

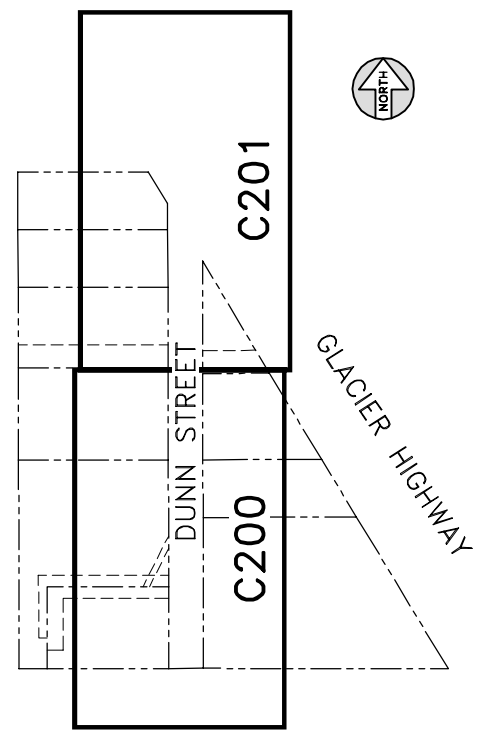
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# DUNN STREET PAVING

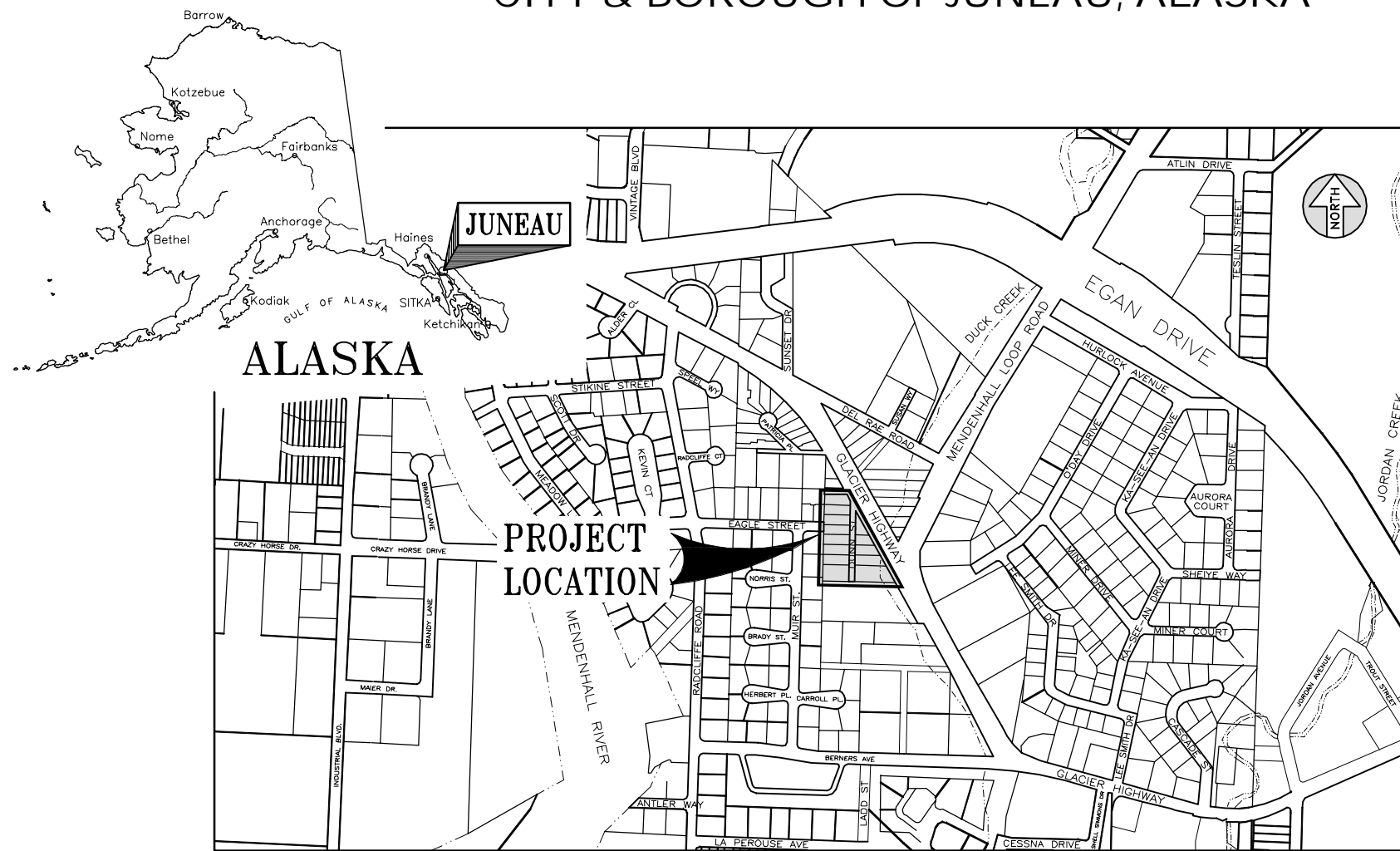
## CBJ CONTRACT No. E16-010

### CITY & BOROUGH OF JUNEAU, ALASKA

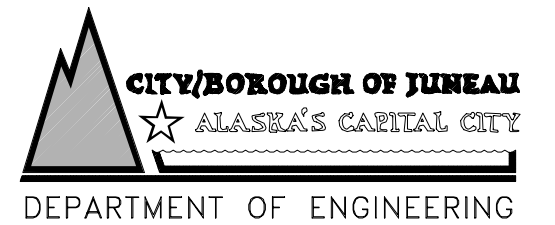
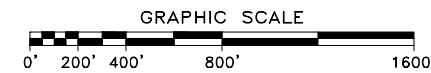


SHEET KEY MAP

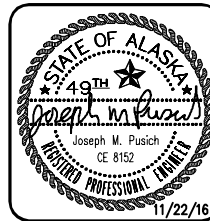
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PROJECT LOCATION MAP



COVER SHEET



**R & M ENGINEERING**  
 ENGINEERS      GEOLOGISTS      SURVEYORS  
 6205 GLACIER HIGHWAY      Phone 907-780-6060  
 JUNEAU, AK. 99801      Fax 907-780-4611  
 AECC605

**DUNN STREET PAVING**  
 CBJ CONTRACT No. E16-010  
 CITY & BOROUGH OF JUNEAU, ALASKA

DATE:	NOV 22, 2016
R & M NO.:	141367
SHEET	C001

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No.	DATE	REVISION	BY	APRVD.

## GENERAL CONSTRUCTION NOTES

1. CBJ ENGINEERING STANDARD DETAILS BOOK FOR CIVIL ENGINEERING PROJECTS AND SUBDIVISION IMPROVEMENTS DATED AUGUST, 2011 AND CBJ ENGINEERING STANDARD SPECIFICATIONS DATED DECEMBER, 2003 ARE MADE A PART OF THIS CONTRACT, WITH CURRENT REVISIONS AS APPLICABLE.
2. LARGE BOULDERS, HARDPAN, STUMPS, LOGS, ORGANICS AND GROUND WATER MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING TRENCHING, DITCHING AND ROADWAY EXCAVATION OPERATIONS. THESE MATERIALS SHALL BE DISPOSED OF AS REQUIRED BY THE ENGINEER.
3. GRADES AND ALIGNMENTS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS AS APPROVED BY THE ENGINEER.
4. LOCATION OF WATER SYSTEM IMPROVEMENTS, SANITARY SEWER IMPROVEMENTS, STORM DRAIN CATCH BASINS, PIPING AND PIPE LENGTHS ARE SUBJECT TO MINOR REVISIONS AS APPROVED BY THE ENGINEER. GRADING AND ALIGNMENT ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
5. CONNECTIONS TO EXISTING SIDE STREETS AND DRIVEWAYS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. LOCATIONS OF EXISTING UNDERGROUND SEWER, WATER, TELEPHONE, CABLE TELEVISION, AND POWER UTILITIES SHOWN ON THESE PLANS WERE DERIVED FROM AS-BUILT DRAWINGS AND FIELD LOCATES. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING THE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. ANY DAMAGE RESULTING TO THESE UNDERGROUND UTILITIES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. CALL "DIAL BEFORE YOU DIG" @ 586-1333 FOR UNDERGROUND UTILITY LOCATES PRIOR TO ANY EXCAVATION ACTIVITIES.
7. CONTRACTOR SHALL ASSURE GARBAGE PICKUP, DAILY MAIL SERVICE, FUEL, AND SERVICE DELIVERIES WILL BE UNINTERRUPTED TO ALL RESIDENTS AND BUSINESSES AFFECTED BY THIS PROJECT.
8. PROPERTY LINE LOCATIONS USED IN THESE PLANS ARE DERIVED FROM RECORD PLATS AND DO NOT REPRESENT A BOUNDARY SURVEY. THE PROPERTY LINES SHOWN ARE A BEST FIT APPROXIMATION OF CLOSURE.
9. ALL SIGN INSTALLATIONS OR RELOCATIONS SHALL BE PERFORMED ACCORDING TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M.U.T.C.D.) WITH THE ALASKA SUPPLEMENT.
10. THE CONTRACTOR SHALL DELIVER ALL ASPHALT PAVEMENT REMOVED FROM THIS PROJECT TO A STOCKPILE AREA IN THE CBJ LEMON CREEK PIT TO BE DESIGNATED BY THE ENGINEER. CONTACT THE ENGINEER FOR THE EXACT LOCATION OF THE STOCKPILE AREA.
11. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF AT AN APPROVED DISPOSAL SITE, EXCEPT AS NOTED IN THE CONTRACT DOCUMENTS.
12. PROVIDE KNOCKOUTS IN CATCH BASINS AND MANHOLES FOR ALL PIPES SHOWN ON THE PLANS.
13. ONLY HORIZONTAL ELBOW FITTINGS (BENDS) ARE SHOWN (NOT ALL ARE LABELED) ON THE DRAWINGS. ADDITIONAL FITTINGS WILL BE REQUIRED FOR VERTICAL DEFLECTIONS NEAR CONNECTION TO EXISTING PIPES AND AT OTHER LOCATIONS REQUIRING GRADE CHANGES TO AVOID CONFLICTS.
14. THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT OR OPERATE EQUIPMENT WITH ITS TRACKS OR WHEELS PLACED ON PRIVATE PROPERTY WITHOUT THE WRITTEN APPROVAL OF THE PROPERTY OWNER.
15. THE CONTRACTOR SHALL NOTIFY CBJ WATER UTILITIES AT 586-0393 OF PROPOSED WATER SERVICE INTERRUPTION AND SUBMIT THE "WATER SYSTEM SPECIAL USE PERMIT" TO THE CBJ WATER UTILITIES SUPERINTENDENT FOR APPROVAL AT LEAST 48-HOURS PRIOR TO SHUTDOWN OR FLUSHING OF MAINLINE WATER PIPE. NO WATER SERVICE INTERRUPTION MAY PROCEED UNTIL THIS APPROVAL IS OBTAINED.
16. CONTRACTOR SHALL REFERENCE ALL EXISTING PROPERTY CORNER MONUMENTS (I.E. BRASS CAP MONUMENTS, REBARS OR CHISELED X'S) PRIOR TO CONSTRUCTION THAT WILL BE DISTURBED DURING HIS WORK, AND REMONUMENT AFTER CONSTRUCTION OPERATIONS. ALL WORK SHALL BE DONE BY, OR UNDER THE DIRECTION OF, AN ALASKA REGISTERED LAND SURVEYOR. ALL EXISTING PROPERTY CORNERS ARE NOT NECESSARILY SHOWN ON THE PLANS.
17. THE PLAN DRAWINGS DO NOT NECESSARILY SHOW ALL TREES AND SHRUBS THAT MAY BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. NO TREES, SHRUBS OR LANDSCAPING ARE TO BE REMOVED OR DAMAGED, UNLESS SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
18. AEL&P, ACS AND GCI MAY CONDUCT WORK WITHIN THE PROJECT LIMITS TO RELOCATE UTILITIES AND TO UPGRADE THEIR RESPECTIVE SYSTEMS. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH EACH UTILITY COMPANY AND PROVIDE ACCESS AS NECESSARY FOR UTILITY COMPANIES TO COMPLETE THEIR WORK.
19. "JUMPING JACK", OR SIMILAR TYPE COMPACTORS SHALL BE USED FOR COMPACTION WITHIN 18 INCHES OF THE OUTSIDE SURFACE OF ALL WATER VALVE BOXES AND MANHOLES WITHIN THE STREET LIMITS.
20. THE USE OF GROUT AND QUICKSET CEMENT PRODUCTS WITH ADJUSTING RINGS, BRICKS, WOOD, STONES AND OTHER SIMILAR GRADE ADJUSTMENT DEVICES TO SUPPORT CATCH BASIN FRAMES OVER CATCH BASINS AND MANHOLES WILL NOT BE PERMITTED ON THIS PROJECT. SEE CBJ STANDARD SPECIFICATIONS, SECTION 02502 - STORM SEWER MANHOLES, INLETS AND CATCH BASINS AND THE DRAWINGS FOR CATCH BASIN FRAME SUPPORT REQUIREMENTS.
21. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ENGINEER APPROVED EROSION CONTROL DEVICES DURING CONSTRUCTION PER SECTION 01570 REQUIREMENTS.
22. TEMPORARY RAMPS SHALL BE PROVIDED AS REQUIRED FOR ACCESS TO BUSINESSES AND RESIDENCES DURING THE CONSTRUCTION PERIOD.
23. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING WATER AND SEWER PIPES, INCLUDING ALL SERVICES ALONG THE STORM DRAIN AND WATER PIPE ALIGNMENTS TO DETERMINE PIPE INSULATION LOCATIONS AND TO ENSURE DAMAGE DOES NOT OCCUR TO THE SERVICE PIPES.
24. WATER PIPES WILL REQUIRE MORE THAN 60-INCHES OF COVER IN AREAS WHERE STORM DRAINAGE PIPES ARE CLOSE TO OR BELOW A DEPTH OF 60-INCHES TO INVERT. DEPTHS OF ALL STORM DRAINAGE PIPES SHALL BE DETERMINED PRIOR TO INSTALLING WATER PIPES TO ENSURE CONFLICTS BETWEEN THESE PIPES DO NOT OCCUR. A MINIMUM CLEARANCE OF 8-INCHES SHALL BE OBTAINED BETWEEN WATER AND OTHER PIPES.
25. THE CONTRACTOR SHALL NOTIFY BUSINESSES AND RESIDENTS OF DRIVEWAY CLOSURES AT LEAST 48 HOURS PRIOR TO THE CLOSURE. THE BUSINESSES AND RESIDENTS SHALL BE INFORMED OF THE ANTICIPATED DURATION OF THE CLOSURE. NO DRIVEWAY CLOSURES WILL BE PERMITTED UNTIL THIS REQUIREMENT HAS BEEN MET TO THE SATISFACTION OF THE ENGINEER.
26. THE CONTRACTOR SHALL PROVIDE TOP OF WATER PIPE ELEVATIONS TO THE ENGINEER AT A MAXIMUM SPACING OF 50 FEET AND AT ALL GRADE BREAKS PRIOR TO BACKFILLING OVER THE PIPE. IF THE PIPE IS BACKFILLED PRIOR TO PROVIDING THESE TOP OF PIPE ELEVATIONS, THE PIPE SHALL BE EXPOSED AND THE TOP OF PIPE SURVEYED BY THE CONTRACTOR.
27. THE CONTRACTOR SHALL RESTRICT ITS COMPACTION AND OTHER VIBRATION INDUCING OPERATIONS AS NECESSARY TO ASSURE NO DAMAGE OCCURS TO ADJACENT BUILDINGS OR STRUCTURES. REFER TO SECTION 01530, ARTICLE 1.7 OF THE STANDARD SPECIFICATIONS FOR FURTHER REQUIREMENTS.

