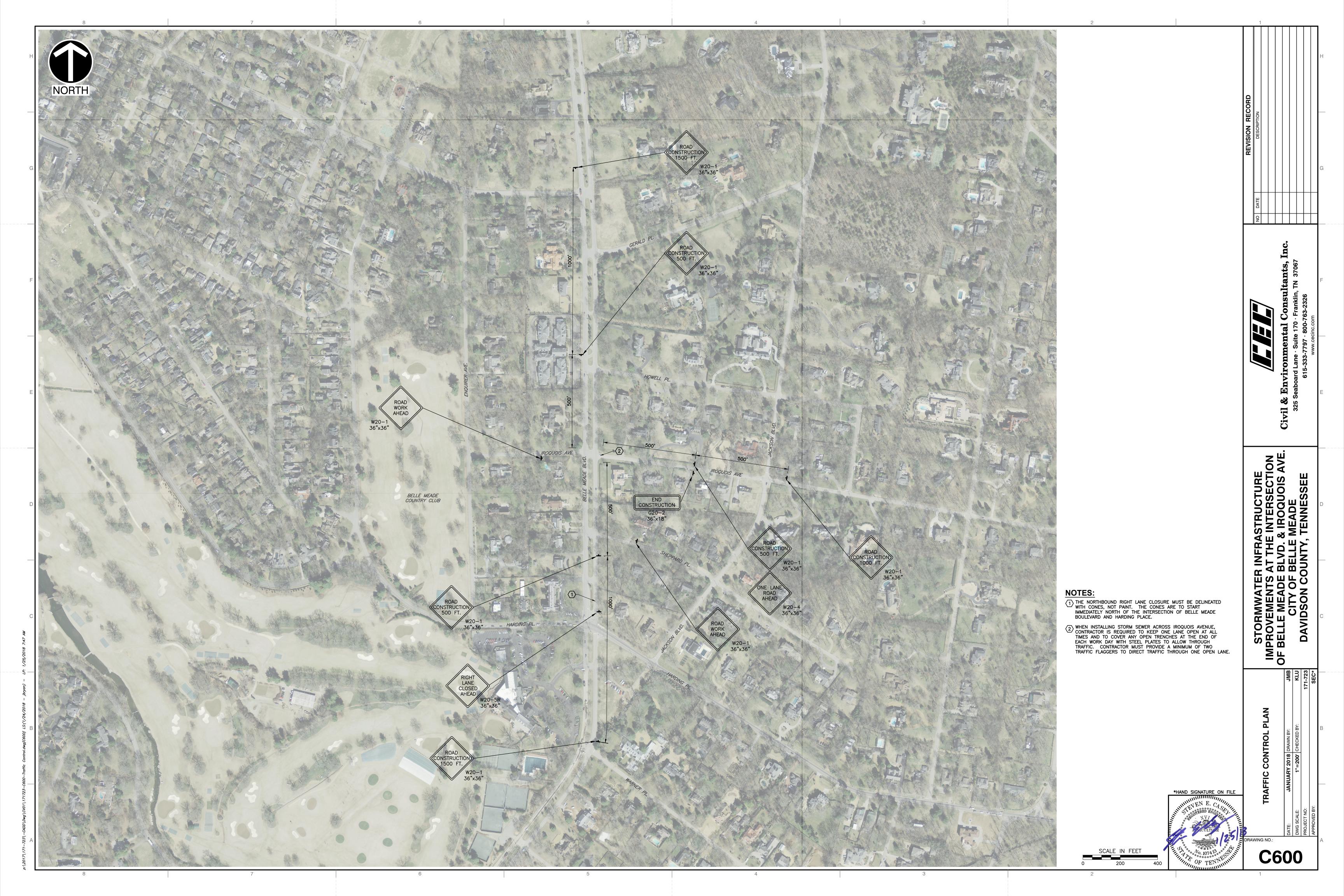
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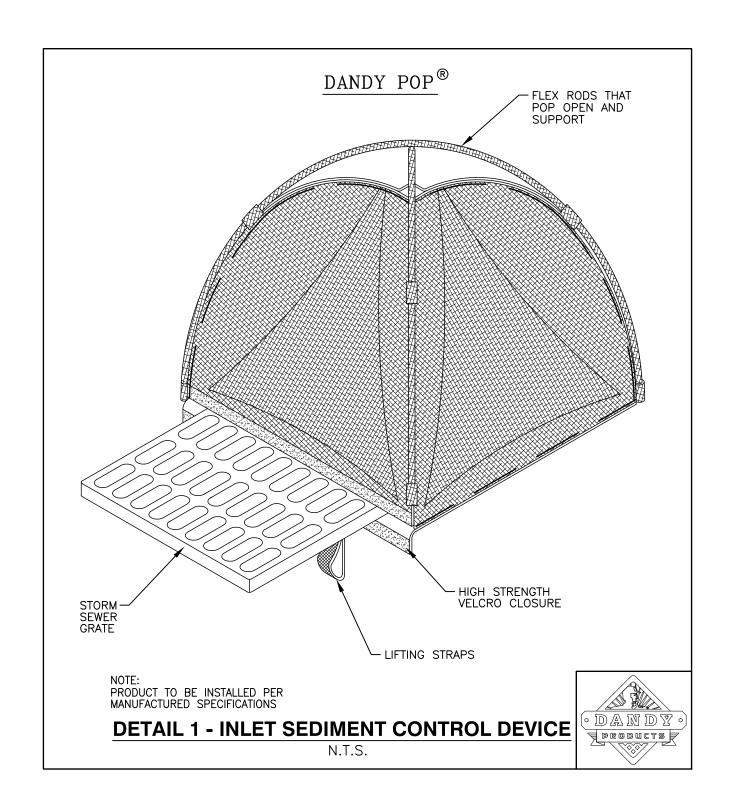
WTR MBSL

