



IOWA COMMUNICATIONS NETWORK
WACO JR./SR. HIGH SCHOOL TO THE HENRY COUNTY HEALTH CLINIC
FIBER INSTALLATION
HENRY COUNTY, WAYLAND, IOWA
706 N. PEARL ST TO 227 W. MAIN ST

UTILITY
INFRASTRUCTURE
SOLUTIONS

hbk
ENGINEERING

509 SOUTH GILBERT STREET
IOWA CITY, IA 52240
PHONE: (319) 338-7557
STATE OF IOWA, DEPARTMENT OF LABOR
REGULATION NO. 00527328

PROJECT INFORMATION

SCOPE OF WORK:

THE ICN INTENDS TO INSTALL A 12-STRAND ARMORED CABLE CONNECTION FROM WACO JR/SR HIGH SCHOOL DATA ROOM, 706 N. PEARL ST, WAYLAND, IA TO THE HENRY COUNTY HEALTH CLINIC DATA ROOM, 227 W. MAIN ST, WAYLAND, IA. THIS WILL REQUIRE CONDUIT OF APPROXIMATELY 3,594 FEET AND A TOTAL CABLE FOOTAGE OF APPROXIMATELY 4,094 FEET.

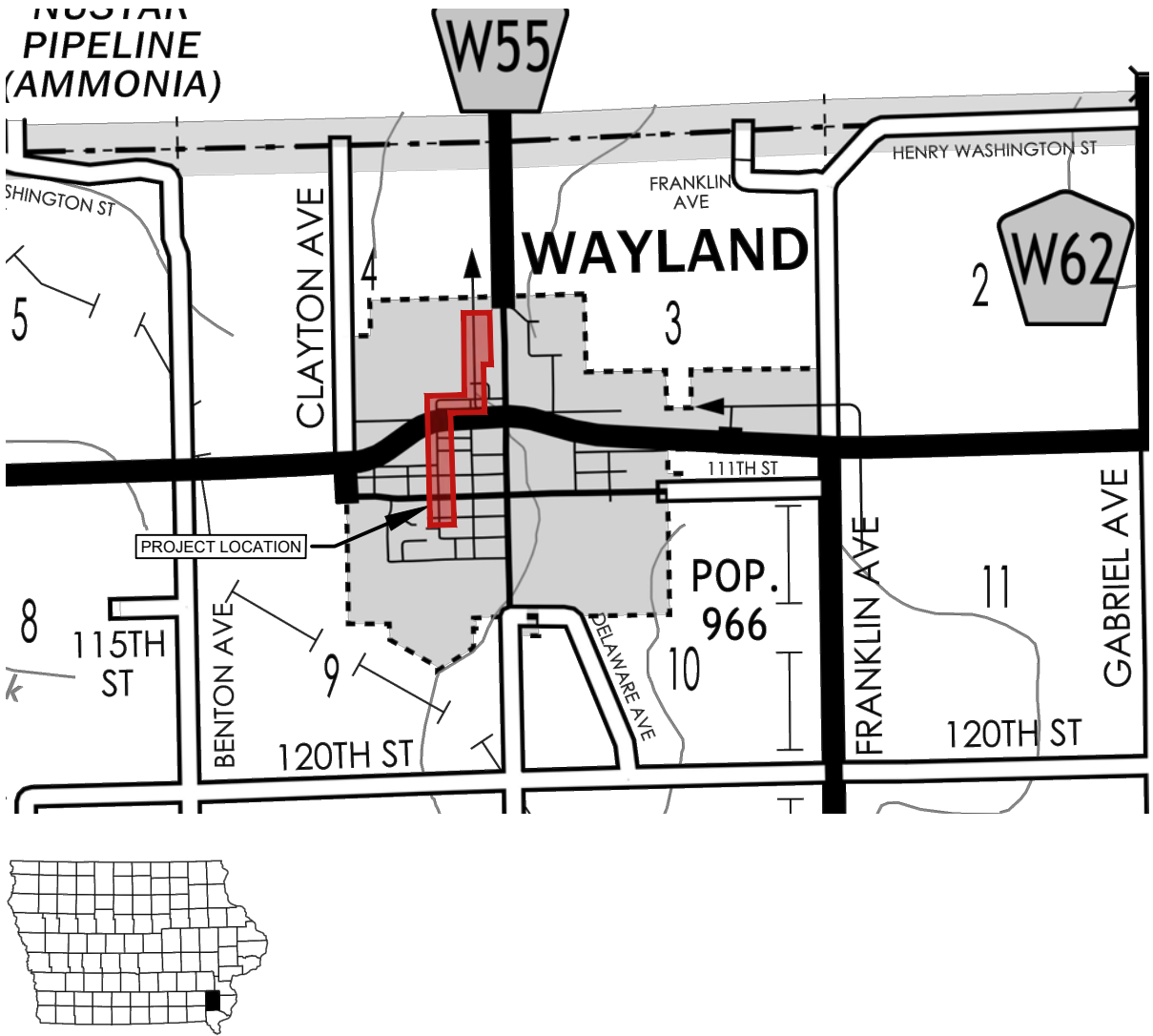
CONTACT PERSON:
TIM FLICKINGER
IOWA COMMUNICATIONS NETWORK (ICN)
PHONE: (515) 725-4699
timothy.flickinger@icn.state.ia.us

SANDRA SMITH
HBK ENGINEERING
509 S. GILBERT STREET
IOWA CITY, IA 52240
PHONE: (815) 207-1726
ssmith@hbkengineering.com

JAMIE WAGENBOCK
HENRY COUNTY HEALTH CLINIC
PHONE: (319) 385-5407
wagenbachj@hchc.org

CAYLON DEVAUL
WACO COMMUNITY SCHOOL DISTRICT
706 N. PEARL STREET
WAYLAND, IA 52654
PHONE: (573) 723-2163
caylon.devaul@wacocsd.org

LOCATION MAP



INDEX OF SHEETS

SHEET	TITLE
1	TITLE SHEET
2	ENGINEER GENERAL NOTES AND LEGEND
3	ICN GENERAL NOTES
4	MATERIALS
5	OVERALL SHEETS LAYOUT
6	WACO JR/SR HIGH SCHOOL DATA ROOM INTERIOR ROUTE
	CIVIL
7-12	PLAN SHEETS
13-21	DETAIL SHEETS

UTILITY CONTACTS			
COMPANY	CONTACT NAME	PHONE	PHONE
ALLIANT ENERGY (ASE)	ALLIANT ENERGY FIELD ENGINEER	(800) 255-4268	LOCATE_IPL@ALLIANTENERGY.COM
IOWA COMMUNICATIONS NETWORK (ICN)	SHANNON MARLOW	(800) 572-3940	ICNOUTSIDEPLANTIOWAONECALL@IOWA.GOV
IOWA DEPARTMENT OF TRANSPORTATION	BOB YOUNIE	(515) 239-1589	BOB.YOUNIE@IOWADOT.US
FARMERS & MERCHANTS MUTUAL TEL (FMT)	RON MAST	(319) 850-7902	RONMAST@FARMTel.COM
WINDSTREAM (WINIA)	LOCATE DESK	(800) 289-1901	LOCATE.DESK@WINDSTREAM.COM
WAYLAND, CITY OF (WMG)	BARRY LEICHTY	(319) 256-3276	WAYLAND@FARMTel.NET

*THIS CONTACT LIST IS NOT ALL-INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR REQUESTING LOCATES OF ALL UTILITIES.

NOTE:
CALL 811 FOR LOCATION OF UNDERGROUND TELEPHONE, ELECTRIC, GAS MAINS, CABLE TELEVISION AND OTHER UTILITIES.

EXISTING UNDERGROUND AND OVERHEAD UTILITIES AND DRAINAGE STRUCTURES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS THE RESPONSIBILITY OF THE INDIVIDUAL CONTRACTORS TO EXACTLY LOCATE AND PROTECT EACH EXISTING UTILITY BEFORE AND DURING ACTUAL CONSTRUCTION.



WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

hbk
ENGINEERING

ICN

1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2021, COPY WITH PERMISSION

ALL CONDUIT AND HANDHOLE INSTALLATIONS, REMOVALS, MODIFICATIONS, AND TEMPORARY WORK SHALL BE DONE ACCORDING TO THE FOLLOWING NON-INCLUSIVE CONDITIONS:

SECTION 1.0 SCOPE OF WORK

- 1.01 INSTALLATION DESCRIPTION:

INSTALL CONDUIT AND ALL RELATED APPURTENANCES FOR FIBER OPTIC CABLE INSTALLATION. SEE PLANS FOR EXACT LOCATION, LENGTHS, QUANTITIES, AND DIMENSIONS OF PROPOSE IMPROVEMENTS.
- 1.02 SEE SHEET 3 FOR LOCATION OF ENGINEER'S ESTIMATE OF MATERIALS.
- 1.03 THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, EQUIPMENT, LABOR, INSTALLATION, RESTORATION,UTILITY RELOCATION CHARGES, JOB SITE DELIVERY COSTS AND INCIDENTALS TO COMPLETE THE DESCRIBED OR ILLUSTRATED WORK, UNDER THIS CONTRACT.
- 1.04 ANY CHANGE-ORDER REQUEST MUST BE PRESENTED IN WRITING TO THE OWNER'S REPRESENTATIVE AND APPROVED PRIOR TO PROCEEDING WITH THE REQUESTED CHANGE. DOCUMENTATION CONCERNING ANY AND ALL CHANGE ORDERS WILL BE REDUCED TO FORMAL RECORD, FILED WITH THE OWNER'S REPRESENTATIVE, AND BE MADE AVAILABLE FOR FUTURE REFERENCE.
- 1.05 THE CONTRACTOR SHALL PROVIDE A MINIMUM 48 HOUR ADVANCED NOTICE TO HBK ENGINEERING (319-338-7557) TO SCHEDULE A PRE-CONSTRUCTION WALK THROUGH WITH A HBK ENGINEERING REPRESENTATIVE. THIS WALK THROUGH MUST BE COMPLETED PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN THE LIMITS OF THIS PROJECT.
- 1.06 THE ENGINEER WILL NOT BE RESPONSIBLE NOR ASSUME ANY LIABILITY FOR NEGLIGENT ACTS OR ERRORS OF OMISSIONS OF ANY CONTRACTOR, ANY SUBCONTRACTOR, OR ANY OF THE CONTRACTOR'S OR SUBCONTRACTORS' AGENTS OR EMPLOYEES OR ANY OTHER PERSONS (EXCEPT ENGINEER'S OWN EMPLOYEES) AT THE PROJECT SITE OR OTHERWISE PERFORMING ANY OF THE WORK OF THE PROJECT. ANY CONTRACTOR OR SUBCONTRACTOR, AS WELL AS THE ENGINEER, WILL BE RESPONSIBLE FOR HIS OWN SAFETY PROGRAM. NEITHER THE PROFESSIONAL ACTIVITIES OF THEENGINEER, NOR THE PRESENCE OF THE ENGINEER OR HIS OR HER EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE ANY CONTRACTOR OF HIS OR HER OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE ENGINEER AND HIS OR HER PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH ANY HEALTH OR SAFETY PRECAUTIONS.

SECTION 2.0 MATERIALS

- 2.01 ALL MATERIALS INSTALLED WITHIN THE LIMITS OF THIS PROJECT SHALL BE IN CONFORMANCE WITH STANDARD RECOMMENDATIONS OF THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
- 2.02 ALL TRENCHED CONDUIT, ELBOWS, AND COUPLINGS SHALL BE HDPE UNLESS OTHERWISE NOTED. ALL BORED CONDUIT AND COUPLINGS SHALL BE HDPE SDR-13 UNLESS OTHERWISE NOTED.
- 2.03 JOB SITE MATERIAL WILL BE DELIVERED TO AND MAINTAINED AT THE STREET WORK AREAS IN A WELL MANAGED MANNER, TO MINIMIZE CONGESTION OR INCONVENIENCE TO OTHER WORKERS, OR CONTRACTORS WORKING UNDER ALTERNATE PERMITS.

SECTION 3.0 GENERAL NOTES

- 3.01 CONTRACTOR IS ADVISED TO READ ALL NOTES ON DRAWINGS, CAREFULLY.
- 3.02 THE CONTRACTOR SHALL VERIFY EXISTING STREET RIGHTS OF WAY TO THE EXTENT NECESSARY TO VERIFY PROPOSED WORK REMAINS WITHIN THESE RIGHTS OF WAY AND DOES NOT INFRINGE ONTOPRIVATE PROPERTY NOT OWNED BY THE OWNER.
- 3.03 SCALE FOR DRAWINGS IS FOR GENERAL INFORMATION ONLY. LOCATIONS AND DIMENSIONS SHALL BE TAKEN AS SHOWN AND THE DRAWINGS SHALL NOT BE SCALED.
- 3.04 CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL PUBLIC AND PRIVATE UTILITIES AS WELL AS CITY AND STATE AGENCIES.
- 3.05 INSTALL CONDUIT MINIMUM OF 10'-0" BELOW ALL WATERWAYS AND CULVERT CROSSINGS. CONTRACTOR TO VERIFY CULVERT DEPTH PRIOR TO CONDUIT INSTALLATION.
- 3.06 NUMEROUS ELEVATION CHANGES. TOPOGRAPHY LINES SHOWN ON DRAWING FOR REFERENCE ONLY.
- 3.07 DUE TO EXISTING FORESTED AREAS, SOME TREE REMOVAL AND TRIMMING REQUIRED FOR CONDUIT OR HANDHOLE INSTALLATION WITHIN THE RIGHT-OF-WAY.
- 3.08 RIGHT OF WAY LOCATIONS ARE APPROXIMATE. FIBER INSTALLATION 6'-0" MINIMUM OFF RIGHT-OF-WAY.

SECTION 4.0 SAFETY

- 4.01 CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS TO PROTECT UTILITIES, PEDESTRIANS, WORKERS AND VEHICULAR TRAFFIC. THE CONTRACTOR SHALL PROVIDE TEMPORARYFENCES, BARRICADES, ETC. AS REQUIRED TO PROTECT ADJACENT PROPERTY AND THE PUBLIC DURING ALL PHASES OF CONSTRUCTION.
- 4.02 THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BARRICADES, SIGNAGE, WARNING LIGHTS AND OTHER DEVICES AND KEEP ALL TRAFFIC CONTROL OPERATIONAL 24 HOURS A DAY AT ALL OPEN TRENCH LOCATIONS AND AT LOCATIONS WHICH DO NOT HAVE A FINISHED SURFACE OR ROAD PLATES.
- 4.03 THE CONTRACTOR SHALL COORDINATE INGRESS AND EGRESS TO ADJACENT PROPERTIES AND/OR CONSTRUCTION AFFECTED BY THE PROPOSED WORK.

SECTION 5.0 EXISTING UTILITIES

- 5.01 EXISTING CONDITIONS, STRUCTURES, UTILITIES AND SURFACE FEATURES SHOWN WERE OBTAINED FROM UTILITY ATLASES AND FROM DRAWINGS FURNISHED BY THE VARIOUS UTILITIES AND ARE ASSUMED TO BE ACCURATE AND CORRECT. THE CONTRACTOR SHALL PERFORM HIS OWN SURVEY AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS OF EXISTING STRUCTURES PRIOR TO STARTING ANY WORK.
- 5.02 FOR BORED INSTALLATIONS, THE CONTRACTOR SHALL PERFORM TEST HOLES AT ALL UTILITY CROSSINGS TO VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO ANY EXCAVATION, AND TO LOCATE ANY POSSIBLE OBSTRUCTIONS. ALL TEST HOLES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 5.03 FOR TRENCHED INSTALLATIONS, THE CONTRACTOR SHALL PERFORM TEST HOLES PER PLAN OR AS DEEMED NECESSARY TO VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO ANY EXCAVATION, AND TO LOCATE ANY POSSIBLE OBSTRUCTIONS. ALL TEST HOLES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 5.04 THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL OVERHEAD OBSTRUCTIONS PRIOR TO THE COMMENCEMENT OF WORK.
- 5.05 EXISTING UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL CONTACT IOWA ONE CALL AT 1(800)-292-8989 A MINIMUM OF 48 HOURS (EXCLUDING WEEKENDS AND GOVERNMENT HOLIDAYS) PRIOR TO COMMENCEMENT OF ANY PAVEMENT CUTS OR EXCAVATION TO REQUEST LOCATING AND MARKING OF EXISTING UTILITIES PRIOR TO PERFORMING ANY EXCAVATION WORK IN OR AROUND ANY UTILITY.
- 5.06 ALL EXCAVATION WORK NEAR AND AROUND EXISTING STRUCTURES AND UTILITIES SHALL BE BY HAND METHOD.
- 5.07 ALL DISCREPANCIES SHOULD BE REPORTED TO ENGINEER OF RECORD AT HBK ENGINEERING (319-338-7557). ANY QUESTIONS OR COMMENTS THE CONTRACTOR MAY HAVE ARE TO BE DISCUSSED WITH THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
- 5.08 FURTHER, THE CONTRACTOR SHALL RECORD THE LOCATION AND ELEVATION OF ALL UTILITIES ENCOUNTERED, AND INSTALLATION OF NEW WORK, AS THE WORK PROGRESSES AND SHALL PREPARE RECORD DRAWINGS (RED-LINES) BASED ON HIS RECORDS. AS PART OF THE RECORD DRAWINGS, CONTRACTOR SHALL ALSO PROVIDE HORIZONTAL AND VERTICAL CONFIGURATION OF CONDUITS WHERE MULTIPLE CONDUITS ARE INSTALLED. THESE RECORDS TO BE SUPPLIED TO HBK ENGINEERING, LLC AT COMPLETION OF WORK.
- 5.09 AT SEWER DRAINS FROM HOMES OR OTHER BUILDINGS, IF THERE IS INTERFERENCE, REPLACE INKIND. IN ALL CASES WHERE SEWER WORK IS DONE, A PERMIT SHOULD BE OBTAINED AND A SEWER INSPECTOR SHOULD BE PRESENT DURING THE WORK.
- 5.10 CONTRACTOR SHALL SUPPORT ALL WATER MAINS IN EXCESS OF 12" IN DIAMETER WITH A PERMANENT TYPE OF STRUCTURE UNLESS OTHERWISE NOTIFIED BY THE WATER DEPARTMENT, AND IS INCLUDED IN COST FOR DOING THE WORK. AT NO TIME DURING CONSTRUCTION SHALL WATER MAINS GO UNSUPPORTED FOR A SPAN GREATER THAN 8'-0".
- 5.11 CONTRACTOR RESPONSIBLE FOR OBTAINING AND PROVIDING REVIEW AND DESIGN OF ANY AND ALL TEMPORARY UTILITY SUPPORT SYSTEMS PRIOR TO CONSTRUCTION.
- 5.12 CONTRACTOR SHALL NOTIFY ALLIANT IN SITUATIONS WHERE STEEL PIPE CONDUCTOR IS NICKED DURING EXCAVATION. ALLIANT WILL EVALUATE THE EXTENT OF THE DAMAGE SO AS TO DETERMINE WHETHER REPAIR IS REQUIRED PRIOR TO BACKFILL AND GRADE SURFACE RESTORATION.