## ABBREVIATIONS

AC	ASBESTOS CEMENT
ACS	ALASKA COMMUNICATIONS SYSTEMS
AEL&P	ALASKA ELECTRIC LIGHT & POWER
AST	ABOVEGROUND STORAGE TANK
BC	BACK OF CURB
BOP	BEGINNING OF PROJECT
CB	CATCH BASIN
CBJ	CITY & BOROUGH OF JUNEAU
CHB	CHORD BEARING
CHL	CHORD LENGTH
C/L	CENTERLINE
CIP	CAST IRON PIPE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONT	CONTINUOUS
CPP	CORRUGATED POLYETHYLENE PIPE
CTE	CONNECT TO EXISTING
DI	DUCTILE IRON
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
DOT/PF	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
E	EASTING
EG	EXISTING GRADE
EJ	EAST JORDAN
EL	ELEVATION
EOP	END OF PROJECT
EP	EDGE OF PAVEMENT
EXIST	EXISTING
EXP	EXPANSION
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
GCI	GENERAL COMMUNICATION INC.
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HIGH PRESSURE
IE	INVERT ELEVATION
L	LENGTH
LP	LOW POINT
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
MJ	MECHANICAL JOINT
MTE	MATCH TO EXISTING
N	NORTHING
N/A	NOT APPLICABLE
N/L	NO LISTING
NF	NEENAH FOUNDRY CO.
NFS	NON-FROST SUSCEPTIBLE
NTS	NOT TO SCALE
NVC	NO VERTICAL CURVE
OC	ON CENTER
OFCO	OLYMPIC FOUNDRY CO.
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PERF	PERFORATED
PI	POINT OF INTERSECTION
P/L	PROPERTY LINE
POC	POINT ON CURVE
POL	POINT ON LINE
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS
ROW	RIGHT-OF-WAY
RP	RADIUS POINT
RT	RIGHT
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
T	TANGENT
TBM	TEMPORARY BENCH MARK
TBC	TOP BACK OF CURB
TC	TOP OF CONCRETE
TOB	TOP OF BANK
TOP	TOP OF PIPE
TYP	TYPICAL
UD	UNDERDRAIN
UNO	UNLESS NOTED OTHERWISE
UST	UNDERGROUND STORAGE TANK
VC	VERTICAL CURVE
VERT	VERTICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W/	WITH

## SYMBOLS

EXISTING	PROPOSED	
---	---	PROPERTY / BOUNDARY LINE
---	---	UTILITY EASEMENT LINE
---	---	PROJECT BASELINE
○	■	TEMPORARY BENCH MARK
○	○	SANITARY SEWER MANHOLE
←	←	SANITARY SEWER LINE / SERVICE
[---]	[P-2]	STORM DRAIN PIPE
[---]	[S-5]	STORM DRAIN MANHOLE W/ CONCRETE AREA DRAIN
[---]	[S-1]	CATCH BASIN
[---]	[---]	ASPHALT SURFACE
[---]	[---]	CONCRETE SURFACE
---	---	SAWCUT AND M.T.E.
---	---	EDGE OF SHOULDER
---	---	GRADE BREAK
		WATER LINE
⊗	⊗	WATER VALVE BOX
⊗	⊗	FIRE HYDRANT
⊗	⊗	UTILITY POLE W/ LIGHT
○	○	UTILITY POLE
---	---	ELECTRIC LINE UNDERGROUND
⊗	⊗	ELECTRIC TRANSFORMER
[E]	[E]	ELECTRIC PEDESTAL
---	---	TELEPHONE LINE UNDERGROUND
[P]	[P]	TELEPHONE PEDESTAL
---	---	CABLE TV LINE UNDERGROUND
[C]	[C]	CABLE TV PEDESTAL
---	---	TOP OF BANK
---	---	FILL SLOPE LIMITS
---	---	DRAINAGE SWALE
○	■	SIGN
---	---	PVC FENCE
---	---	CHAIN LINK FENCE
*	*	CONIFER TREE
[---]	[---]	MISCELLANEOUS LANDSCAPING
[---]	[---]	STRUCTURE

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No.	DATE	REVISION	BY	APRVD.

## GENERAL NOTES, ABBREVIATIONS AND SYMBOLS







**R & M ENGINEERING**  
 ENGINEERS      GEOLOGISTS      SURVEYORS  
 6205 GLACIER HIGHWAY      Phone 907-780-6060  
 JUNEAU, AK. 99801      Fax 907-780-4611  
 AECC605

**DUNN STREET PAVING**  
 CBJ CONTRACT No. E16-010  
 CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV 22, 2016
R & M NO. 141387
SHEET C002

**SURVEY CONTROL SYMBOLS**

-  PRIMARY MONUMENT (RECOVERED)
-  1" DIAMETER SURVEY SPIKE (ESTABLISHED)
-  TEMPORARY BENCH MARK (T.B.M.)
-  PK NAIL

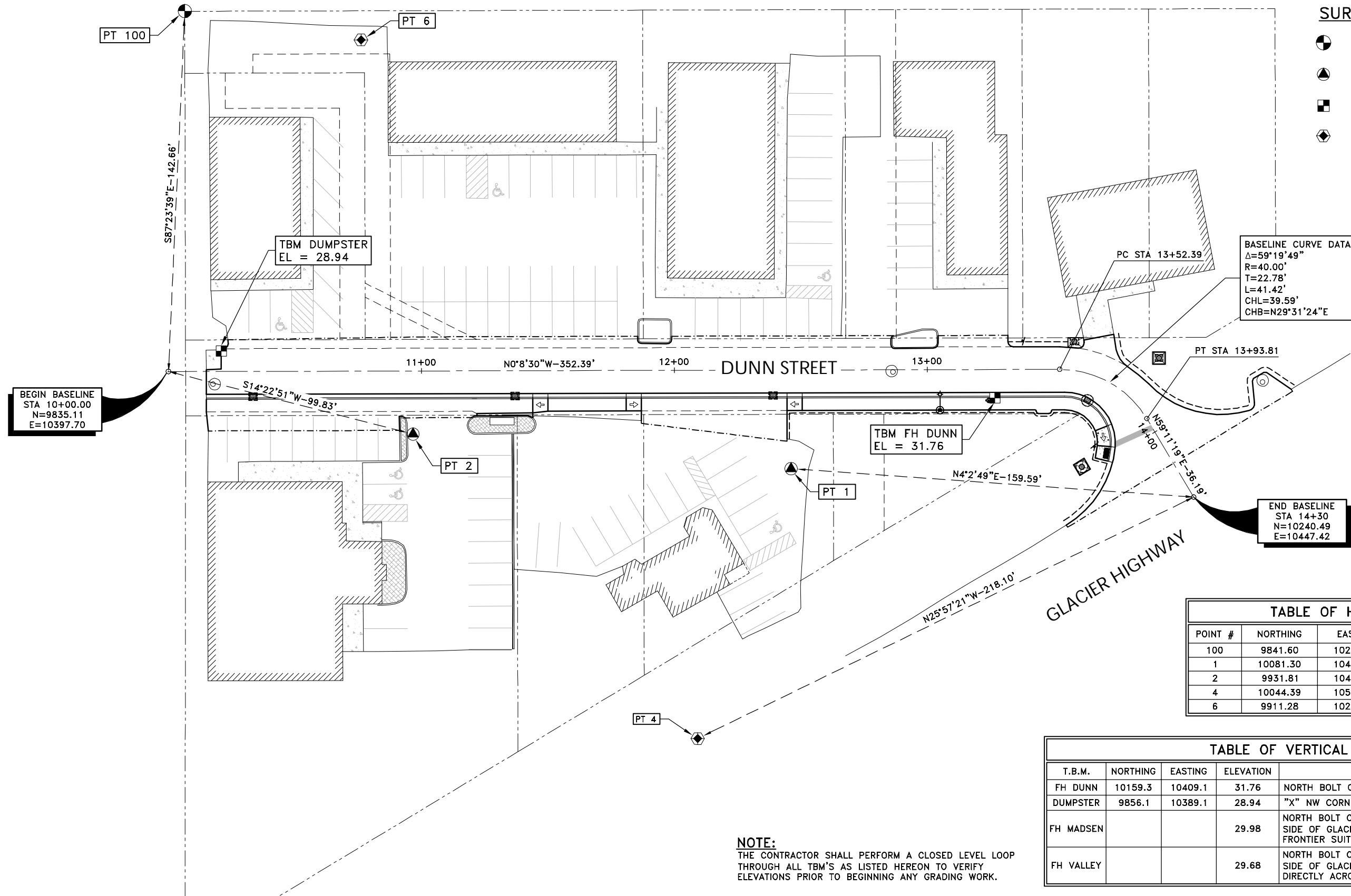


TABLE OF HORIZONTAL CONTROL			
POINT #	NORTHING	EASTING	DESCRIPTION
100	9841.60	10255.18	EMPS 2-1/2" ALUM. CAP ON REBAR
1	10081.30	10436.15	SURVEY SPIKE
2	9931.81	10422.49	SURVEY SPIKE
4	10044.39	10542.87	PK
6	9911.28	10266.57	PK

TABLE OF VERTICAL CONTROL				
T.B.M.	NORTHING	EASTING	ELEVATION	DESCRIPTION
FH DUNN	10159.3	10409.1	31.76	NORTH BOLT ON TOP FLANGE OF FIRE HYDRANT
DUMPSTER	9856.1	10389.1	28.94	"X" NW CORNER OF CONCRETE DUMPSTER PAD
FH MADSEN			29.98	NORTH BOLT ON TOP FLANGE OF FIRE HYDRANT AT EASTERLY SIDE OF GLACIER HIGHWAY, 75'± SOUTH OF ENTRANCE TO FRONTIER SUITES HOTEL
FH VALLEY			29.68	NORTH BOLT ON TOP FLANGE OF FIRE HYDRANT AT WESTERLY SIDE OF GLACIER HIGHWAY, 30'± NORTH OF BUS SHELTER DIRECTLY ACROSS FROM VALLEY RESTAURANT

**NOTE:**  
 THE CONTRACTOR SHALL PERFORM A CLOSED LEVEL LOOP THROUGH ALL TBM'S AS LISTED HEREON TO VERIFY ELEVATIONS PRIOR TO BEGINNING ANY GRADING WORK.