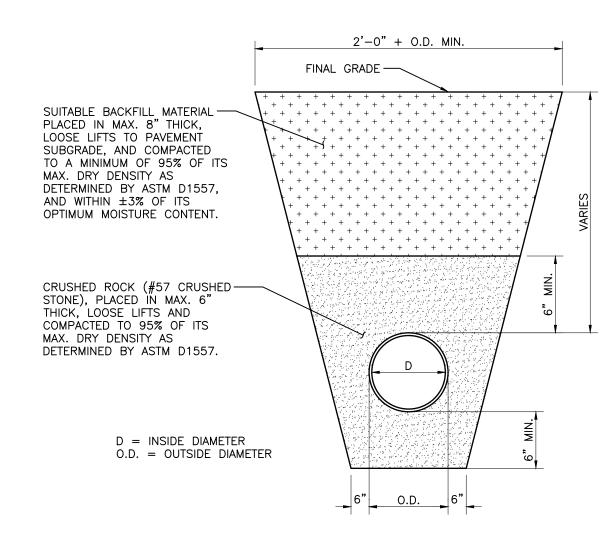
N.I.C. NOT IN CONTRACT TAS TOP OF ACCUMULATED SEDIMENT







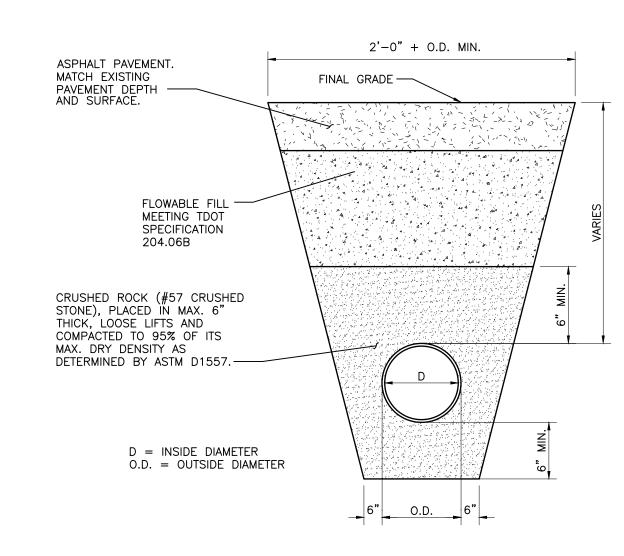




NOTES:

- 1. PROVIDE A MINIMUM OF 1'-0" COVER BETWEEN TOP OF PIPE AND FINAL SURFACE GRADE UNLESS OTHERWISE NOTED ON PLAN.
- 2. ALL MATERIAL EXCAVATED FROM THE UTILITY TRENCH SHALL BE STOCKPILED A MINIMUM SUFFICIENT DISTANCE FROM ALL TRENCHES TO PREVENT SLIDES OR CAVE—INS.

DETAIL 2 TYPICAL STORM SEWER TRENCH **OUTSIDE OF ROADWAYS** N.T.S.

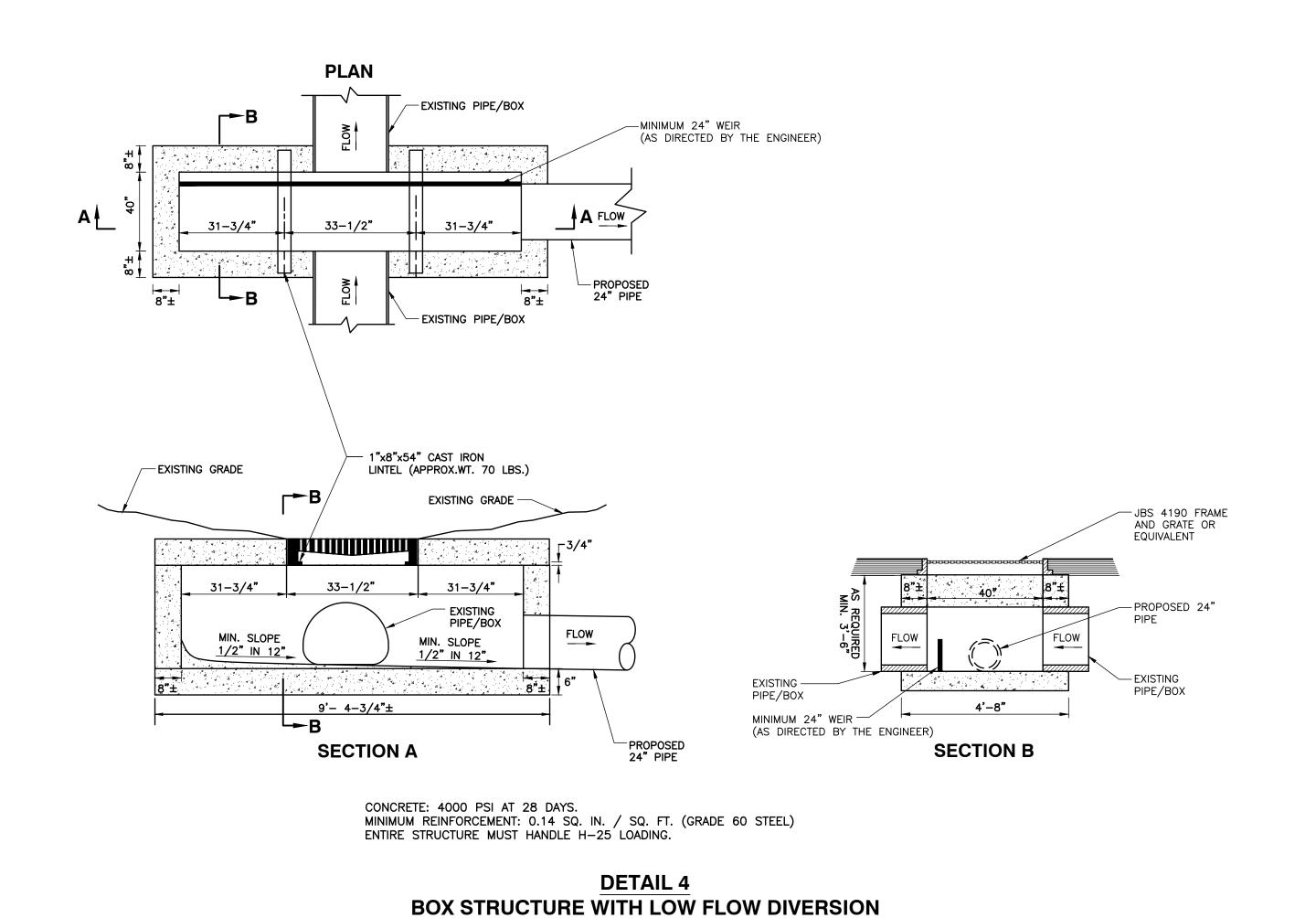


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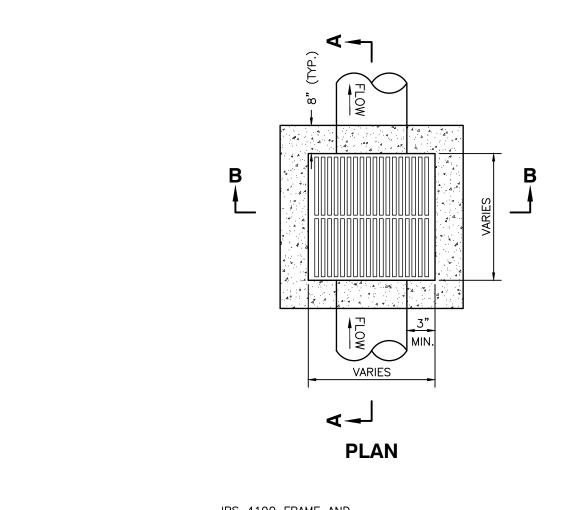
- 1. PROVIDE A MINIMUM OF 1'-0" COVER BETWEEN TOP OF PIPE AND FINAL SURFACE GRADE UNLESS OTHERWISE NOTED ON PLAN.