SECTION 6.0 WORK

- 6.01 NO STORAGE OF EQUIPMENT OR MATERIALS IN THE ROADWAY IS PERMITTED UNLESS THE CONTRACTOR OBTAINS WRITTEN PERMISSION FROM THE CITY, STATE, AND/OR GOVERNING BODY.
- 6.02 THE CONTRACTOR SHALL MARK ALL OPENINGS ON THE SURFACE PRIOR TO THE COMMENCEMENT OF EXCAVATION. ALL OPENINGS ON PAVED SURFACES SHALL BE SAW CUT PRIOR TO REMOVAL OF PAVEMENT.
- 6.03 CONTRACTOR RESPONSIBLE FOR OBTAINING AND PROVIDING REVIEW AND DESIGN OF ANY AND ALL SHORING SYSTEMS PRIOR TO CONSTRUCTION.
- 6.04 CONTRACTOR SHALL ASSUME ALL ELECTRICAL CABLES ARE ENERGIZED AND SHALL BE SUPPORTED SO AS NOT TO STRESS ANY PORTION OF THE CABLE.
- 6.05 CONTRACTOR SHALL PROVIDE APPROPRIATE ENGINEERED DE-WATERING MEASURES, IF NECESSARY, TO ENSURE GROUNDWATER TABLE REMAINS AT A DEPTH BELOW THE BASE OF THE EXCAVATION AT ALL TIMES DURING EXCAVATION, INSTALLATION AND BACKFILLING OPERATIONS.
- 6.06 THE ENGINEER SHALL BE NOTIFIED FOR RESOLUTION OF SITUATIONS WHERE CONDUIT DEPTH BELOW GRADE DEVIATES BY MORE THAN 3" AS CURRENTLY SHOWN ON PLAN/PROFILE DRAWINGS.
- 6.07 THE ENGINEER SHALL ALSO BE NOTIFIED FOR DISPOSITION OF SITUATIONS WHERE THE CONDUIT CANNOT MAINTAIN SEPARATIONS PER PLAN.

SECTION 7.0 RESTORATION

- 7.01 THE CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM ALL RESTORATION WORK IN THE CONTRACTOR'S NAME. ALL PAVING SHALL BE COMPLETED WITHIN 15 WORKING DAYS AFTER EXCAVATION IS BACKFILLED UNLESS OTHERWISE ARRANGED IN ADVANCE WITH GOVERNING AGENCY.
- 7.02 CONTRACTOR SHALL BREAK OUT SIDEWALK, DRIVEWAY, CURB AND GUTTER, PAVEMENT AND RESTORE TO PERMANENT CONDITION. CONTRACTOR TO CONFORM CONCRETE TO COLOR, FINISH, AND TEXTURE OF EXISTING SIDEWALKS, CURB AND GUTTER.
- 7.03 THE CONTRACTOR IS RESPONSIBLE FOR THE RESTORATION OF THE AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR TO PAY ALL FEES AND OBTAIN ALL PERMITS FOR RESTORATION.
- 7.04 THE CONTRACTOR IS TO RESTORE ALL DAMAGED STRUCTURES AND UTILITIES TO THE SATISFACTION OF THE FACILITY OWNER, IN THE EVENT THAT DAMAGE OCCURS.

LEGEND

FENCE	
EXISTING ROW LINE	
EXISTING FIBER OPTIC LINE	
EXISTING OVERHEAD LINE	
EXISTING STORM DRAIN	
EXISTING ELECTRIC (BURIED)	
EXISTING GAS LINE	
EXISTING STORM SEWER	
EXISTING SANITARY SEWER	
EXISTING WATER LINE	
EXISTING ICN FIBER	
EXISTING ICN (AERIAL)	
EXISTING ICN CONDUIT	
TO BE ABANDONED	
PROPOSED ICN FIBER	
PROPOSED AERIAL	
PROPOSED ICN CONDUIT	
CENTERLINE OF ROAD	
EXISTING WATERWAY BOUNDARY	
PROPOSED ICN HANDHOLE	
EXISTING ICN HANDHOLE	
EXISTING HANDHOLE (BY OTHERS)	
EXISTING STORM CULVERT LOCATION	
EXISTING STORM MANHOLE	
EXISTING STORM INLET	
EXISTING SANITARY MANHOLE	
EXISTING SANITARY CLEAN OUT	
EXISTING FIBER OPTIC MANHOLE	
EXISTING FIBER OPTIC HANDHOLE	
EXISTING COMMUNICATIONS MANHOLE	
EXISTING COMMUNICATIONS HANDHOLE	
EXISTING COMMUNICATIONS PEDESTAL	
EXISTING ELECTRIC MANHOLE	
EXISTING ELECTRIC TRANSFORMER	
EXISTING ELECTRIC PEDESTAL	
EXISTING ELECTRIC HANDHOLE	
EXISTING UTILITY POLE	
EXISTING GUY ANCHOR	
EXISTING LIGHT POLE	
EXISTING WATER MANHOLE	
EXISTING WATER VALVE	
EXISTING MONITORING WELL	
EXISTING FIRE HYDRANT	
EXISTING NATURAL GAS MANHOLE	
EXISTING NATURAL GAS VALVE	
EXISTING TREE	



WACO JR/SR HIGH SCHOOL HENRY COUNTY HEALTH CLINIC, WAYLAND, IA				
1	90% PLAN REVIEW	3/30/2022	IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021, COPY WITH PERMISSION	
2	PERMIT PLAN SUBMITTAL	4/5/2022		
3				
4				

ICN GENERAL NOTES

STANDARD INSTALLATION REQUIREMENTS:

GENERAL REQUIREMENTS:

1. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES.
2. PROVIDE THE OWNERS OF ANY NATURAL GAS UTILITY 48 HOURS ADVANCE NOTICE THAT WORK IS SCHEDULED IN THE VICINITY OF THEIR LINES/MAINS SO THAT THEY CAN PROVIDE STANDBY AND PROTECT SERVICES.
3. MAINTAIN PROOF OF NOTIFICATION TO AND RECEIPT OF NOTIFICATION BY THE GAS UTILITY.
4. PERMITS AND COORDINATION
 - 4.1. SECURE ALL NECESSARY STATE AND LOCAL (CITY, COUNTY, ETC.) PERMITS, PUBLIC OR PRIVATE EASEMENTS, FACILITY PERMITS, USAGE PERMITS, AND ANY OTHER PERMIT REQUIRED BY AN AUTHORITY HAVING JURISDICTION (AHJ). ALL CONTRACTORS AND SUBCONTRACTORS MUST BE LICENSED AND BONDED WITH THE CITY OF CLEAR LAKE.
 - 4.2. ICN WILL OBTAIN AND PROVIDE COPIES OF IDOT PERMITS.
 - 4.3. IF PERMITS ARE REQUIRED TO BE IN THE NAME OF THE OWNER RATHER THAN THE CONTRACTOR, THE CONTRACTOR SHALL PREPARE THE PERMIT FOR THE OWNER'S SIGNATURE.
 - 4.4. COORDINATE INSTALLATION WITH ALL OWNERS AND AHJ OVER THE ROUTE, THE FIBER, RIGHT-OF-WAY AND BUILDINGS IN WHICH END POINTS WILL BE LOCATED.
 - 4.5. FAILURE TO COORDINATE WITH THE AHJ AND TO OBTAIN ALL NECESSARY PERMITS IS AT THE PERIL OF THE CONTRACTOR.
 - 4.6. RIGHT-OF-WAY PERMIT FEES ARE AN AUTHORIZED EXTRA ABOVE THE QUOTED BID PRICE. EXCAVATION PERMITS SHALL BE BY THE CONTRACTOR.
 - 4.7. ENSURE ALL FACILITIES ARE PLACED WITHIN THE PUBLIC RIGHT-OF-WAY.
5. ENSURE THAT PERSONNEL WORKING IN THE ROW ARE EQUIPPED WITH AND USE PROPER SAFETY EQUIPMENT AND ATTIRE.
6. ALL TOOLS AND TEST EQUIPMENT REQUIRED TO DO A PROJECT SHALL BE PROVIDED BY THE CONTRACTOR OR ITS SUBCONTRACTOR(S). SECURITY OF TOOLS AND TEST EQUIPMENT SHALL BE THE RESPONSIBILITY OF EACH WORKER. THE ICN SHALL NOT BE RESPONSIBLE FOR THE SECURITY OF ANY PROPERTY LEFT ON ICN'S PROPERTY OR ON PROPERTY CONTROLLED BY THE ICN OR THE STATE OF IOWA.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTRUCTING ITS EMPLOYEES IN SAFETY MEASURES CONSIDERED APPROPRIATE FOR THE JOB. IN ADDITION, THE CONTRACTOR SHALL NOT PERMIT PLACING OR USE OF TOOLS OR MATERIALS IN TRAFFIC LANES OR OTHER LOCATIONS. THE TOOLS OR MATERIALS SHALL NOT BE PLACED IN SUCH A MANNER SO AS TO CREATE SAFETY HAZARDS TO STATE EMPLOYEES, CONTRACTING AGENCY EMPLOYEES, THE PUBLIC OR THEMSELVES.
8. EXCAVATIONS AND TRENCHES: THE ICN REQUIRES ALL OPEN EXCAVATIONS OR TRENCHES TO BE MONITORED AND ATTENDED TO DURING CONSTRUCTION PER. THE ICN REQUIRES ALL OPEN EXCAVATIONS AND TRENCHES BACKFILLED THE SAME DAY. IF THE CONTRACTOR IS REQUIRED TO LEAVE AN EXCAVATION OR TRENCH OPEN, THEN THE CONTRACTOR SHALL PROPERLY FENCE AND/OR COVER THE EXCAVATION FOR SAFETY. CONTRACTOR SHALL FOLLOW ALL OSHA REQUIREMENTS FOR EXCAVATION AND TRENCH SAFETY.
9. CONTRACTOR AND ITS EMPLOYEES SHALL COMPLY WITH ALL OSHA REGULATIONS. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS.
10. CONTRACTOR SHALL COMPLY WITH ALL IOWA ONE CALL REQUIREMENTS AS PROVIDED BY IOWA CODE, CHAPTER 480.
11. PROVIDE ALL LABOR AND SUPERVISION FOR THE PROJECT.
12. PROVIDE AND INSTALL MATERIALS NEEDED TO RESULT IN A FULLY FUNCTIONAL SYSTEM MEETING ICN STANDARDS, WHETHER OR NOT THE MATERIALS OR METHODS ARE SPECIFICALLY MENTIONED IN THIS DOCUMENT. SEE THE LIST OF ICN-FURNISHED MATERIALS.
13. INSTALL CABLE ROUTE MARKERS FURNISHED BY ICN. WHERE POSSIBLE, INSTALL MARKERS ADJACENT TO POLES, BUILDINGS OR IN OTHER PROTECTED AREAS.
14. A COPY OF THIS SCOPE OF WORK AND THE ENGINEERING PLAN FOR THIS PROJECT SHALL BE ON SITE AND AVAILABLE ANY TIME WORK IS BEING PERFORMED. FAILURE TO HAVE THE REQUIRED DOCUMENTS ON SITE MAY RESULT IN ICN REQUIRING THE CONTRACTOR TO STOP WORKING UNTIL THE REQUIRED DOCUMENTS ARE ON-SITE.
15. SUBCONTRACTORS SHALL MEET THE SAME QUALIFICATIONS STATED FOR CONTRACTORS. CONTRACTOR SHALL OBTAIN APPROVAL OF THE CONTRACTING AGENCY'S PROJECT MANAGER PRIOR TO USING A SUBCONTRACTOR ON ANY PROJECT.
16. RESTORE ALL DAMAGE TO PRIVATE PROPERTY, RIGHT-OF-WAY, ICN PROPERTY, AND ANY OTHER PROPERTY DAMAGED IN THE COURSE OF THE WORK.
 - 16.1.ANY DISRUPTION OF GRASS IN AN INDIVIDUAL'S YARD OR IN A PRIVATE MAINTAINED AREA OF THE PUBLIC RIGHT OF WAY (THE AREA BETWEEN THE SIDEWALK AND THE STREET CURB) MUST BE RESTORED THROUGH RE-SODDING. ANY DISRUPTION OF THE GRASS IN THE MEDIAN WAY OR AN UNIMPROVED SHOULDER MUST BE RESTORED EITHER THROUGH RE-SODDING OR RE-SEEDING AS REQUIRED BY THE ROW OWNER.
 - 16.2.AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
 - 16.3. DIRT SHALL BE MECHANICALLY COMPACTED AROUND HANDHOLES AND PITS.
 - 16.4. LAWNS SHALL BE SODDED WITH LIKE GRASS.
 - 16.5. CONTRACTOR IS RESPONSIBLE FOR WATERING THE SOD UNTIL IT HAS KNITTED TO THE GROUND BENEATH.
 - 16.6.ALL DEBRIS SHALL BE REMOVED FROM THE CONSTRUCTION AREAS INCLUDING BUT NOT LIMITED TO: CONSTRUCTION MATERIALS, TRASH, LARGE OBJECTS OR STONES WITHIN BACKFILLED AREAS, ETC.

DUCT INSTALLATION REQUIREMENTS

1. HDPE DUCT SHALL BE NO LESS THAN 36-42 INCHES DEEP.
2. DUCT SHALL BE INSTALLED IN THE PUBLIC RIGHT-OF-WAY.
3. WHEN CROSSING A HIGHWAY IN DOT RIGHT-OF-WAY, DUCT SHALL BE NO LESS THAN 48 INCHES BELOW GRADE UNDER THE ROADWAY AND SHOULDERS. HDPE MAY BE USED UNDER THE ROADWAY AND SHOULDERS IF INSTALLED AT A MINIMUM DEPTH OF 48".
4. SHOULD IT BE NECESSARY TO CROSS PRIVATE PROPERTY, THE CONTRACTOR MAY APPLY TO THE ICN FOR AN EXCEPTION, AND REQUEST PERMISSION TO SECURE AN EASEMENT. THE EASEMENT IS REQUIRED TO BE IN THE NAME OF ICN AND THE CONTRACTOR SHALL HAVE THE EASEMENT PREPARED BY A LAND SURVEYOR LICENSED IN THE STATE OF IOWA. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES UNLESS PREVIOUSLY AUTHORIZED BY THE ICN.
5. AT THE CONCLUSION OF THE PROJECT, PROVIDE AND LEAVE A PULL ROPE IN ALL DUCTS, CONDUITS AND PATHWAYS, INCLUDING INDOOR, OUTDOOR, NEW AND EXISTING.
6. DIRT SHALL BE MECHANICALLY COMPACTED AT ALL DUCT SPLICES, BORE PITS AND AROUND HANDHOLES.
7. GROUND SHALL BE RESTORED TO THE CONDITION FOUND PRIOR TO CONSTRUCTION AND DEBRIS REMOVED PRIOR TO SODDING OR SEEDING.
8. ALL CONDUITS SHALL BE PLUGGED VIA DUCT SEAL OR OTHER METHOD UPON COMPLETION OF CABLE INSTALLATION.
9. IF SCHEDULE 40 PVC CONDUIT IS UTILIZED, ALL ANGLES (45, 90 DEGREE OR OTHER) REQUIRE FITTINGS TO LONG SWEEP TO ACCOMMODATE MINIMUM CABLE BEND RADIUSES.
10. THE ICN REQUIRES PICTURES BY THE CONTRACTOR AND/OR ON- SITE INSPECTION BY ICN STAFF PRIOR TO COMPLETION OF THE PROJECT WHERE PIPE AND FITTINGS ARE NOT EXPOSED; I.E. UNDERGROUND, BEHIND A WALL, ETC.