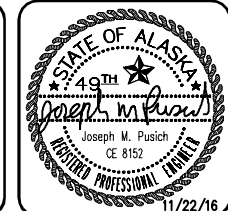
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**SURVEY CONTROL MAP**

GRAPHIC SCALE



**R & M ENGINEERING**

ENGINEERS      GEOLOGISTS      SURVEYORS

6205 GLACIER HIGHWAY      Phone 907-780-6060  
 JUNEAU, AK. 99801      Fax 907-780-4611  
 AECC605

**DUNN STREET PAVING**

CBJ CONTRACT No. E16-010  
 CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV 22, 2016  
 R & M NO. 141387

SHEET **C003**

### SIGN ASSEMBLY TABLE

SIGN No.	SIGN LOCATION	MUTCD DESIGNATION	SIZE	LEGEND
1	13+91.0, 23.0 RT	R1-1	30"x30"	STOP (REUSE STREET NAME PANELS)
2	13+38.0, 11.5 LT	W14-2	30"x30"	NO OUTLET

**NOTES:**

- ALL SIGNS TO BE CONSTRUCTED IN ACCORDANCE WITH CBJ STANDARD 127A.
- ALL SIGNS SHALL BE HIGH INTENSITY AND LOCATED AS DIRECTED BY THE ENGINEER.
- SALVAGE ALL EXISTING SIGN PANELS AND DELIVER TO CBJ STREET MAINTENANCE SHOP. DISPOSE OF ALL EXISTING POSTS, POST SOCKETS AND FOUNDATION MATERIALS.
- REPLACE ALL LOWER BRACKETS FOR STREET IDENTIFICATION PANELS.
- ALL POSTS SHALL BE "TELSPAR", OR APPROVED EQUAL.
- TELSPAR POSTS SHALL BE PRE-PUNCHED WITH ALL KNOCKOUTS REMOVED.

### SEWER SERVICE SUMMARY

STREET ADDRESS	STATION & OFFSET	TYPE	SIZE	REMARKS
2201 DUNN ST	12+05.2, 11.5 LT	PVC	6"	SEE NOTES 1 & 2
2203-2217 DUNN ST	11+25.9, 11.5 LT	PVC	6"	SEE NOTES 1 & 2
LOT 13	11+67.8, 16.8 RT	PVC	6"	SEE NOTE 3
2203-2217 DUNN ST	11+85.1, 11.5 LT	PVC	6"	SEE NOTES 1 & 2
2219-2225 DUNN ST	10+51.7, 11.5 LT	PVC	6"	SEE NOTES 1 & 2
2220 DUNN ST	10+81.3, 16.5 RT	PVC	6"	SEE NOTES 1 & 2
9351 GLACIER HWY	12+06.4, 16.5 RT	PVC	6"	SEE NOTES 1 & 2
9355 GLACIER HWY	12+95.0, 16.8 RT	PVC	6"	SEE NOTES 1 & 2
9425 GLACIER HWY	13+74.9, 20.9 LT	PVC	6"	SEE NOTES 1 & 2

**NOTES:**

- SEWER SERVICE LOCATIONS SHOWN WERE DERIVED FROM LIMITED AS-BUILT INFORMATION, THEY WERE NOT FIELD LOCATED. CONTRACTOR SHALL FIELD LOCATE ALL SEWER SERVICES TO CONFIRM FINAL LOCATION FOR NEW SEWER SERVICE CLEANOUT INSTALLATION.
- INSTALL A NEW 6" PVC SEWER SERVICE CLEANOUT ON EXISTING SERVICE LINE AND LOCATE SEWER CLEANOUT WITH CAST IRON FRAME AND LID NEAR PROPERTY LINE PER CBJ STANDARD DETAIL 213. ADJUST TO FINISH GRADE. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.
- INSTALL NEW 6" PVC SEWER SERVICE LATERAL AND CLEANOUT PER CBJ STANDARD DETAIL 213. INSTALL CAST IRON FRAME AND LID NEAR THE PROPERTY LINE AND ADJUST TO FINISH GRADE.

### WATER SERVICE SUMMARY

STREET ADDRESS	STATION & OFFSET	TYPE	SIZE	REMARKS
1997 DUNN ST	13+33.6, 11.5 LT	CU	2"	SEE NOTES 1 & 4
2201 DUNN ST	12+02.2, 11.5 LT	CU	2"	SEE NOTES 1 & 4
2203-2217 DUNN ST	11+55.2, 11.5 LT	CU	2"	SEE NOTES 1 & 4
LOT 13	11+57.8, 16.8 RT	HDPE	6"	SEE NOTE 3
2219-2225 DUNN ST	11+14.0, 11.5 LT	CU	2"	SEE NOTES 1 & 4
2219-2225 DUNN ST	10+58.4, 10.6 LT	CU	2"	SEE NOTES 1 & 4
2220 DUNN ST	11+09.3, 16.5 RT	CU	2"	SEE NOTES 1 & 4
9351 GLACIER HWY	12+10.9, 16.5 RT	CU	2"	SEE NOTES 1 & 4
9355 GLACIER HWY	12+77.4, 16.5 RT	CU	2"	SEE NOTES 1 & 3
9425 GLACIER HWY	13+71.6, 18.1 LT	CU	2"	SEE NOTES 1,2 & 4
BLOW-OFF LINE	10+57.3, 2.5 LT	CU	2"	SEE NOTE 5

**NOTES:**

- INSTALL NEW WATER SERVICE AND CURB BOX PER CBJ STANDARD 406A. STATION & OFFSET LOCATIONS ARE GIVEN TO CENTER OF WATER VALVE BOX. CONNECT TO EXISTING WATER SERVICE. EXISTING WATER SERVICE SIZES SHOWN ON THE PLANS WERE DERIVED FROM DISCUSSIONS WITH THE PROPERTY OWNERS, CONTRACTOR SHALL CONFIRM SIZES PRIOR TO INSTALLATION.
- THIS WATER SERVICE BOX WAS NOT FIELD LOCATED. CONTRACTOR TO FIELD LOCATE THE EXISTING WATER SERVICE.
- UNDEVELOPED PARCEL, NO CONNECT TO EXISTING REQUIRED.
- PROVIDE ALL ADAPTERS, ELBOWS, AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.
- INSTALL BLOW-OFF LINE AND CONNECT TO CATCH BASIN S-1. CURB STOP SHALL INCLUDE STOP & WASTE FEATURE AND BE LOCATED AT THE LOW POINT OF THE LINE.
- REFER TO THE SPECIAL PROVISIONS FOR TEMPORARY WATER SYSTEM REQUIREMENTS.

### STORM DRAIN STRUCTURE FRAME & GRATE SUMMARY

STRUCTURE No.	EAST JORDAN, OLYMPIC FOUNDRY Co., NEENAH FOUNDRY, CBJ STANDARD No., OR APPROVED EQUAL.
S-1	EAST JORDAN 7700, M3 GRATE
S-2	EAST JORDAN 7700, M3 GRATE
S-3	EAST JORDAN 7700, M3 GRATE
S-4	EAST JORDAN 7701, T2 HOOD & 7700 M3 GRATE
S-5	OLYMPIC FOUNDRY MH34SC
S-6	OLYMPIC FOUNDRY MH34SC
S-7	OLYMPIC FOUNDRY MH34SC

**NOTES:**

- CATCH BASIN TOP SLAB OPENINGS SHALL BE DIMENSIONED TO FIT THE FRAME DIMENSIONS. ALL GRATES SHALL BE HEAVY DUTY CONSTRUCTION AND BICYCLE SAFE. ALL FRAMES AND GRATES TO BE DUCTILE IRON.

### EXISTING SANITARY SEWER MANHOLE RECONSTRUCTION SUMMARY

MANHOLE NUMBER	LOCATION	EXISTING ELEVATION	PROPOSED ELEVATION	NEW COVER & FRAME	REMARKS
K20	10+17.67, 5.02 RT	28.02	28.72	CBJ STD 206A, 24" CLEAR OPENING	REMOVE EXISTING COVER & FRAME AND REPLACE WITH NEW. REMOVE EXISTING ADJUSTING RING (1 EACH) 4" HEIGHT, INSTALL NEW INFRA-RISER (RECYCLED RUBBER) GRADE RINGS FOR ADJUSTING AND INSTALLING NEW COVER & FRAME ON MANHOLE TO FINISH GRADE. REMOVE EXISTING METAL STEPS AND INSTALL NEW MANHOLE STEPS PER CBJ STANDARDS.
K22	12+86.48, 0.86 RT	29.15	29.16	CBJ STD 206B (LOCKING), 30" CLEAR OPENING	REMOVE EXISTING COVER & FRAME AND REPLACE WITH NEW. REMOVE EXISTING ADJUSTING RINGS (5 EACH) 4" HEIGHT AND 1" 6" HEIGHT, AND REDUCING CONE. INSTALL NEW 2' BARREL SECTION, NEW 3' REDUCING CONE AND USE INFRA-RISER (RECYCLED RUBBER) GRADE RINGS FOR ADJUSTING AND INSTALLING NEW COVER & FRAME ON MANHOLE TO FINISH GRADE. REMOVE EXISTING METAL STEPS AND INSTALL NEW MANHOLE STEPS PER CBJ STANDARDS. INSTALL DROP CONNECTION ON PIPE ENTERING THE MANHOLE FROM THE SOUTH PER CBJ STANDARDS.
K22.1	14+04.76, 46.68 LT	27.41	29.76	CBJ STD 206A, 24" CLEAR OPENING	REMOVE EXISTING COVER & FRAME AND REPLACE WITH NEW. REMOVE EXISTING ADJUSTING RING (1 EACH) 4" HEIGHT, AND REDUCING CONE. INSTALL NEW 1' BARREL SECTION, 3' REDUCING CONE AND USE INFRA-RISER (RECYCLED RUBBER) GRADE RINGS FOR ADJUSTING AND INSTALLING NEW COVER & FRAME ON MANHOLE TO FINISH GRADE. REMOVE EXISTING METAL STEPS AND INSTALL NEW MANHOLE STEPS PER CBJ STANDARDS.

**NOTES:**

- ALL PIPE REPLACEMENTS INTO NEW OR EXISTING MANHOLES SHALL CONFORM TO THE REQUIREMENTS OF CBJ STANDARD 209.
- ALL EXISTING MANHOLES TO REMAIN SHALL BE WATERPROOFED AT EACH EXISTING JOINT WITH THE MIRADRI WATERPROOFING SYSTEM, OR APPROVED EQUAL.
- CONTRACTOR TO FIELD CONFIRM SANITARY SEWER MANHOLE BARREL AND REDUCING CONE DIMENSIONS PRIOR TO ORDERING MATERIALS.

### SUMMARY TABLES



**R & M ENGINEERING**  
 ENGINEERS      GEOLOGISTS      SURVEYORS  
 6205 GLACIER HIGHWAY      Phone 907-780-6060  
 JUNEAU, AK. 99801      Fax 907-780-4611  
 AECC605

**DUNN STREET PAVING**  
 CBJ CONTRACT No. E16-010  
 CITY & BOROUGH OF JUNEAU, ALASKA

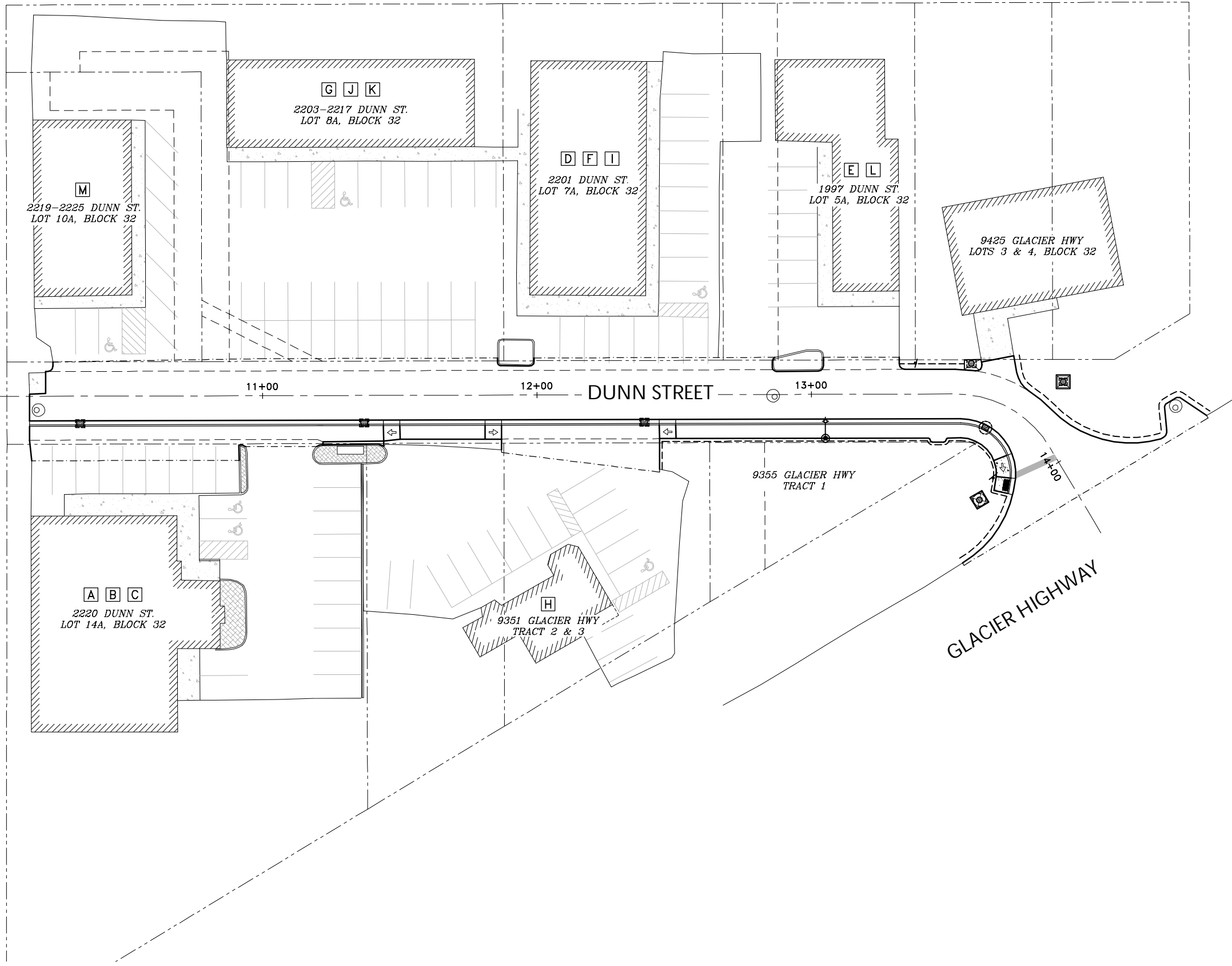
DATE: NOV 22, 2016  
 R & M NO. 141387  
 SHEET C004