- 2. ALL MATERIAL EXCAVATED FROM THE UTILITY TRENCH SHALL BE STOCKPILED A MINIMUM SUFFICIENT DISTANCE FROM ALL TRENCHES TO PREVENT SLIDES OR CAVE-INS.
- 3. SAW-CUT EXISTING ASPHALT PAVEMENT PRIOR TO EXCAVATION TRENCH.

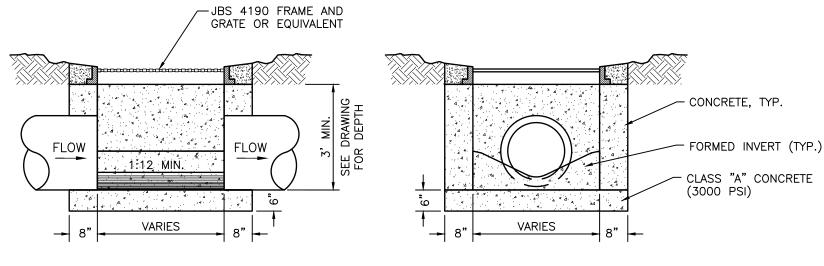
DETAIL 3 TYPICAL STORM SEWER TRENCH **UNDER ROADWAYS**

N.T.S.



(CAST IN PLACE OR BRICK)



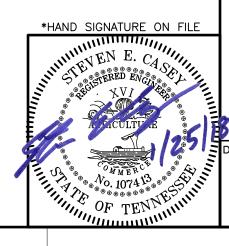


SECTION "B"

CONCRETE: 4000 PSI AT 28 DAYS. MINIMUM REINFORCEMENT: 0.14 SQ. IN. / SQ. FT. (GRADE 60 STEEL)

SECTION "A"

DETAIL 5 SINGLE CATCH BASIN (CAST IN PLACE OR BRICK)



SITE DETAILS

STORMWAT
IMPROVEMENT
OF BELLE MEAD
CITY O
CITY O
DAVIDSON (