HANDHOLE REQUIREMENTS

1. INSTALL HANDHOLES SO THAT THE LID IS LEVEL AND FLUSH WITH THE SURROUNDING NATURAL GRADE. THE LID SHALL NOT EXTEND ABOVE THE SURROUNDING NATURAL GRADE.
2. PROVIDE ¼” OPENING HARDWARE CLOTH TYPE SCREEN WIRE BELOW THE HANDHOLE.
3. PROVIDE 5-6 INCHES OF ¾” CRUSHED ROCK BELOW THE HANDHOLE. ROCK SHALL BE COMPACTED. GRAVEL SHALL EXTEND A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE WALLS OF THE HANDHOLE. DO NOT USE PEA GRAVEL OR OTHER ROUND STONE.
4. DO NOT PLACE GRAVEL INSIDE HANDHOLE ABOVE THE HARDWARE CLOTH.
5. CONDUIT SHALL EXTEND A MINIMUM OF 6” ABOVE THE HARDWARE CLOTH/GRAVEL.
6. FAILURE OF THE CONTRACTOR TO INSTALL HANDHOLES AS SPECIFIED WILL CAUSE THE CONTRACTOR TO RETURN AND RE-INSTALL THE HANDHOLE ACCORDING TO THIS SPECIFICATION BEFORE PAYMENT FOR THE PROJECT IS MADE.
7. HANDHOLE INSTALLATIONS SHALL FOLLOW ICN STANDARD TYPICAL INSTALLATION; SEE TYPICAL DRAWING.

FIBER INSTALLATION REQUIREMENTS

1. INSTALL FIBER ACCORDING TO INDUSTRY “BEST PRACTICES”.
2. THE CONTRACTOR SHALL NOT VIOLATE THE MANUFACTURER'S MINIMUM INSTALLATION BEND RADIUS WHEN THE CABLE IS UNDER TENSION, OR THE MINIMUM INSTALLED BEND RADIUS.
3. TO PREVENT EXCEEDING THE MANUFACTURER'S MAXIMUM PULLING TENSION DURING INSTALLATION OF THE FIBER OPTIC CABLE, THE CONTRACTOR SHALL USE A “BREAK-AWAY” PULLING SWIVEL WHEN INSTALLING CABLE.
4. THE “BREAK-AWAY” FUNCTION SHALL ACTIVATE AT OR BELOW THE MAXIMUM PULLING TENSION SPECIFIED BY THE CABLE MANUFACTURER.
5. THE CONTRACTOR SHALL TEST ALL STRANDS OF THE FIBER, ON THE REEL, PRIOR TO BEGINNING FIBER INSTALLATION. CONFIRM THAT ALL STRANDS MEET MANUFACTURER'S LOSS SPECIFICATIONS.
6. THE CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
7. SLACK LOOPS IN HANDHOLES SHALL BE COILED, INSTALLED, AND SECURED TO AVOID DAMAGE TO THE COIL AND NOT INTERFERE WITH LIDS.
8. SLACK LOOPS AT SPLICES SHALL BE COILED TO MATCH THE EXISTING FIBER CABLE TAILS AND ALLOWANCE FOR SPLICE PREPARATION.
9. ICN FIBER IN ALL HANDHOLES SHALL BE LABELED WITH ICN WRAP AROUND CABLE TAGS OR OTHER LABELED CABLE TAGS.

BUILDING ENTRY REQUIREMENTS

1. WEATHER-SEAL ALL PENETRATIONS.
2. USE MORTAR OR SIMILAR CEMENT TO SEAL PENETRATION OF BRICK OR CEMENT BLOCK.
3. FIRESTOP PENETRATIONS OF ANY FIRE-RATED FLOOR, WALL OR CEILING.
4. REPLACE THE FIRESTOP MATERIAL IN ANY EXISTING FIRESTOPPED PENETRATION USED BY THE CONTRACTOR.
5. ALL OUTDOOR CONDUITS, OF ANY LENGTH, SHALL BE GALVANIZED IRON PIPE (GIP). EMT, PVC AND PLASTIC ARE PROHIBITED.
6. IMMEDIATELY UPON INSTALLATION, SEAL THE ENDS OF ALL DUCTS WITH DUCT SEAL OR EXPANSION FOAM TO PREVENT SILTATION OR FILLING WITH MOISTURE. THIS APPLIES TO BOTH NEW AND EXISTING DUCTS.
7. AT THE CONCLUSION OF THE PROJECT, ENSURE THAT A PULL ROPE IS LEFT IN ALL PATHWAYS, BOTH INSIDE AND OUTSIDE, NEW AND EXISTING.

LOCATE FACILITY REQUIREMENTS

1. TRACER WIRE SHALL BE CONTINUOUS.
2. SPLICES IN THE TRACER WIRE ARE NOT ALLOWED. IF TRACER WIRE IS ACCIDENTALLY SEVERED, REQUEST PERMISSION FROM ICN TO SPLICE.
3. SPLICE ONLY IN HANDHOLES.
4. USE EITHER AN EPOXY SPLICE KIT, SCOTCH 3M 3832 OR A MOLEX PERMASEAL BUTT SPLICE. 10-12 GA. SPLICE MATERIALS SHALL BE DESIGNED FOR UNDERGROUND APPLICATIONS.
5. LEAVE THE WIRE SPLICE VISIBLE IN THE HANDHOLE.
6. ROUTE A GROUND WIRE FROM THE GROUND INSIDE THE BUILDING, THROUGH THE ENTRY TO THE TII 163 TERMINAL.
7. SECURE ALL RISER CONDUITS WITH 3 EACH TWO-HOLE CONDUIT STRAPS.
8. WIRE THE PEDESTAL/TERMINAL SO THAT LOCATES MAY BE PERFORMED IN ANY DIRECTION AND FROM THE FAR END.
9. DO NOT LEAVE ANY EXPOSED TRACER WIRE OR GROUND WIRE.
10. PERMANENTLY GROUND THE TRACER WIRE AT THE HANDHOLE ON THE FURNISHED GROUND ROD.
11. AT THE CONCLUSION OF THE PROJECT LEAVE THE TRACER WIRE SHIELD SHORTED TO GROUND IN THE LOCATE TERMINAL.
12. USE TRACER WIRE THAT IS RATED FOR DIRECT BURIAL WHERE REQUIRED. TRACER WIRE SHALL BE #12 AWG, SOLID HF CCS 30 MIL HDPE HIGH FLEX TRACER WIRE: EITHER SOLID COPPER OR COPPER CLAD STEEL.
13. LABEL ALL WIRES IN THE LOCATE TERMINAL/PEDESTAL/TRIVIEW. (I.E. “GROUND”, “FACING DMACC”, “FACING NORTH” ETC.)
14. FAILURE TO LABEL THE LOCATE WIRES WILL CAUSE THE CONTRACTOR TO RETURN AND PROPERLY LABEL THE WIRES BEFORE PAYMENT FOR THE PROJECT IS MADE.
15. BOND TRACER WIRE(S) WITHIN SPLICE ENCLOSURES UTILIZING A 3M 4460-D\FO SHIELD BONDING KIT.
16. ROUTE TRACER WIRE(S) OUT OF SPLICE ENCLOSURE THROUGH A SINGLE PORT UTILIZING A FOSC CLOSURE SEALING KIT.
17. AT SPLICE LOCATIONS WITH NO LOCATE PEDESTAL, TRACER WIRES SHALL BE BONDED TOGETHER, WITHIN THE SPLICE ENCLOSURE.
18. AT EACH END OF ANY TRACER WIRE, USE APPROPRIATE-SIZED RING TERMINAL (CRIMP) CONNECTORS USING APPROPRIATE CRIMP TOOL; OR CREATE A WIRE EYELET AS PER TYPICAL INSTALLATION OF TRI-VIEW LOCATE PEDESTAL DETAIL.

DELIVERABLES/ACCEPTANCE:

1. CONTRACTOR SHALL PROVIDE CONSTRUCTION REDLINE AS-BUILTS WITH:
 - 1.1. OFFSETS TO FIXED OBJECTS TO THE CABLE/CONDUIT RUNNING LINE, HANDHOLES AND NEW FACILITIES.
 - 1.2. METER MARKS OF CABLE INSTALLATIONS AT HANDHOLE ENTRY/EXIT, SPLICE LOCATIONS, BUILDING ENTRIES, ETC.
 - 1.3. DEPTHS OF CABLE AND/OR CONDUIT INSTALLATION.
 - 1.4. ONE ORIGINAL SET OF AS-BUILT DRAWINGS MUST BE PROVIDED WITHIN TWO (2) WEEKS AFTER COMPLETION OF CONSTRUCTION FOR THE ICN MANAGEMENT RECORDS. REDLINE AS-BUILT DRAWINGS MUST BE COMPLETE.
2. CONTRACTOR SHALL PROVIDE SPLICING REDLINE OF ALL SPLICING COMPLETED AND VALIDATION THAT THE SPLICE PLAN WAS FOLLOWED.
3. CONTRACTOR IS RESPONSIBLE TO LOCATE FIBER UNTIL ACCEPTANCE BY THE ICN. ACCEPTANCE INCLUDES:
 - 3.1. SUBMISSION OF CONSTRUCTION AND SPLICING RED LINE DRAWINGS BY CONTRACTOR.
 - 3.2. ASSIGNMENT OF LINK NUMBER BY THE ICN (IF APPLICABLE).
 - 3.3. SUBMISSION OF FINAL AS BUILT DRAWING BY THE ICN TO THE ICN NETWORK MAINTENANCE PROVIDER.
 - 3.4. SUBMISSION TO IOWA ONE CALL AND THE ICN NETWORK MAINTENANCE PROVIDER'S CONTRACT LOCATER.
 - 3.5. THE MEASUREMENTS IN THE STATEMENT OF WORK ARE ESTIMATES AND NEED TO BE VERIFIED BY THE CONTRACTOR.
4. ONLY WRITTEN MODIFICATIONS TO THIS SCOPE OF WORK ARE BINDING - VERBAL CHANGES TO THIS SCOPE OF WORK BY ANY PERSON OR PERSONS ARE NOT BINDING, UNLESS CONFIRMED IN WRITING.
5. FINAL PAYMENT WILL NOT BE PROCESSED UNTIL ALL DELIVERABLES ARE RECEIVED AND ACCEPTED.



WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA



1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2021, COPY WITH PERMISSION

Iowa Communications Network		Date:	03/28/22
Project Name: Wayland			
Project Number: 44220305			
ICN Provided Material List (Warehouse Contact Paul Damge 515.725.4749)			
Item	ICN Part Number	Qty	Notes
12 strand Armored SM fiber	012EUC-T4100D20 (Corning)	4,700	
24" X 36" X 36" TD handhole w/ 20T lid TIER 15 (Martin or New Basis)	PCA243636SN20	4	
Locate Box (custom with IsoLever)	ISOLOCBOX	2	
Erico 1/2" x 6' Ground Rod (Graybar)	611360	1	
Burndy 1/2" Ground Rod Clamp (Anixter)	GRC12	1	
ICN Snap Around Vulcan 4"x4" 15Mil Coiled Pvc (ICN-4X4-SA)	1502345	8	
Closet Connector Housing (CCH), 1 rack unit, holds 2 CCH connector panels	CCH-01U	1	
Wall-Mountable Connector Housing (WCH), Holds 2 CCH connector panels	WCH-02P	1	
CCH Pigtailed Splice Cassette, 6 F, SC UPC Simplex, SM PRE-ASSEMBLED	CCH-CS06-3C-P00RE	2	
Leviton storage ring 24-inch	48900-OFR	1	
*3M Scotchlok Shield Bond Connector 4460-D	4460-D	2	

LISTING OF CONDUIT & FIBER WORK					
CONDUIT RUN	FROM	TO	LENGTH	2" CONDUIT	12 SM ARMORED FIBER, UNDERGROUND
1	TELECOM ROOM (WACO JR/SR HIGH SCHOOL)	EX. HH1	4	4	4
2	EX. HH1	HH2	248	248	248
3	HH2	HH3	999	999	999
4	HH3	HH4	702	702	702
5	HH4	HH5	1474	1474	1474
6	HH5	TELECOM ROOM (HENRY COUNTY HEALTH CLINIC)	167	167	167
TOTAL					3594
NOTE: THIS TABLE SHOWS APPROXIMATE LENGTHS IN CONDUIT ONLY AND DOES NOT INCLUDE ANY COILS OR SLACK FOR FINER CABLES, TRACER WIRE, PULL ROPE, ETC. CONTRACTOR SHALL VERIFY NECESSARY QUANTITIES INCLUDING COILS.					

LISTING OF HANDHOLE WORK				
HANDHOLE LABEL	HANDHOLE TYPE	ROUTE	STATION	12 SM ARMORED FIBER COIL
TELECOM ROOM (WACO JR/SR HIGH SCHOOL)	BLDG	N. PEARL ST	0+00	BLDG
EX. HH1	EXISTING HH	N. PEARL ST	0+04	100
HH2	24" X 36" X 36"	N. PEARL ST	2+52	100
HH3	24" X 36" X 36"	W. CUMMINGS ST	12+51	100
HH4	24" X 36" X 36"	N. JEFFERSON ST	19+53	100
HH5	24" X 36" X 36"	N. JEFFERSON ST	34+27	100
TELECOM ROOM (HENRY COUNTY HEALTH CLINIC)	BLDG	W. MAIN ST	35+94	BLDG
TOTAL				500

ESTIMATE OF QUANTITIES				
ITEM NO.	ITEM	UNIT	PLANNED TOTAL	AS-BUILT TOTAL
1	MOBILIZATION	LS	1	
2	INSTALL 24" X 36" X 36" HANDHOLE	EA	4	
3	2" HDPE CONDUIT	LF	3594	
4	12 SM ARMORED FIBER (TOTAL)	LF	4094	
5	12 SM ARMORED FIBER (RUNNING LINE)	LF	3594	
6	12 SM ARMORED FIBER (COIL)	LF	500	
7	ICN WARNING MARKERS	EA		
8	TRI-VIEW LOCATE STATION	EA		
9	GROUND ROD	EA	1	
10	SPLICE ENCLOSURE	EA	2	

NOTE: CONDUIT INSTALLATION METHOD SHALL BE BORED UNDER ANY ROADWAYS, DRIVEWAYS, AND PAVED SURFACES. THE METHOD BETWEEN PLOW VERSUS BORE FOR CONDUIT INSTALLATION IS AT THE CONTRACTORS DISCRETION.

NOTE ON HDPE CONDUIT AND SPLICES:

1. HDPE SHALL BE ORANGE SMOOTH WALL SDR 13.5
2. DUCT SPLICES SHALL BE MADE OF THE FOLLOWING (IN ORDER OF PREFERENCE.)

-CRIMP ON

-CLAMP ON / BOLT ON (SPLIT COUPLINGS)

-PUSH ON
3. ALL SPLICES SHALL BE AIR AND WATER TIGHT
4. DUCT SPLICES SHALL BE OF A TYPE MADE SPECIFICALLY FOR JOINING HDPE CONDUIT
5. ALL DUCT SPLICES SHALL BE MADE IN SUCH MANNER AS TO ALLOW CONTINUOUS PULLING OF CABLE THROUGH DUCT.