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**TRAFFIC CONTROL NOTES**

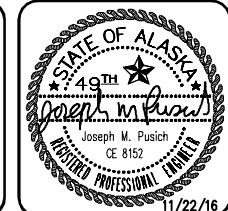
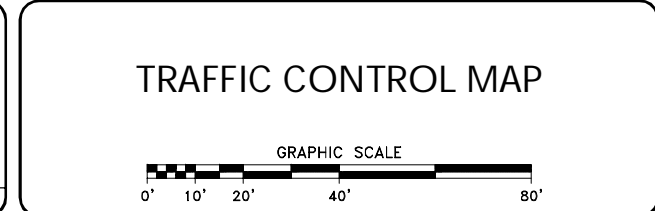
- THE FOLLOWING BUSINESSES USE DUNN STREET TO ACCESS THEIR BUSINESSES:
  - [A] SOUTHEAST DENTAL GROUP, PC (586-9885)
  - [B] JUNEAU PEDIATRIC DENTISTRY (523-5437)
  - [C] DR. CHARLES SCHULTZ, ORAL SURGERY (586-9586)
  - [D] TONGASS VETERINARY SERVICES, LLC (209-8855)
  - [E] LARUE HAIR SALON (586-4247)
  - [F] RED ONION SPICE & TEA COMPANY (988-1530)
  - [G] RH DEVELOPMENT (790-4146)
  - [H] ZERELDA'S BISTRO (500-7096)
  - [I] BETTER HEALTH AND WELLNESS CENTER (796-3333)
  - [J] RAIN TREE QUILTING (789-7900)
  - [K] DANCE OF HANDS MASSAGE (209-4900)
  - [L] LILETTE BOUTIQUE (523-8001)
  - [M] RESIDENTIAL APARTMENTS

THE INDIVIDUAL HOURS AND DAYS OF OPERATION FOR THESE BUSINESSES VARY BUT GENERALLY ARE MONDAY THRU SATURDAY 8:00 AM - 6:00 PM ZERELDA'S BISTRO IS OPEN UNTIL 9:00 PM THURSDAY THRU SATURDAY.
- WITH THE EXCEPTION OF PAVING OPERATIONS, THE CONTRACTOR SHALL MAINTAIN ONE WAY TRAFFIC FLOW FROM GLACIER HIGHWAY TO AND THROUGH DUNN STREET AT ALL TIMES IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. THE DRIVING LANE SHALL HAVE A MINIMUM WIDTH OF 10 FEET. A MAXIMUM 10 MINUTE TRAFFIC STOPPAGE WILL BE ALLOWED.
- THE CONTRACTOR SHALL NOTIFY EACH PROPERTY AND BUSINESS OWNER OF DRIVEWAY CLOSURES 48 HOURS PRECEDING THE DAY THE DRIVEWAY IS TO BE CLOSED TO VEHICULAR ACCESS. THE PROPERTY AND BUSINESS OWNER SHALL BE INFORMED OF THE PERIOD OF TIME THE CLOSURE WILL BE IN EFFECT. NO DRIVEWAY CLOSURES WILL BE PERMITTED UNTIL THIS REQUIREMENT HAS BEEN MET TO THE SATISFACTION OF THE ENGINEER.
- ALL TRAFFIC TO BE CONTROLLED PER REQUIREMENTS OF THE ALASKA TRAFFIC MANUAL (U.S. DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE ALASKA SUPPLEMENT).
- ALL DETOURS SHALL BE AS APPROVED BY THE ENGINEER.
- ROAD CLOSURES WILL BE PERMITTED ONLY AS APPROVED BY THE ENGINEER.
- PROVIDE ACCESS FOR EMERGENCY AND SERVICE VEHICLES AT ALL TIMES.
- PEDESTRIAN ACCESS SHALL BE AVAILABLE ALONG AT LEAST ONE SIDE OF DUNN STREET AT ALL TIMES TO ALLOW ACCESS TO THE BUSINESSES. THE PEDESTRIAN PATHWAY SHALL BE CLEARLY MARKED AND SHALL SATISFY THE REQUIREMENTS AS DESCRIBED IN THE SPECIAL PROVISIONS.

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**R & M ENGINEERING**

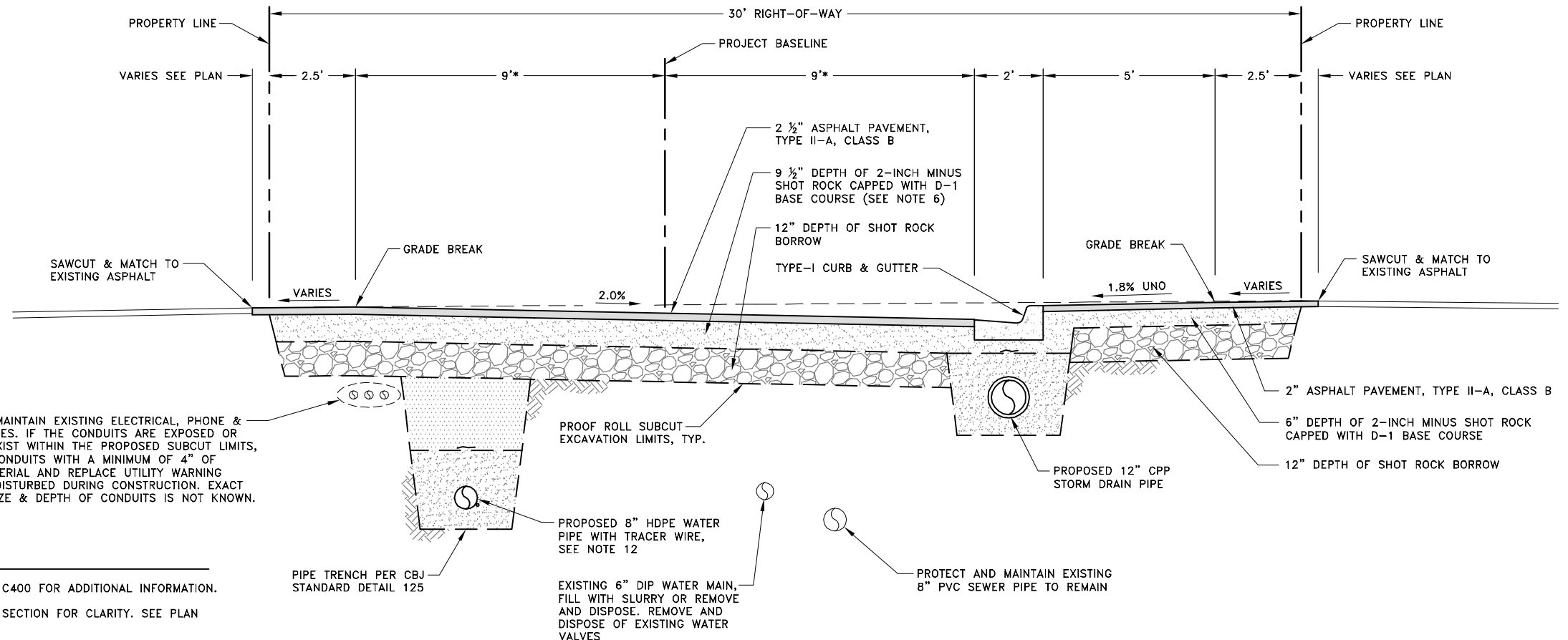
ENGINEERS      GEOLOGISTS      SURVEYORS

6205 GLACIER HIGHWAY      Phone 907-780-6060  
 JUNEAU, AK. 99801      Fax 907-780-4611  
 AECC605

**DUNN STREET  
PAVING**

CBJ CONTRACT No. E16-010  
CITY & BOROUGH OF JUNEAU, ALASKA

DATE:	NOV 22, 2016
R & M NO.:	141387
SHEET	C005



PROTECT & MAINTAIN EXISTING ELECTRICAL, PHONE & CABLE UTILITIES. IF THE CONDUITS ARE EXPOSED OR FOUND TO EXIST WITHIN THE PROPOSED SUBCUT LIMITS, SURROUND CONDUITS WITH A MINIMUM OF 4" OF BEDDING MATERIAL AND REPLACE UTILITY WARNING RIBBONS IF DISTURBED DURING CONSTRUCTION. EXACT QUANTITY, SIZE & DEPTH OF CONDUITS IS NOT KNOWN.

**TYPICAL SECTION NOTES**

1. SIDE SLOPES, WIDTHS AND GRADES MAY VARY AT SOME LOCATIONS, SEE GRADING SHEET C400 FOR ADDITIONAL INFORMATION.
2. UNDERGROUND SEWER, WATER AND STORM SEWER SERVICES ARE NOT SHOWN IN TYPICAL SECTION FOR CLARITY. SEE PLAN VIEW SHEETS FOR APPROXIMATE LOCATIONS.
3. ADDITIONAL EXCAVATION BELOW THE NEATLINE SUBCUT LEVEL MAY BE REQUIRED BY THE ENGINEER IF ORGANIC OR OTHER UNSUITABLE MATERIALS ARE FOUND AT OR NEAR THE PLANNED SUBCUT LEVEL. USABLE MATERIAL FROM EXCAVATION SHALL BE USED TO BACKFILL THE ADDITIONAL AREAS OF EXCAVATION. BACKFILLING WITH USABLE MATERIAL FROM EXCAVATION WILL BE CONSIDERED INCIDENTAL TO OTHER WORK.
4. REMOVE AND DISPOSE OF EXISTING STORM DRAIN, SANITARY SEWER, AND WATER PIPES THAT ARE BEING REPLACED, UNLESS NOTED OTHERWISE.
5. DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE RECONSTRUCTED TO EQUAL OR BETTER CONDITION WITH SUBGRADE REPLACED IN LAYERS TO MATCH THOSE REMOVED, EXCEPT:
  - A. EXISTING ASPHALT PAVED DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE SUBCUT TO 8-INCHES BELOW FINISH GRADE AND REPLACED WITH 6-INCHES OF 2" MINUS SHOT ROCK W/ BASE COURSE, GRADING D-1 AND 2-INCHES OF ASPHALT PAVEMENT, TYPE II-A, CLASS B.
  - B. EXISTING GRAVEL DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE SUBCUT TO 4-INCHES BELOW FINISH GRADE AND REPLACED WITH 4-INCHES OF BASE COURSE, GRADING D-1.
  - C. ORGANICS, ROOTS, WOOD OR OTHER DELETERIOUS MATERIALS ENCOUNTERED IN THE DRIVEWAYS DURING EXCAVATION OPERATIONS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AND DISPOSED OF AT AN APPROVED OFFSITE DISPOSAL SITE. BACKFILL VOIDS BELOW THE REQUIRED SUBCUT LAYER WITH USABLE EXCAVATION.
6. THE BASE COURSE LAYER SHALL BE 7 1/2" TO 8 1/2" OF 2-INCH MINUS SHOT ROCK WITH 1" TO 2" TOP LAYER OF BASE COURSE, GRADING D-1 FOR A TOTAL COMPACTED THICKNESS OF 9 1/2". THE 2-INCH MINUS SHOT ROCK SHALL BE WELL COMPACTED PRIOR TO PLACING BASE COURSE, GRADING D-1. THIS APPLIES TO ALL TYPICAL SECTIONS FOR THIS PROJECT.
7. GRADE TOP OF CURB AT 2% TOWARDS GUTTER.
8. TOP OF PAVEMENT GRADES GIVEN ON THE PLANS ARE ACTUAL FINISHED PAVEMENT SURFACE ELEVATIONS. TOP OF A.C. PAVEMENT ALONG NEW CONCRETE GUTTERS SHALL BE FINISHED 1/4-INCH ABOVE THE LIP OF GUTTER.
9. THE LIMITS OF USABLE MATERIAL OUTSIDE THE STRUCTURAL SECTION WILL VARY IN DISTANCE FROM RIGHT-OF-WAY LINES. PLACE AND GRADE THESE MATERIALS TO PROVIDE A SMOOTH, WELL-DRAINED TRANSITION TO EXISTING GRADES, AS DIRECTED BY THE ENGINEER.
10. ACCESS RAMPS SHALL CONFORM TO CBJ STANDARD DETAIL 106 REGARDING CROSS SLOPES AND TRANSITIONS FOR THE DEPRESSED SIDEWALK. THE CURB AND GUTTER SHALL BE CONSTRUCTED WITH NO LIP.
11. ALL FILL AREAS BEYOND THE SUBCUT LIMITS SHALL BE BACKFILLED WITH USABLE MATERIAL FROM EXCAVATION AND GRADED TO DRAIN AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
12. INSTALL MAIN LINE TRACER WIRE BETWEEN MAINLINE VALVE AND HDPE CAP. ATTACH TRACER WIRE TO HDPE PIPE NO HIGHER THAN THE PIPE SPRINGLINE AND MAINTAIN CONTINUITY WITH ALL SERVICES WITH A CORROSION PROOF WIRE CONNECTOR.