ANY EXCEPTIONS MUST BE AGREED UPON IN WRITING PRIOR TO CONSTRUCTION



WACO JR/SR HIGH SCHOOL

HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

190

hbk

ICN

1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK

400 EAST 14TH STREET

GRIMES STATE OFFICE BUILDING

DES MOINES, IOWA 50319

ICN © 2021, COPY WITH PERMISSION



WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

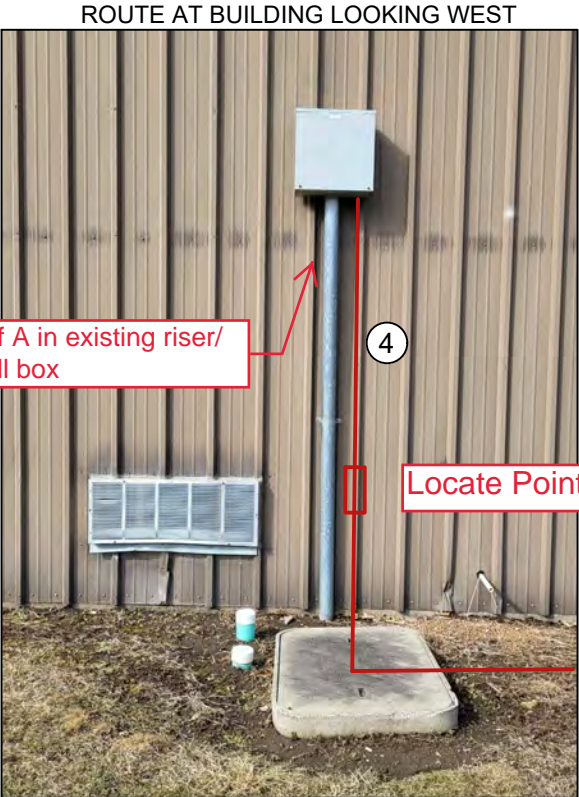
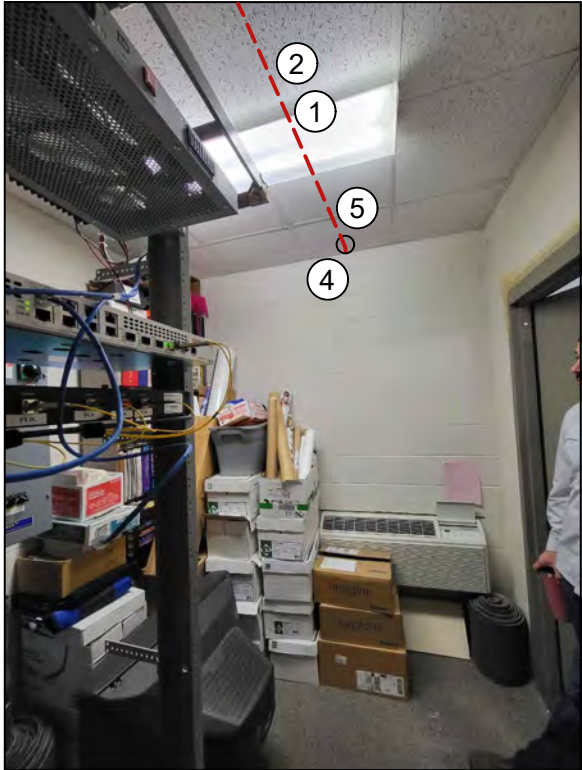
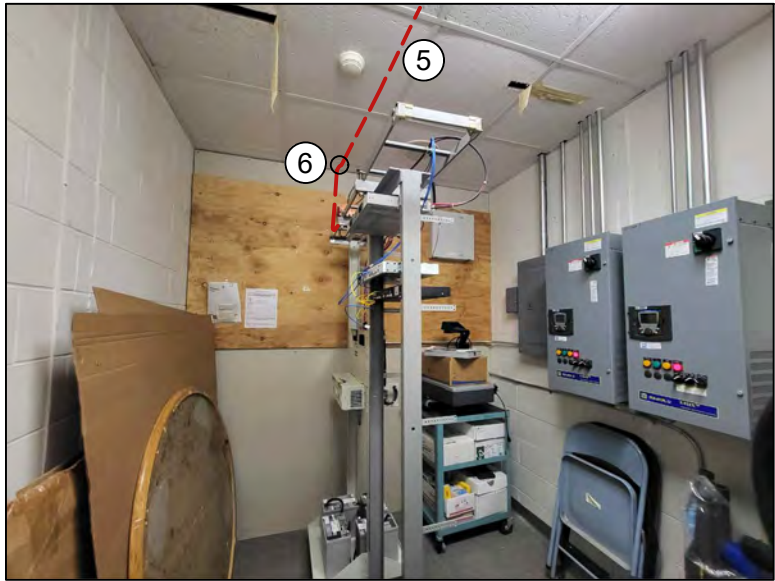


1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

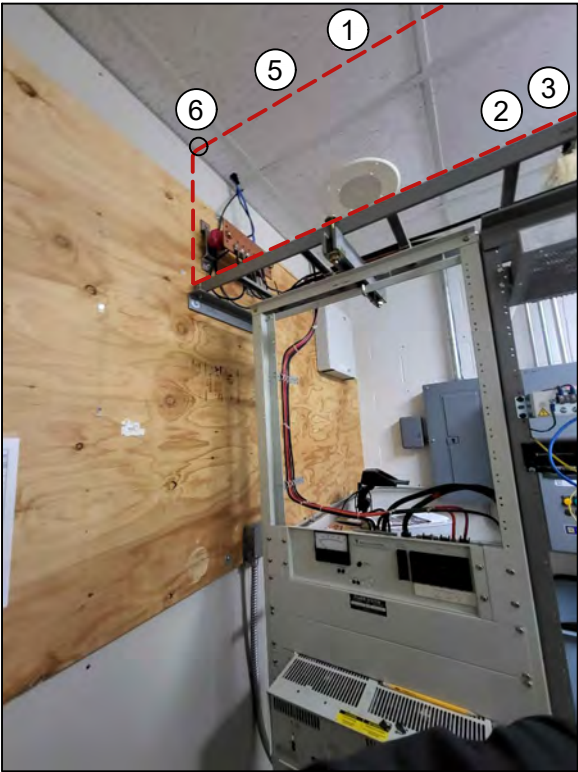
IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2021, COPY WITH PERMISSION

DETAIL 1
INTERIOR ROUTE OF WACO COMMUNITY HIGH SCHOOL TELECOM ROOM

- ① RUN 20'-0" OF FIBER TO PROPOSED RACK MOUNT PANEL.
- ② ROUTE CABLE TO CABINET RACK. LEAVE A 50' SLACK COIL FOR TERMINATIONS. ROUTE TRACER WIRE FROM EXTERIOR LOCATE POINT.
- ③ COIL TO BE LEFT ON TOP OF LADDER RACK FOR SPLICER ACCESS.
- ④ SEE TYPICAL BUILDING ENTRY DETAIL - SHEET 13. USE EXISTING RISER CONDUIT AND PULL BOX FOR FIBER CABLE ENTRY. ROUTE TRACER WIRE THROUGH PULL BOX. INSTALL NEW 1/2" GIP FROM PULL BOX TO ISOLOC BOX TOT HE GROUND AND INSTALL GROUND ROD.
- ⑤ PULL FIBER ABOVE CEILING TILES.
- ⑥ DRILL SMALL HOLE THROUGH CEILING TILE. PULL FIBER TO EQUIPMENT IN RACK.



EX. HH1 - ICN STA. 0+04



WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA



1	90% PLAN REVIEW	3/30/2022	IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021, COPY WITH PERMISSION
2	PERMIT PLAN SUBMITTAL	4/5/2022	
3			
4			

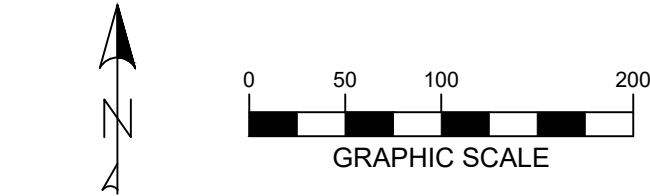


MATCH LINE SEE SHEET 8

HENRY COUNTY
JEFFERSON TOWNSHIP
T73-N R-07W

- ① PULL NEW LINK 1624 12 F/A THROUGH NEW 2" HDPE CONDUIT. 42" MINIMUM BELOW GRADE.
- ② ICN STA. 0+04 EXISTING HANDHOLE - HH1. 100' SLACK COIL 12 F/A. LINK 1624 TO BE ROUTED INTO BUILDING THROUGH EXISTING CONDUIT/PULL BOX.
- ③ ICN STA. 2+52 INSTALL PROPOSED 24"x36"x36" ICN HANDHOLE - HH2. 100' SLACK COIL 12 F/A.
- ④ OTHER UTILITY PROVIDERS IN AREA. STAY 36" CLEAR FROM ALL EXISTING UTILITIES.

**NOTE: RUNNING LINE TO BE ADJUSTED PER UTILITY LOCATES.
CONTACT THE ICN AND THE CITY PRIOR TO ADJUSTING RUNNING LINE.**



LISTING OF HANDHOLES				
HANDHOLE	STATION	HANDHOLE	STATION	LENGTH FT
TELECOM ROOM	0+00	MH1 - (EX)	0+04	4
MH1 - (EX)	0+04	HH2	2+52	248
HH2	2+52	HH3	12+51	999
TOTAL				1251

* LENGTH DOES NOT INCLUDE SLACKCOILS

ROUTE LOOKING NORTH



ROUTE LOOKING EAST



HH2 - ICN STA. 2+52

ROUTE LOOKING WEST



ROUTE LOOKING NORTH



EX. HH1 - ICN STA. 0+04



WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA



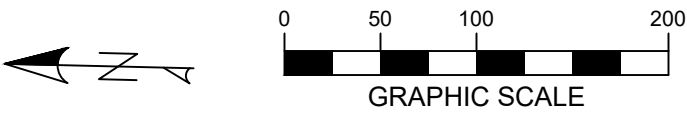
1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2021, COPY WITH PERMISSION



HENRY COUNTY
JEFFERSON TOWNSHIP
T73-N R-07W

- ① PULL NEW LINK 1624 12 F/A THROUGH NEW 2" HDPE CONDUIT. 42" MINIMUM BELOW GRADE.
- ② PROTECT EXISTING FENCE. CONTRACTOR SHALL PROTECT THE EXISTING FENCE AND DOCUMENT THE CONDITION PRIOR TO CONSTRUCTION.
- ③ OTHER UTILITY PROVIDERS IN AREA. STAY 36" CLEAR FROM ALL EXISTING UTILITIES.



LISTING OF HANDHOLES				
HANDHOLE	STATION	HANDHOLE	STATION	LENGTH FT
HH2	2+52	HH3	12+51	999
TOTAL				999

* LENGTH DOES NOT INCLUDE SLACKCOILS

**NOTE: RUNNING LINE TO BE ADJUSTED PER UTILITY LOCATES.
CONTACT THE ICN AND THE CITY PRIOR TO ADJUSTING RUNNING LINE.**

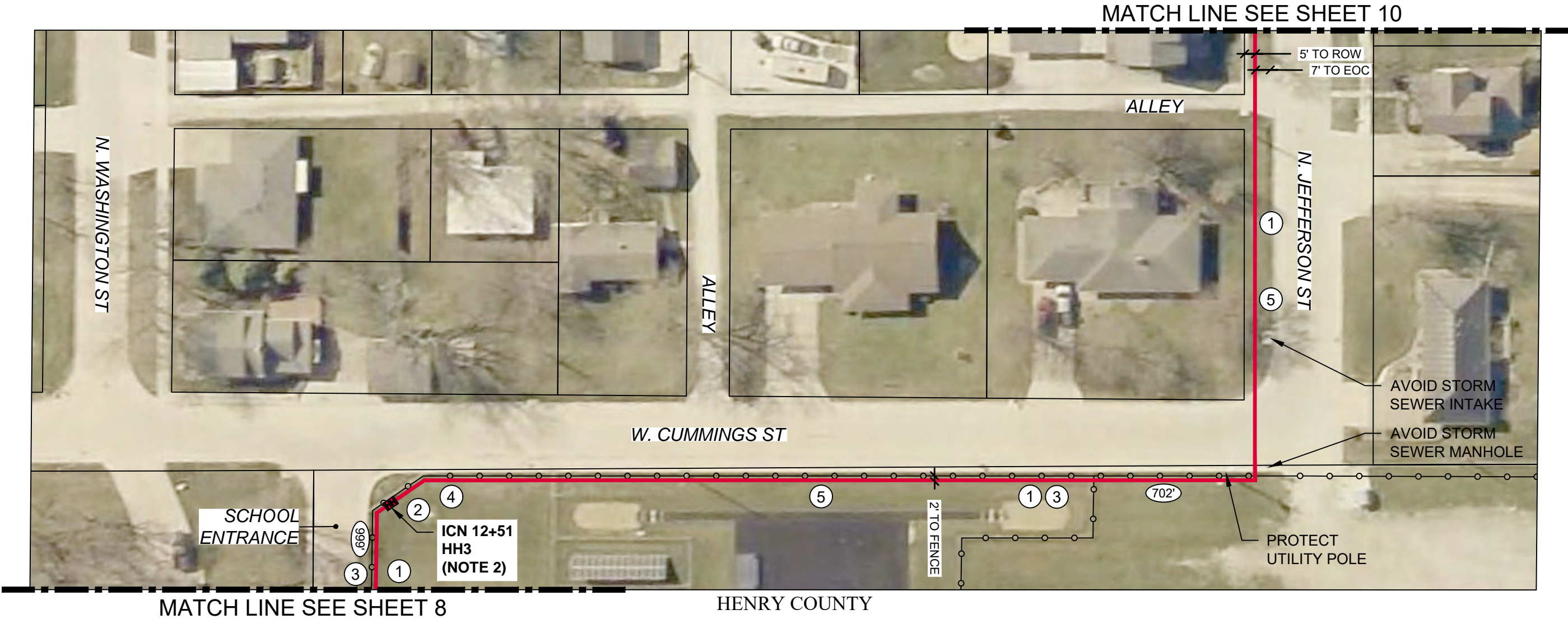


WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

hbk **ICN**

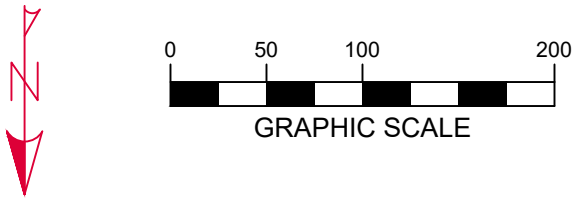
IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2021, COPY WITH PERMISSION



- ① PULL NEW LINK 1624 12 F/A THROUGH NEW 2" HDPE CONDUIT. 42" MINIMUM BELOW GRADE.
- ② ICN STA. 12+51 INSTALL PROPOSED 24"x36"x36" ICN HANDHOLE - HH3. 100' SLACK COIL 12 F/A.
- ③ PROTECT EXISTING FENCE. CONTRACTOR SHALL PROTECT THE EXISTING FENCE AND DOCUMENT THE CONDITION PRIOR TO CONSTRUCTION.
- ④ VERIFY LOCATES PRIOR TO PLACEMENT OF HH. UTILITIES FOUND IN AREA.
- ⑤ OTHER UTILITY PROVIDERS IN AREA. STAY 36" CLEAR FROM ALL EXISTING UTILITIES.



HH3 - ICN STA. 12+51



LISTING OF HANDHOLES				
HANDHOLE	STATION	HANDHOLE	STATION	LENGTH FT
HH2	2+52	HH3	12+51	999
HH3	12+51	HH4	19+53	702
TOTAL				1701

* LENGTH DOES NOT INCLUDE SLACKCOILS

NOTE: RUNNING LINE TO BE ADJUSTED PER UTILITY LOCATES.
CONTACT THE ICN AND THE CITY PRIOR TO ADJUSTING RUNNING LINE.



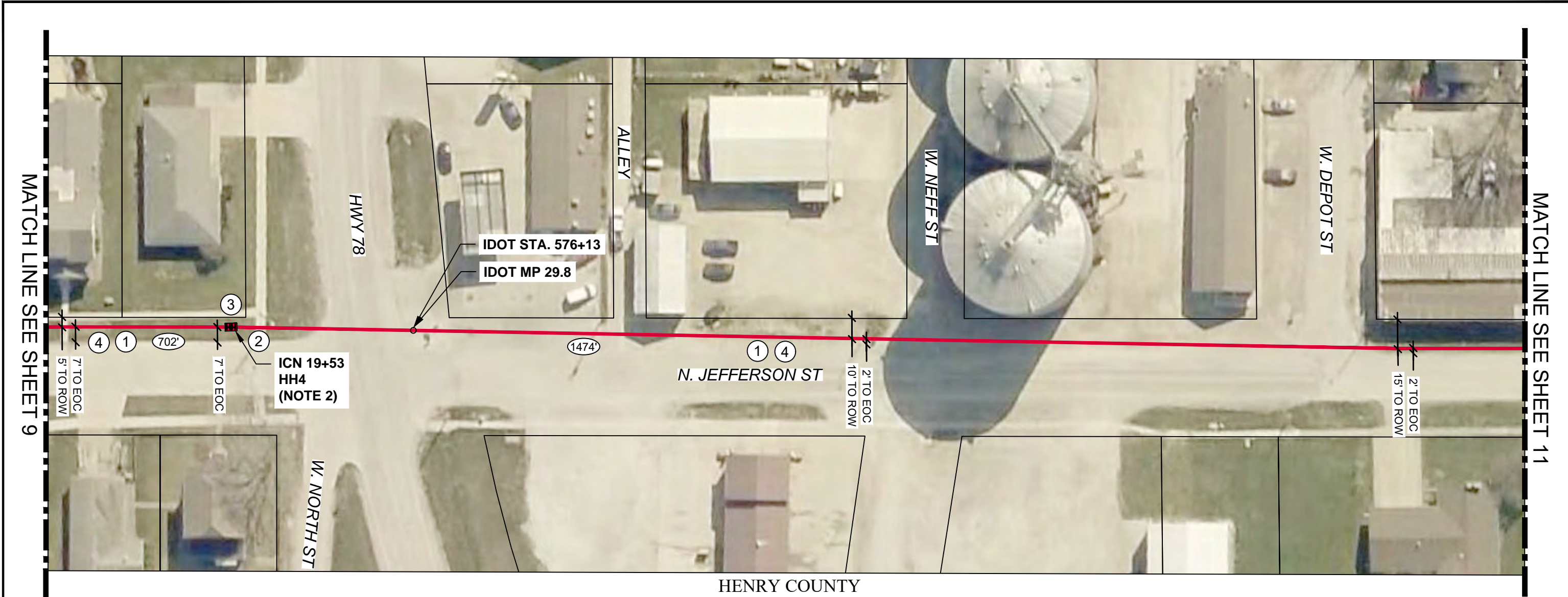
WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

hbk

ICN

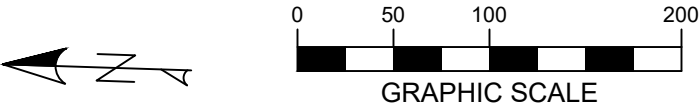
1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2021, COPY WITH PERMISSION



HENRY COUNTY
JEFFERSON TOWNSHIP
T73-N R-07W

- ① PULL NEW LINK 1624 12 F/A THROUGH NEW 2" HDPE CONDUIT. 42" MINIMUM BELOW GRADE.
- ② ICN STA. 19+53 INSTALL PROPOSED 24"x36"x36" ICN HANDHOLE - HH4. 100' SLACK COIL 12 F/A.
- ③ VERIFY LOCATES PRIOR TO PLACEMENT OF HH. UTILITIES FOUND IN AREA.
- ④ OTHER UTILITY PROVIDERS IN AREA. STAY 36" CLEAR FROM ALL EXISTING UTILITIES.



HH4 - ICN STA. 19+53

LISTING OF HANDHOLES				
HANDHOLE	STATION	HANDHOLE	STATION	LENGTH FT
HH3	12+51	HH4	19+53	702
HH4	19+53	HH5	34+27	1474
TOTAL				2176

* LENGTH DOES NOT INCLUDE SLACKCOILS

NOTE: RUNNING LINE TO BE ADJUSTED PER UTILITY LOCATES.
CONTACT THE ICN AND THE CITY PRIOR TO ADJUSTING RUNNING LINE.



WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

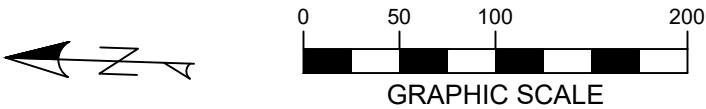


1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

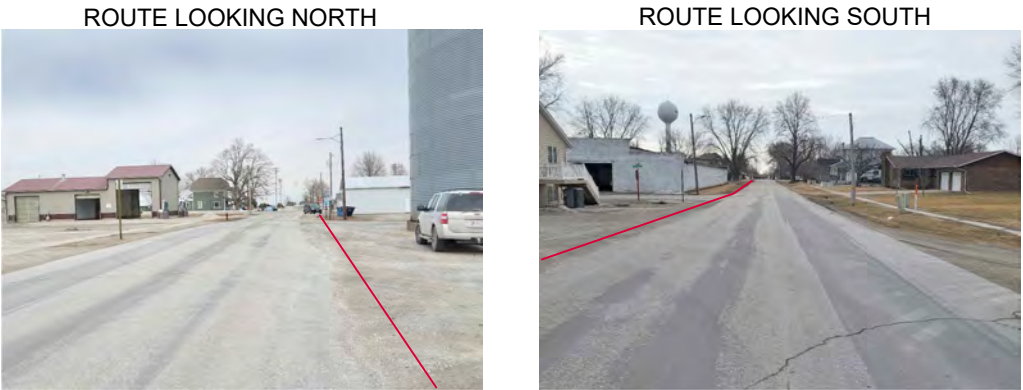
IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2021, COPY WITH PERMISSION



HENRY COUNTY
JEFFERSON TOWNSHIP
T73-N R-07W



- ① PULL NEW LINK 1624 12 F/A THROUGH NEW 2" HDPE CONDUIT. 42" MINIMUM BELOW GRADE.
- ② OTHER UTILITY PROVIDERS IN AREA. STAY 36" CLEAR FROM ALL EXISTING UTILITIES.



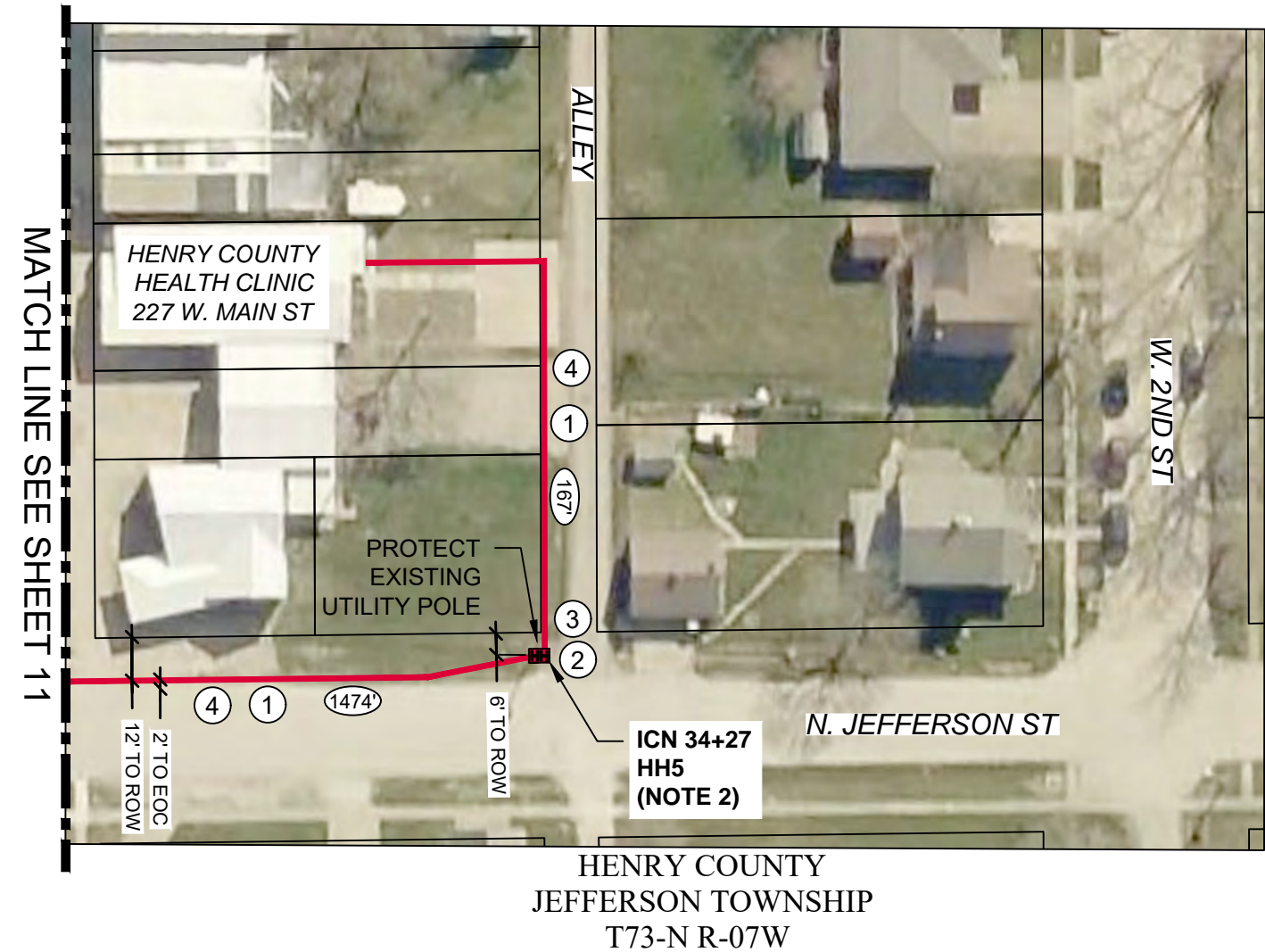
LISTING OF HANDHOLES				
HANDHOLE	STATION	HANDHOLE	STATION	LENGTH FT
HH4	19+53	HH5	34+27	1474
TOTAL				1474

* LENGTH DOES NOT INCLUDE SLACKCOILS

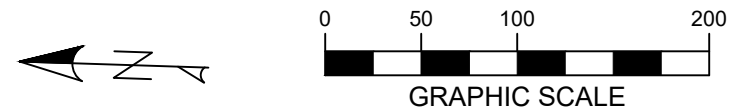
NOTE: RUNNING LINE TO BE ADJUSTED PER UTILITY LOCATES.
CONTACT THE ICN AND THE CITY PRIOR TO ADJUSTING RUNNING LINE.



WACO JR/SR HIGH SCHOOL HENRY COUNTY HEALTH CLINIC, WAYLAND, IA			hbk ICN	
1	90% PLAN REVIEW	3/30/2022	IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021, COPY WITH PERMISSION	
2	PERMIT PLAN SUBMITTAL	4/5/2022		
3				
4				



- ① PULL NEW LINK 1624 12 F/A THROUGH NEW 2" HDPE CONDUIT. 42" MINIMUM BELOW GRADE.
- ② ICN STA. 34+27 INSTALL PROPOSED 24"x36"x36" ICN HANDHOLE - HH5. 100' SLACK COIL 12 F/A.
- ③ VERIFY LOCATES PRIOR TO PLACEMENT OF HH. UTILITIES FOUND IN AREA.
- ④ OTHER UTILITY PROVIDERS IN AREA. STAY 36" CLEAR FROM ALL EXISTING UTILITIES.

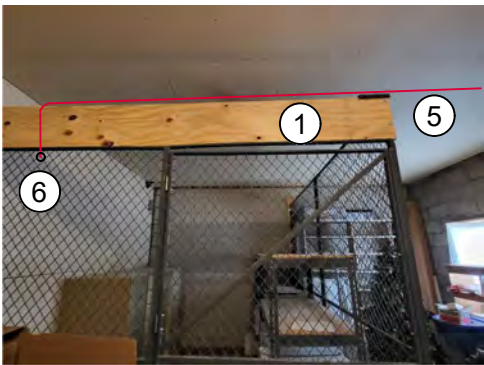


LISTING OF HANDHOLES				
HANDHOLE	STATION	HANDHOLE	STATION	LENGTH FT
HH4	19+53	HH5	34+27	1474
HH5	34+27	TELECOM ROOM	35+94	167
TOTAL				1641

* LENGTH DOES NOT INCLUDE SLACKCOILS



DETAIL 2
INTERIOR ROUTE OF HENRY COUNTY HEALTH CLINIC TELECOM ROOM





- ① RUN 25'-0" OF FIBER TO PROPOSED WALL MOUNT PANEL WITH #12 TRACER WIRE. TEMPORARILY BOND TO CABLE ROUTE BACK THROUGH CONDUIT TO EXTERIOR LOCATE POINT.
- ② ROUTE CABLE TO PROPOSED WALL MOUNT EQUIPMENT. LEAVE A 50' SLACK COIL ON LEVITON STORAGE RING FOR TERMINATIONS. ROUTE TRACER WIRE FROM EXTERIOR LOCATE POINT.
- ③ COIL TO BE LEFT IN LEVITON STORAGE RING ON THE WALL FOR SPLICER ACCESS. CONTRACTOR TO TEMPORARILY BOND 12F/A CABLE TO GROUND BAR WITH #10 COPPER WIRE.
- ④ SEE TYPICAL BUILDING ENTRY DETAIL - SHEET 13.
- ⑤ ATTACH CONDUIT TO DRYWALL CEILING - USE 1 1/4" OR 1 1/2" EMT.
- ⑥ CORE THROUGH INTERIOR WALL.



EXTERIOR ROUTE AT BUILDING

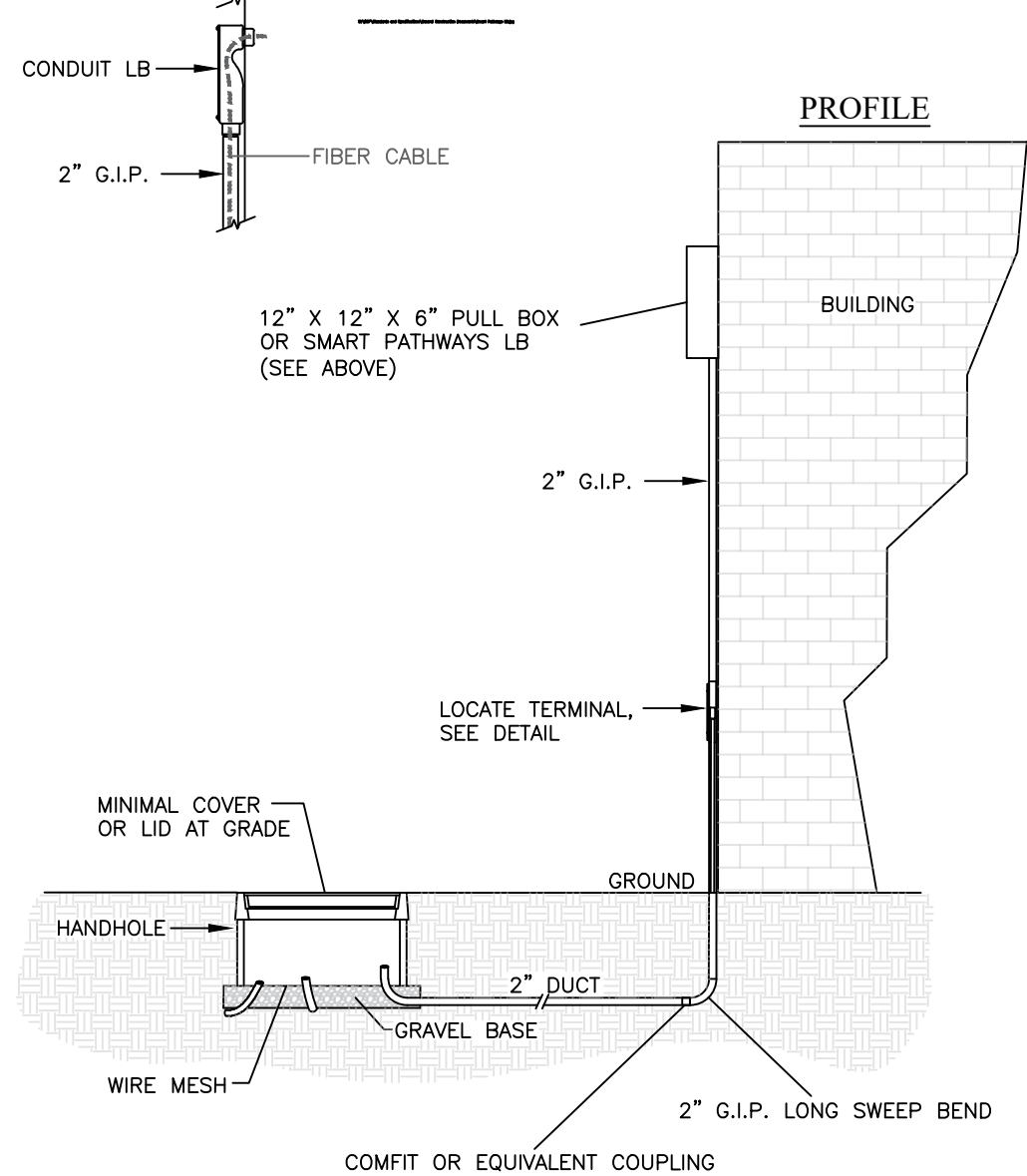
NOTE: RUNNING LINE TO BE ADJUSTED PER UTILITY LOCATES. CONTACT THE ICN AND THE CITY PRIOR TO ADJUSTING RUNNING LINE.