**DUNN STREET TYPICAL SECTION**

N.T.S.  
\* WIDTH VARIES AT INTERSECTION

**PAVING SEQUENCE REQUIREMENTS**

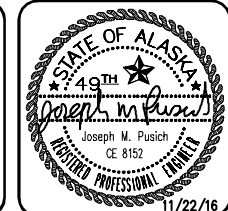
1. LAYDOWN OPERATIONS SHALL BE CONDUCTED IN A MANNER WHICH ENSURES THAT THE MINIMUM TEMPERATURE ALONG THE CENTERLINE EDGE OF PAVEMENT OF THE FIRST PAVED LANE DOES NOT FALL BELOW 200°F PRIOR TO THE ASPHALT MIX FROM THE ADJACENT LANE BEING PLACED AGAINST THIS JOINT.
2. THE CONTRACTOR SHALL MONITOR THE TEMPERATURE OF THE CENTERLINE EDGE OF THE FIRST PAVED LANE AND MOVE THE LAYDOWN OPERATIONS TO THE SECOND LANE ALLOWING SUFFICIENT TIME FOR THE PAVEMENT OF THE SECOND LANE TO COVER THE CENTERLINE EDGE OF THE FIRST LANE PRIOR TO COOLING TO LESS THAN 200°F.

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TYPICAL SECTION



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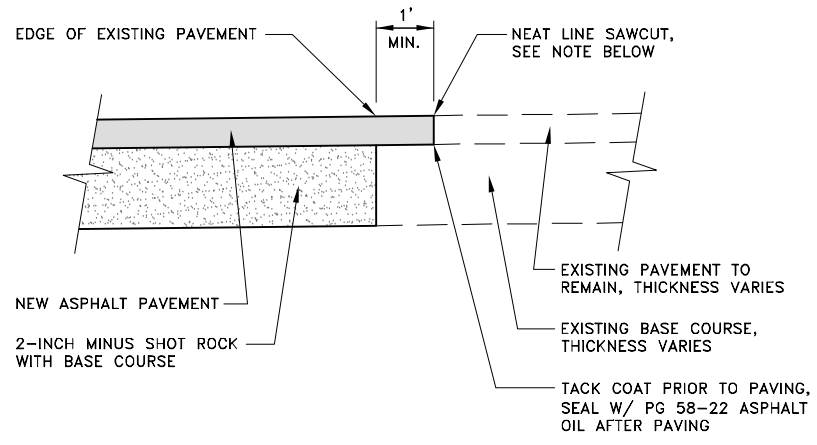
ENGINEERS      GEOLOGISTS      SURVEYORS

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DUNN STREET  
PAVING

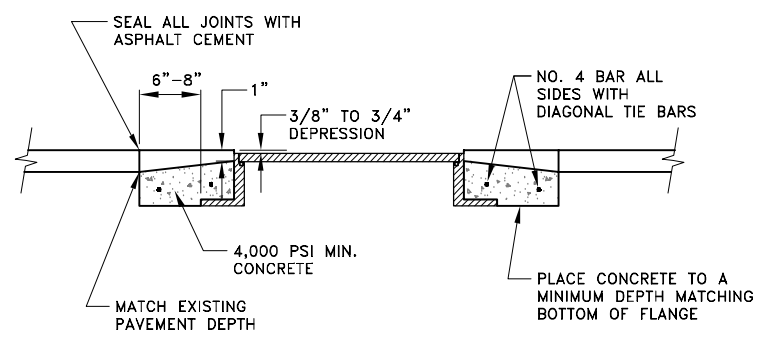
CBJ CONTRACT No. E16-010  
CITY & BOROUGH OF JUNEAU, ALASKA

DATE:	NOV 22, 2016
R & M NO.	141387
SHEET	C100



**NOTE:**  
SAWCUT OF EXISTING PAVEMENT SHALL NOT BE MADE UNTIL 24 HOURS PRIOR TO FINAL PAVING.

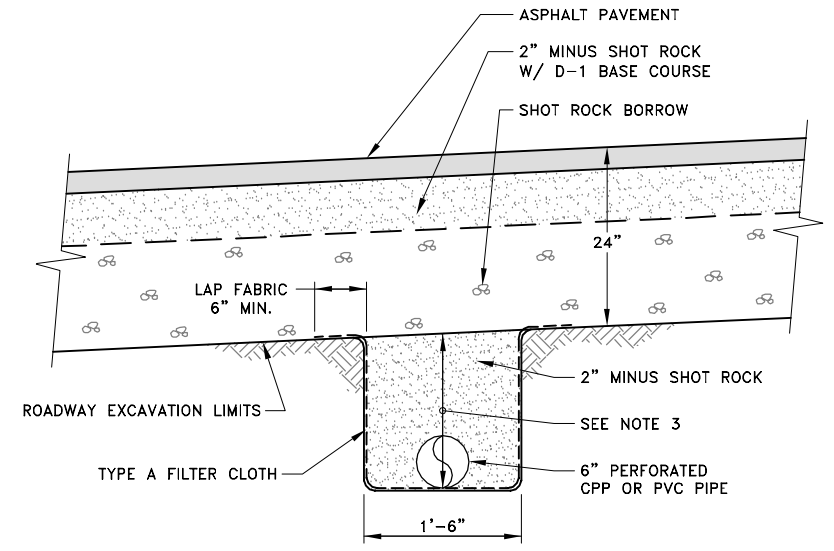
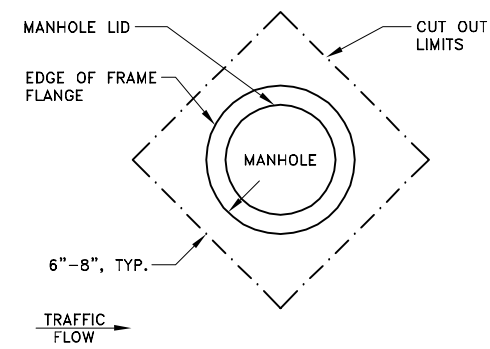
**1 PAVEMENT MATCH JOINT DETAIL**  
N.T.S.



CONCRETE SHALL CURE FOR 48 HOURS MINIMUM BEFORE PLACING PAVEMENT OVERLAY

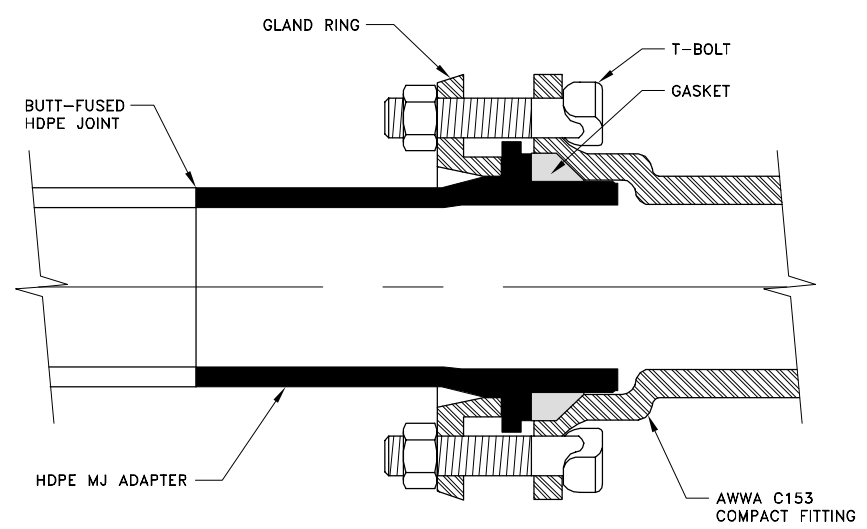
**NOTE:**  
MANHOLE FRAME SHALL BE RAISED TO FINISH GRADE PRIOR TO PAVING OPERATIONS. IF NOT WITHIN ALLOWABLE TOLERANCES AFTER PAVING OPERATION THE ABOVE DETAILS SHALL BE USED.

**2 CONCRETE TRANSITION SLAB DETAILS**  
N.T.S.

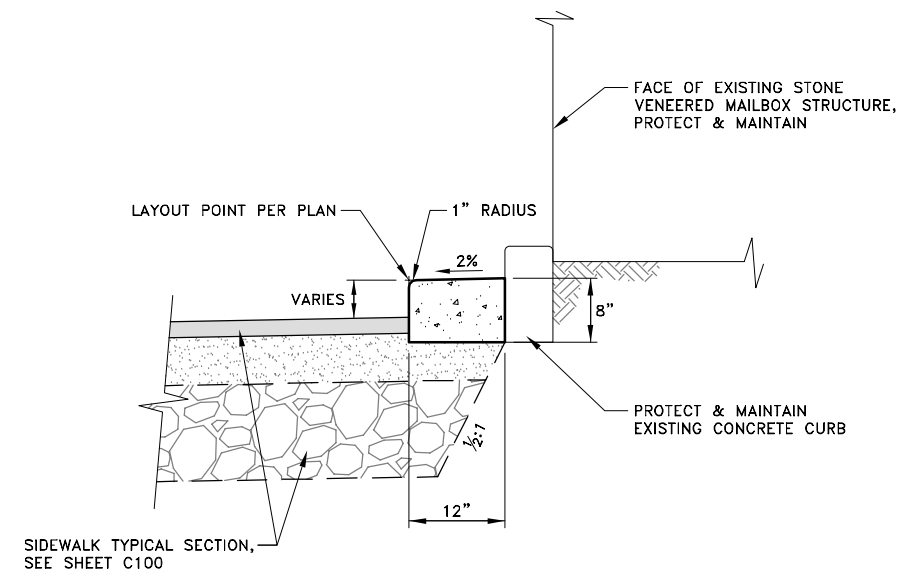


**NOTES:**  
1. OUTFALL CONNECTIONS WILL BE INTO CATCH BASINS.  
2. UPPER END OF PIPES SHALL BE CAPPED AND THE FILTER CLOTH FOLDED AND OVERLAPPED TO SEAL END OF DRAINAGE ROCK SECTION.  
3. DEPTH VARIES, SEE PLAN VIEWS.  
4. MINIMUM PIPE SLOPE SHALL BE 1%.

**3 6" UNDERDRAIN DETAIL**  
N.T.S.



**4 TYPICAL HDPE MJ CONNECTION TO DI FITTING**  
N.T.S.



SIDEWALK TYPICAL SECTION, SEE SHEET C100

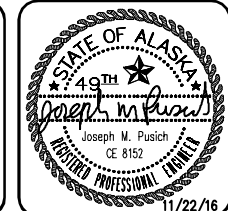
**5 CONCRETE MAILBOX CURB DETAIL**  
N.T.S.

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CONSTRUCTION DETAILS



**R & M ENGINEERING**  
ENGINEERS      GEOLOGISTS      SURVEYORS  
6205 GLACIER HIGHWAY      Phone 907-780-6060  
JUNEAU, AK. 99801      Fax 907-780-4611  
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**DUNN STREET PAVING**  
CBJ CONTRACT No. E16-010  
CITY & BOROUGH OF JUNEAU, ALASKA

DATE:	NOV 22, 2016
R & M NO.	141367
SHEET	C101

**CORROSION PROTECTION SPECIFICATIONS AND NOTES:**

**ANODES**

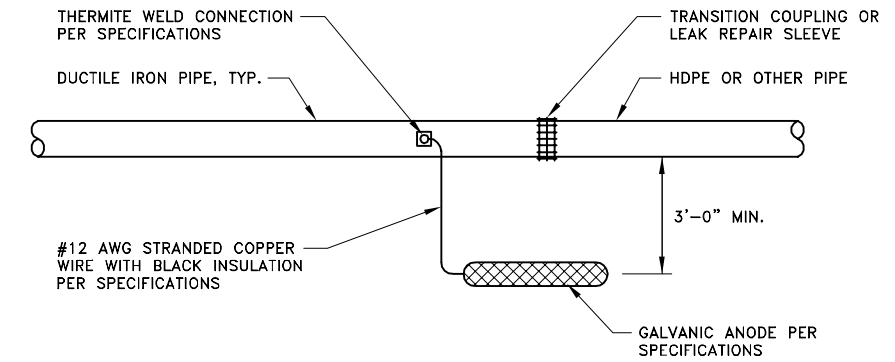
1. ANODES SHALL BE 18# BARE WEIGHT ZINC WITH PREPACKAGED ANODE BACKFILL.
2. ACCEPTABLE ANODE MODELS ARE:
  - a. MODEL NO. ZUR-18 FROM FARWEST INDUSTRIES
  - b. MODEL S18 FROM MESA PRODUCTS
  - c. APPROVED EQUAL
3. INSTALL TYPE, SIZE AND NUMBER OF ANODES SPECIFIED.
4. INSTALL 2 ANODES TO ALL CONNECTIONS TO EXISTING CAST IRON OR DUCTILE IRON PIPE 12-INCH DIAMETER AND LARGER.
5. CONDUCTOR WIRE SHALL BE A MINIMUM SIZE OF 12 AWG STRANDED COPPER WITH INSULATION SUITABLE FOR WET LOCATION DIRECT BURIAL AND SHALL BE A MINIMUM OF 10- FEET LONG FROM ANODE.
6. PREPACKAGED ANODE SHALL BE SATURATED WITH WATER PRIOR TO BACKFILL.
7. ANODES SHALL BE PLACED IN NATIVE EARTH BACKFILL. DO NOT PLACE IN PIPE BEDDING MATERIAL.

**THERMITE (EXOTHERMIC) WELDING**

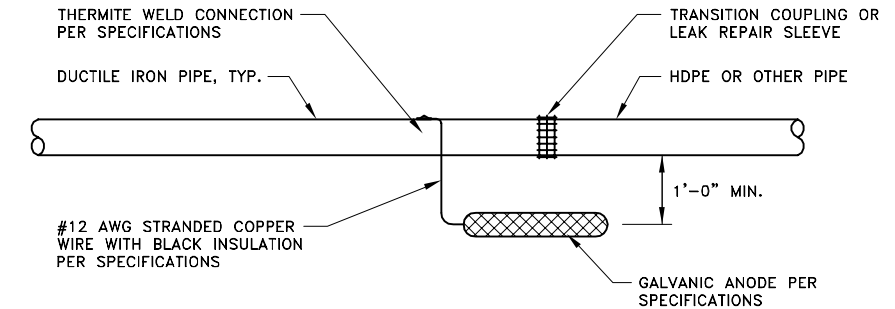
1. THERMITE WELD MATERIALS SHALL BE DESIGNED FOR CONNECTION OF COPPER TO DUCTILE IRON AND CAST IRON SURFACES AND SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
2. ACCEPTABLE MANUFACTURERS OF THERMITE WELD PRODUCTS ARE:
  - a. CADWELD BY ERICO PRODUCTS INC.
  - b. THERMOWELD BY CONTINENTAL INDUSTRIES INC.
  - c. APPROVED EQUAL
3. A 2-INCH MINUS SQUARE AREA IN THE PIPE SURFACE SHALL BE GROUND CLEAN PER MANUFACTURERS RECOMMENDATIONS PRIOR TO THERMITE WELDING.
4. WIRE ENDS SHALL HAVE PROPER ADAPTER SLEEVES TO ENSURE PROPER BOND. 12 AWG SHALL HAVE ADAPTER SLEEVES SPECIFIED BY THERMITE WELD MANUFACTURER. FIELD INSTALLED SLEEVES SHALL HAVE WIRE CONDUCTOR EXTEND 1/4-INCH BEYOND ENDS OF SLEEVE.
5. WIRE CONNECTION SHALL BE TESTED FOR INTEGRITY PRIOR TO COATING.
6. CONTINUITY STRAPS SHALL BE #2 AWG COPPER STRANDED WIRE WITH THW INSULATION AND SHALL BE ATTACHED TO THE PIPE BY THERMITE WELDING AND COATED AND SEALED AS DESCRIBED BELOW.

**COATING AND SEALING**

1. ALL THERMITE WELDS SHALL BE PROTECTED AND SEALED BY:
  - a. PREFABRICATED THERMITE WELD CAPS, SIZED ACCORDING TO WIRE SIZE, MINIMUM DIMENSIONS OF 4-INCH BY 4-INCH FILLED WITH ELASTOMERIC MASTIC COATING OR,
  - b. HEAT SHRINK SLEEVE PIPE ENCASEMENT AFTER COATING THERMITE WELD WITH ELASTOMERIC MASTIC COATING - HEAT SHRINK SLEEVE SHALL BE CANUSA AQUA OR APPROVED EQUAL.
2. ALL PIPE SURFACE COATING DAMAGED BEYOND THE WELD CAPS OR HEAT SHRINK SHALL BE COATED WITH PROTAL 7125 FROM DENSO NORTH AMERICA OR APPROVED EQUAL.



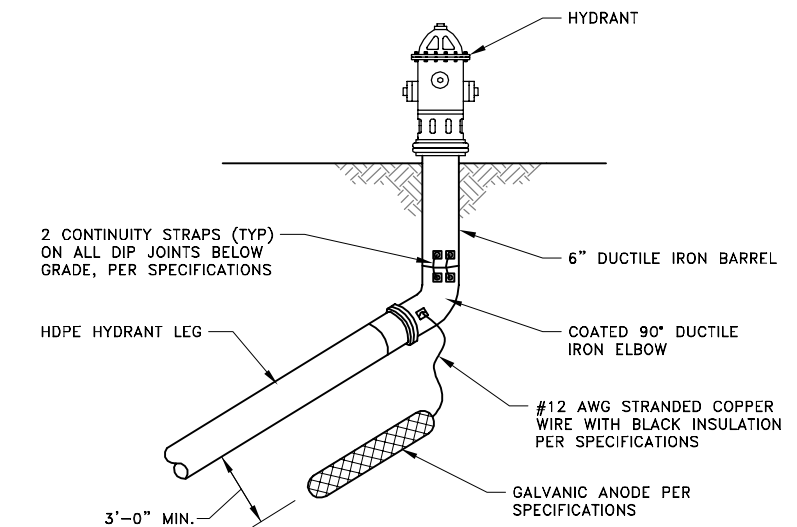
**PLAN**



**ELEVATION**

**GALVANIC ANODE INSTALLATION FOR EXISTING METALLIC PIPE CONNECTIONS OR LEAK REPAIR LOCATIONS DETAIL**

1 N.T.S.



**GALVANIC ANODE INSTALLATION AT HYDRANT ASSEMBLIES WITH HDPE**

2 N.T.S.

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**CORROSION PROTECTION DETAILS**



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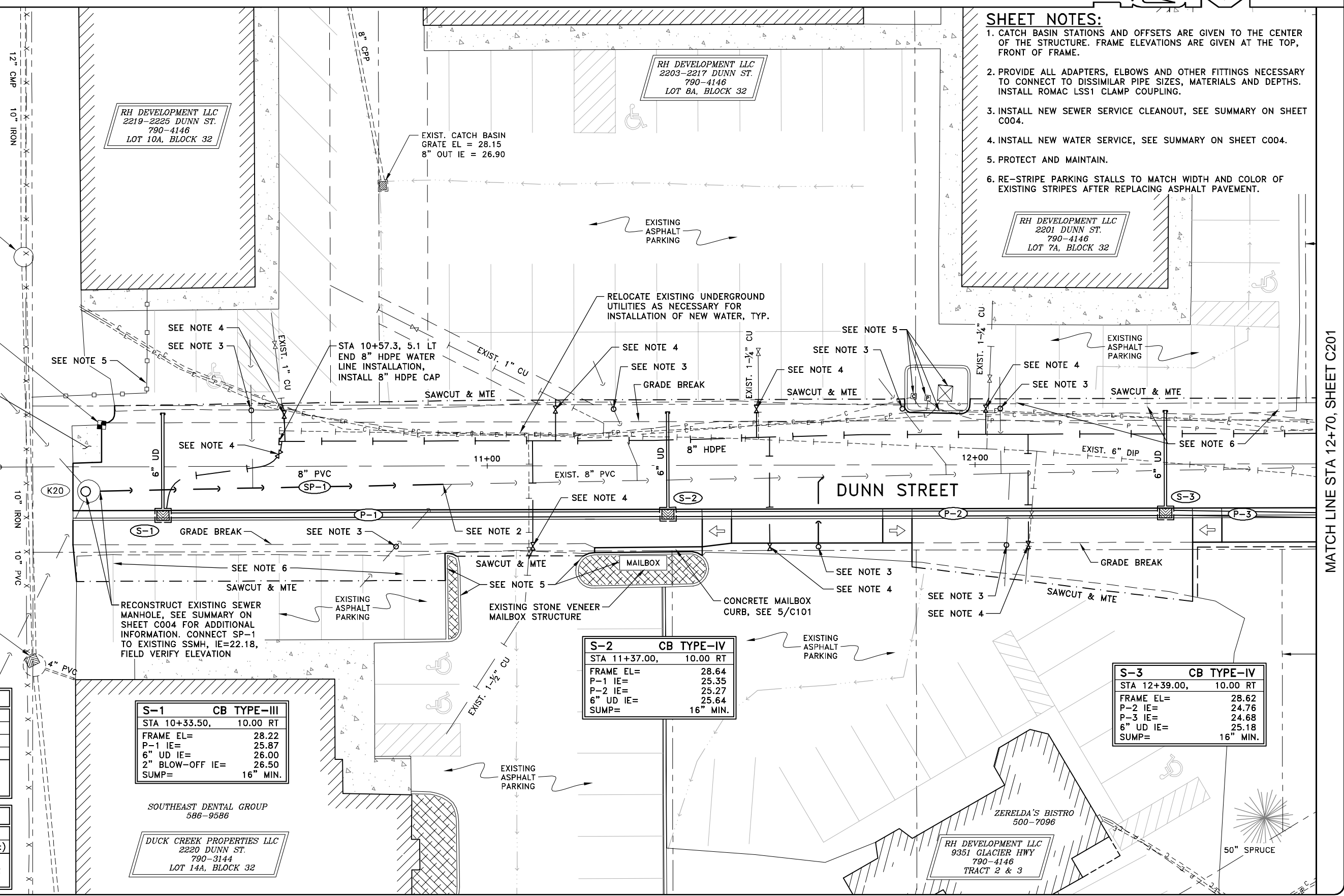
**DUNN STREET PAVING**  
 CBJ CONTRACT No. E16-010  
 CITY & BOROUGH OF JUNEAU, ALASKA

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R & M NO.	141387
SHEET	C102



**DIAL BEFORE YOU DIG!**  
**586-1333**  
 U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

- SHEET NOTES:**
1. CATCH BASIN STATIONS AND OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE. FRAME ELEVATIONS ARE GIVEN AT THE TOP, FRONT OF FRAME.
  2. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. INSTALL ROMAC LSS1 CLAMP COUPLING.
  3. INSTALL NEW SEWER SERVICE CLEANOUT, SEE SUMMARY ON SHEET C004.
  4. INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET C004.
  5. PROTECT AND MAINTAIN.
  6. RE-STRIPE PARKING STALLS TO MATCH WIDTH AND COLOR OF EXISTING STRIPES AFTER REPLACING ASPHALT PAVEMENT.



**EXIST. SSMH (K20)**

STA 10+17.67,	5.02 RT
EXIST. LID EL=	28.02
SW 4" (IN) IE=	22.30
SE 4" (IN) IE=	22.30
N 8" (OUT) IE=	22.18

EXIST. SDMH W/  
 OIL/WATER SEPARATOR  
 GRATE EL = 27.06  
 10" IN IE = 22.73  
 4" IN IE = 23.93  
 10" OUT IE = 22.65

**STORM DRAIN PIPE SUMMARY**

PIPE	DIA.	LENGTH	TYPE	SLOPE
P-1	12"	104'	CPP	0.50%
P-2	12"	102'	CPP	0.50%
P-3	12"	124'	CPP	0.50%

NOTE: PIPE LENGTHS AND SLOPES ARE MEASURED AND CALCULATED FROM CENTER TO CENTER OF STRUCTURES, UON.

**SANITARY SEWER PIPE SUMMARY**

PIPE	DIA.	LENGTH	TYPE	SLOPE
SP-1	8"	72'	PVC	0.50%(±)

NOTE: PIPE LENGTHS AND SLOPES ARE MEASURED AND CALCULATED FROM CENTER TO CENTER OF STRUCTURES, UNO.

**S-1 CB TYPE-III**

STA 10+33.50,	10.00 RT
FRAME EL=	28.22
P-1 IE=	25.87
6" UD IE=	26.00
2" BLOW-OFF IE=	26.50
SUMP=	16" MIN.