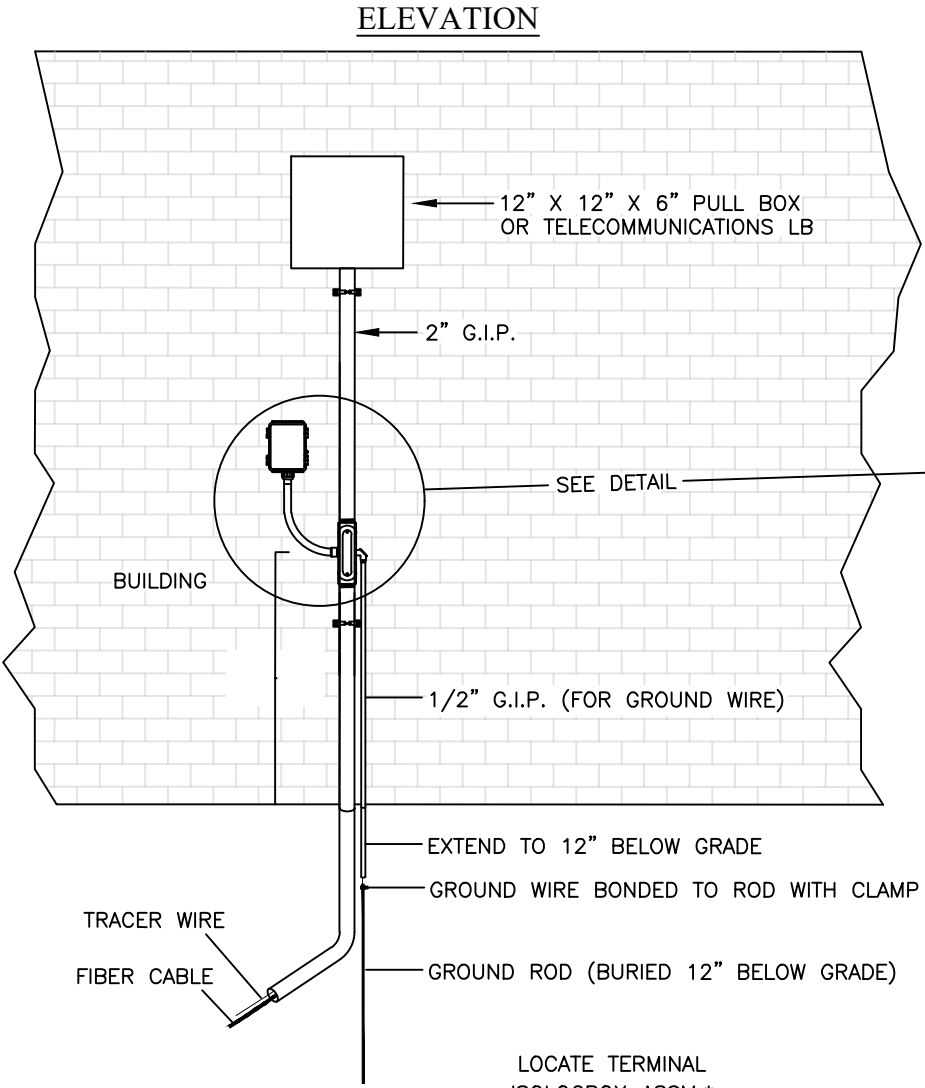
WACO JR/SR HIGH SCHOOL HENRY COUNTY HEALTH CLINIC, WAYLAND, IA			 
1	90% PLAN REVIEW	3/30/2022	IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021, COPY WITH PERMISSION
2	PERMIT PLAN SUBMITTAL	4/5/2022	
3			
4			

TYPICAL ABOVE GROUND BUILDING ENTRANCE
WITH LOCATE TERMINAL

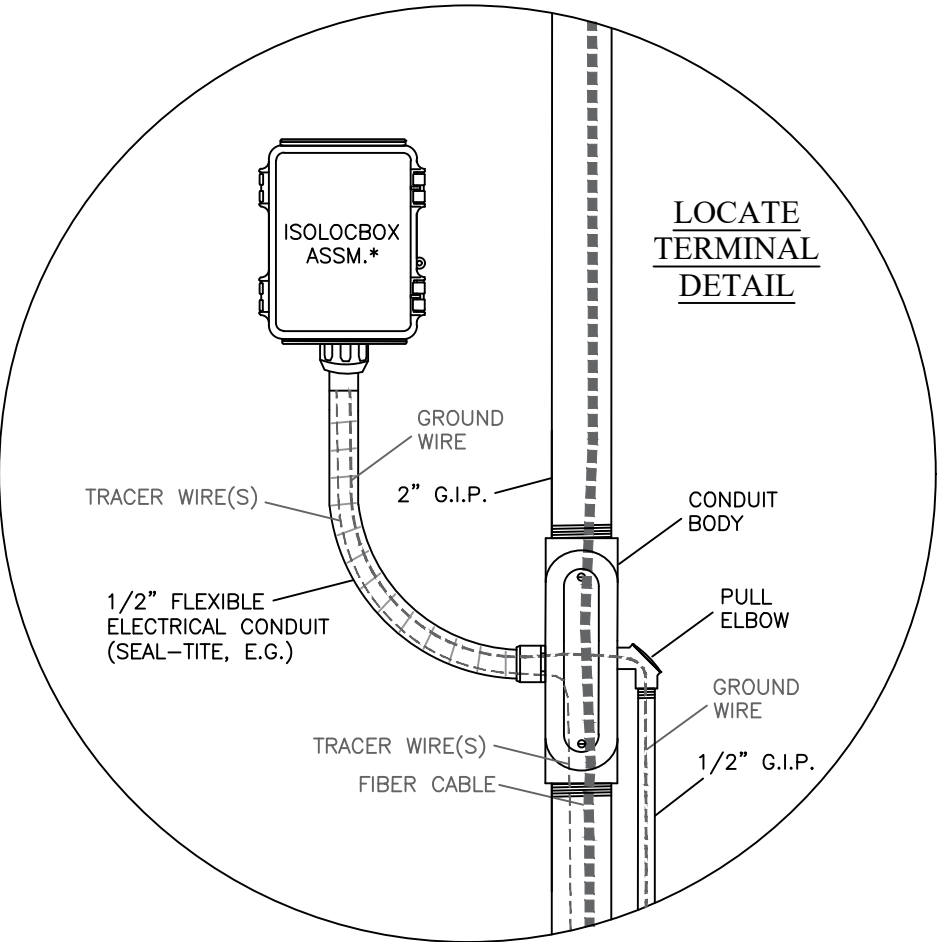
ALTERNATIVE TO PULL BOX:
SMART PATHWAYS LB
(NOT TO SCALE)



PROFILE



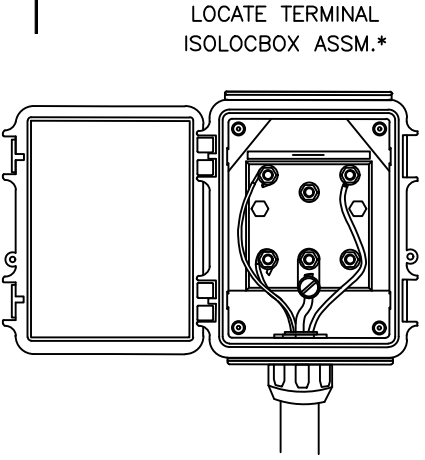
ELEVATION



TRACER WIRE TERMINATION DETAIL

TERMINATION OF THE LOCATE WIRE AT A LOCATE PEDESTAL, LOCATE TERMINAL, OR IN A SPLICE CASE SHALL BE MADE IN THE FOLLOWING FASHION:

STRIP OFF A MINIMUM OF 3/4" OF INSULATION. USING A NEEDLE NOSE PLIERS, BEND A WIRE "EYELET" ON THE WIRE END IN A CLOCKWISE MANNER. USE A FLAT WASHER ON BOTH SIDES OF THE WIRE EYELET WHEN CINCHING IT DOWN ON THE STUD. FLAT WASHERS SHALL BE OF APPROPRIATE SIZE SUCH THAT THE HOLE MATCHES THE DIAMETER OF THE STUD AND THE OUTSIDE OF DIAMETER OF THE FLAT WASHER MATCHES REASONBLY CLOSE TO THE EYELET DIAMETER.



- NOTES:
1. PLACE 2" G.I.P. WITH SWEEP TOWARDS NEW PULL BOX
 2. (1) CORE HOLE THROUGH EXTERIOR WALL TO ACCOMMODATE 2" G.I.P.
 3. PLUG ALL DUCTS WITH JACK MOON OR EQUIVALENT
 4. BUILDING ENTRANCE SHALL HAVE WATER-TIGHT SEAL
 5. ANCHOR 2" G.I.P. TO WALL WITH 2-HOLE STRAPS, SPACED NO MORE THAN 5- FEET APART
 6. ALL COMPONENTS SHALL BE G.I.P. OR DIE CAST ALUMINUM
 7. EMT AND PLASTIC ARE NOT ALLOWED
 8. MOUNT LOCATE STATION A MINIMUM OF 18" ABOVE GRADE
 9. SEAL ANY ACCESS HOLES DRILLED IN THE LOCATE STATION TO ROUTE WIRES WITH SILICONE
 10. ALL COUPLINGS MUST ALLOW FOR BLOWING OR PULLING WITH NO OBSTRUCTION

*NOTE: ISOLOCBOX ASSEMBLY INCLUDES:
BOX, ISOLEVER, PVC STAND-OFF, AND 1-FT
OF FLEXIBLE CONDUIT WITH CONNECTORS



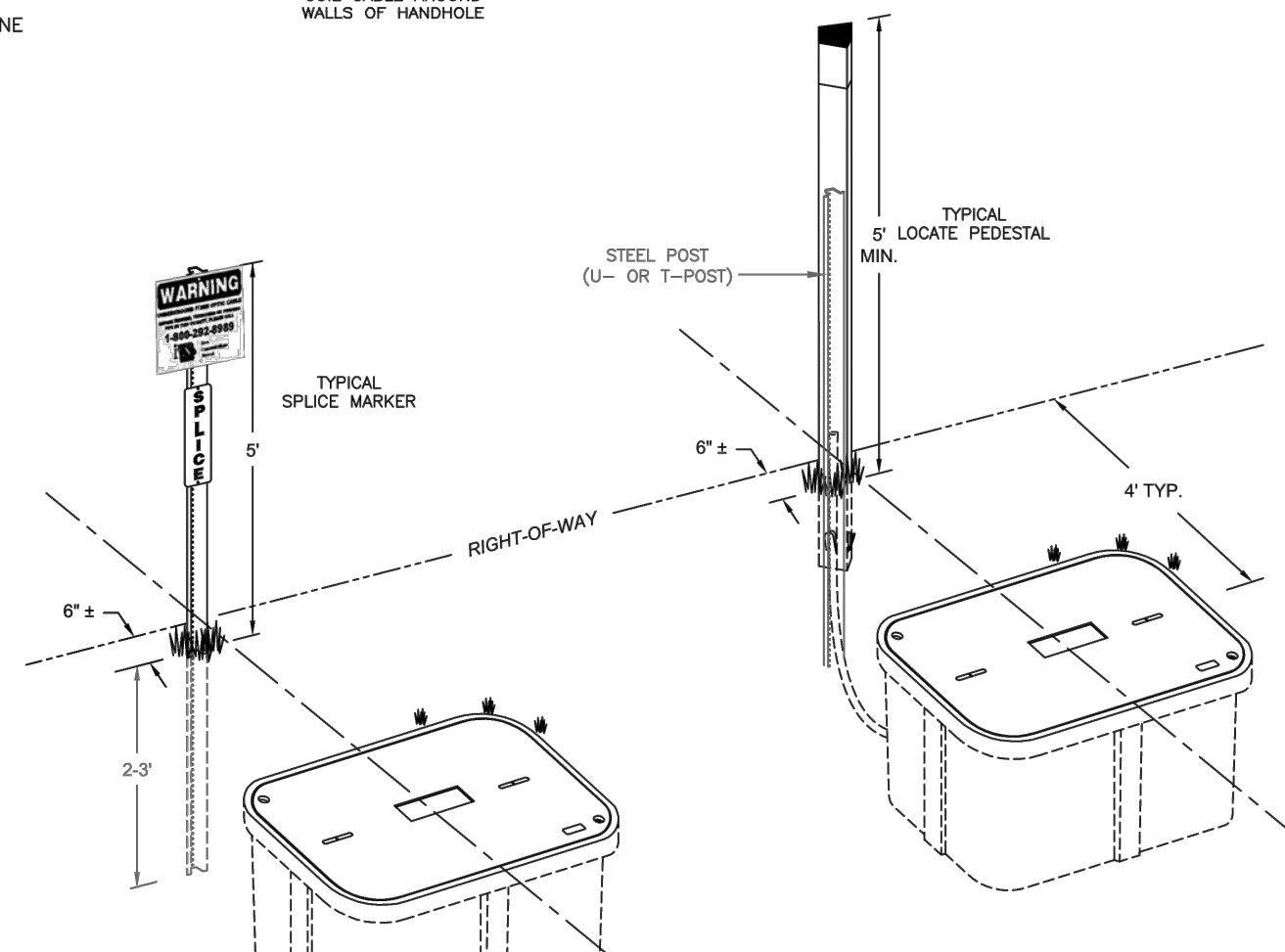
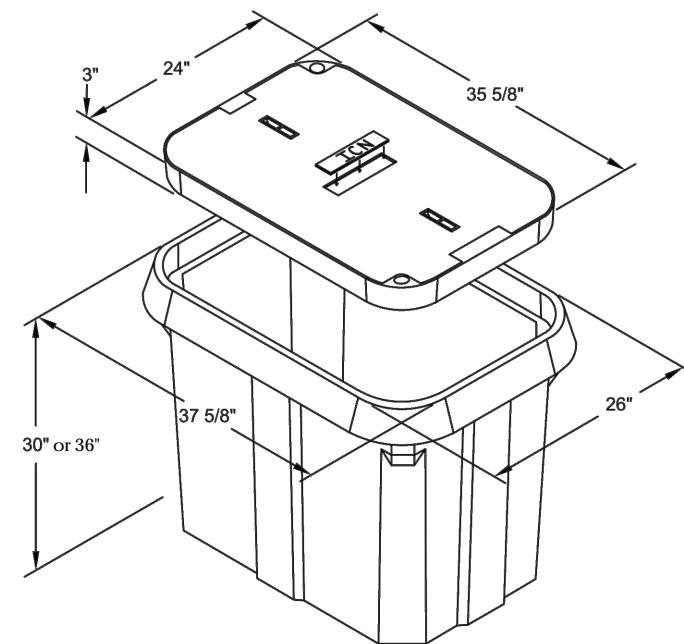
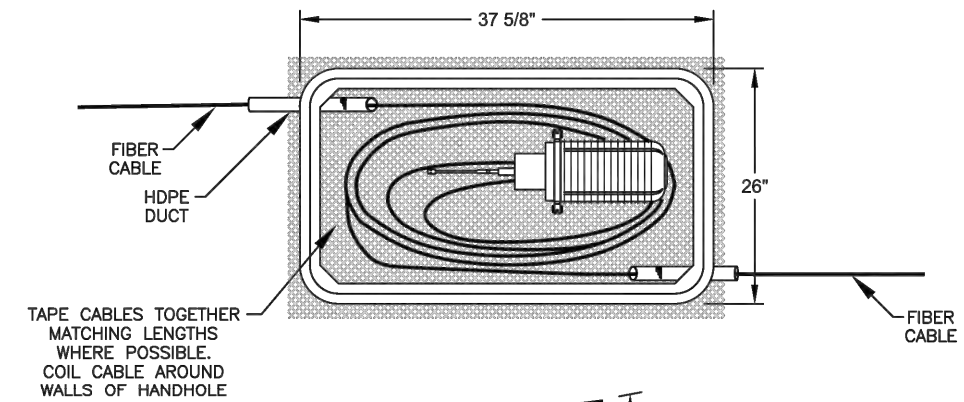
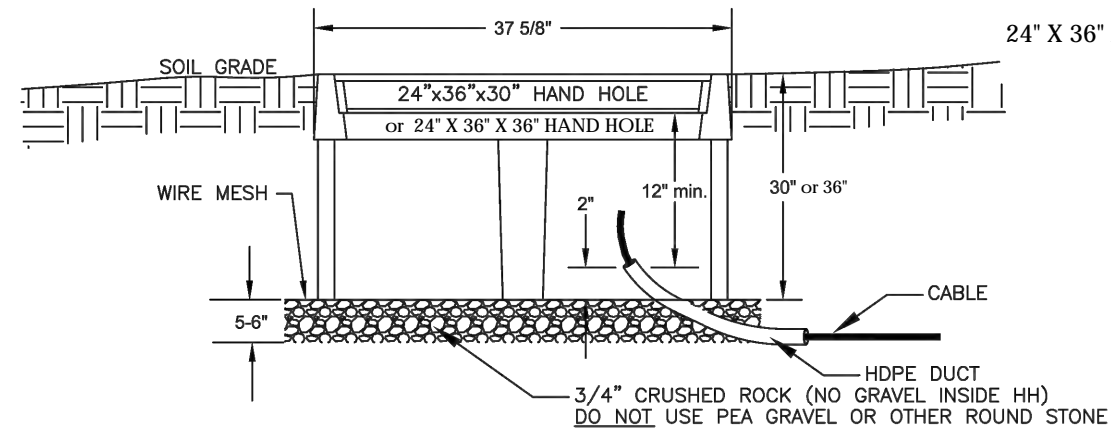
WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2019, COPY WITH PERMISSION