**S-2 CB TYPE-IV**

STA 11+37.00,	10.00 RT
FRAME EL=	28.64
P-1 IE=	25.35
P-2 IE=	25.27
6" UD IE=	25.64
SUMP=	16" MIN.

**S-3 CB TYPE-IV**

STA 12+39.00,	10.00 RT
FRAME EL=	28.62
P-2 IE=	24.76
P-3 IE=	24.68
6" UD IE=	25.18
SUMP=	16" MIN.

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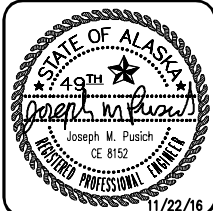
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**PLAN VIEW**  
 STA 10+00 to STA 12+70

GRAPHIC SCALE



**R & M ENGINEERING**

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SHEET **C200**

MATCH LINE STA 12+70, SHEET C201

**SHEET NOTES:**

1. CATCH BASIN STATIONS AND OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE. FRAME ELEVATIONS ARE GIVEN AT THE TOP, FRONT OF FRAME.
2. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS.
3. INSTALL NEW SEWER SERVICE CLEANOUT, SEE SUMMARY ON SHEET C004.
4. INSTALL NEW WATER SERVICE, SEE SUMMARY ON SHEET C004.
5. PROTECT AND MAINTAIN.
6. STA 13+46.0, 6.2 LT. INSTALL 8"x8"x8" HDPE TEE FITTING.
7. RELOCATE EXISTING UNDERGROUND UTILITIES AS NECESSARY FOR INSTALLATION OF NEW STORM PIPE.
8. STA. 13+05.00, 16.00' RT, INSTALL STREET LIGHT PER CBJ STANDARDS.

**DIAL BEFORE YOU DIG!**  
**586-1333**  
 U/G POWER, TELEPHONE & T.V. SHOWN ON THIS DRAWING INDICATE EXISTENCE ONLY AND DO NOT SUBSTITUTE FOR FIELD LOCATES

**S-4 SDM TYPE-I\***

STA 13+67.39,	10.22 RT
FRAME EL=	28.36
P-3 IE=	24.06
P-4 IE=	23.98
P-5 IE=	25.37
SUMP=	24" MIN.

\* INSTALL OIL/WATER SEPARATOR PER CBJ STD 305

**S-5 SDM TYPE-I\***

STA 13+97.00,	31.83 RT
FRAME EL=	29.24
P-4 IE=	23.85
EXIST. 18" CMP (IN)	23.51±
EXIST. 18" CMP (OUT)	23.50±
SUMP=	16" MIN.

\* INSTALL CONCRETE AREA DRAIN PER CBJ STD 310

**S-6 CB TYPE-III\***

STA 13+56.90,	11.40 LT
FRAME EL=	28.60
P-5 IE=	25.73
P-6 IE=	25.81
SUMP=	16" MIN.

\* INSTALL MODIFIED CONCRETE AREA DRAIN

**S-7 CB TYPE-III\***

STA 13+81.37,	19.25 LT
FRAME EL=	28.50
P-6 IE=	26.15
6" PVC IE=	26.40
SUMP=	16" MIN.

\* INSTALL CONCRETE AREA DRAIN PER CBJ STD 310

**EXIST. SSMH (K22.1)**

STA 14+04.76,	46.68 LT
EXIST. LID EL=	27.41
NW 6" (IN) IE=	21.52
S 8" (OUT) IE=	21.40

**EXIST. SSMH (K22)**

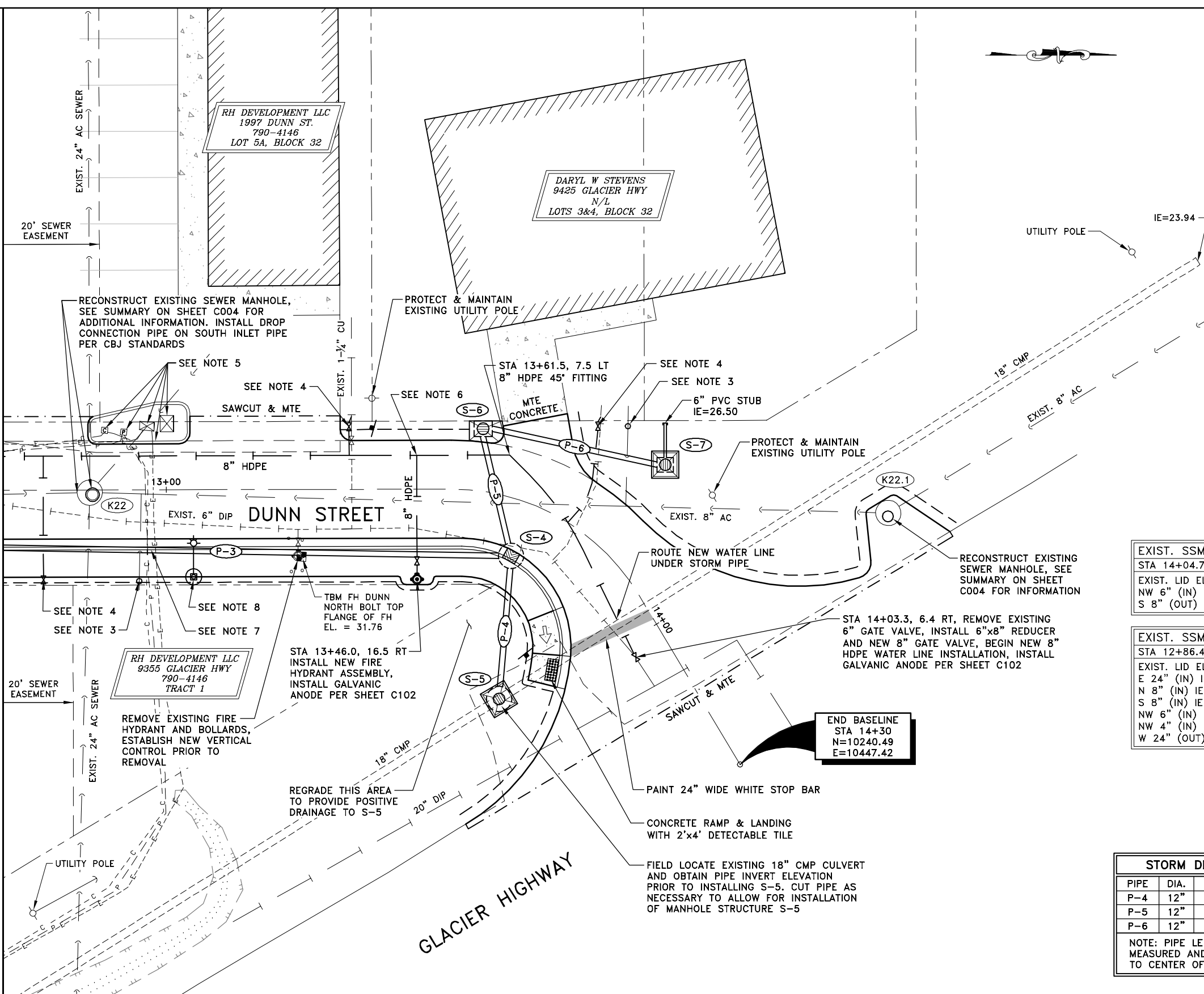
STA 12+86.48,	0.86 RT
EXIST. LID EL=	29.15
E 24" (IN) IE=	16.05
N 8" (IN) IE=	16.95
S 8" (IN) IE=	20.90
NW 6" (IN) IE=	24.21
NW 4" (IN) IE=	23.88
W 24" (OUT) IE=	15.93

**STORM DRAIN PIPE SUMMARY**

PIPE	DIA.	LENGTH	TYPE	SLOPE
P-4	12"	26'	CPP	0.50%
P-5	12"	24'	CPP (HP)	1.50%
P-6	12"	34'	CPP (HP)	1.00%

NOTE: PIPE LENGTHS AND SLOPES ARE MEASURED AND CALCULATED FROM CENTER TO CENTER OF STRUCTURES, UON.

MATCH LINE STA 12+70, SHEET C200



**END BASELINE**  
 STA 14+30  
 N=10240.49  
 E=10447.42

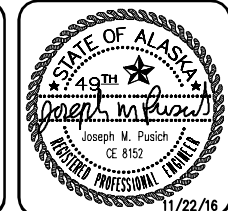
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DESIGN	JMP
DRAWN	KAP
CHECK	JMP
APPROVED	JMP
FILE:	

No.	DATE	REVISION	BY	APRVD.

**PLAN VIEW**  
 STA 12+70 to STA 14+30

GRAPHIC SCALE



**R & M ENGINEERING**

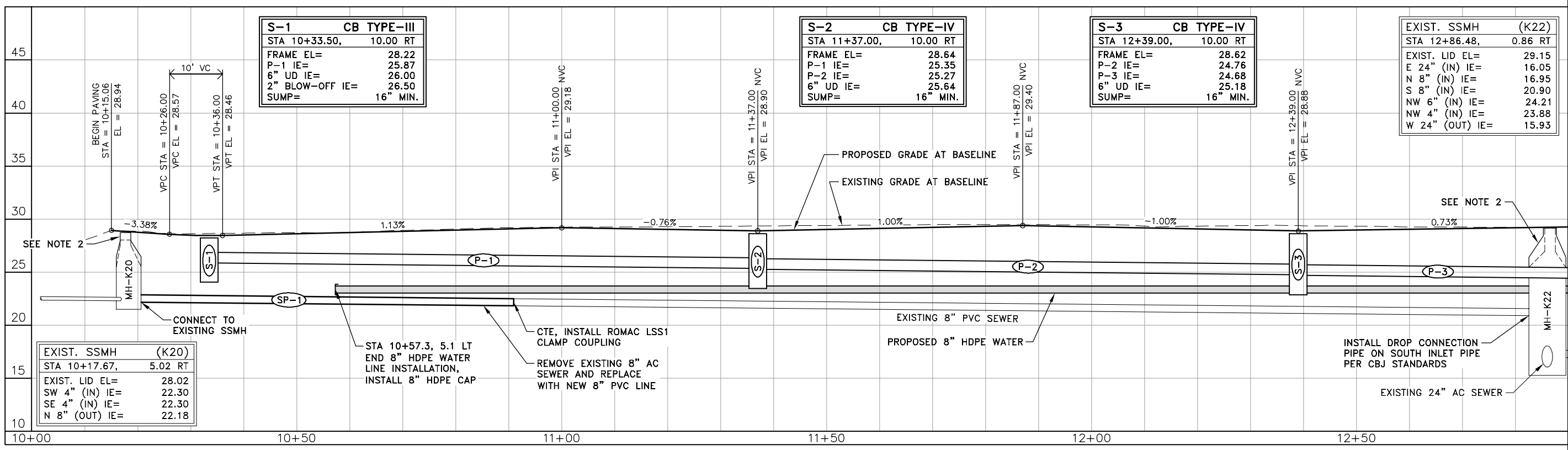
ENGINEERS      GEOLOGISTS      SURVEYORS

6205 GLACIER HIGHWAY      Phone 907-780-6060  
 JUNEAU, AK. 99801      Fax 907-780-4611  
 AECC605

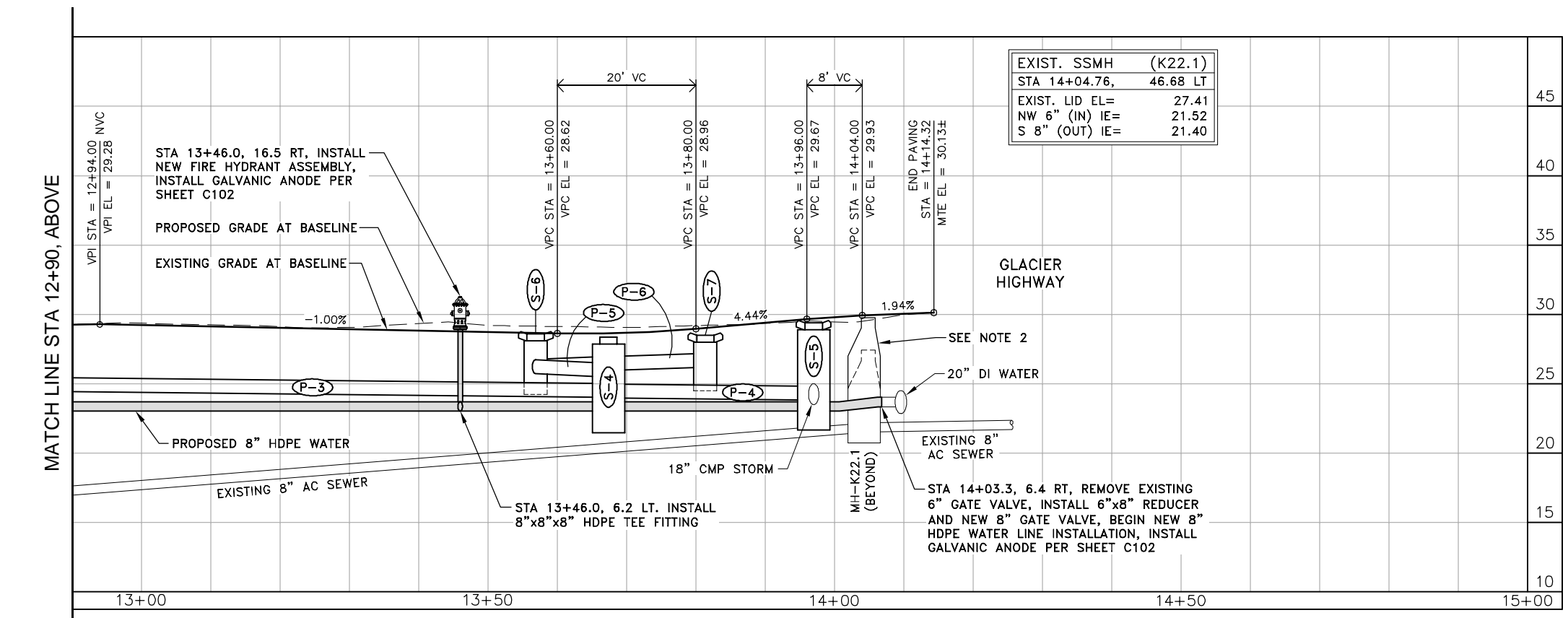
**DUNN STREET PAVING**

CBJ CONTRACT No. E16-010  
 CITY & BOROUGH OF JUNEAU, ALASKA

DATE:	NOV 22, 2016
R & M NO.:	141387
SHEET	C201



MATCH LINE STA 12+90, BELOW



MATCH LINE STA 12+90, ABOVE

<b>S-4</b>	<b>SDMH TYPE-I*</b>
STA 13+67.39,	10.22 RT
FRAME EL=	28.36
P-3 IE=	24.06
P-4 IE=	23.98
P-5 IE=	25.37
SUMP=	24" MIN.
* INSTALL OIL/WATER SEPARATOR PER CBJ STD 305	