HANDHOLE PLACEMENT TYPICAL

24" X 36" X 30" HAND HOLE
OR
24" X 36" X 36" HAND HOLE



WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA



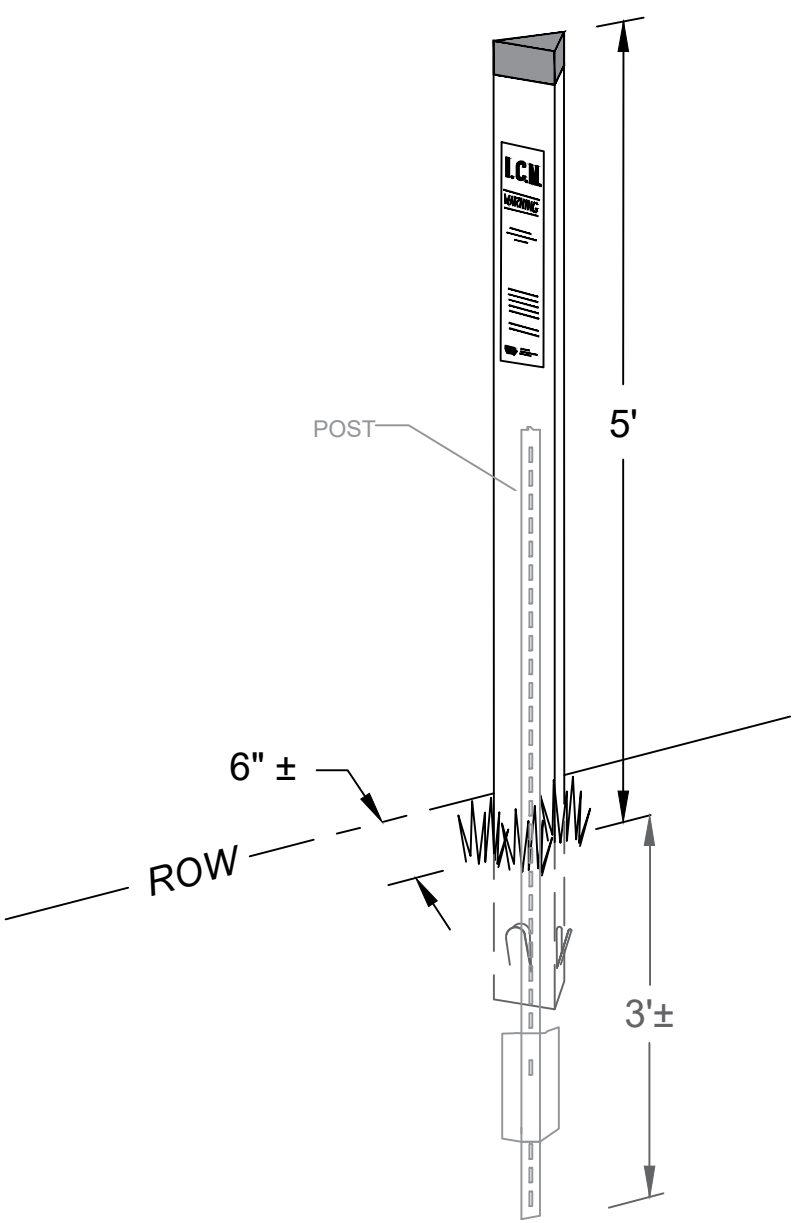
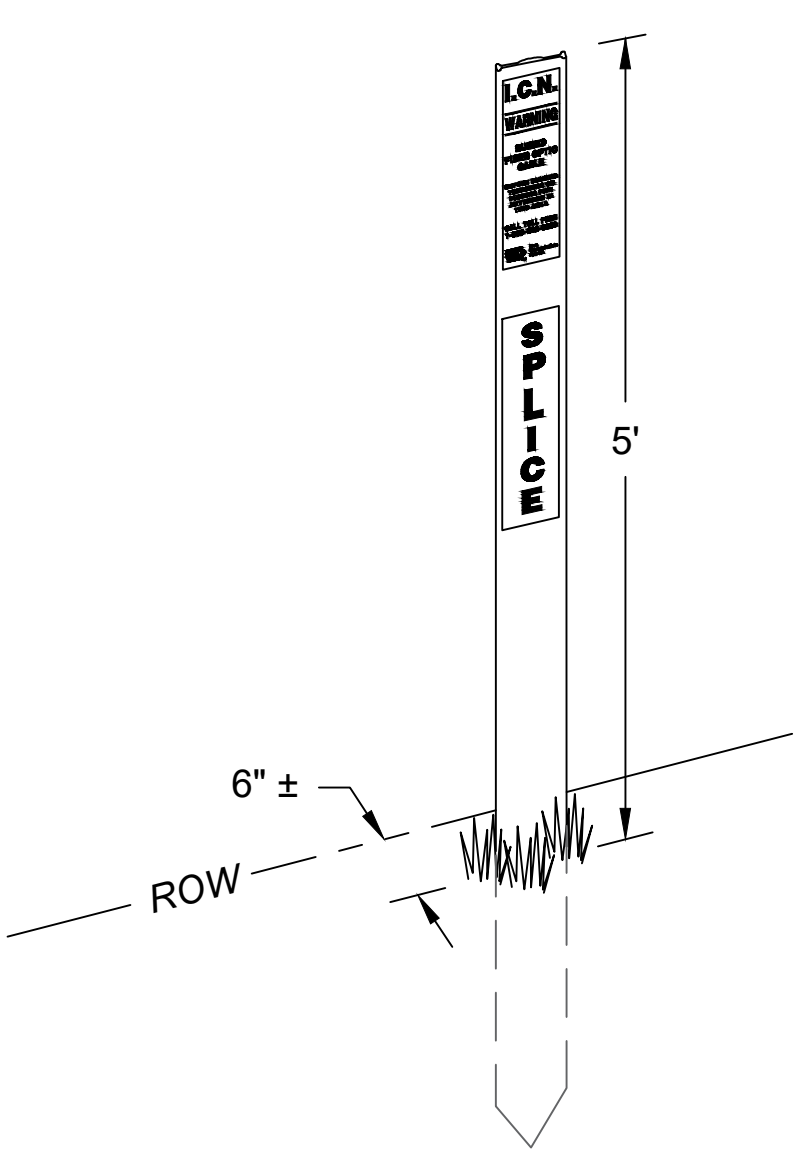
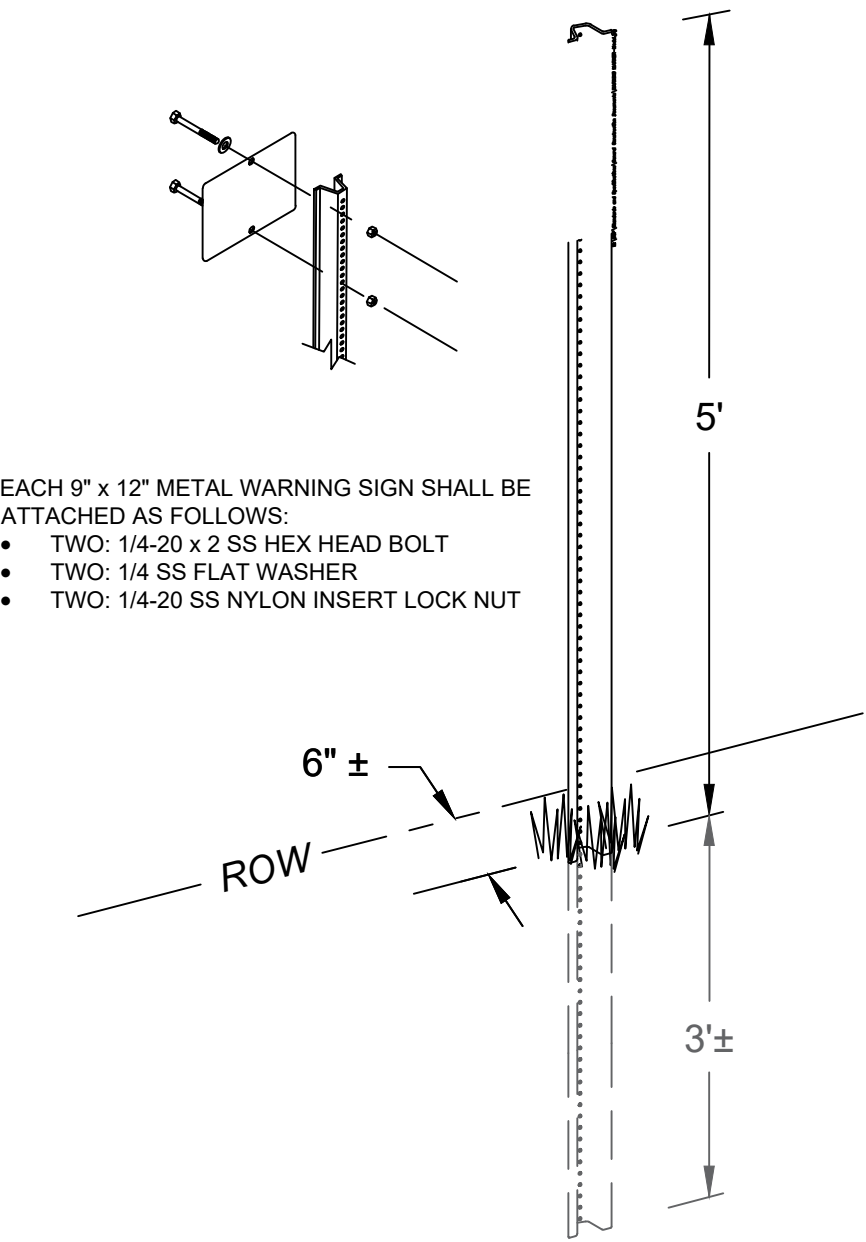
1	90% PLAN REVIEW	3/30/2022	IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2019, COPY WITH PERMISSION
2	PERMIT PLAN SUBMITTAL	4/5/2022	
3			
4			

WARNING MARKER INSTALLATION DETAIL

METAL SIGN &
U-CHANNEL POST

FIBERGLASS
MARKER

TRIVIEW
MARKER



EACH 9" x 12" METAL WARNING SIGN SHALL BE ATTACHED AS FOLLOWS:

- TWO: 1/4-20 x 2 SS HEX HEAD BOLT
- TWO: 1/4 SS FLAT WASHER
- TWO: 1/4-20 SS NYLON INSERT LOCK NUT

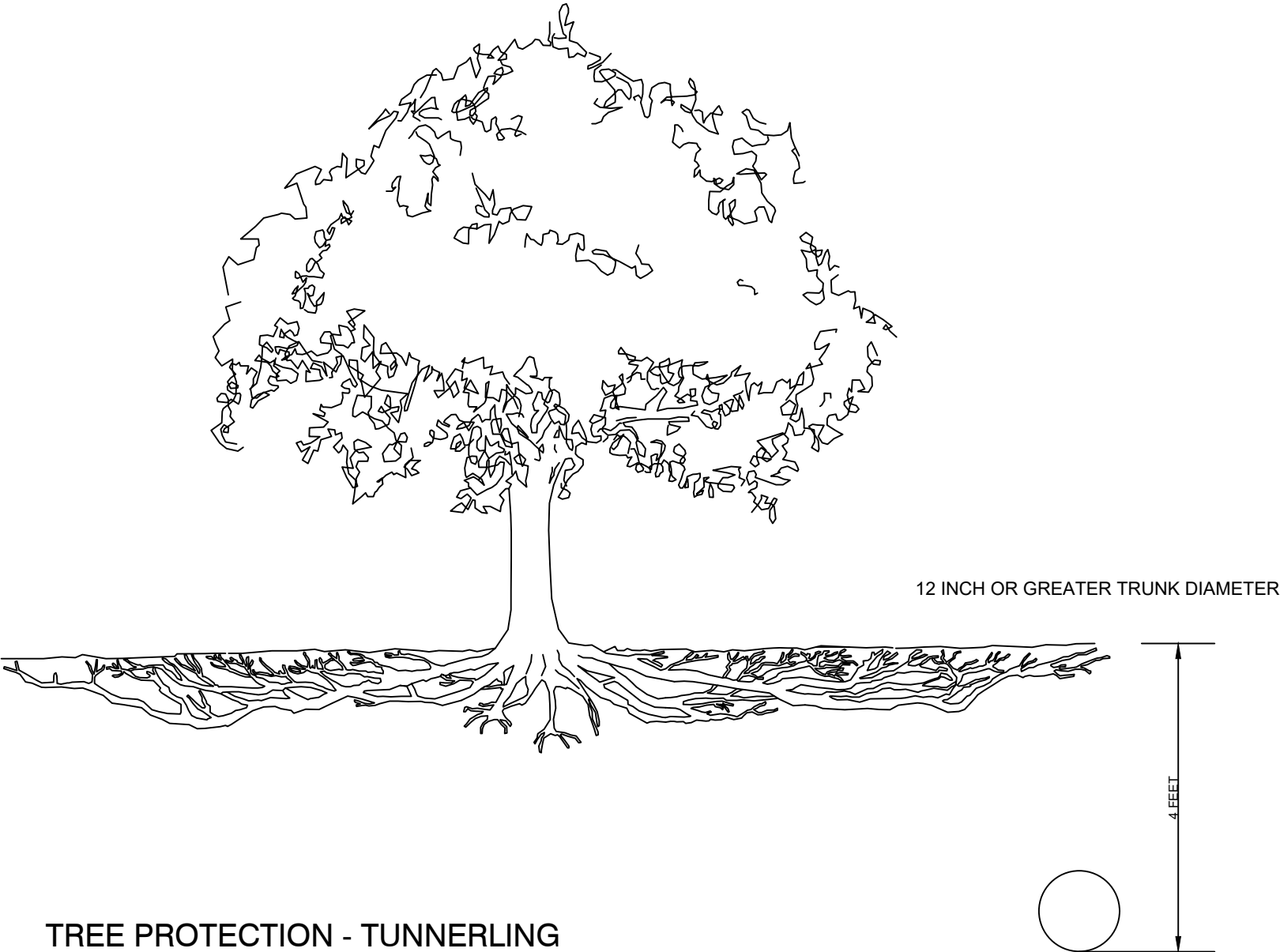


WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA



1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2019, COPY WITH PERMISSION



TREE PROTECTION - TUNNERLING



WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

1901

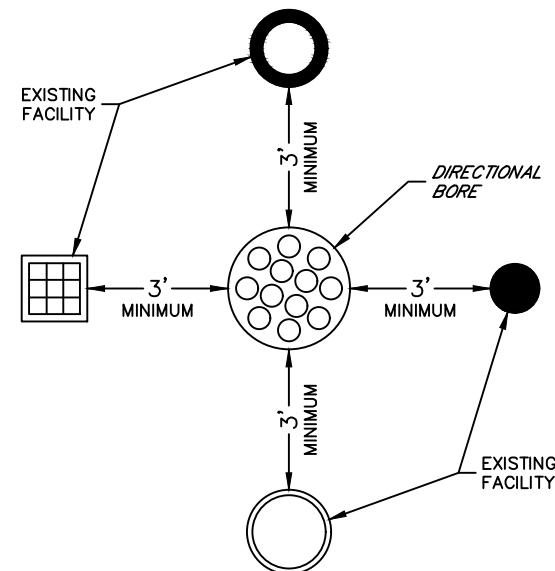
hbk

1902

ICN

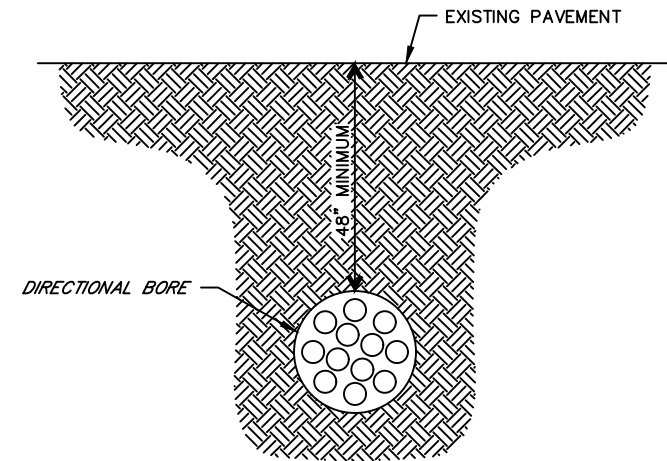
1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2019, COPY WITH PERMISSION

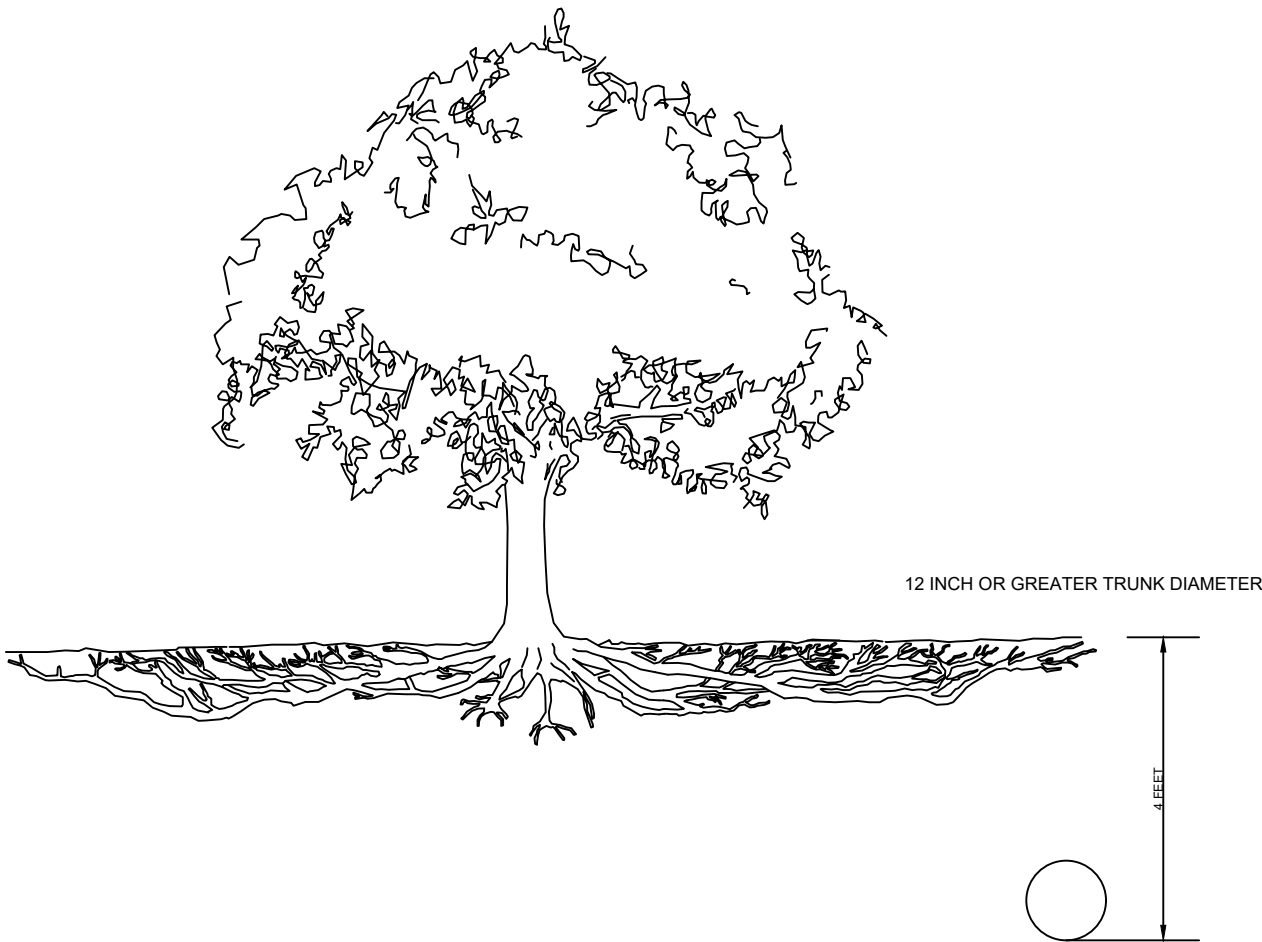


MAINTAIN A MINIMUM OF AT LEAST 3 FEET OF SEPARATION IN ANY DIRECTION BETWEEN DIRECTIONAL BORE AND ALL EXISTING FACILITIES.

UTILITY SEPARATION DETAIL



DIRECTIONAL BORING DETAIL



TREE PROTECTION - TUNNELING

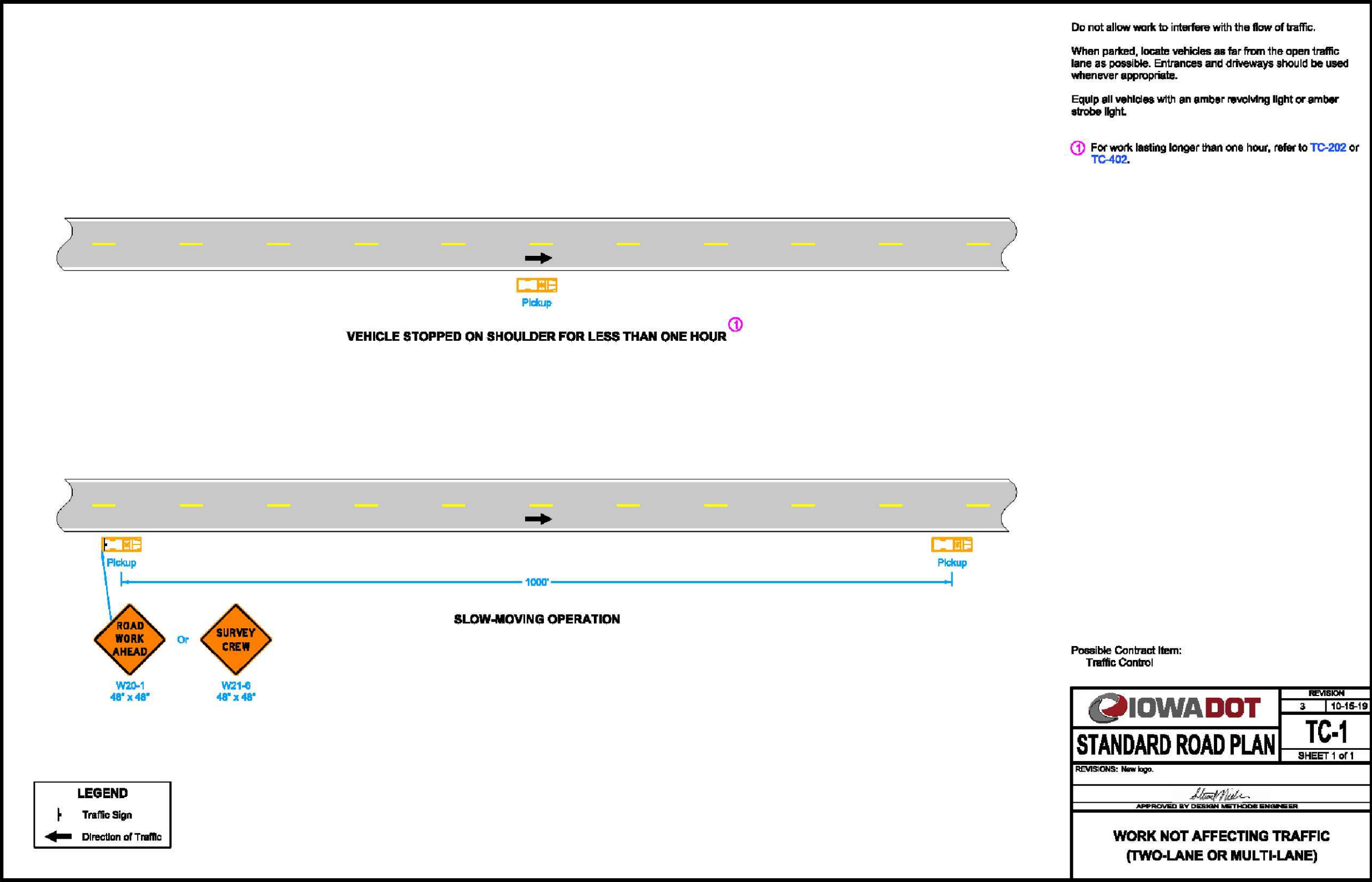


WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA



1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2019, COPY WITH PERMISSION

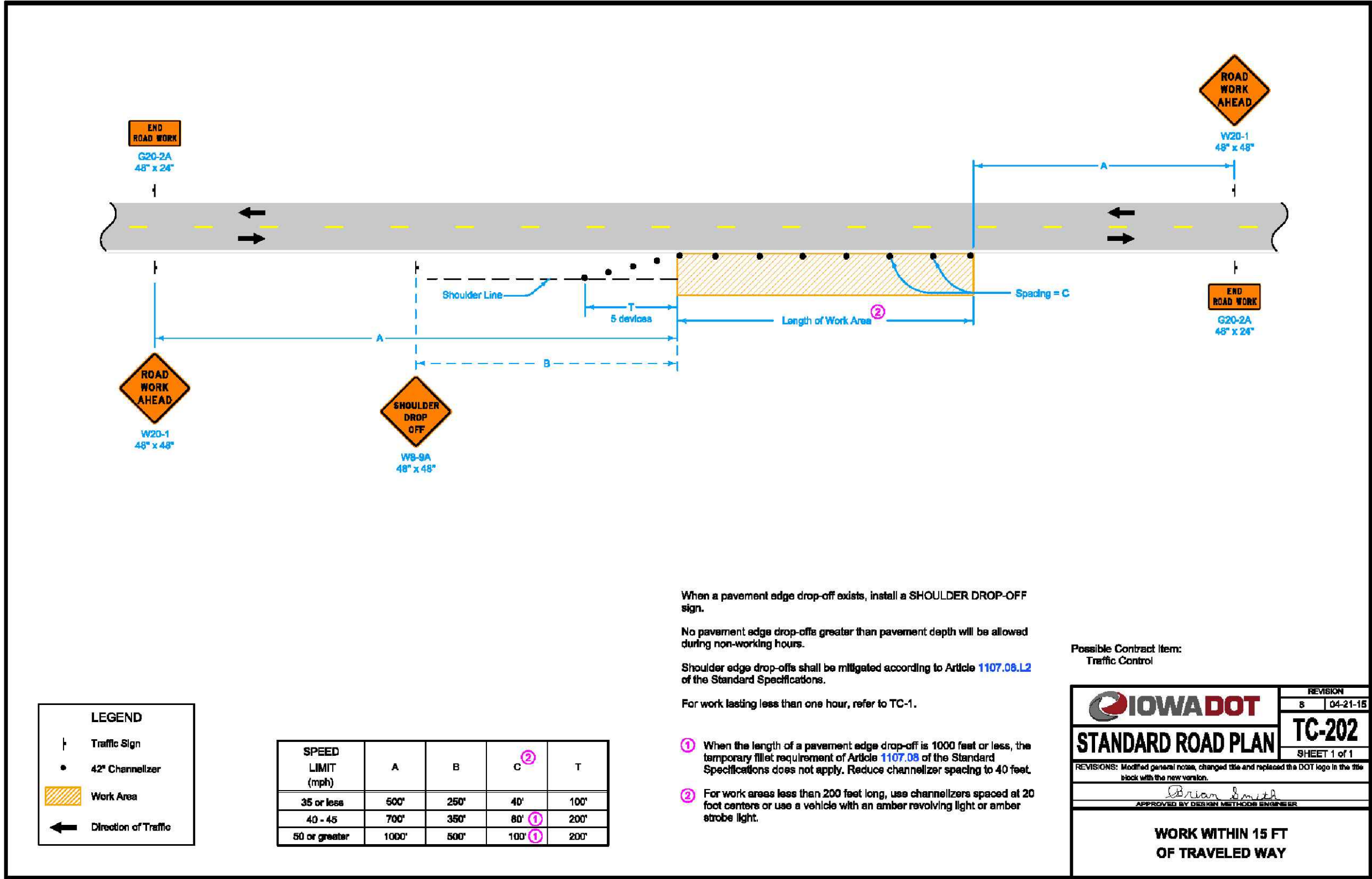


WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA



1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		

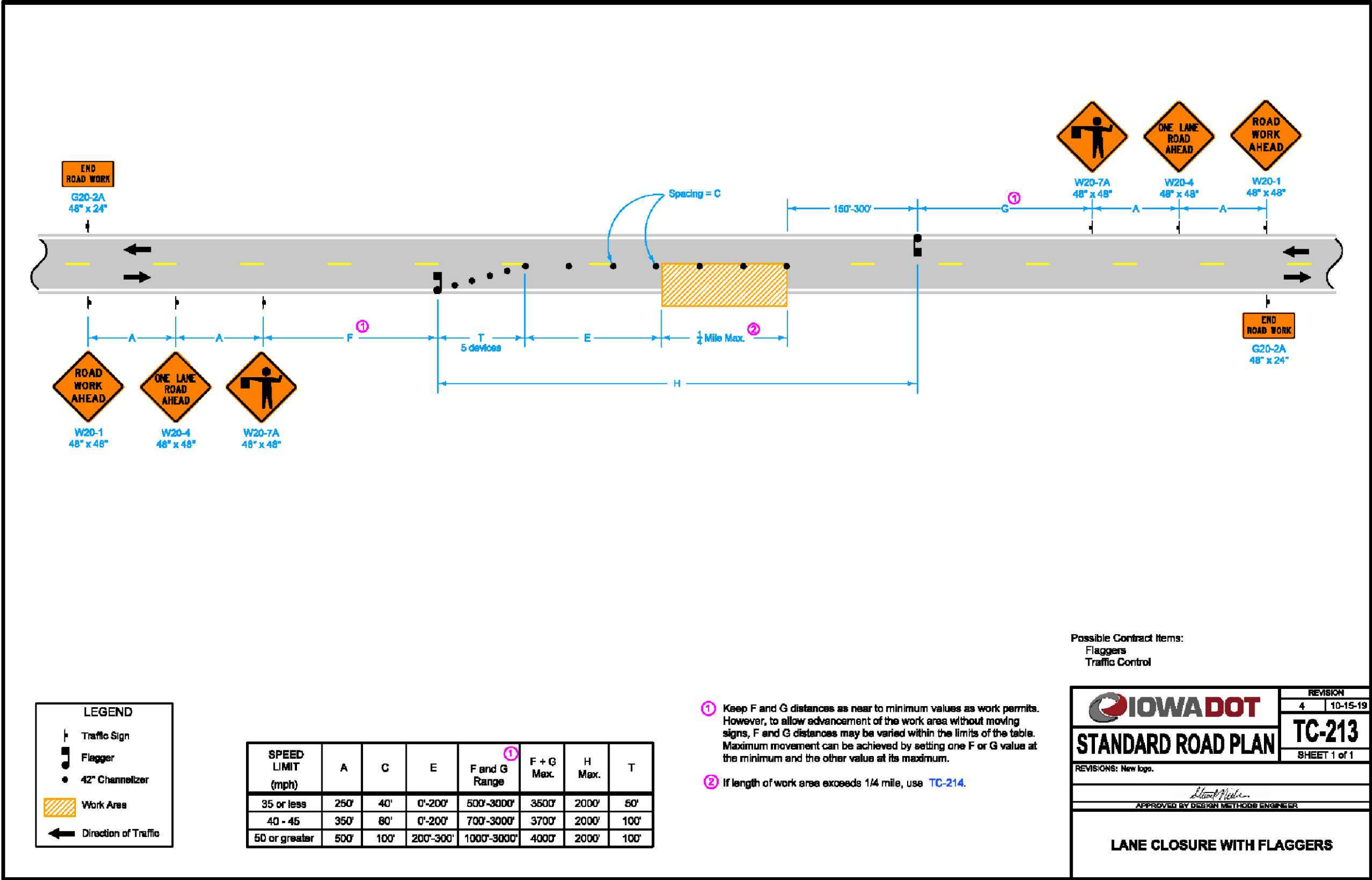
IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2019, COPY WITH PERMISSION

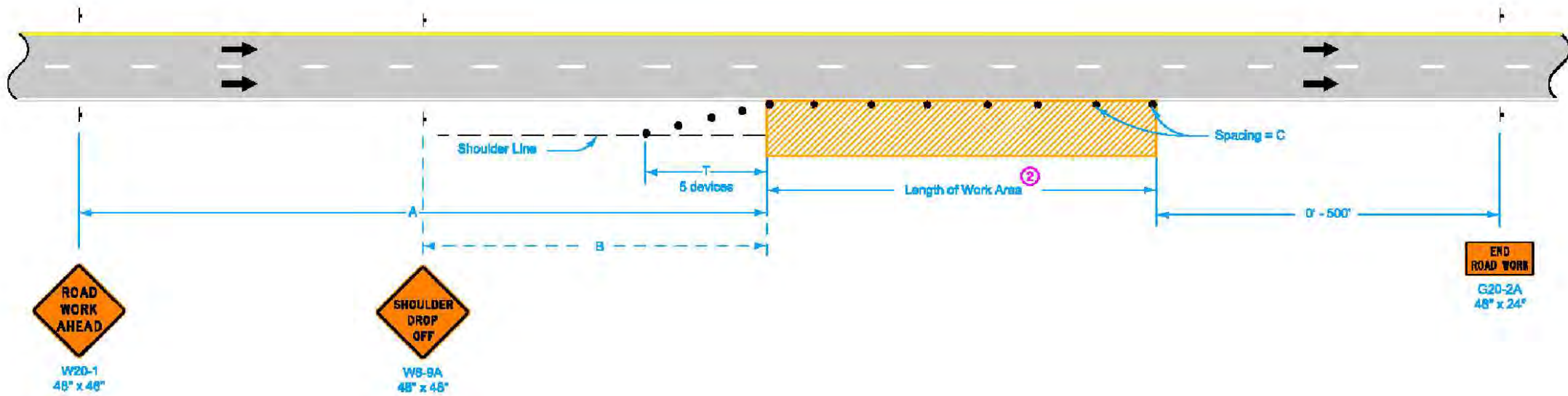


WACO JR/SR HIGH SCHOOL
HENRY COUNTY HEALTH CLINIC, WAYLAND, IA

hbk **ICN**
IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2019, COPY WITH PERMISSION

1	90% PLAN REVIEW	3/30/2022
2	PERMIT PLAN SUBMITTAL	4/5/2022
3		
4		





LEGEND	
	Traffic Sign
	42" Channelizer
	Work Area
	Direction of Traffic

SPEED LIMIT (mph)	A	B	C ^②	T
40 or less	500'	250'	40'	100'
45 - 50	700'	350'	80' ^①	200'
55 - 60	1500'	500'	100' ^①	200'
65 - 70	1500'	500'	100' ^①	230'

When a pavement edge drop-off exists, install a SHOULDER DROP-OFF sign.

No pavement edge drop-offs greater than pavement depth will be allowed during non-working hours.

Shoulder edge drop-offs shall be mitigated according to Article 1107.08.L2 of the Standard Specifications.

For work lasting less than one hour, refer to TC-1.

- ① When the length of a pavement edge drop-off is 1000 feet or less, the temporary fillet requirement of Article 1107.08 of the Standard Specifications does not apply. Reduce channelizer spacing to 40 feet.
- ② For work areas less than 200 feet long, use channelizers spaced at 20 foot centers or use a vehicle with an amber revolving light or amber strobe light.

Possible Contract Item:
Traffic Control

STANDARD ROAD PLAN

REVISIONS: Modified general notes, changed title and replaced the DOT logo in the title block with the new version.

APPROVED BY DESIGN METHODS ENGINEER

**WORK WITHIN 15 FT
OF TRAVELED WAY**

REVISION	
8	04-21-15
TC-402	
SHEET 1 of 1	