<b>S-6</b>	<b>CB TYPE-III*</b>
STA 13+56.90,	11.40 LT
FRAME EL=	28.60
P-5 IE=	25.73
P-6 IE=	25.81
SUMP=	16" MIN.
* INSTALL MODIFIED CONCRETE AREA DRAIN	

<b>S-5</b>	<b>SDMH TYPE-I*</b>
STA 13+97.00,	31.83 RT
FRAME EL=	29.24
P-4 IE=	23.85
EXIST. 18" CMP (IN)	23.51±
EXIST. 18" CMP (OUT)	23.50±
SUMP=	16" MIN.
* INSTALL CONCRETE AREA DRAIN PER CBJ STD 310	

<b>S-7</b>	<b>CB TYPE-III*</b>
STA 13+81.37,	19.25 LT
FRAME EL=	28.50
P-6 IE=	26.15
6" PVC IE=	26.40
SUMP=	16" MIN.
* INSTALL CONCRETE AREA DRAIN PER CBJ STD 310	

- NOTES:**
1. WATER SERVICES, SANITARY SEWER SERVICES, ELECTRICAL CONDUITS AND COMMUNICATION CONDUITS NOT SHOWN FOR CLARITY, SEE PLAN VIEWS FOR APPROXIMATE LOCATIONS.
  2. RECONSTRUCT EXISTING SANITARY SEWER MANHOLE, SEE SUMMARY ON SHEET C004 FOR INFORMATION.

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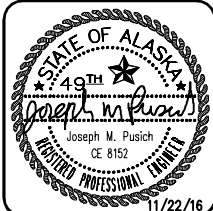
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CHECK	JMP
APPROVED	JMP
FILE:	

No.	DATE	REVISION	BY	APRVD.

**PROFILE VIEW**  
STA 10+00 to STA 14+14.3

GRAPHIC SCALE



**RAM**  
**R & M ENGINEERING**

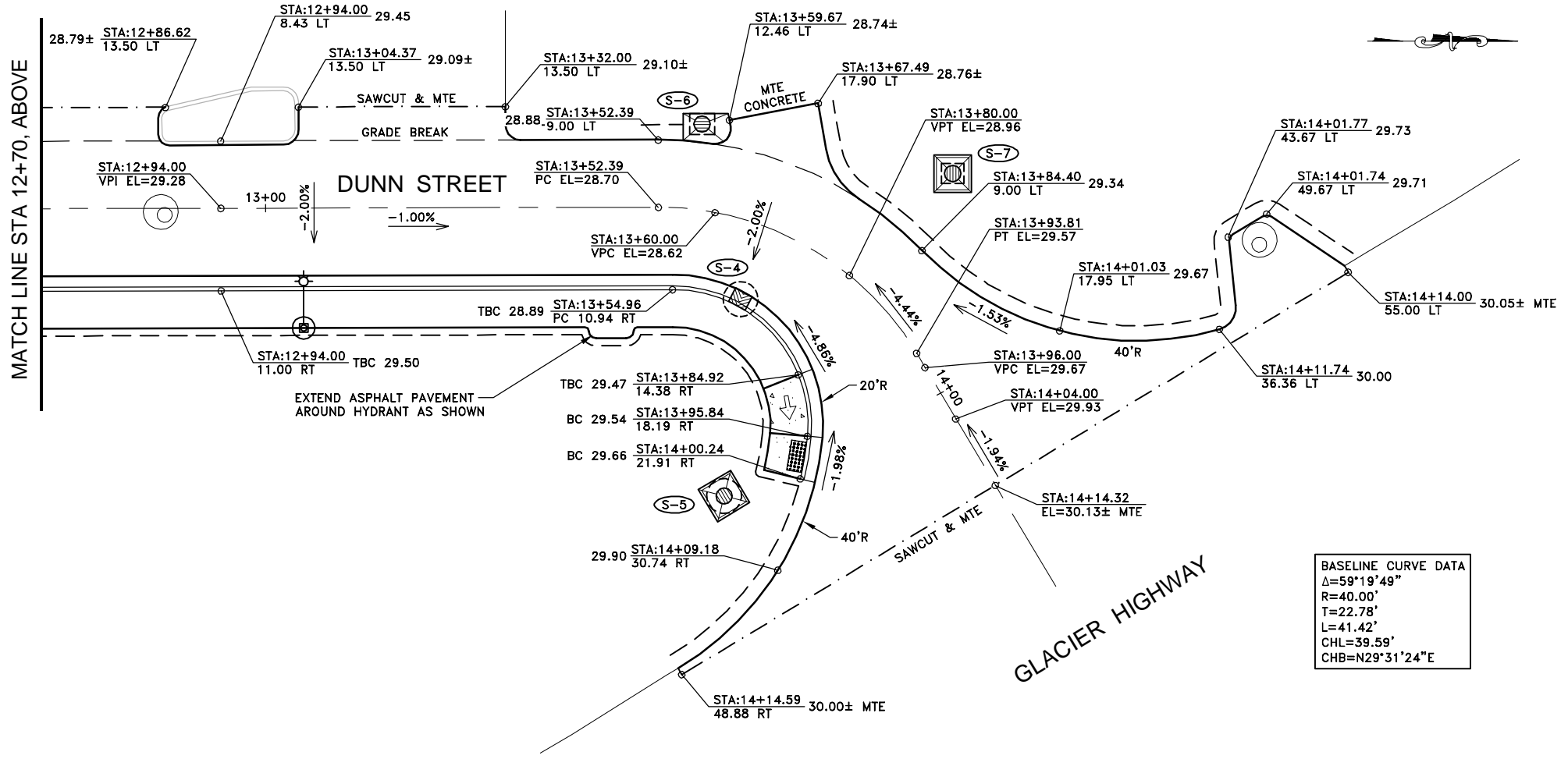
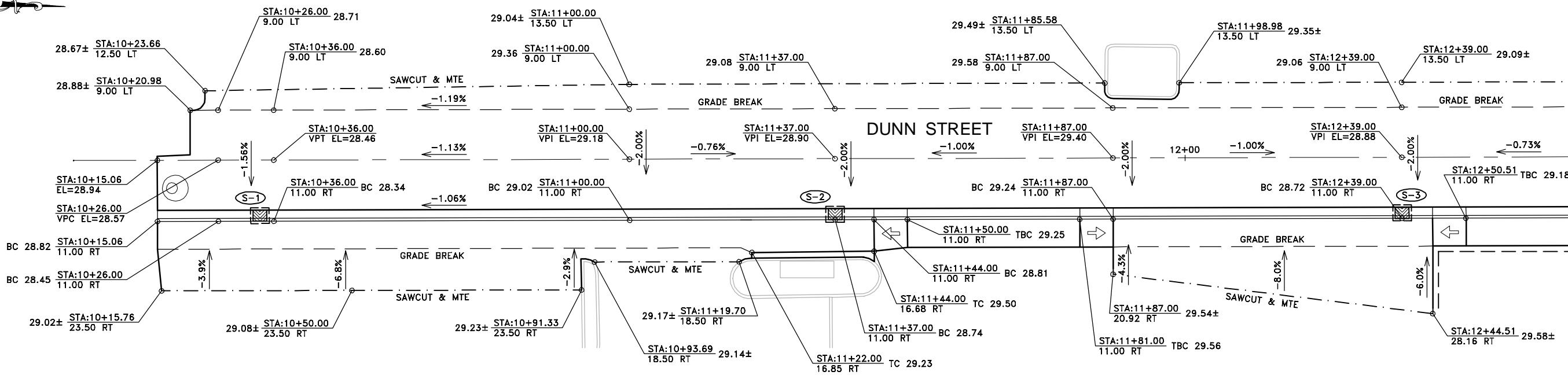
ENGINEERS      GEOLOGISTS      SURVEYORS

6205 GLACIER HIGHWAY      Phone 907-780-6060  
JUNEAU, AK. 99801      Fax 907-780-4611  
AECC605

**DUNN STREET**  
**PAVING**

CBJ CONTRACT No. E16-010  
CITY & BOROUGH OF JUNEAU, ALASKA

DATE:	NOV 22, 2016
R & M NO.:	141387
SHEET	C300



- NOTES:**
1. SEE TYPICAL SECTIONS FOR ADDITIONAL GRADING INFORMATION.
  2. SLOPES SHOWN ARE FOR LIP OF GUTTER AND FINISHED PAVEMENT.
  3. STATIONS, OFFSETS, ELEVATIONS AND CURVE INFORMATION ALONG CURBING ARE TO TOP BACK OF CURB (TBC), UNLESS OTHERWISE NOTED. TOP OF CONCRETE ARE TC. BACK OF CURB ARE BC.
  4. ESTABLISH VERTICAL CURVES AS NECESSARY FOR A SMOOTH ALIGNMENT (NO ANGLE POINTS) BY VISUALLY ALIGNING TOP OF CURB THROUGH VERTICAL CONTROL POINTS.
  5. ALL FORMS FOR CONCRETE SEGMENTS BETWEEN PC'S AND PT'S WITH A RADIUS LESS THAN 200' SHALL BE ARCED TO MATCH THE REQUIRED CURVATURE. NO STRAIGHT STEEL FORMS SHALL BE USED WITHIN ANY CURVED SEGMENT WITH A RADIUS OF LESS THAN 200'. STRAIGHT FORMS USED FOR ANY ARCED SEGMENT WITH A RADIUS OF MORE THAN 200' SHALL NOT EXCEED 10' IN LENGTH.
  6. SIDEWALK CROSS SLOPE SHALL BE 1.8% UNLESS OTHERWISE NOTED. TRANSITION SMOOTHLY AWAY FROM THE DRIVEWAY TO 1.8% FROM THE SHOWN CROSS SLOPE.
  7. ADJUST CURBING ALIGNMENT AT CONNECTIONS TO EXISTING CURBING AS REQUIRED FOR A TANGENT ALIGNMENT MATCH.
  8. ALL CURB TRANSITIONS AT DRIVEWAYS ARE 6' UNLESS OTHERWISE NOTED.
  9. SEE SHEET C300 FOR CENTERLINE PROFILE INFORMATION.

**BASILINE CURVE DATA**  
 $\Delta=59^{\circ}19'49''$   
 $R=40.00'$   
 $T=22.78'$   
 $L=41.42'$   
 $CHL=39.59'$   
 $CHB=N29^{\circ}31'24''E$

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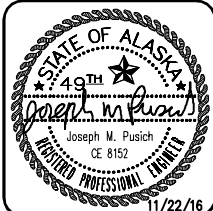
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CHECK	JMP				
APPROVED	JMP				
FILE:					

No.	DATE	REVISION	BY	APRVD.

**PAVEMENT AND CURB & GUTTER LAYOUT**  
 STA 10+00 to STA 14+30

GRAPHIC SCALE



**RAM**  
**R & M ENGINEERING**  
 ENGINEERS      GEOLOGISTS      SURVEYORS

6205 GLACIER HIGHWAY      Phone 907-780-6060  
 JUNEAU, AK. 99801      Fax 907-780-4611  
 AECC605

**DUNN STREET PAVING**  
 CBJ CONTRACT No. E16-010  
 CITY & BOROUGH OF JUNEAU, ALASKA

DATE: NOV 22, 2016  
 R & M NO. 141367

SHEET **C400**